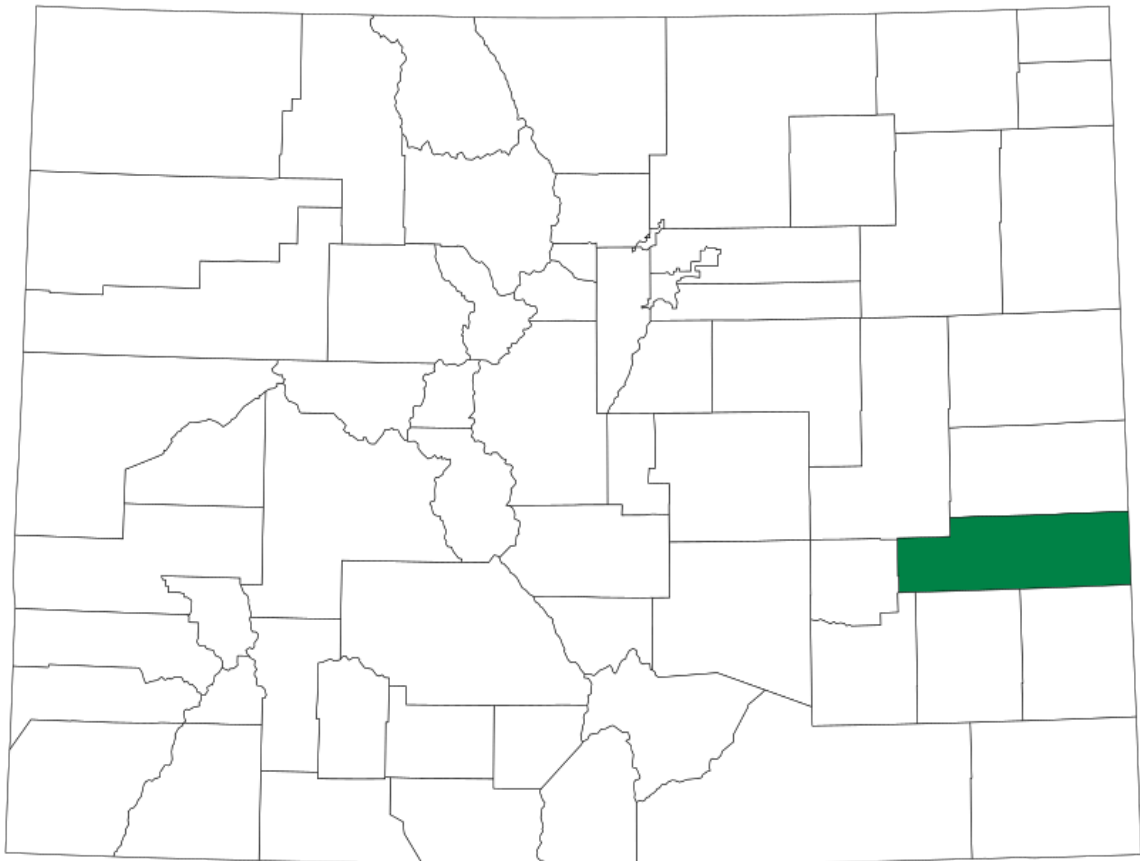


# San Matteo

DATA ANALYTICS

## 2025 Property Assessment Study Kiowa County



September 15, 2025

**Natalie Castle**

Director of Research, Colorado Legislative Council  
Room 029, 200 East Colfax Avenue  
Denver, CO 80203

San Matteo Data Analytics (SMDA) respectfully submits the **Final Report regarding the 2025 Colorado Property Assessment Study for Kiowa County**. This report summarizes the results of both a procedural review and a statistical analysis.

The **procedural review** evaluated local assessment practices, including valuation methods of residential, commercial, agricultural properties, as well as natural resources, personal property, possessory interests, and subdivision discounting. It also examined processes related to the development of economic areas, and sales qualification.

The **statistical analysis** measured compliance with statutory assessment levels for vacant land, residential, and commercial/industrial properties.

We value the opportunity to support the State of Colorado in ensuring fair and consistent property assessments. Please contact us if you have any questions or need additional details regarding these reports.



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**San Matteo**  
DATA ANALYTICS

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# 1. Statistical Overview

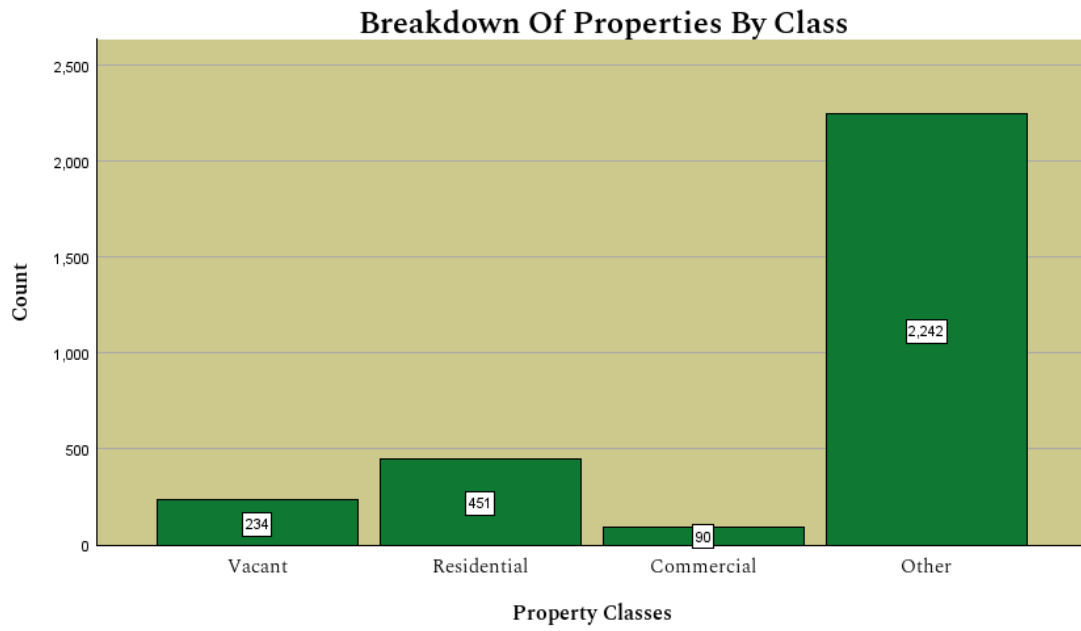
## Compliance and Evaluations

Kiowa County was found to be in compliance.

	Result	Value
<b>Residential</b>		
Median Sales Ratio	Pass	0.97
Coefficient of Dispersion	Pass	6.87%
Time Adjustments	Pass	0.477
Price Related Differential	Sufficient	1.01
Price Related Bias	Sufficient	-0.01
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Sufficient	

Kiowa County  
**Property Types**

Below is a breakdown of the property types of the 3,017 parcels in Kiowa County.



