

Table of Contents

Sales	2
<i>Importance of Sales.....</i>	<i>2</i>
Certificates of Real Estate Value (eCRVs).....	2
<i>Requirement to File an eCRV.....</i>	<i>2</i>
<i>Paper versus Electronic</i>	<i>3</i>
<i>1031 Exchanges.....</i>	<i>4</i>
<i>Completing the eCRV.....</i>	<i>5</i>
<i>Sale Price Listed on eCRV</i>	<i>6</i>
<i>Deed Tax Calculation.....</i>	<i>7</i>
eCRV Verification	9
<i>eCRV Verification and Screening</i>	<i>9</i>
<i>Foreclosure and/or Bank Sale Verification</i>	<i>11</i>
<i>“Not Typical Market” Sale Verification</i>	<i>12</i>
<i>Other Sale Verification Considerations.....</i>	<i>14</i>
The eCRV Interface	15
<i>eCRV Applications/Versions</i>	<i>15</i>
<i>eCRV FAQs.....</i>	<i>15</i>
<i>Private eCRVs including Safe at Home</i>	<i>16</i>
Sales Ratio Studies	18
<i>Sales Ratios</i>	<i>18</i>
<i>Purpose of the Sales Ratio Study.....</i>	<i>18</i>
<i>Sales Ratio Study Periods</i>	<i>19</i>
<i>Sales Ratio Study Procedures</i>	<i>20</i>
<i>Small Sample Study</i>	<i>22</i>
Sales Ratio Study Statistical Measures	24
<i>Measures of Central Tendency.....</i>	<i>24</i>
<i>Measures of Uniformity</i>	<i>26</i>
Other Features of the Sales Ratio Study	29
<i>Market condition adjustments.....</i>	<i>29</i>
<i>Equalized Values</i>	<i>30</i>
<i>Sales Chasing.....</i>	<i>31</i>

Sales

Sales

Sales are the foundation for mass appraisal when utilizing a sales comparison approach. Assessors rely heavily on sales of properties in their jurisdictions when estimating values of all other similar properties in the same area. Assessors are required to use sales information in their assessment work. The validity of sales information is crucial. The sales analysis and study conducted by the assessor is only as good as the information provided to and the work completed by the assessor.

Importance of Sales

Sales information, the majority of which is required to be reported on a Certificate of Real Estate Value, go through a verification and review process before being utilized by the assessor as part of a sales ratio study to estimate future values. Minnesota is fortunate to be a state that requires reporting of sales information; in states that do not require such reporting and disclosure, the assessor is left to ascertain market information from listings, realtors, and other means.

Certain sales are automatically removed from consideration, while others require more scrutiny and review by the assessor. When only verified sales remain, the assessor is able to analyze and study them to make some generalizations for the market and to make changes in value to respond to the market.

A formal sales study is also conducted on these sales to verify the assessors' actions responded appropriately to the changes in the market. The Department of Revenue conducts additional studies as a check on the assessors' performances and to ensure equalization of values. These formal studies involve data analysis, statistical measurement, reporting of results, and critical thinking to develop solutions to correct issues.

Primary Statutory References: [287.241](#), [272.115](#), [IAAO.org](#)

Certificates of Real Estate Value (eCRVs)

As previously mentioned, the sale (as it is reported on an eCRV) is the foundation of the analysis an assessor conducts on the local market. It provides the data for sales ratio studies. Since the eCRV contains important market data and is used for sales ratio studies and local government aids, it is important that the assessor examine each certificate when it comes into the office. If there is a wide difference between the sale price and the assessor's EMV, the assessor should examine that property and the conditions and terms of sale. The assessor may find that the property, through improvement or deterioration, has changed since its last physical inspection. Or there may be other considerations that need to be addressed.

Requirement to File an eCRV

A Certificate of Real Estate Value must be filed at the time the conveyance is recorded whenever any real estate is sold for a consideration in excess of \$3,000, whether by warranty

Certificates of Real Estate Value

deed, quitclaim deed, contract for deed, or any other method of conveyance. Consideration means money that has been exchanged at the time of sale and/or agreed to in a legal contract. The eCRV is filed in the county in which the property is located. The grantor, grantee, or an entity's legal agent is responsible for filing the certificate.

The eCRV is also important for homestead purposes. When a property is sold, the assessor must remove the homestead classification for the following assessment year unless the new owner qualifies and files for the homestead classification under his or her name. No real estate sold or transferred shall be classified as a homestead unless the required eCRV is filed.

An eCRV is not required when the real estate is being conveyed to the State of Minnesota, a political subdivision of the state, or any combination of them, for highway or roadway right-of-way purposes, provided that the agency or governmental unit has agreed to file a list of the real estate conveyed to the agency or governmental unit with the commissioner of revenue by June 1 of the year following the year of the conveyance.

As indicated prior a Certificate of Real Estate Value (eCRV) must be filed whenever any real estate is sold for a consideration in excess of \$3,000. There are several instruments that do **not** require an eCRV. For a complete list of instruments that do not require an eCRV, refer to the [eCRV guidelines](#).

**Note: In 2017 the requirement was removed for filing a certificate of real estate value when a transfer is made by a deed in fulfillment of a recorded contract for deed. The deed must include the recorded contract for deed by document number or by book, page, and consideration paid. For administrative purposes, the department advises that this section be applied to deeds presented for recording on or after April 22, 2017.*

Primary Statutory References: [272.115](#), [273.124](#), subd. 13 (e)

Paper versus Electronic

Electronic CRVs (eCRV) have been used since 2014. eCRVs have a retention schedule of 25 years. Paper CRVs are no longer available due the completion of their retention requirements.

The eCRV system was built in a manner that aligns with several statutory requirements. To meet these requirements, each county can set up their eCRV application to ensure that the county recorder receives the eCRV from the submitter and then transfers it electronically to the county assessor for further information entry. When the county is finished with and approves the eCRV, it is sent electronically to the Department of Revenue. eCRV has public search functions to allow taxpayers, real estate professionals, or other government entities to search for sales data anywhere in the state.

The certificate has required the Social Security number or the federal ID number of the grantors and grantees since July 1, 1995. The SSN (or FEIN) is entered by the submitter and is

Certificates of Real Estate Value

immediately masked so no other users are able to see it. While this information may be shared with the commissioner of revenue for purposes of tax administration, it is private and/or nonpublic data and is safeguarded accordingly within the eCRV database.

The person submitting the eCRV declares under penalty of law that the information provided is true, correct, and complete to the best of his/her knowledge and belief. Many assessors can recall instances where this is not the case. Some signers of the eCRV do not fully understand the value of the document they are signing and how important it is to the assessment process. They also do not know what to review for accuracy; they are only signing because they are instructed to. Those completing the form may also not be fully aware of the value of the eCRV or may not know what needs to be reported. Assessors must work diligently to verify any sale they plan to use in any sales study or analysis to ensure accurate data.

The eCRV is designed in a way to easily provide the assessor with detailed information pertaining to the sale. Every assessor should become familiar with what information is required (and what other information can be found) on the eCRV. For example, the eCRV may indicate an anticipated change in use. Legislation enacted in 2008 requires the submitter to include on the eCRV any proposed change in the use of the property that could change the classification of the property. When agricultural land is sold for development purposes, the assessor's EMV may be significantly different than the sale price of the property that was purchased for development. This type of sale would likely be discarded from a ratio study.

