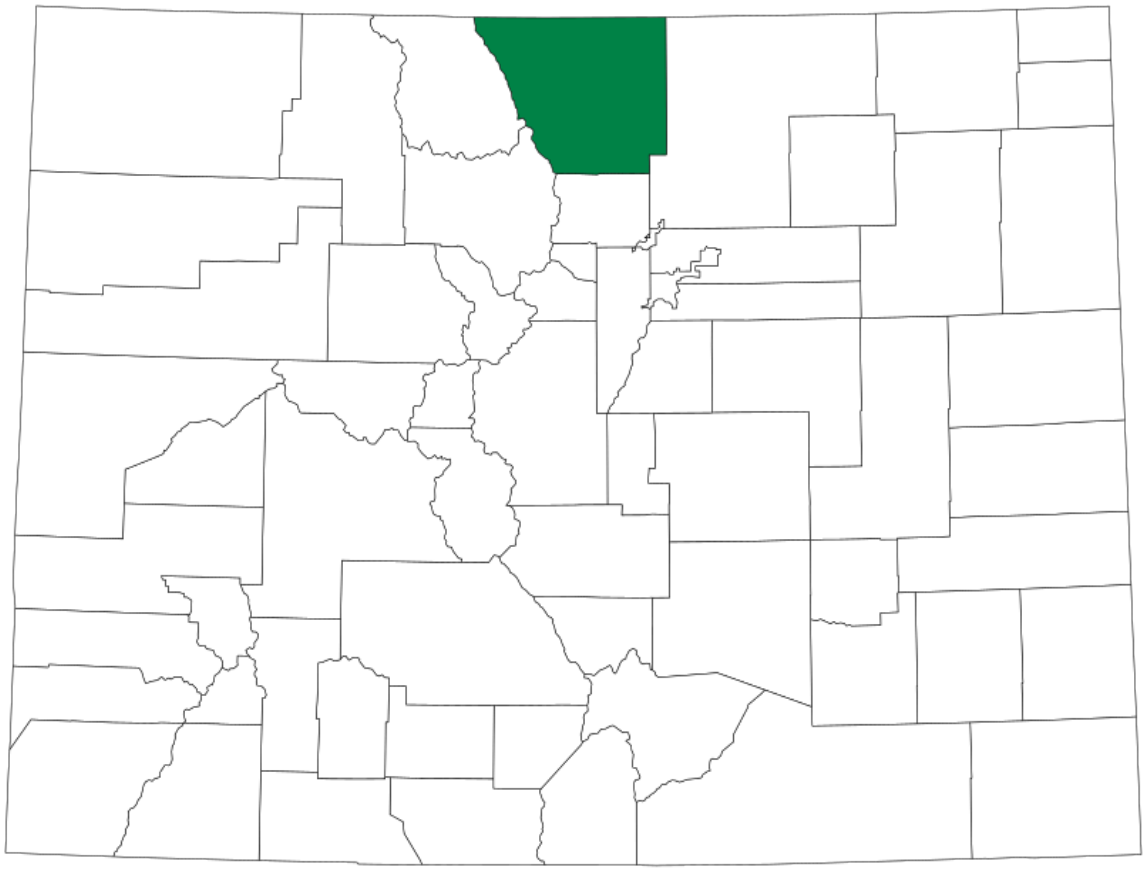
San Matteo

DATA ANALYTICS

2025 Property Assessment Study

Larimer 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 Larimer 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.

Joel Cuthbert, CAE, AAS | Audit Manager
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San Matteo
DATA ANALYTICS

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1. Statistical Overview

Compliance and Evaluations

Larimer County was found to be in compliance.

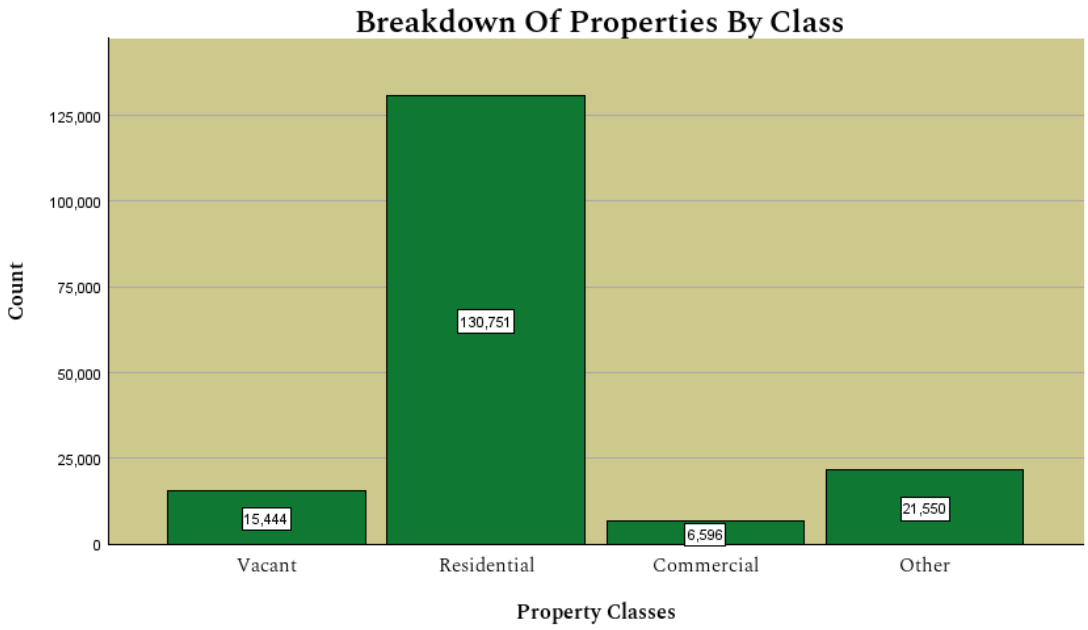
	Result	Value
Vacant Land		
Median Sales Ratio	Pass	0.99
Coefficient of Dispersion	Pass	17.52%
Time Adjustments	Pass	0.372
Price Related Differential	Sufficient	1.15
Price Related Bias	Sufficient	-0.05
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Yes	