## 2. Vacant Land

### Overview

The vacant land portion of the analysis was not included in this report because the county did not meet the minimum requirement of 1,200 vacant land parcels. The 2025 Colorado Property Assessment Study specifies that any county with fewer than 1,200 vacant land parcels is exempt from statistical review. Accordingly, vacant land was excluded from analysis for Kiowa County. This exclusion is consistent with the scope of work established in the Request for Proposals and ensures that only those counties meeting the threshold requirement are subject to detailed ratio studies and compliance testing.

### 3. Residential

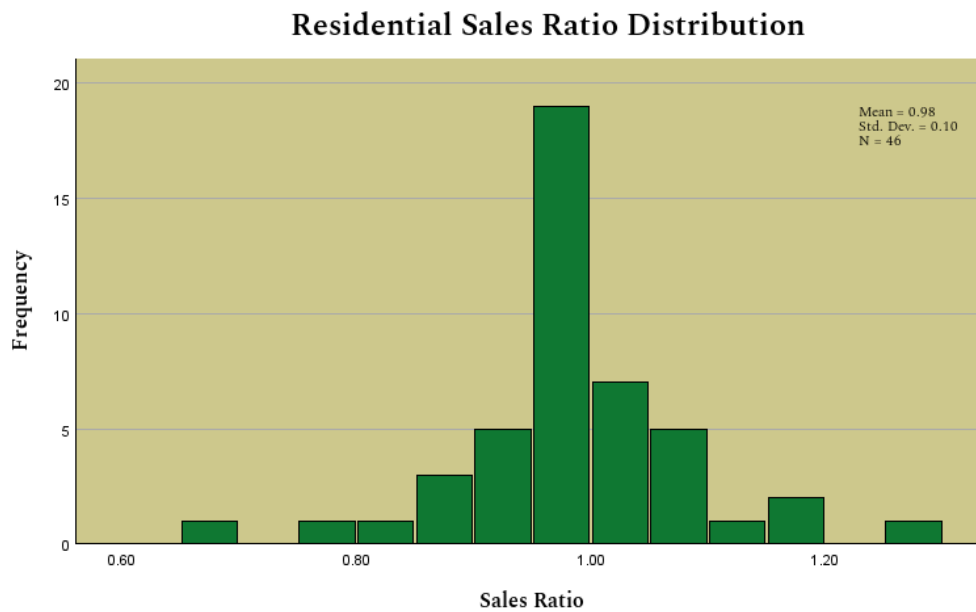
#### Overview

Kiowa County was found to be compliant for Residential properties.

	Result	Value
<b>Residential</b>		
Median Sales Ratio	Pass	0.97
Coefficient of Dispersion	Pass	6.87%
Time Adjustments	Pass	0.477
Price Related Differential	Sufficient	1.01
Price Related Bias	Sufficient	-0.01
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Sufficient	

## Residential Median Sales Ratio

The median sales ratio (MSR) tests how close the Assessor's valuations (estimates of market value) are to the true market value. The distribution of these sales ratios should be centered around 1.00. The Residential MSR for Kiowa County was calculated to be 0.97, which is within the acceptable statistical range of 0.95 to 1.05 established by the State Board of Equalization (SBOE). We trimmed zero sales during the development of this analysis. The MSR was also calculated for all applicable subclass, neighborhoods, economic areas, size and valuation strata identified by the auditor. See appendix for more details.



## Residential Coefficient of Dispersion

The Coefficient of Dispersion (COD) tests for undesirable variance in the valuations. The variance in sales ratios should be as small as possible. The COD for Residential properties in Kiowa County was calculated at 6.87% which is within the acceptable statistical standard of 15.99% or less established by the State Board of Equalization (SBOE). The COD was also calculated for all applicable class, subclass, neighborhoods, economic areas, and valuation strata identified by the auditor. See appendix for more details.

## Residential Market (Time) Adjustments

All previous statistics used the time-adjusted sales price to ensure that the effect of time on sales ratios has been appropriately addressed. There should be a consistent and reasonable time adjustment methodology, not one tailored to improve sales ratios. We examined the sales ratios over the 48 - month period of sales. There does not appear to be a significant effect of time on Kiowa County's Residential sales ratios.



## Residential Price Related Differential

The Price Related Differential (PRD) tests for differences in the valuations of high and low value sold properties. Sales ratios should be consistent across the range of sale prices so the PRD should be very close to 1.00. The PRD for Kiowa County was calculated at 1.01, which is within the acceptable range of 0.98 to 1.03 established by the International Association of Assessing Officers (IAAO). The PRD was also calculated for all applicable class, subclass, neighborhoods, economic areas, size, and valuation strata identified by the auditor. See appendix for more details.



## Residential Price Related Bias

The Price Related Bias (PRB) measures whether assessment levels change systematically with property value. A PRB close to 0.00 indicates that high- and low-value properties are valued consistently, without upward or downward bias in the sales ratios. For Kiowa County, the PRB was calculated at -0.01 which is within the acceptable statistical range of -0.05 to 0.05 established by the International Association of Assessing Officers. The PRB was also analyzed across all applicable categories, including property class, subclass, neighborhood, economic area, size, and valuation strata as identified by the auditor. Additional details are provided in the appendix.

## **Residential Sold/Unsold Comparison**

All previous Residential statistics focus only on the compliance of properties that were sold during the Residential data collection period. In order to ensure that the unsold properties are also being valued consistently we evaluate whether or not they were treated the same as the sold properties.

Our default comparison approach utilizes the Mann-Whitney U test (also known as the Wilcoxon rank-sum test), to analyze two samples of sold and unsold properties. First, we compare the price per square foot, followed by the change in price per square foot from last reappraisal to this one, and finally we compare the change in total value from last reappraisal to this one. If necessary, we will also consider the stratified (economic area, neighborhood, improvement abstract, etc.) medians of the following unitary metrics: price per foot, change in price per foot, and change in value. See appendix for more details.

Our analysis indicates that the Residential sold and unsold properties are treated similarly. See appendix for more details.

## **Residential Sales Qualification**

All the analysis above, notwithstanding the sold/unsold comparison, relies entirely on qualified sales. In order to ensure that this is a complete and unbiased analysis of assessment practices, we will verify that sales are being correctly coded. We have concluded that Residential sales are being coded in an acceptable way.

There were 46 Residential sales. We have confirmed that more than 50% of all sales were qualified.

## 4. Commercial and Industrial

### Overview

Over the five-year base period, there were too few commercial and industrial sales to support a valid statistical analysis. As a result, Kiowa County is excused from this portion of the statistical audit for commercial and industrial properties.

## 5. Agriculture

### Methodology

SMDA conducted a comprehensive review of county records to evaluate the classification and valuation of agricultural lands. The review included an assessment of major land categories, such as sprinkler irrigated farmland (4107), flood irrigated (4117), dry farmland (4127), meadow hay (4137), grazing areas (4147), orchard land (4157), farm/ranch waste land (4167), and forest land (4177).