The county (or city) adds a classification label based on the property to the eCRV for the purpose of determining the fair market value of the property. The submitter includes financing terms and conditions of the sale which are necessary to determine the actual, present value of the sale price for purposes of the sales ratio study. The commissioner of revenue establishes administrative rules specifying the financing terms and conditions which must be included on the certificate.

The current version of the eCRV city/county application is available on the department's website along with an in-depth help menu, a testing environment, a public search function, the submitter application, and other pertinent information.

1031 Exchanges

Additional legislation also requires filers to indicate on the eCRV if the transaction involved a like-kind exchange under section 1031 of the Internal Revenue Code (as amended through December 31, 2006). These transactions are more commonly known as "1031 Exchanges" and are more common for certain property types (commercial properties and agricultural land). These exchanges may occur through an exchange accommodation titleholder, but that entity may not hold title for more than 180 days.

Certificates of Real Estate Value

Federal tax laws allow the exchange of business or investment property solely for business or investment property of a like-kind. Both properties must be held for use in a trade or business or for investment. Property used primarily for personal use, like a primary residence or a second home or vacation home, does not qualify for like-kind exchange treatment. When an exchange occurs, no gain or loss is recognized under Internal Revenue Code Section 1031. Gain deferred in a like-kind exchange under IRC Section 1031 is tax-deferred, but it is not tax-free. If, as part of the exchange, other (not like-kind) property or money is received, a gain is recognized to the extent of the other property and money received, but a loss is not recognized. Section 1031 does not apply to exchanges of inventory, stocks, bonds, notes, other securities or evidence of indebtedness, or certain other assets.

Properties are of like-kind if they are of the same nature or character, even if they differ in grade or quality. Real properties generally are of like-kind, regardless of whether the properties are improved or unimproved. For example, real property that is improved with a residential rental house is like-kind to vacant land. However, real property in the United States and real property outside the United States are not like-kind properties. Indication of a 1031 exchange is a potential reason to discard the sale from a ratio study.

Primary Statutory References: [272.115](#), [IRS.gov website](#)

Completing the eCRV

Submitters are generally required to provide all information requested on the eCRV. Upon receiving it, the assessor should verify that the appropriate information is provided and may request additional information if it is missing. This can be done by unaccepting the eCRV and sending it back electronically to the submitter.

It was previously mentioned that the eCRV does require the Social Security number or the federal ID number of the grantors and grantees. However, a married person who is not an owner of record and who is signing a conveyance instrument along with the person's spouse solely to release and convey his/her marital interest, if any, in the real property being conveyed is not a grantor for the purpose of providing a Social Security number. In these instances, a statement in the deed is sufficient to allow the county auditor to accept an eCRV for filing without the Social Security number. This statement should state something very similar to:

“(Name) claims no ownership interest in the real property being conveyed and is executing this instrument solely to release and convey a marital interest, if any, in that real property.”

Primary Statutory Reference: [272.115](#)

The spousal exception does not apply to a spouse who is selling the property and is listed on the deed that is going to be updated. The spousal exception only applies to a spouse who is

Certificates of Real Estate Value

selling, who is not on the deed that is going to be updated, and is an owner of the property solely due to his/her marriage with the person that is listed on the deed.

Sale Price Listed on eCRV

The sale price listed is obviously very important as it is the value used for calculation of sales ratios and it helps the assessor determine market conditions. The sale price, in the case of any deed not a gift, is the amount of the full actual consideration paid, or to be paid, including the amount of any lien or liens assumed. The items and value of personal property transferred with the real property must be listed and deducted from the sale price.

The sale price amount should include the negotiated sale price for the real property, the value of any personal property if it was included in the sales contract (it also gets reported separately so it can be subtracted), any seller paid costs (points, closing costs, etc. which also get reported separately so they can be subtracted), and any normal real estate agent commissions. When the assessor is determining the sale price to use for ratio calculation, they will take the listed sale price and subtract any personal property amount and any seller paid cost amounts. The net is the sale price to use for sales ratio and analysis purposes.

Certain items are allowable as deductions for personal property. They include the following and, if listed as personal property involved in the transaction, should be deducted from the sale price indicated.

- Above ground pools
- Hot tubs
- Boats and docks
- Crops
- Display cases
- Drapes
- Free standing appliances
- Fireplace equipment
- Farm machinery
- Furniture
- Fuel tanks
- Garden equipment
- Swing set
- Commercial signs
- Shelves

Certain items are not allowable as deductions for personal property. They include the following and, if listed as personal property involved in the transaction, should NOT be deducted from the sale price indicated.

eCRV Verification

- Awnings
- Attached grill or barbecue
- Attic fans / air cleaners
- Built in appliances
- Built in vacuum cleaners
- Central air conditioner
- Garbage disposal
- Gates and fences
- Garage door openers
- Installed carpeting (indoor/outdoor)
- Light fixtures
- Music/intercom system
- Solar panel
- Smoke or security detector

Commercial, industrial, apartment, and agricultural property sales often include personal property that is not taxable, such as machinery, equipment, inventories, furnishings, crops, livestock, etc. If you excluded all sales for these categories of property where there was personal property included in the sale, there would be no sales. Therefore, it is necessary to estimate, through interview and analysis, the portion of the total consideration attributable to real property as opposed to personal property. Any adjustments made to the sale price for personal property or business rights should be well-documented.

In most cases, the inclusion of special assessments can complicate the determination of the sale price without significantly improving accuracy. Special assessments for a sale should only be reported if the buyer paid off delinquent special assessments and delinquent taxes owed on the property. These are costs that the buyer assumes in order to complete the transaction and are necessary for understanding the terms of the sale. Current and future special assessments that the buyer pays are generally considered the cost of owning the property rather than the cost of buying the property and do not need to be reported.

There may be special circumstances in which non-delinquent special assessments should be reported. Discuss any non-delinquent special assessments that should be included in the study of the sale with your PTCO. A manual adjustment to the sale price can be made for any buyer paid special assessments that had a known effect on the sale price.

Deed Tax Calculation

A deed tax is collected on real estate transfers in Minnesota. The rate is .33% (.34% in Hennepin and Ramsey Counties) of the total purchase price on the eCRV in most instances.

For residential real property (one-, two-, or three- unit residential structures), the value of the personal property being conveyed with the real property is subject to deed tax. The seller paid costs are also subject to the deed tax. For example, if a house sells for \$200,000 including

eCRV Verification

\$10,000 for personal property and another \$5,000 for seller paid costs, the deed tax is calculated on the total \$200,000.

For other real property, the value of the personal property being conveyed with the real property is not subject to deed tax. The seller paid costs are still subject to the deed tax. For example, if an office building sells for \$5,000,000 including \$200,000 for personal property and another \$10,000 for seller paid costs, the deed tax is calculated on an adjusted \$4,800,000 price.

The deed tax amount may be helpful information for assessors if there is any doubt that an eCRV has inaccurate information. Assessors can calculate a total purchase price (after adjusting for personal property if necessary) by dividing the deed tax as reported on the deed by .33% (or .34% in Hennepin and Ramsey Counties). For example, if the recorded deed shows a deed tax of \$660, the total purchase price was \$200,000 (\$660 / .0033). Again, if the property is something other than one-, two-, or three- unit residential real property, the calculated total purchase price would then need to be increased by the total amount of personal property.