	Result	Value
Residential		
Median Sales Ratio	Pass	0.98
Coefficient of Dispersion	Pass	6.53%
Time Adjustments	Pass	0.169
Price Related Differential	Sufficient	1.01
Price Related Bias	Sufficient	-0.03
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Yes	

	Result	Value
Commercial/Industrial		
Median Sales Ratio	Pass	1.00
Coefficient of Dispersion	Pass	7.96%
Time Adjustments	Pass	0.975
Price Related Differential	Sufficient	1.02
Price Related Bias	Sufficient	0.00
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	No	See Section 11

Property Types

Below is a breakdown of the property types of the 174,341 parcels in Larimer County.



2. Vacant Land

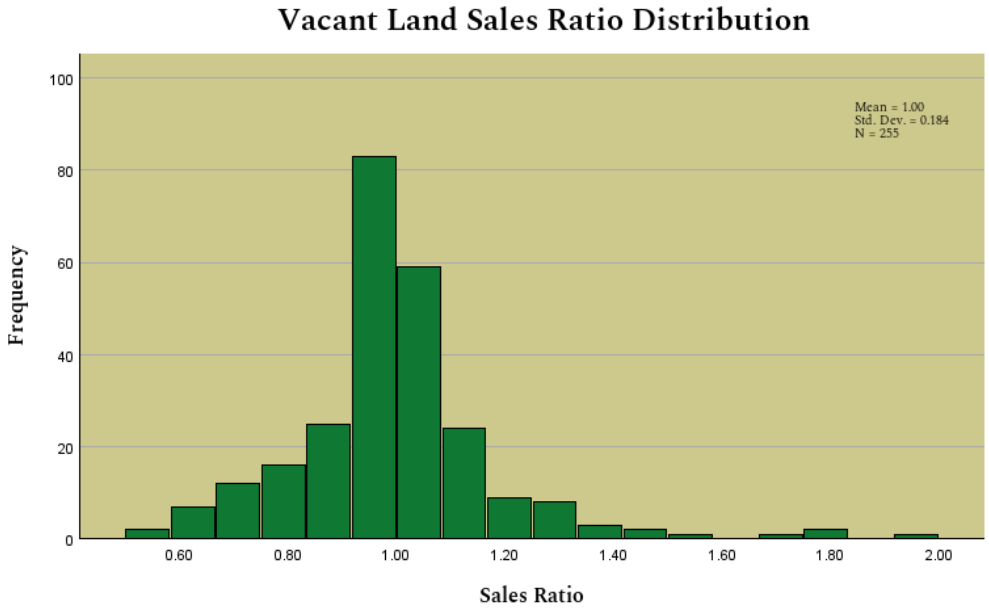
Overview

Larimer was found to be compliant for Vacant Land properties.

	Result	Value
Vacant Land		
Median Sales Ratio	Pass	0.99
Coefficient of Dispersion	Pass	17.52%
Time Adjustments	Pass	0.372
Price Related Differential	Sufficient	1.15
Price Related Bias	Sufficient	-0.05
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Yes	

Vacant Land 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 Vacant Land MSR for Larimer County was calculated to be 0.99, 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.