Kiowa County applied the following methods to determine agricultural land classification and appropriate valuation methodology:

- Aerial photos are available and used for land classification
- Soil conservation guidelines determine land productivity classes
- Crop rotations are documented using a ten-year average
- Expenses reflect a ten-year average of typical landlord costs
- Ten-year crop yield averages are based on local and supporting data
- Grazing land is classified by its ten-year carrying capacity
- Acreage totals for all classes and subclasses are verified
- A 13% capitalization rate is correctly applied

Additionally, SMDA checked the county records to confirm that the commodity prices and expense data provided by the Property Tax Administrator (PTA) were accurately applied. Guidance from the **Assessor's Reference Library (ARL), Volume 3, Chapter 5** was referenced where appropriate.

### Conclusions

Based on the review and analysis, SMDA considers Kiowa County's appraisal practices for agricultural property acceptable and in alignment with statutory requirements. The directives, commodity pricing, and expense figures issued by the Property Tax Administrator were correctly applied throughout the process. County-reported yields closely matched the figures published by Colorado Agricultural Statistics, and the expenses used were both reasonable and within allowable ranges. Grazing land carrying capacities were properly supported and fell within acceptable limits. Overall, the analysis confirms that the valuation approach is sound, well-documented, and based on reliable data.

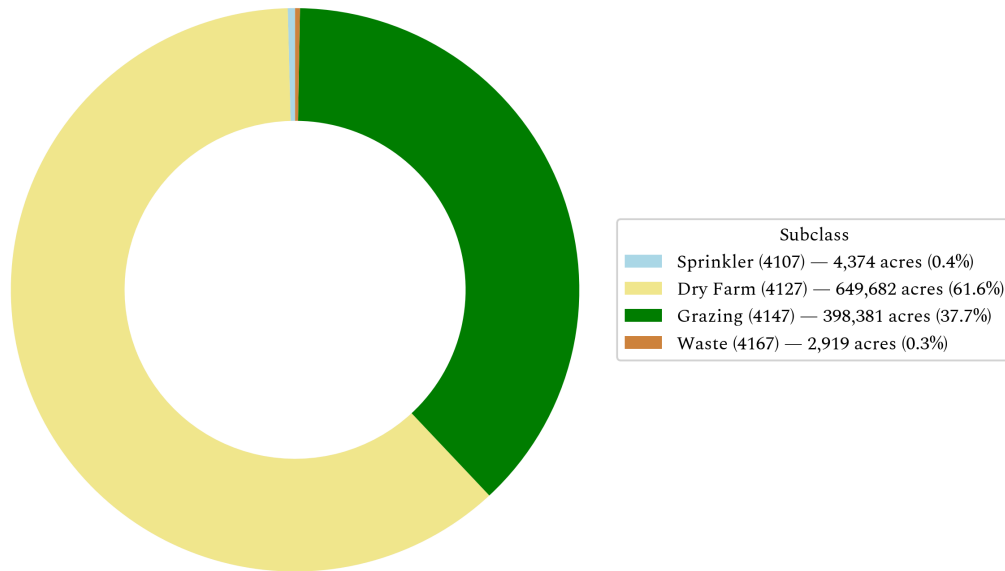
### Recommendations

None

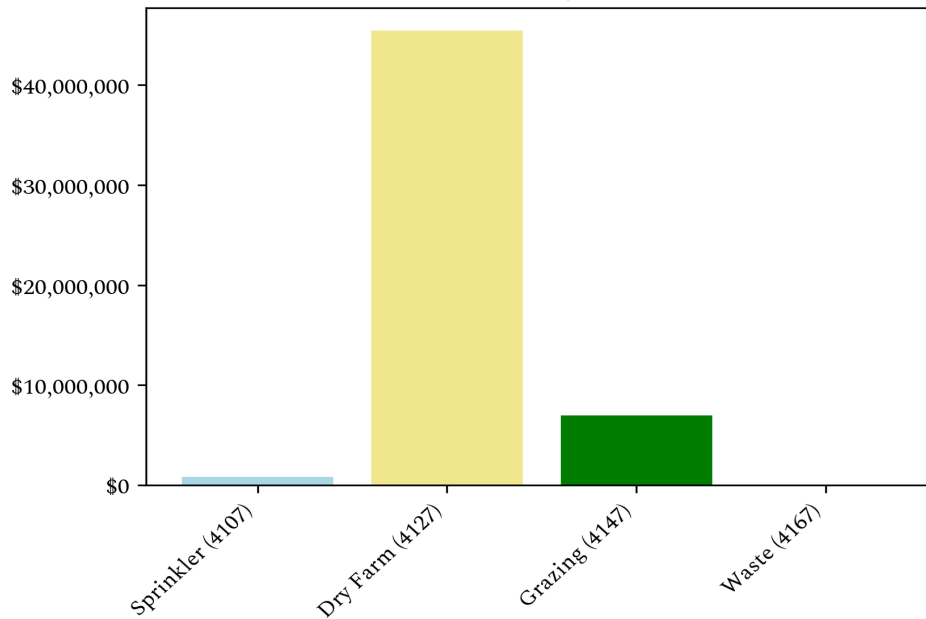
### Agricultural Land Breakdown

Abstract	Class	Acres	Actual Value	Actual Value/Acre	Assessed Value
4107	Sprinkler	4,374	\$820,337	\$187.55	\$221,491
4127	Dry Farm	649,682	\$45,419,896	\$69.91	\$12,263,372
4147	Grazing	398,381	\$6,947,403	\$17.44	\$1,875,799
4167	Waste	2,919	\$19,308	\$6.61	\$5,213

Acres by Subclass



Actual Value by Subclass



## 6. Agriculture Non-Integral

### Methodology

SMDA reviewed Kiowa County's processes to determine whether it complied with the guidelines outlined in the **Assessor's Reference Library (ARL), Volume 3, Chapter 5**. The review focused on Kiowa County's approach to identifying land associated with residential improvements on farms and ranches, as well as land beneath residential structures that may not be integral to an agricultural operation under **§39-1-102, C.R.S.**

### For Residential Improvements on a Farm or Ranch

When identifying land under residential structures on a **farm or ranch** that is determined to be not integral to agricultural activity, Kiowa County applied the following discovery methods:

- Field Inspections
- Phone Interviews
- In Person Interviews
- Personal Knowledge of Occupants

### For Residential Improvements Not Integral to Agriculture

When identifying land under residential structures that is determined to be **not integral** to agricultural activity, Kiowa County applied the following discovery methods:

- Field Inspections
- Personal Knowledge of Occupants
- Aerial Photography

### Conclusions

Kiowa County followed the procedures set forth by the **Division of Property Taxation** for classifying and valuing land associated with residential improvements, whether or not the property is considered integral to agricultural use.