Formula:

$$\text{Total Purchase Price} = \frac{\text{Deed Tax Amount}}{.0033 \text{ (or } .0034)}$$

Primary Statutory Reference: [287.20, subd 2\(c\)](#)

eCRV Verification

eCRV Verification

As has been mentioned numerous times, the assessor must be very diligent to verify all submitted eCRVs to determine if they will be included in the sales ratio studies and analysis to estimate values. The accuracy of the assessment is dependent on reliable and accurate data that reflects the local market conditions. Without verification of sales, inappropriate or inaccurate information regarding the local market may be included in sales studies and may skew the analysis.

eCRV Verification and Screening

Since the eCRV contains important market data and is used for sales ratio studies and local government aids, it is important that the assessor examine each certificate when it comes into the office. If there is a wide difference between the sales price and the assessor's estimated market value, the assessor should examine that property and the conditions and terms of the sale. The assessor may find that the condition of the property, through improvement or deterioration, may have changed since the previous assessment. The assessor may find that the terms of the sale may be such that they do not reflect normal conditions. On the other hand, the assessor may find that the sale does reflect the market. It is important that the assessor fully explain any abnormalities found in the sale which affects the sales price. These comments, when shared with the regional rep, may have some effect on the usage of that sales price in the sales ratio study.

Some of the verification done is more clerical in nature – solely based on how certain questions are answered – while other verification is more subjective and requires the assessor to work with the regional rep to determine if the sale reflects an open market and arm's-length transaction. Minnesota follows IAAO guidelines in determining this. An "open market sale" is one in which the buyer and seller are acting prudently, and the price is not affected by undue stimulus. Neither the buyer nor the seller must be under great pressure to complete a transaction in a short time. An "arms-length sale" is between two parties, both of whom are seeking to maximize their gain from the transfer. Typically, commercial, industrial, apartment, and agricultural properties need the most extensive verification.

The department specifies the general types of sales that do not meet the acceptance criteria in the annual [Sales Ratio Criteria](#) document. Sales meeting those rejection criteria should be rejected from the sales study. Many of these are quickly identified by the information provided in the eCRV. Each reject code is assigned a number.

There is no automatic "reject code" for extremely high or low ratios, and the ratio itself is not a valid reason for rejecting or accepting the sale. However, the extreme ratio indicates a need for additional investigation. The county's regional rep will help work through any of these reasons for removing a sale from study consideration when there are any questions or concerns that arise. More information, including a current list of **reject codes**, is available in the Minnesota

eCRV Verification

Department of Revenue annual Sales Ratio Study Criteria document is available on the [department's website](#).

Each county should have a standard form and process for verifying sales and making determinations to their appropriateness in the sales ratio analysis and study. Below are some examples of questions to ask when verifying sales:

- May I ask you for a few facts about the property you recently bought?
- Confirm the purchase price, date of sale, and terms listed on the eCRV.
- Did you buy/sell through a real estate agent? What was the property listed for? How long was it on the market? How was the purchase price established? Was there an appraisal done?
- Was the buyer/seller a friend or have you ever had any other dealings with the other party?
- Are there circumstances known to you which would have caused the seller to sell (or buyer to buy) at a price below/above the fair market price?
- Was the date of the purchase agreement shortly before the deed date/closing date? How much time elapsed between the date of the purchase agreement and the closing date?
- Have you, or any company you control, ever owned this particular property before?
- Was there any compelling reason why you bought/sold the property?
- What was the condition of the property when you bought/sold it?
- Have there been any changes in the property since you bought/sold it? Are you planning any future changes to the property?
- What influenced you to buy this particular property rather than another?
- Review the terms of the sale.
- If farmed: Was the crop kept by the seller and for how many years does the seller get the tillable ground? Who gets the government payments? Is it irrigated? Is the tillable ground tiled?
- Was there any personal property in the sale price? What was the value of the personal property?
- Did the seller pay any points?

For sample sales verification forms, consult your PTCO. When sales verifications occur, any information provided, as well as general information about the verification (who was called, when, etc.) should be documented. Whenever a sale is being removed from study consideration, the reason for the exclusion should be noted.

The department recommends that each county assessor hold annual sales training for staff and local assessors on how to uniformly apply the Sales Ratio Criteria, process eCRV's correctly, and to conduct sales verifications in a consistent and uniform manner.

Primary Statutory Reference: [273.061](#)

eCRV Verification

Foreclosure and/or Bank Sale Verification

In difficult economic times, foreclosure and/or bank sales make it very difficult for assessors to first understand on their local markets, and second, know which sales represent the market and which need to be removed from sales study consideration. If the assessor is experiencing a high number of foreclosure or bank sales, they should work with their PTCO to better understand how to handle them. The MAAO and Department of Revenue also collaborated on the “Joint Advisory: The current residential real estate foreclosure situation and how it relates to sales verification, sales ratio studies, and the assessment process.” That advisory was cited in the IAAO “Guide to Foreclosure-Related Sales and Verification Procedures”. These are tools to consult in handling these types of sales.

The IAAO guide says the foreclosure sale must pass the “open market” test just like any other sale for possible inclusion in a study. In a depressed market, there may be as many or more foreclosure-related sales as there are traditional sales. In this case, extensive examination and possible adjustment is necessary to include them in a study. Again, the regional rep will need to be aware of this activity and approve the inclusion of foreclosure-related sales.

In jurisdictions where foreclosure and bank sales are still infrequent occurrences that the assessor does not see impacting the overall market, the sales should be removed from consideration in the sales ratio study if the property is residential or seasonal residential property. Residential and seasonal residential property may be considered for use in the study in very specific circumstances as described above. Re-sales of other repossessed property will be considered for use in the study. The resale should be considered for use in the study if the property has been placed on the market and sold through a real estate agent or broker, or if the seller has professional staff who can act as brokers or agents. Thorough verification is essential before using these sales. These sales should not be used if the seller is “dumping” the property without an attempt to get a market level price.

If a sale is an actual foreclosure sale, a sale to prevent a pending foreclosure, or a transfer of the property back to the mortgagor to prevent a foreclosure, the sale should be excluded from the study with the reject code 15. This reject code is also used for any sale resulting from other legal proceedings (divorce settlement required sale of the property, bankruptcy-forced sale, etc.).

Short sales should be scrutinized by the assessor to determine whether they may represent the market. A property that sells “short” of the owed mortgage amount should not be rejected solely based on that fact. Instead, assessors should determine whether the short sale is indicative of other factors, such as, the property sold short to prevent foreclosure or is the result of a forced transaction. To determine the details of the sale, assessors will need to interview parties to the transaction for a complete understanding. If a short sale is the product of the previously listed criteria for reject code 15, then the rejection may be valid.

eCRV Verification

If a sale actually lists the bank or a lending institution (or mortgage company) as the seller, the sale should be excluded from the study with the reject code 21. There are several other entities that function as banks. When the following are listed as the seller, the sale should be excluded from the study with reject code 21:

- US Department of Housing and Urban Development (HUD or Secretary of HUD, etc.)
- Veteran’s Affairs Administration (VA or Secretary of VA, etc.)
- Fannie Mae (FNMA, etc.)

The use of reject code 21 for these sales should supersede using any other reject code that may be apparent based on how the CRV is completed. For example, frequently eCRVs listing HUD as the seller will have the “Was the property condemned or foreclosed, or are there legal actions pending?” or “Is either the buyer or seller a unit of local, state, or federal government” questions marked as “Yes” on the eCRV. Even though these are indicated on the eCRV, the sale should be excluded from the study with reject code 21.

In normal markets, limited numbers of bank sales and foreclosure sales make any analysis of those types of sales unnecessary. Without a need to specifically study them, the proper use of reject code 15 versus reject code 21 was somewhat irrelevant. In a market with ever-increasing bank sales and properties in the foreclosure process, the department needs to study these specific types of sales, and the proper use of reject codes for these sales is necessary. By correctly utilizing these codes, the department is able to analyze the prevalence of only the bank sales, for example, as opposed to all other sales involving legal proceedings.

It cannot be emphasized enough that these are general guidelines regarding the proper use of the sales study rejection codes 15 and 21. There may be other circumstances to be considered. For example, if you are in a jurisdiction where a large percentage of all sales are bank or foreclosure sales, they may need to be considered for inclusion in the sales ratio study. Additionally, sales may need additional verification to ensure there was no physical change to the property that may necessitate exclusion of the sale as reject code 07, or any other possible reasons to exclude the sale. For questions regarding specific sale inclusion or exclusion in the sales ratio study, please consult your regional rep.

Source: Joint Advisory: [The current residential real estate foreclosure situation and how it relates to sales verification, sales ratio studies, and the assessment process.](#) MAAO & MN Revenue

“Not Typical Market” Sale Verification

Another very subjective reason for removing a sale from sales study consideration is if the assessor deems the sale not reflective of typical market. Rejection reason R26 is for sales of doubtful title or other non-arms-length or non-typical market transactions. They should be removed from the study. This may include sales that are not advertised, listed, or promoted to potential buyers. A sale with a reject reason R26 with no explanation will not be automatically rejected without additional documentation.

eCRV Verification

While R26 is a valid reason, a blanket application of rejecting all sales that are “not advertised, listed or promoted” would reject many sales that still meet the department’s guidelines of sales that are open market and arms-length. In an effort to maximize the number of sales in the ratio study sample and to provide assessors with all possible sales that reflect market value, market trends, and help to establish benchmarks for current and future assessments the following *Three Strike Test* has been developed to determine if the sale should be rejected as an R26 or accepted on its merits and included in the ratio study. Remember, transfers with doubtful title should always be rejected with R26.

Test #1. Was the sale exposed to the market, or announced, and/or promoted through realtor listings, newspaper or other publications, advertisements, brochures or other promotional or informational mailings, including if the property was For Sale by Owner (FSBO)?

- If the answer is YES; the sale SHOULD NOT be rejected as R26.
- If the answer is NO; Go to Test #2.

Test #2. Was an appraisal done prior to the sale to establish the sale price or used as a starting point for negotiations?

- If the answer is YES; the sale SHOULD NOT be rejected as R26.
- If the answer is NO; Go to Test #3.

Test #3. Did the sale involve a willing and informed buyer and a willing and informed seller under no duress to buy or sell and is the sale price typical of the market for this type of property in your assessment district?

- If the answer is YES; the sale SHOULD NOT be rejected as R26.
- If the answer is NO; the sale SHOULD be rejected as R26.

Note: If through the verification process, it is determined that the sale should be considered as a market comparable and meets all other acceptance criteria, then the sale should be included in the study.

The reject R26 code is not an allowable reject code for agricultural sales, apartment sales, and commercial/industrial sales just because the property was not advertised. Individual situations may warrant the use of R26 on these property types. There will always be some highly unusual or questionable sales that will be encountered. It may be very difficult to determine if the sale should be a R26 or not. Any questions concerning whether a sale should be rejected as a 26 or included in the study as a good sale should be reviewed with the county assessor and the regional rep.

eCRV Verification

Other Sale Verification Considerations

In order to increase the number of agricultural sales considered for the study, certain split sales (sales where a portion of a larger parcel is sold) will be used in most cases unless disqualified by the regional rep:

- If an entire agricultural property is split for sale to two or more buyers, the individual portions will be combined to produce one sale.
- If the agricultural land (over 34.5 acres) is split off from a larger parcel and sold, the land sale will be considered for the sales ratio study.
- If the portion of the agricultural land of at least 34.5 acres was sold off and the seller retained the remainder of the farm, the land sale will be considered for the sales ratio study.

In these cases, assessors are asked to make sure that value is split promptly after the eCRV is filed to assure uniform treatment of split sales throughout the state.

Non-agricultural split sales should not be used (the reason for excluding these are R16).

In order for a sale to be excluded due to physical change after assessment but before sale, the additional construction (or destruction) must be substantial in nature. The intention is to include sales in which the physical change or new construction is merely cosmetic or would not have caused the assessor to change the market value of the property. Partial assessment sales will continue to be excluded. The reason for excluding these is R07.

eCRV Interface

The eCRV Interface

The eCRV process allows a buyer/agent to submit an electronic CRV via a web interface directly to the Department of Revenue. They may do so by filling out an on-line form that can be accessed on the Department of Revenue website. Counties can then retrieve the eCRV data on-line for review, acceptance, and finalization before the department uses it to complete the sales ratio study.

Anyone with computer access can submit an eCRV via a web interface. The department assigns a unique eCRV number for each eCRV submitted. The submitter references that eCRV number when submitting the deed to the county. The county is then able to match an eCRV to a deed and begin analyzing the sale.

eCRV Applications/Versions

There are three applications or interfaces for eCRV:

- **eCRV Submit:** this allows anybody to submit or edit an eCRV for a sale of a property.
- **Public Search:** this allows anybody to search and review eCRVs that have been accepted by a county. A county must accept the sale before it will be entered into the public search.
- **County/City Application:** this is where county/city staff are able to review, accept, edit, and verify sales information. Only sales that match a submitted deed are accepted. When the county/city staff has completed their sales verification process for the accepted eCRV, they can submit it to the State Application.
- **State Application:** the Department of Revenue employees can access all of the sales information in order to use the information for sales ratio studies and other department purposes.

eCRV also offers Web Services for the City/County Application, and a Weekly Sales Extract. Additional information about the eCRV suite of applications is available on the eCRV webpage.

A different version of an eCRV is saved for the Submit, City/County, and State applications, so in the end of the process there are separate versions for the submitted version, the county/city version, and the state version. This makes it possible to see any changes that were made between versions (e.g. submitted version vs. state version).

eCRV FAQs

User Help items are available on the Department of Revenue eCRV website, as well as general information related to eCRV use and submission.

If a submitter submits an eCRV with a mistake, can the eCRV be edited?

eCRV Interface

Yes. If the submitter realizes they have made a mistake on an eCRV that they have submitted they can use the eCRV number to retrieve the eCRV and make the necessary corrections. If however, the county has accepted the eCRV before the submitter tries to retrieve it, the submitter will need to contact the county. The county can then “un-accept” the eCRV and send it back to the submitter to be edited. The county/city also has the option to make corrections to most of the sections on the submitted information tabs on an eCRV within the County/City application. For example, if a county staff person knows that there is a typo in the address of a property, the staff person can make that change without contacting the submitter. The staff person is only making a change to the county version of the eCRV and not the submitted version, so it will be possible to see the difference between the two versions if a need arises.

Private eCRVs including Safe at Home

Location and identity information are considered private data under state law, for certain eCRVs, by court order or participation in the Safe at Home program.