### Recommendations

None

## 7. Economic Areas

### **Methodology**

Kiowa County submitted written narratives and maps outlining its economic areas. SMDA reviewed these materials for clarity, logical consistency, and alignment between the descriptions and mapped boundaries.

### **Conclusions**

Each area is affected by comparable market conditions, which supports consistent property valuations and helps maintain uniformity in values among properties with similar characteristics within the same geographic region.

### **Recommendations**

None

## 8. Natural Resources

### Earth and Stone

#### Methodology

In accordance with the **Assessor's Reference Library (ARL), Volume 3, Chapter 6: Natural Resource Valuation Procedures**, the county used the **income approach** to determine the value of earth and stone production. Production totals, measured in tons, were multiplied by the economic royalty rate established by the **Division of Property Taxation** to calculate projected income. This income figure was then capitalized using the **Hoskold factor**, which is based on the expected life of the reserves or lease. Since production data is not collected by any state or private agency, the operator is the source for both estimated tonnage and reserve life. Ultimately, valuation depends on two primary variables: the quantity of material and the remaining productive life of the site.

#### Conclusions

The county applied the correct formulas and state guidelines to earth and stone resources.

#### Recommendations

None

### Producing Oil and Gas

#### Methodology

Under the guidelines of the **Assessor's Reference Library (ARL), Volume 3, Chapter 6: Valuation of Natural Resources**, the valuation of producing oil and gas leaseholds and lands follows the statutory requirements outlined in **§39-1-103, C.R.S.** and **Article 7 of Title 39, C.R.S.** By law, producing oil and gas properties are assessed based on **87.5% of the selling price** of oil or gas from the previous calendar year. When calculating this value, sales delivered as royalty to federal, state, or local government entities are excluded. For oil or gas produced but not sold during the prior year, valuation is based on the average selling price of comparable production within the same field.

The assessor relies on the production and sales information reported by operators to determine the appropriate valuation for assessment purposes, ensuring that the procedures conform to state statutes and the ARL's established methodologies.

#### Conclusions

The county applied the correct formulas and state guidelines to producing oil and gas resources.

#### Recommendations

None

## 9. Personal Property

### Methodology

SMDA reviewed Kiowa County's personal property assessment procedures for compliance with the **Assessor's Reference Library (ARL), Volume 5** and the requirements of the **State Board of Equalization (SBOE)**. The SBOE mandates the use of ARL Volume 5, which includes up-to-date discovery processes, classification methods, documentation standards, economic life tables, cost factor tables, depreciation schedules, and level-of-value adjustment tables.

The county provided a current personal property audit plan for the 2025 valuation period along with a list of audited businesses, which matched the plan requirements.

To identify and discover personal property accounts, Kiowa County used several methods:

- Public record documents
- Local publications
- Personal observation

The county follows all classification, documentation, and valuation procedures recommended by the **Division of Property Taxation (DPT)**, including the prescribed cost factor tables, depreciation schedules, and level-of-value adjustment factors.

Kiowa County also employed a structured audit process using multiple audit triggers to select accounts for review:

- Accounts close to \$56,000 actual value exemption status
- Businesses with no deletions or additions for 2 or more years
- New businesses filing for the first time
- Accounts with obvious discrepancies

### Conclusions

Kiowa County implemented effective discovery, classification, documentation, valuation, and auditing practices for personal property assessments. The county's procedures align with ARL Volume 5, meet all SBOE requirements, and demonstrate statistical compliance.

### Recommendations

None

# 10. Possessory Interest

## Methodology

SMDA reviewed Kiowa County's discovery and valuation of possessory interest properties to ensure they correctly applied the guidelines outlined in the **Assessor's Reference Library (ARL), Volume 3, Chapter 7**, in accordance with **§39-1-103(17)(a)(II), C.R.S.** Possessory interest refers to a private right to occupy or use government-owned property granted through a lease, license, permit, concession, contract, or other agreement, as defined by the Property Tax Administrator.

SMDA reviewed Kiowa County's assessment procedures for compliance with these guidelines for **agricultural** possessory interests. The county confirmed the completeness of its discovery process and whether it was confident that all relevant possessory interest properties had been identified and placed on the assessment roll.

## Conclusions

Kiowa County established an effective discovery process to ensure that possessory interest properties were added to the tax roll. The county consistently applied the proper procedures and valuation methods according to State guidelines, resulting in accurate and compliant assessments.

## Recommendations

None

## Possessory Interest Breakdown

Possessory Interest Type	Value
Agricultural	\$437,907

# 11. Sales Verification

## Methodology

As part of the Property Assessment Study, SMDA conducted an evaluation of Kiowa County's procedures for verifying real estate sales. This review was guided by the relevant provisions of the **Colorado Revised Statutes**:

A representative body of sales is required when considering the market approach to appraisal.

*(8) In any case in which sales prices of comparable properties within any class or subclass are utilized when considering the market approach to appraisal in the determination of actual value of any taxable property, the following limitations and conditions shall apply:*

*(a)(I) Use of the market approach shall require a representative body of sales, including sales by a lender or government, sufficient to set a pattern, and appraisals shall reflect due consideration of the degree of comparability of sales, including the extent of similarities and dissimilarities among properties that are compared for assessment purposes. In order to obtain a reasonable sample and to reduce sudden price changes or fluctuations, all sales shall be included in the sample that reasonably reflect a true or typical sales price during the period specified in section **39-1-104 (10.2)**. Sales of personal property exempt pursuant to the provisions of sections **39-3-102, 39-3-103, and 39-3-119 to 39-3-122** shall not be included in any such sample.*

*(b) Each such sale included in the sample shall be coded to indicate a typical, negotiated sale, as screened and verified by the assessor. (**39-1-103, C.R.S.**)*

The assessor is required to use sales of real property only in the valuation process.

*(8)(f) Such true and typical sales shall include only those sales which have been determined on an individual basis to reflect the selling price of the real property only or which have been adjusted on an individual basis to reflect the selling price of the real property only. (**39-1-103, C.R.S.**)*

SMDA examined Kiowa County's sales verification practices for the 2025 valuation period by reviewing a selection of sales from Kiowa County's master sales list. A total of 18 unqualified sales were analyzed. All 18 sales provided clear and supportable reasons for disqualification.

Where fewer than **50% of sales** were qualified within a property class, SMDA evaluated the reasons for disqualification within any subclass comprising **20% or more** of the class (by property count or value). When indications arose that sales data might be inadequate, unrepresentative, or incorrectly disqualified, SMDA discussed these cases directly with the assessor. SMDA also reviewed disqualified sales by assigned code to confirm consistent application; additional analysis was performed if SMDA discovered discrepancies.

Because Kiowa County maintained a sufficient percentage of qualified sales, an in-depth subclass analysis was not required.