The eCRV system is designed to allow individuals with privacy court orders and Safe at Home participants to conceal their information from public view. The department does not use the information from private eCRVs in state sales ratio studies.

Safe at Home (SAH) is a statewide address confidentiality program administered by the Office of the Minnesota Secretary of State. It is governed by [Minnesota Statutes, Chapter 5B](#) and [Minnesota Rules Chapter 8290](#). Participant location and identity information is private data under state law.

eCRV Process Notes:

- eCRV Submitters will complete an eCRV using the SAH participant's PO Box address as their main contact address. Submitters **must** select “yes” to answer the question: *Is this person's information private under Minnesota Statute 5B, Minnesota Rules Chapter 8290, or a Court Order?* Failure to select the privacy indicator for a privacy court order or SAH participant means the data will be treated as public. The Submitter is also required to provide the eCRV ID number along with a copy of a court order or the required Safe at Home program proof of participation documentation to the county recorder. If this information is not provided, the county recorder may not accept the deed or other sale document, and the property cannot be homesteaded for property tax purposes.
- eCRV County/City users accept the private eCRVs, complete the eCRV as a study reject, and transfer to the state. You will have a limited view of the information provided by the submitter. The system will display a note indicating that the information is private:

eCRV Interface

“This eCRV contains information that has been marked as private and cannot be shared with others. The submitter is required to file a Court Order or proof of participation in an address confidentiality program with the county referencing this eCRV in order to suppress the information. Please make certain that a Court Order or proof of participation in an address confidentiality program has been filed.”

- The County/City eCRV system provides a view of the County eCRV, County, and Workflow tabs, and the ability to enter the county data and transfer to the state. When completing the County Recommendation for State Study section of the County Data sub tab indicate: Good for Study – Reject, and select Rejection Reason #12 – PTCO Instructed.
- These sales will not be used in the sales ratio study. They also will not be included in the sales list. The low volume of these types of transactions have a negligible effect on sales ratio studies.
- Additionally, these eCRVs will not be found when using the Public Search or the Weekly Sales Extracts.
- If a buyer presents a privacy court order or proof of Safe at Home participation with the sale document and did not select the privacy indicator when completing the eCRV, do not accept the eCRV: use the Decline to Accept eCRV feature and indicate the submitter must edit the Buyer tab and select “yes” to answer the question: *Is this person's information private under Minnesota Statute 5B, Minnesota Rules Chapter 8290, or a Court Order?*

Sales Ratio Studies

Sales Ratio Studies

A brief summary of the sales ratio studies are described below, however the most updated and detailed information can be found on the Department of Revenue [website](#).

The sales ratio study is the culmination of the ongoing process of collecting information about the local real estate market. There are other uses, as well. The state conducts several sales ratio studies to assist in assessment review and equalization and to aid the tax court. Many county and local assessors also perform their own in-house sales ratio analyses. Sales ratio studies are used by assessors in refining their valuation levels, by the tax court in adjudicating assessments, by the State Board of Equalization in determining orders, and by various aid formulas that utilize measures of equalized values. By the time sales ratio studies are completed by the department, there is an expectation that all the underlying sales data has been reviewed and is representative of the market.

Sales Ratios

Once sales reported on eCRVs have been verified and determined as representative of market, the assessor can use them as part of a sales ratio study. Almost all measurements in a sales ratio study have some tie to the individual sales ratio. The sales ratio is a key tool in the review and equalization of values. The sales ratio shows the relationship between the assessor’s EMV and the sale price of a property.

Formula:

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

Purpose of the Sales Ratio Study

There are three basic purposes of sales ratio studies. They are:

1. To plan an upcoming assessment
2. To evaluate an existing assessment
3. To identify inequities

The State Board of Equalization uses sales ratio studies to determine the assessment level for equalization purposes. For the assessor, the study provides an insight into variations in assessment among specific properties within classes, and between classes and areas. This is the first indication of possible inequities in the assessment. In addition, where assessment jurisdictions do not correspond to the principal taxing district (i.e. school district boundaries overlapping counties), the sales ratio study provides the assessor with information on which to base adjustments to the assessment with respect to the other county.

Sales Ratio Studies

Property owners use the studies as support for their claim of unfair or inequitable treatment by assessors. Legislators use these studies to develop or change tax rates, which are a factor in distribution of state aids to local municipalities.

The commissioner of revenue is authorized by law to order a reassessment in any taxing district in order to correct a grossly unfair and inequitable assessment. Also, the commissioner of revenue constitutes the State Board of Equalization, and in that capacity, is empowered to reduce wide disparities in assessment levels between counties and among the several classes of real estate within counties. If the aggregate valuation of real or personal property is above or below the market value, the board is authorized to add or deduct from that valuation a percentage necessary to bring that aggregate valuation to market value. Sales ratio studies provide an equalization tool for the commissioner of revenue to measure how closely assessed values are to sale prices and to judge the quality of equalization within classes of properties and between classes and areas.

Sales Ratio Study Periods

While individual assessors perform their own in-house studies to aid in their assessments, the department produces three formal sales ratio studies: a 12-month study for the State Board of Equalization, a 9-month study for Tax Court, and a 21-month study for equalizing values for aid calculations.

The sales ratio study used by the State Board of Equalization, and given the most attention by assessors, spans a twelve-month period from October 1 to September 30. The State Board of Equalization uses sales ratios that are adjusted to reflect assessors' actions to estimate the level of assessment in the next assessment year. For example, the 2019 study uses sales occurring from October 1, 2018 to September 30, 2019 which are compared to the January 2, 2020 assessor's estimated market values. In other words, the State Board of Equalization is using the prior year's sales data to approximate the assessment level for the next assessment year where no sales have yet occurred. Assessors will have a working ratio which is their actual ratio from the previous assessment so as to be able to establish market values for the next assessment.

The Tax Court uses sales ratios to measure the accuracy of the assessor's assessment. It uses a nine-month study of sales occurring from January 1 to September 30 of a given year compared to the assessor's market value for that year. For example, the 2019 Tax Court ratios use sales occurring January 1, 2019 to September 30, 2019 which are compared to the January 2, 2019 assessor's estimated market values. The preference for this timeframe may be an attempt to limit "spearing" or the "chasing of sales." In other words, the court may worry that a sale late in the year will cause the assessor to change that property's value for the January 2 assessment. Spearing could cause ratios to seem better than the assessor's actual performance for the majority of properties that did not sell. Studies with a shorter period, however, decrease the chance of having a sufficient number of sales in local districts.

Sales Ratio Studies

The 21-month sales ratio study runs from January 1 of one year to September 30 of the following year. This study is used for determining equalized values which are used for local government aid (LGA), school aids, and other purposes. In this study, sales taking place in each year are compared to the assessor's taxable market values for that year. For example, sales occurring from January 2018 through September 2018 would be compared to the assessor's 2018 values; while sales occurring from January 2019 through September 2019 are compared to the assessor's 2019 values.

Sales Ratio Study Procedures

Most offices already follow existing procedures for completing a sales ratio study. Those procedures may differ from those listed here. The following are some general guidelines for completing a sales ratio study.

Many jurisdictions stratify their sales ratio studies in order to gain insight into what part of their jurisdiction or what type of property may need additional attention in an upcoming assessment. The stratification occurs prior to the actual sales ratio study so the assessor can study the influence of that characteristic on the sales. The following stratification levels may be helpful to assessors:

- By type of home (i.e. ramblers, split-levels, 2 stories, etc.)
- By age (0 – 10 years old, 11 – 20, etc.)
- On lake/off lake (or other amenity such as golf courses, rivers, etc.)
- By price range (\$100,000 - \$150,000; over \$1 million, etc.)
- By acreage (5 – 10 acres; 40 – 75 acres; over 75 acres, etc.)
- By subdivision or neighborhood

As previously stated, sales ratio studies are only as reliable as the information they are based on. Therefore, it is necessary to take action to ensure the dependability of the information used in the ratio studies. The five steps necessary are as follows:

1. Gather basic data on real estate transfers
2. Screen and edit information to make any necessary adjustments for conditions of sale and exclude all sales that do not represent arm's-length transactions
3. Put relevant data into an acceptable format for processing on computer
4. Sort information by listed categories of real estate within each area
5. Total the data and compute statistics to describe the information

Step 1: Sales Data Collection

Certificates of Real Estate Value are collected on all real estate transactions. Hundreds of thousands of real estate transactions occur in Minnesota each year. It is upon these transactions that the annual sales ratio study is based. All basic data regarding the transactions should be available on the eCRV.

Sales Ratio Studies

Step 2: Screening and Editing

At the Department of Revenue, eCRVs are carefully screened to exclude transactions that are not “arm’s-length” transactions. They should also be screened at the local level. Typically, commercial, industrial, apartment, and agricultural properties need the most personal verification.

All open market, arm’s-length transactions should be included in the study. An “open market sale” is one in which the buyer and seller are acting prudently and where the price is not affected by undue stimulus. Neither the buyer nor the seller must be under great pressure to complete the transaction within a short time. An “arm’s-length” sale is between two parties, each acting in their own best interest and seeking to maximize their gain from the transfer.

Consult the earlier list for the general types of sales that do not meet the acceptance criteria and should be automatically rejected from the sales study. Remember, extremely high or low ratios are not a valid reason for rejecting or accepting the sale. The extreme ratio indicates a need for additional investigation. Also recall that split class properties will be included in the study for the class that contains the largest share of the assessor’s market value.

Step 3: Prepare Data for Computer Entry

After screening all the sales for their usability in the sales ratio study, it is necessary to sort the transactions into useful classifications. Generally, they are sorted into three general categories within the counties (or subcategories from these if there are sufficient sales):

- City or Township
- Improved or Unimproved
- Use of Property (residential, commercial, industrial, apartment, seasonal recreational residential, agricultural [2a and 2b])

Step 4: Results Sorted and Listed

Each individual assessment/sales ratio, or relationship between the assessor’s market value and sale price, is calculated. These individual ratios are then arranged in order of magnitude and listed for several classes of properties within municipalities and townships. Hopefully, these individual ratios are grouped around the median ratio. Extremely high or low ratios are reviewed again to determine their suitability for the ratio study. After the outlier sales ratios are reviewed, the ratios are used to perform statistical computations that measure the overall level of assessment and the quality of the assessment.

Sales Ratio Studies

Step 5: Statistics of Assessment/Sales Ratio Studies

One of the main objectives in property tax administration is an equalized assessment. It is exceedingly important that maximum equalization be attained both among local property owners and between taxing districts because the assessment serves as a basis for:

1. Tax levies by overlapping governmental units (i.e. counties, school districts, and special taxing districts).
2. Determination of net bonded indebtedness restricted by statute to a percentage of either the local assessed value or market value.
3. Determination of authorized levies restricted by statutory tax rate limits.
4. Apportionment of state aid to governmental units via the school aid formula and the local government aid formula.

An equitable distribution of the tax burden is achieved only if it is built upon a uniform assessment. The result of a non-uniform assessment is a shift in the tax burden to other property owners.

Small Sample Study

The Small Sample Study is produced by the Department of Revenue to identify jurisdictions that consistently do not meet the 6 sale minimum for State Board ratios. Counties should review the Small Sample Study with their regional rep to identify jurisdictions that may require further attention. The Department will issue a final preliminary Small Sample Study using the final preliminary State Board ratios and a final Small Sample Study using the final State Board ratios.

A “small sample” is a jurisdiction that was not reviewed by the State Board of Equalization at least twice in the past 5 years. In other words, any jurisdiction that did not have at least 2 years over the past 5 years with at least 6 sales is considered a small sample. Jurisdictions with 6 good sales in the current year Sales Ratio Study are not included in the Small Sample Study. The Small Sample Study is stratified by sales ratio property type aggregations.

The Small Sample Study provides the following information for every small sample for each of the 5 years. This information is also provided at the county level for reference:

- Sale count, including extreme sales.
- Annual trend, if any, applied or indicated.
- Median ratio, including extreme sales.
- % value change, determined using values for all parcels of that property type in the jurisdiction, adjusted for net improvements. These values are determined using values from the PRISM files.
- Parcel count for that property type in that jurisdiction.

Sales Ratio Studies

A five-year weighted median is calculated to provide a snapshot of median ratios over the 5 years. The weighted median gives more weight to the median ratios from more recent years and less weight to the median ratios from older years. The five-year weighted median is not calculated for jurisdictions with less than 6 sales over the 5 years. The table below describes the weights for each year as the percent that each contributes to the final weighted median.

Weights by Year for the Five-Year Weighted Median

	2019	2018	2017	2016	2015
Weight	30%	25%	20%	15%	10%

If there is a year (or years) with no sales, the weights adjust proportionally to

include only those years with sales. For example, if there were no sales in 2018, the weights only add up to 75%. To determine the new weights for each year with sales, divide the weight in Table 1 by the new total. In this example, 2019 would now hold 40% ($30\% \div 75\%$) of the weight, 2017 would hold 27% ($20\% \div 75\%$), etc.

There are certain situations which may warrant attention from the county. Several flags were created to indicate these jurisdictions. These flags are not definitive indicators of a problem, nor is a lack of flags a definitive indicator that there is not a problem. These flags are described below.

- The Low Total Sales Flag indicates jurisdictions where there are less than 6 total sales over the 5 years.
- The Value Change Flag indicates jurisdictions where values did not change at least twice over the 5 years.
- The Weighted Median Flag indicates jurisdictions where the five-year weighted median is outside of the standard 90% to 105% compliance level.

Sales Ratio Statistical Measures

Sales Ratio Study Statistical Measures

Sales ratios are the most common calculation used to measure assessment equality or inequality. In a perfect world, if perfect assessment uniformity existed, the assessor's estimated market value and the sales price of a property would match and show a ratio of 100% since assessors are directed to appraise property at full market value. Since this is not realistic, there are several other measures that are useful to the assessor during the sales ratio study and analysis process. These measures help the assessor uncover areas to improve the assessment and determine changes. The following is a basic review of the most common statistical measures. The calculations and measures adhere to the IAAO standards.

Measures of Central Tendency

Measures of central tendency describe the overall level at which properties are valued. In assessment practice, three measures of central tendency are used to measure the overall level of assessment: the mean ratio, median ratio, and the aggregate (weighted mean) ratio.