Kiowa County

## **Conclusions**

Based on SMDA's review, Kiowa County performed adequately in verifying sales and applying statutory requirements.

## **Recommendations**

None

## 12. Subdivision Discounting

### Methodology

SMDA reviewed Kiowa County's subdivision discounting practices to ensure compliance with §39-1-103(14), C.R.S. Baca County did not apply subdivision discounting.

### Conclusions

Baca County is excused from the procedural review

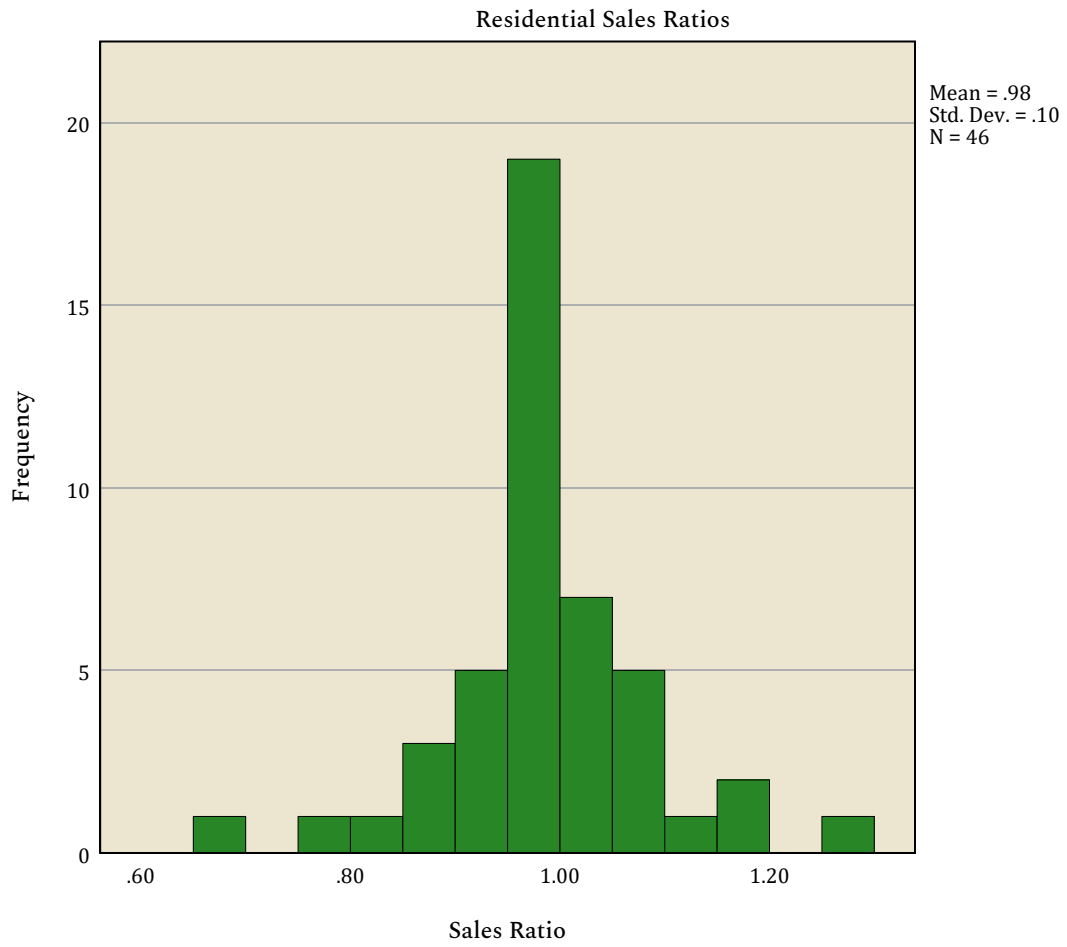
### Recommendations

None

# 13. Appendix

### OVERALL Residential: Sales Ratio Distribution

Graph



**OVERALL Residential: Central Tendencies**

**Ratio Statistics**

Ratio Statistics for Current Total Value /  
Adjusted Sale Price

N	Median	Coefficient of Dispersion
46	.975	.069

**Ratio Statistics**

Ratio Statistics for Current Total  
Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.014	1.008

**OVERALL Residential: Sales Price by Sales Ratio**

**Regression**

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.008	.030		33.705	<.001
	Adjusted Sale Price	-2.152E-7	.000	-.145	-.974	.335

a. Dependent Variable: Sales Ratio

**Graph**



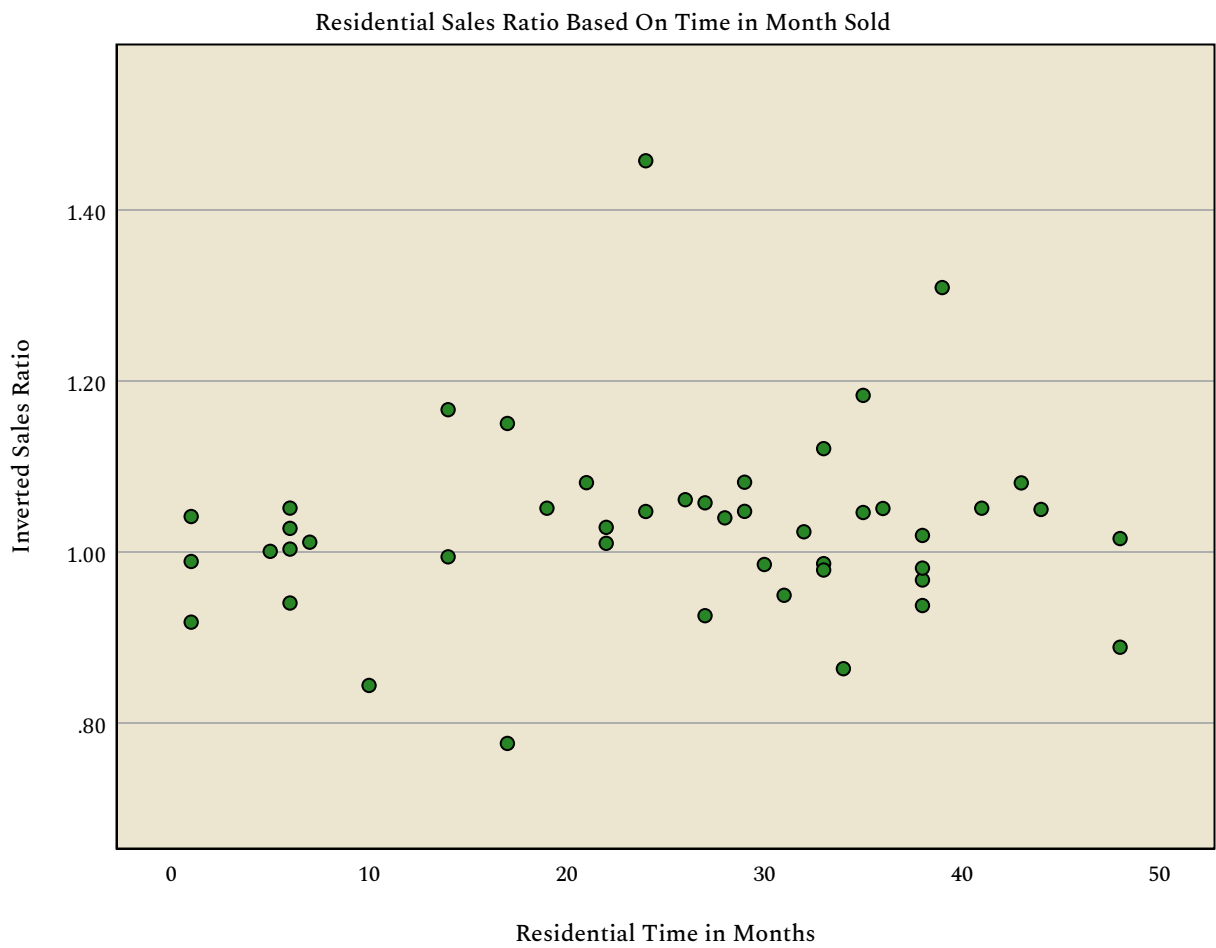
### OVERALL Residential: Months by Inverted Sales Ratio

Regression

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.006	.035		28.754	<.001
	Residential Time in Months	.001	.001	.107	.717	.477

a. Dependent Variable: Inverted Sales Ratio

Graph



**OVERALL Residential: Descriptive Statistics**

**Frequencies**

		Statistics		
		Previous Price Per Foot	Price Per Foot	Difference in Price Per Foot
N	Valid	46	46	46
	Missing	0	0	0
Mean		\$75.56	\$89.87	1.22
Median		\$72.63	\$79.78	1.03
Percentiles	2.5	\$14.33	\$23.84	.91
	25	\$47.18	\$55.25	1.00
	50	\$72.63	\$79.78	1.03
	75	\$93.23	\$119.80	1.29
	97.5	\$151.55	\$188.42	2.52

**Frequencies**

		Statistics		
		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	46	46	46
	Missing	0	0	0
Mean		\$98,426.26	\$114,905.37	\$16,479.11
Median		\$89,477.50	\$108,158.00	\$1,286.50
Percentiles	2.5	\$12,149.38	\$14,386.38	-\$3,165.72
	25	\$49,925.50	\$61,740.25	\$29.50
	50	\$89,477.50	\$108,158.00	\$1,286.50
	75	\$152,313.50	\$167,661.75	\$31,374.00
	97.5	\$198,622.30	\$260,308.57	\$78,989.15

**OVERALL Residential: Mann-Whitney U-Test (Rank-sum)**

**Nonparametric Tests**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Difference in Total Value is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	<.001

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Difference in Total Value across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	391
Mann-Whitney U	8907.000
Wilcoxon W	72453.000
Test Statistic	8907.000
Standard Error	637.986
Standardized Test Statistic	4.196
Asymptotic Sig.(2-sided test)	<.001

**Nonparametric Tests**

**OVERALL Residential: Mann-Whitney U-Test (Rank-sum)**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Price Per Foot is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.019

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Price Per Foot across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	391
Mann-Whitney U	5570.000
Wilcoxon W	66995.000
Test Statistic	5570.000
Standard Error	684.665
Standardized Test Statistic	-2.344
Asymptotic Sig.(2-sided test)	.019

**Nonparametric Tests**

**OVERALL Residential: Mann-Whitney U-Test (Rank-sum)**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Difference in Price Per Foot is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.003

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Difference in Price Per Foot across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	391
Mann-Whitney U	8645.000
Wilcoxon W	71126.000
Test Statistic	8645.000
Standard Error	661.960
Standardized Test Statistic	2.928
Asymptotic Sig.(2-sided test)	.003

**OVERALL Residential: Unit Value Comparison**

**Summarize**

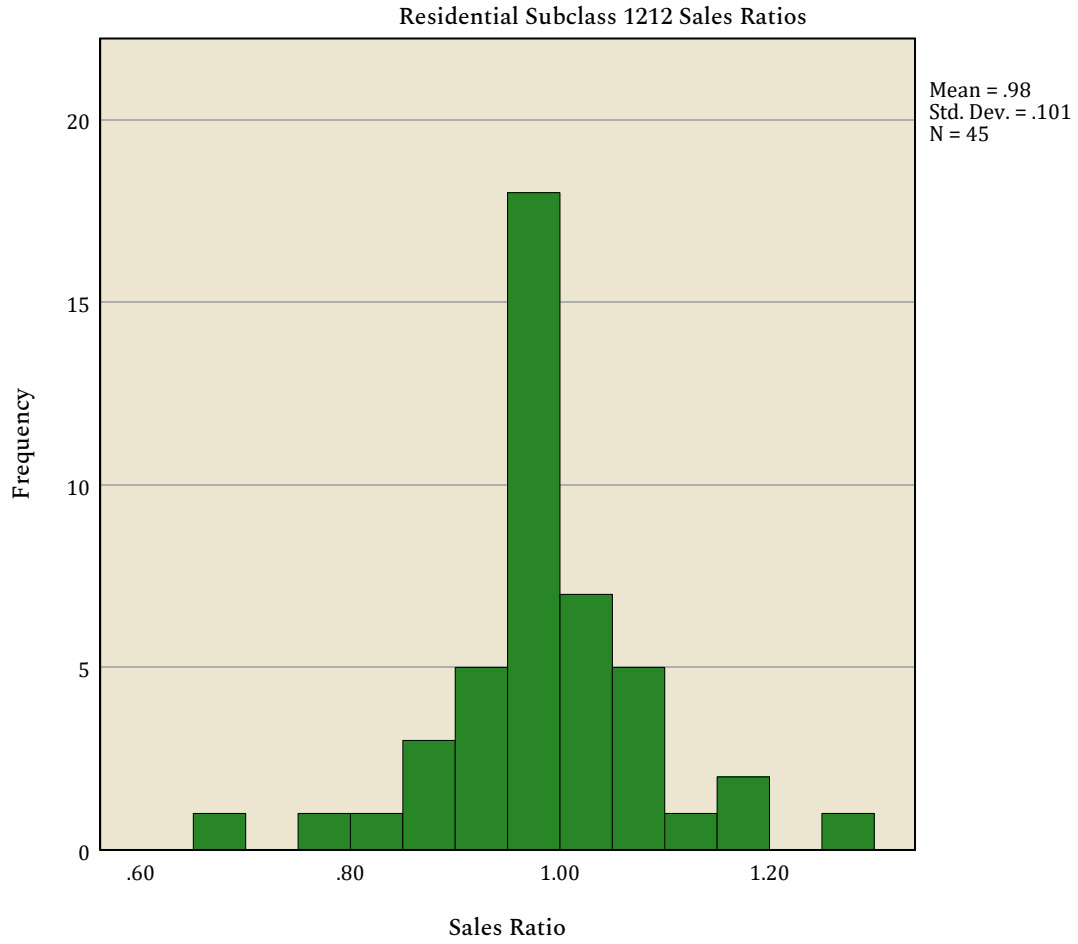
Sold vs Unsold

Difference in Price Per Foot

Residential Sold vs Unsold	N	Median	Mean
SOLD	44	1.01	1.21
UNSOLD	369	1.09	1.19
Total	413	1.09	1.20