The first step in calculating any of the measures of central tendency is to calculate each individual ratio for each sale. This is accomplished by the following basic formula:

Basic Formula:

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

As noted earlier, the State Board of Equalization and the Tax Court use different sets of data to determine the ratio for a particular year. The Tax Court uses sales occurring in a particular year compared to the assessor's estimated market values in that same assessment year. The State Board of Equalization uses sales prices from the prior sales period compared to the assessor's estimated market values for the current assessment. This changes the formulas slightly depending upon which ratio is being examined. These formulas are:

Tax Court Formula:

$$\text{2019 Sales Ratio} = \frac{\text{2019 Estimated Market Value}}{\text{2019 Sale Price Adjusted to January 2019}}$$

The Tax Court is using sales from the 2019 sales period that are backward-adjusted for time to the January 2019 assessment date.

State Board Formula:

$$\text{2019 Sales Ratio} = \frac{\text{2020 Estimated Market Value}}{\text{2019 Sale Price Adjusted to January 2020}}$$

Sales Ratio Statistical Measures

The State Board of Equalization is using sales from the 2019 sales period that are adjusted for time to January 2020.

The **mean ratio** is the average of a group of ratios. It is the arithmetic average of the group and is a measure of central location. The mean is the most commonly used, easily understood average, but it weights each ratio equally and is easily affected by one extreme sales ratio. This can lead to significant distortion of the average.

Formula:

$$\text{Mean Ratio} = \frac{\text{Sum of All Ratios}}{\text{Number of Ratios}}$$

For example, a jurisdiction had 10 sales last year with ratios as follows:

.83	.81	1.00	.88	.76
.93	.86	.89	.64	.98

The sum of all the ratios is 8.58. To find the mean, the total of all of the ratios, is divided by the number of ratios

Formula:

$$\text{Mean Ratio} = \frac{\text{Sum of All Ratios}}{\text{Number of Ratios}} = \frac{8.58}{10} = .858 \text{ or } 85.8\%$$

The **median ratio** is found by arranging the ratios in order from lowest to highest and then selecting the middle ratio in the series. (In a case where there is an even number of ratios, select the midpoint between the two middle ratios.) It is used to describe a group of individual sales ratios. This is the most widely used measure of central tendency because it is not affected by extreme ratios. The median of a group of ratios depends upon the position of items in the distribution rather than their magnitude.

Department of Revenue guidelines indicate that the median ratio of a sales ratio study should be from 90 to 105 percent. The median ratio is used to determine the level of assessment for the State Board of Equalization.

Sales Ratio Statistical Measures

Using the ratios from the previous example, this time arranged in order from lowest to highest:

.64
.76
.81
.83
.86 ← Median
.88
.89
.93
.98
1.00

The **median** is the midpoint between the ratios, in this example the fifth and sixth ratios, .86 and .88. Thus the median is .87, or 87 percent (the mean or average of .86 and .88 is found by adding them together [.86+.88 = 1.74] and dividing that total by two [1.74 / 2] to find the median ratio of .87).

The **aggregate ratio** or **weighted mean** is computed by dividing the total EMV for all properties sold, by the total sale prices of those properties. With the aggregate mean, each property sold is given a weight based on its sale price. Higher priced properties are given more weight than lower priced properties when the average is determined. This effect is justified if the number of higher priced properties that were sold represents the same percentage of higher priced properties in the area being studied (for example, if 30 percent of all property sales for a city are properties over \$400,000 and if 30 percent of properties in the entire city are valued over \$400,000). Because of these considerations, the aggregate mean is generally accepted as the most appropriate measure to be used in the equalization of aids.

$$\text{Formula: Aggregate Mean Ratio} = \frac{\text{Total EMV}}{\text{Total of Sale Prices}}$$

Measures of Uniformity

Measures of uniformity measure the quality and uniformity of the assessment. These measures of uniformity include the range of ratios, the coefficient of dispersion, and the price related differential.

The **range** is the difference between the smallest and largest ratios. A large range typically indicates poor uniformity. However, the range is highly susceptible to extreme ratios. The range from the previous example is .36 and is calculated by subtracting the smallest ratio (.64) from the largest ratio (1.00).

Sales Ratio Statistical Measures

Formula:

$$\text{Range} = \text{Largest Ratio} - \text{Smallest Ratio} \quad 1.00 - .64 = .36$$

The **average absolute deviation (AAD)** measures the average difference between each ratio and the median ratio. This statistic is used to calculate the coefficient of dispersion. It is calculated by subtracting each individual ratio from the median ratio, summing the absolute values of those differences, and dividing by the number of the ratios.

Formula:

$$\text{Average Absolute Deviation (AAD)} = \frac{\text{Sum of (Absolute Value of Each Ratio - Median Ratio)}}{\text{Number of Ratios}}$$

The **coefficient of dispersion (COD)** is an index by which individual ratios vary from the median ratio. It is defined as the average absolute variation from the measure of central tendency (the median) expressed as a percentage of that measure. In other words, it measures the average percentage variation between all of the sales ratios and the median.

The COD is an important statistical measure in mass appraisal because it measures the equality or uniformity of the assessment. A low COD indicates that appraisals within a class or area are uniform; the sales ratios are grouped relatively close to the median. If the sales ratios are relatively close to the median and to themselves, relative over- and under- assessments are small. A high COD indicates that properties are being appraised at inconsistent percentages of market value.

IAAO standards suggest the following:

- Single family residential –
Generally less than 15; less than 10 if a newer, homogeneous area.
- Income-producing properties –
Generally less than 20; less than 15 in large, urban areas.

The general rule of thumb for a COD is:

- 0 to 10 = Excellent
- 11 to 19 = Acceptable
- More than 20 = Problem — poor uniformity

Formula:

$$\text{Coefficient of Dispersion (COD)} = \frac{\text{Average Absolute Deviation} \times 100}{\text{Median Ratio}}$$

The **price-related differential (PRD)** measures the relationship between the mean ratio and the aggregate mean ratio. It is calculated by dividing the mean ratio by the aggregate mean sale

Sales Ratio Statistical Measures

ratio and multiplying by 100. Appraisal uniformity is said to be regressive if high-value properties are under-appraised relative to low-value properties. This would be evident by a PRD of greater than 1.00. A progressive assessment, evident by a PRD of less than 1.00, indicates that lower priced properties are under-appraised. The Department of Revenue considers PRDs between 98 and 103 to be acceptable.

The general rule of thumb for a PRD is:

- .98 to 1.03 = Acceptable
- Less than .98 = Unacceptably progressive
- More than 1.03 = Unacceptably regressive

Formula:

$$\text{Price Related Differential (PRD)} = \frac{\text{Mean Ratio}}{\text{Aggregate Mean Ratio}} \times 100$$

Other Features of the Sales Ratio Study

Other Features of the Sales Ratio Study

Market condition adjustments

Market condition adjustments are based on market condition trends and are a necessary component of the Sales Ratio Study in order to correctly adjust sales for market conditions. The purpose of market condition adjustments is to determine what the sale price would have been if it occurred on the assessment date. For example, if values have been rising in a market and no adjustment has been made to the sale price, a sale that occurred in February 2019 may have an artificially high State Board ratio. The EMV is the value as of January 2020 and accounts for the rising market but the sale price is from 10 months earlier and does not capture the rising market, therefore overstating the level of appraisal for the State Board study if market conditions are not accounted for.

By adjusting each sales price based on a market condition trend, the Department of Revenue can more accurately measure a county's assessment level because the two values used to calculate the final ratio are representative of the same point in time. When all sale prices are adjusted to the same point in time, the median ratio better reflects the overall assessment level of that jurisdiction.

To adjust a sale forward for its market condition trend, we use the following formula:

$$\text{Adjusted Sales Price} = \text{Net Sale Price} * [(1 + \text{Monthly Growth Rate})^{\text{Adjustment Months}}]$$

General procedures used to calculate time adjustments:

- The sales are stratified by property type – residential/seasonal recreational, apartment, commercial, industrial, and agricultural (agricultural, rural vacant, mixed, managed forest).
- Residential / Seasonal Recreational may be stratified by whether they are on or off water.
- A regression is performed on the median sales ratios over time. In order for a time adjustment to be applied, it must be statistically significant at the 90% confidence level and have at least 30 sales. If the time adjustment is not statistically significant or there are fewer than 30 sales, no time adjustment is applied.
- All sales in a property type are assigned a base region, or area for which a trend is calculated. If no trend is applied at the base region, sales may revert to a trend of a larger default region.
- Apartment, Commercial, and Industrial trends are calculated at the base county region with no default.*

Other Features of the Sales Ratio Study

- Residential / Seasonal Recreational trends are calculated at the base city/township, or multi city/township region, and default to countywide.
- Agricultural sales are trended to base county, and default multi-county regions.

*Metro counties and first class cities have different trend regions from other counties. Region definitions are flexible and may change to suit the needs of each county’s markets. See the Sales Ratio Criteria for the current region definitions.

The regression analysis and other statistical measures are very complex. The important thing for the assessor to remember is that the time adjusted sale price (and corresponding ratio) is supplied to the county on the final sales listing reports. These numbers should be used in conducting any analysis. They will often not affect the final median ratio much (or at all) as the adjustments are usually minor or offsetting (same number of sales before and after the assessment date), but they must be utilized when appropriate. The adjustment factor is also provided if counties wish to use it internally.

Equalized Values

The State Board of Equalization has the responsibility to determine inequalities in the assessment. Sales Ratios are used to equalize assessed values throughout the state by dividing the assessed values (whether market values or net tax capacities) by the sales ratio. Dividing by the ratio essentially identifies the value at the 100% level for a better comparison of relative values where assessments were equally determined.

For example:

City	Assessed Value	Median Sales Ratio	Equalized Value
A	\$5,000,000	99.9%	\$5,005,005
B	\$3,500,000	65.0%	\$5,384,615
C	\$4,000,000	81.7%	\$4,895,961

In this example, City B looks to be the property poor city, but if the value in these cities were perfectly assessed, they are actually the property rich city. State aid, for instance, should not reward poor assessment performance by giving more aid to the lowest performing assessor’s city. The equalization of values controls for varying assessment levels to make sure state aid is fairly distributed.

The department completes these calculations to equalize state aid payments, but they are a direct result of the assessor’s level of assessment and directly affect the county and local units of government in the aid payments they receive.

Other Features of the Sales Ratio Study

Sales Chasing

The Minnesota Department of Revenue defines sales chasing as “The practice of making any subjective change in value to a recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.”

Sales chasing (or “spearing”) is the practice of using the sale of a property to trigger a change in its appraised value to (or near) its selling price. In contrast, the appraised value of unsold property is not changed. The practice of sales chasing may cause invalid findings in ratio studies. If sales are being chased, the sample will show appraised values at or near market value. Since the sample is made up of a subgroup of all properties and this subgroup is treated differently than the universe of properties, this sample may not reflect the true nature of the universe of properties. The reality may be that the majority of appraised values—unsold properties—may be below or above market value. In a rising housing market, sales chasing may cause a study to arrive at an inaccurately low market value. Conversely, in a falling market, sales chasing may cause a study to arrive at an inaccurately high market value.

By default, sales chasing results in recently-sold properties being more accurately appraised than unsold ones; and leads to issues with assessment equity and causes problems when applying mass appraisal techniques.

Sales chasing is harmful to equal and fair assessment practices. Taxpayers, local taxing jurisdictions, and elected officials all rely on sound, fair, and equal treatment of properties for property tax assessment purposes.

Since the twelve-month sales ratio study includes sales of properties that take place prior to the assessment date those sales are compared to (i.e. an October sale is compared to the assessed value of the next January 2), assessors must be certain they do not chase or spear sales. Spearing could cause ratios to be better than the assessor’s actual performance for the majority of properties that did not sell. As previously mentioned, the Tax Court uses a nine-month study in response to this possibility.

The department’s definition of sales chasing *does* allow assessors to make non-subjective changes to sold property (e.g., missing square footage, bathroom count, etc.) to properties which have recently sold. Some characteristics can be updated from listings, but major changes such as finished basements or new decks should be verified with on-site inspections. The listing price of a property **should not** be a consideration in value determinations. The department’s definition also allows assessors to make changes to properties that have recently sold that do not affect value, e.g. roof or floor coverings, type of siding, type of heating system, etc. Subjective and non-subjective changes can also be made provided assessments of similar (unsold) properties are also reviewed and the same criteria are applied.

Other Features of the Sales Ratio Study

The department's definition prohibits subjective value changes when the same criteria are not applied to other properties. Because Minnesota's property tax laws are based on mass appraisal techniques, adjustments can be made for the market, but not for the single property.

If changes are made to a property (or group of properties) after a sale, assessors should document the change that was made, and specify why exactly the change was made.

The department conducts tests and analysis to identify sales chasing, and it will take appropriate measures when sales chasing or spearing is identified or suspected.

Examples of Possible Acceptable Changes:

1. A sale produced a low ratio. The basement was suspected to be finished, but was not accounted for on the property's field card. Even though the assessor was unable to gain access to the home's interior, an exterior inspection indicated possible basement finish. Secondary data sources, such as the multiple listing service (MLS), indicated that the basement was finished by providing detailed interior photographs and finished square footage. The basement finish was added to the field card.

The department allows property characteristics to be updated from MLS listings, but any major changes do need to be verified with an onsite inspection.

2. A sale produced a low ratio and an onsite inspection of the property was made by the assessor. After a review of the neighborhood and the subject property field card, it was noted that the quality rating was different (lower) than other like properties within that neighborhood. The quality rating was increased, and as a result, the subject property is now similarly assessed to like properties within the neighborhood.

The department allows assessors to make subjective and non-subjective value changes to recently-sold properties, **as long as the assessments of similar properties are also reviewed** and the same criteria applied.

3. A sale produced a high ratio and it was discovered through verification that the square footage was incorrect. After an onsite inspection and measurement of the subject property, the square footage was found to be smaller than what was stated on the field card. The square footage was subsequently changed, and the value was adjusted on the property's field card.

The department allows assessors to make non-subjective changes to value (including correcting square footage) to properties that have recently sold.

Other Features of the Sales Ratio Study

Examples of Unacceptable Changes:

1. All data on a field card was found to be accurate even though the ratio was outside of the acceptable range. A change was made (quality rating, effective age, etc.) in order to get the subject property sale into the acceptable range.

The department of revenue defines sales chasing as the practice of making any subjective change in value to recently sold property, while not also reviewing and applying the same criteria to properties that have not sold.

This is an example of sales chasing.

2. A sale produced a low ratio and an onsite inspection of the property was made by the assessor. After a review of the neighborhood and subject property field card, it was noted that the quality rating was consistent and similar to like properties within that neighborhood. The quality rating was increased, and as a result, the subject property is now different than like properties within that neighborhood.

The department prohibits assessors from making any subjective value changes to properties that have recently sold when the same criteria is not also applied to similar properties.

This is an example of sales chasing.