### Residential Subclass 1212: Sales Ratio Distribution

Graph



**Residential Subclass 1212: Central Tendencies**

**Ratio Statistics**

Ratio Statistics for Current Total Value /  
Adjusted Sale Price

N	Median	Coefficient of Dispersion
45	.973	.070

**Ratio Statistics**

Ratio Statistics for Current Total  
Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.015	1.008

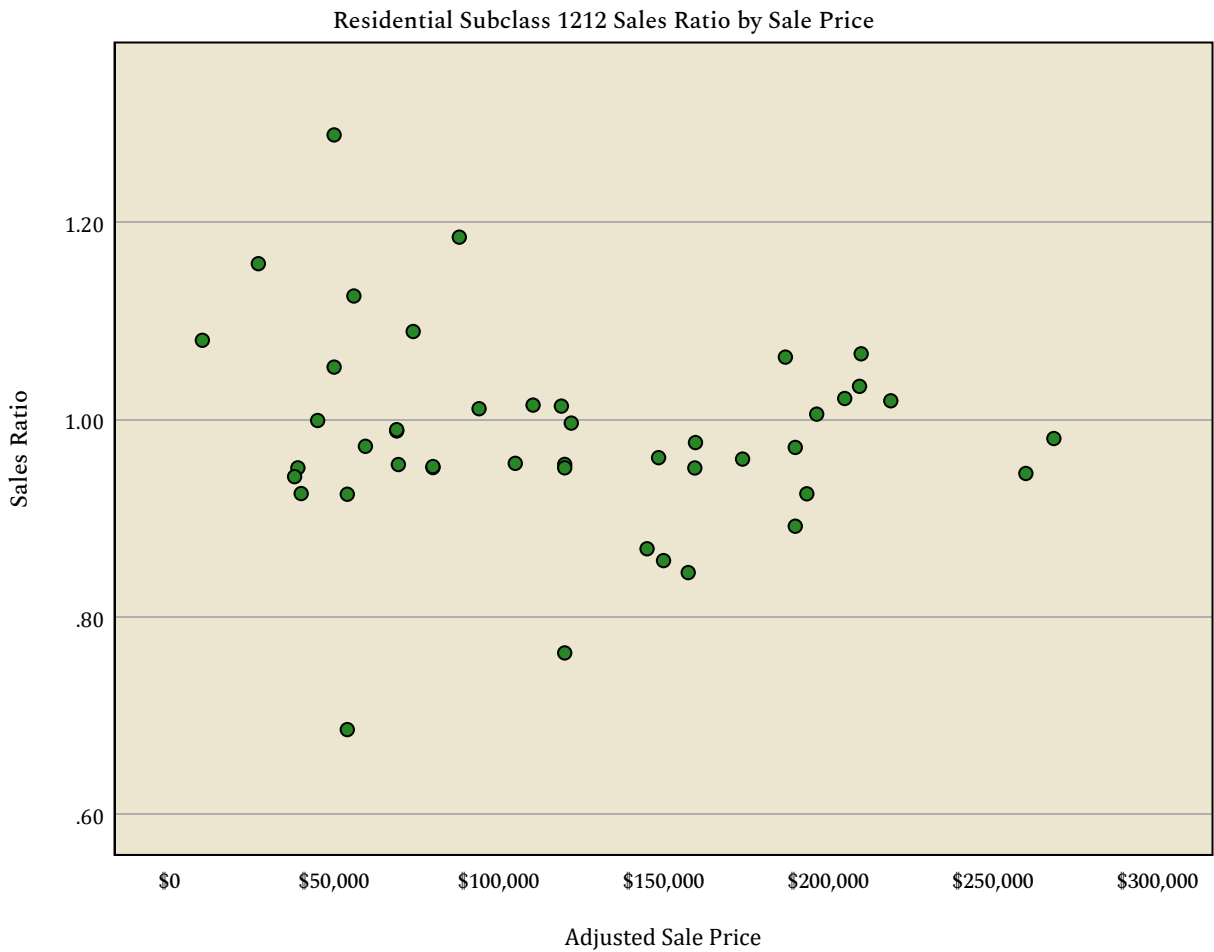
### Residential Subclass 1212: Sales Price by Sales Ratio

**Regression**

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.009	.031		32.484	<.001
	Adjusted Sale Price	-2.218E-7	.000	-.147	-.976	.334

a. Dependent Variable: Sales Ratio

**Graph**



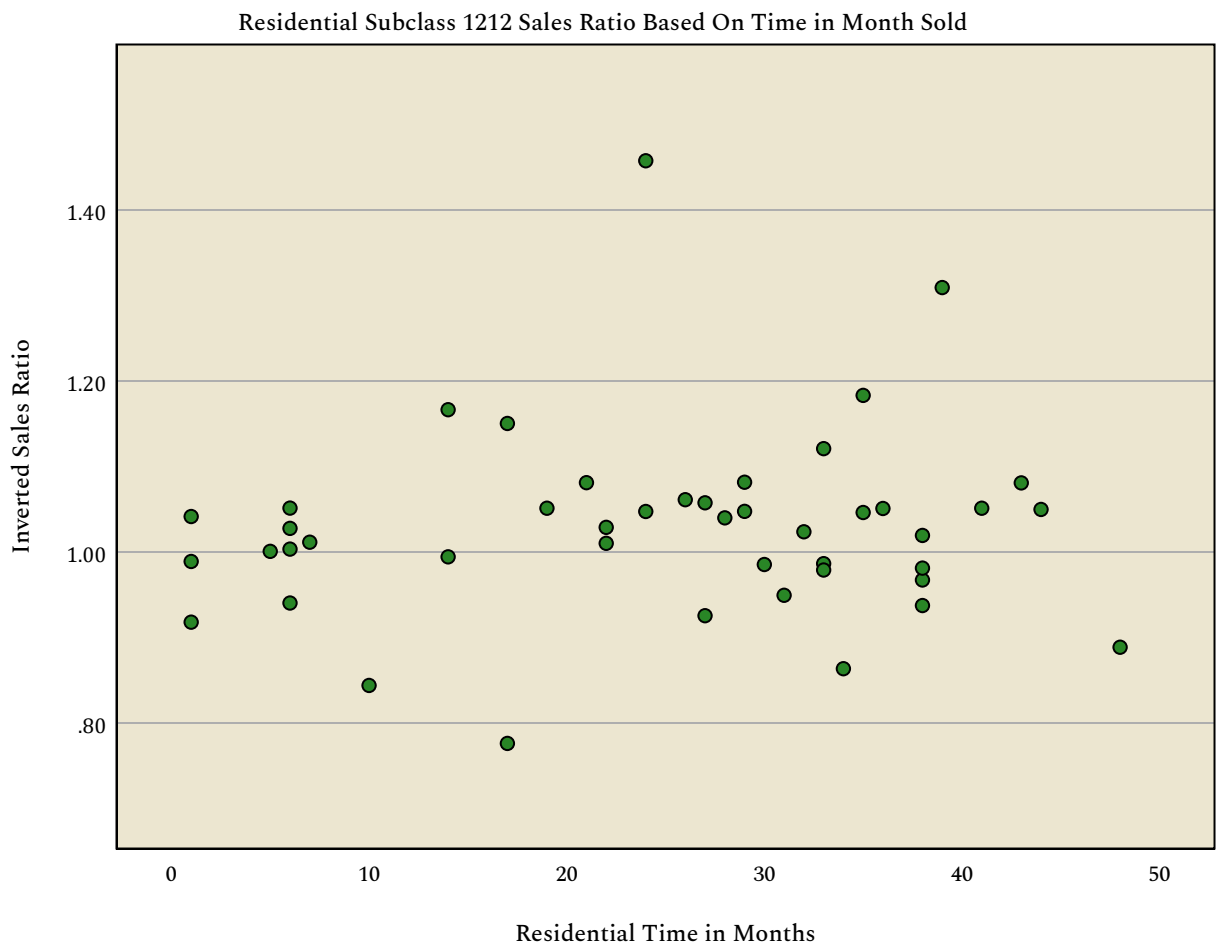
### Residential Subclass 1212: Months by Inverted Sales Ratio

Regression

		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	1.004	.036		28.045	<.001
	Residential Time in Months	.001	.001	.116	.763	.450

a. Dependent Variable: Inverted Sales Ratio

Graph



**Residential Subclass 1212: Descriptive Statistics**

**Frequencies**

		Statistics		
		Previous Price Per Foot	Price Per Foot	Difference in Price Per Foot
N	Valid	45	45	45
	Missing	0	0	0
Mean		\$76.99	\$91.35	1.20
Median		\$75.52	\$80.69	1.02
Percentiles	2.5	\$27.50	\$28.01	.91
	25	\$49.63	\$56.51	1.00
	50	\$75.52	\$80.69	1.02
	75	\$93.71	\$120.63	1.26
	97.5	\$151.72	\$188.79	2.53

**Frequencies**

		Statistics		
		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	45	45	45
	Missing	0	0	0
Mean		\$100,208.87	\$116,649.38	\$16,440.51
Median		\$89,701.00	\$112,033.00	\$1,215.00
Percentiles	2.5	\$14,025.55	\$13,874.75	-\$3,257.05
	25	\$51,044.50	\$63,728.00	\$26.00
	50	\$89,701.00	\$112,033.00	\$1,215.00
	75	\$152,985.00	\$168,269.50	\$31,377.00
	97.5	\$198,648.40	\$260,747.35	\$79,276.70

**Residential Subclass 1212: Mann-Whitney U-Test (Rank-sum)**

**Nonparametric Tests**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Difference in Total Value is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	<.001

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Difference in Total Value across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	384
Mann-Whitney U	8715.000
Wilcoxon W	70140.000
Test Statistic	8715.000
Standard Error	617.893
Standardized Test Statistic	4.475
Asymptotic Sig.(2-sided test)	<.001

**Nonparametric Tests**

**Residential Subclass 1212: Mann-Whitney U-Test (Rank-sum)**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Price Per Foot is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.011

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Price Per Foot across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	384
Mann-Whitney U	5193.000
Wilcoxon W	64533.000
Test Statistic	5193.000
Standard Error	664.430
Standardized Test Statistic	-2.539
Asymptotic Sig.(2-sided test)	.011

**Nonparametric Tests**

**Residential Subclass 1212: Mann-Whitney U-Test (Rank-sum)**

Hypothesis Test Summary

	Null Hypothesis	Test	Sig. <sup>a,b</sup>
1	The distribution of Difference in Price Per Foot is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.001

Hypothesis Test Summary

	Decision
1	Reject the null hypothesis.

- a. The significance level is .050.
- b. Asymptotic significance is displayed.

**Independent-Samples Mann-Whitney U Test**

**Difference in Price Per Foot across Residential Sold vs Unsold**

Independent-Samples Mann-Whitney U Test Summary

Total N	384
Mann-Whitney U	8503.000
Wilcoxon W	68881.000
Test Statistic	8503.000
Standard Error	641.808
Standardized Test Statistic	3.246
Asymptotic Sig.(2-sided test)	.001

## Residential Subclass 1212: Unit Comparison Method

### Summarize

Sold vs Unsold Percent Change for Subclass 1212

Difference in Price Per Foot

Residential Sold vs Unsold	N	Median	Mean
SOLD	43	1.01	1.19
UNSOLD	363	1.09	1.19
Total	406	1.09	1.19

### Summarize

Sold vs Unsold Percent Change for Subclass 1212 by Economic Area

Difference in Price Per Foot

economic_area	Residential Sold vs Unsold	N	Median	Mean
	UNSOLD	2	1.05	1.05
	Total	2	1.05	1.05
1	SOLD	37	1.00	1.20
	UNSOLD	277	1.10	1.12
	Total	314	1.10	1.13
2	SOLD	6	1.05	1.15
	UNSOLD	84	1.09	1.45
	Total	90	1.09	1.43
Total	SOLD	43	1.01	1.19
	UNSOLD	363	1.09	1.19
	Total	406	1.09	1.19

**Final Analysis: OVERALL Statistical Abstract.**

**Ratio Statistics**

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Mean	95% Confidence Interval for Mean		Median
			Lower Bound	Upper Bound	
Vacant Land	7	.661	.431	.891	.639
Residential	46	.983	.953	1.012	.975
Commercial/Industrial	9	.932	.752	1.112	.961
Overall	62	.939	.894	.984	.961

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for ...
	Lower Bound	Upper Bound	Actual Coverage		Lower Bound
Vacant Land	.392	1.022	98.4%	.605	.376
Residential	.953	1.006	97.4%	.975	.950
Commercial/Industrial	.700	1.094	96.1%	.739	.646
Overall	.951	.990	97.0%	.875	.778

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	95% Confidence Interval for ...	Price Related Differential	Coefficient of Dispersion
	Upper Bound		
Vacant Land	.835	1.092	.310
Residential	.999	1.008	.069
Commercial/Industrial	.832	1.261	.177
Overall	.972	1.073	.115

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.