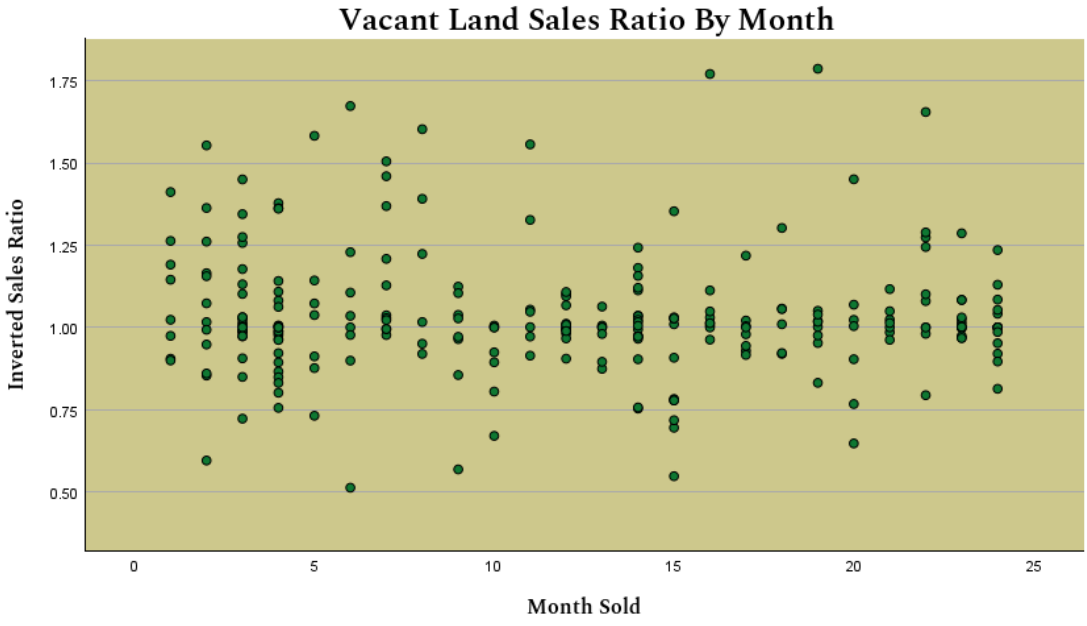


Vacant Land Coefficient of Dispersion

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 Vacant Land properties in Larimer County was calculated at 17.52% which is within the acceptable statistical standard of 20.99% 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.

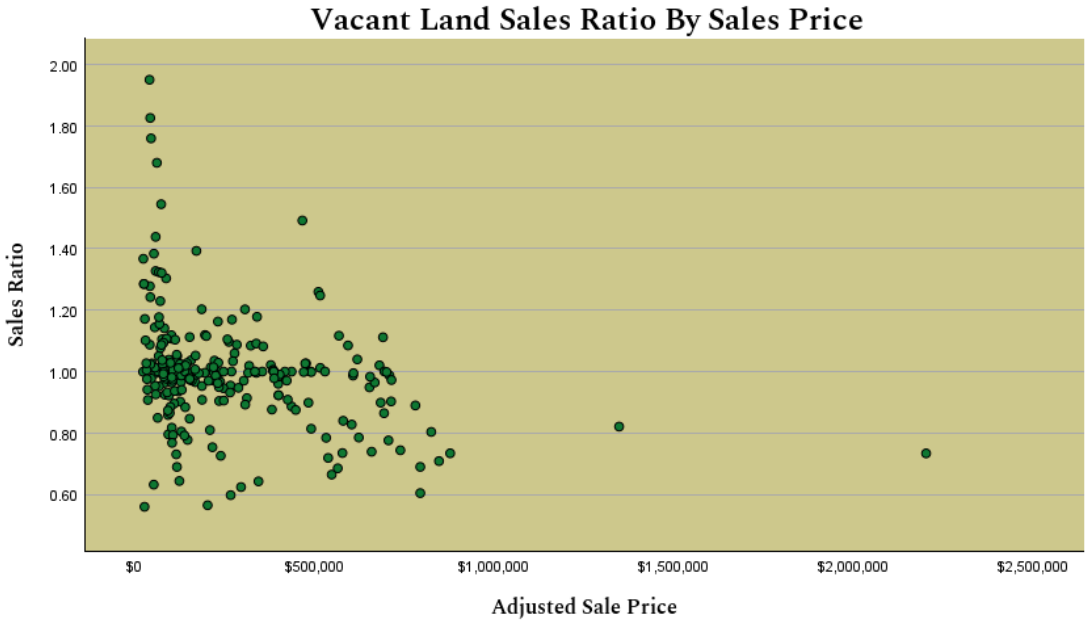
Vacant Land Market (Time) Adjustments

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 24 - month period of sales. There does not appear to be a significant effect of time on Larimer's Vacant Land sales ratios.



Vacant Land 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 Larimer County was calculated at 1.15, which is not 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. This test, combined with the Price Related Bias results, indicates that although the measure falls slightly outside the IAAO's acceptable range, it does not appear to present a concern. See appendix for more details.



Vacant Land 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 Larimer County, the PRB was calculated at -0.05 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.

Vacant Land Sold/Unsold Comparison

All previous Vacant Land statistics focus only on the compliance of properties that were sold during the Vacant Land 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 study indicates that the Vacant Land sold and unsold properties are treated similarly.

Vacant Land 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 Vacant Land sales are being coded in an acceptable way.

There were 278 Vacant Land sales. We have confirmed that more than 50% of all sales were qualified.

3. Residential

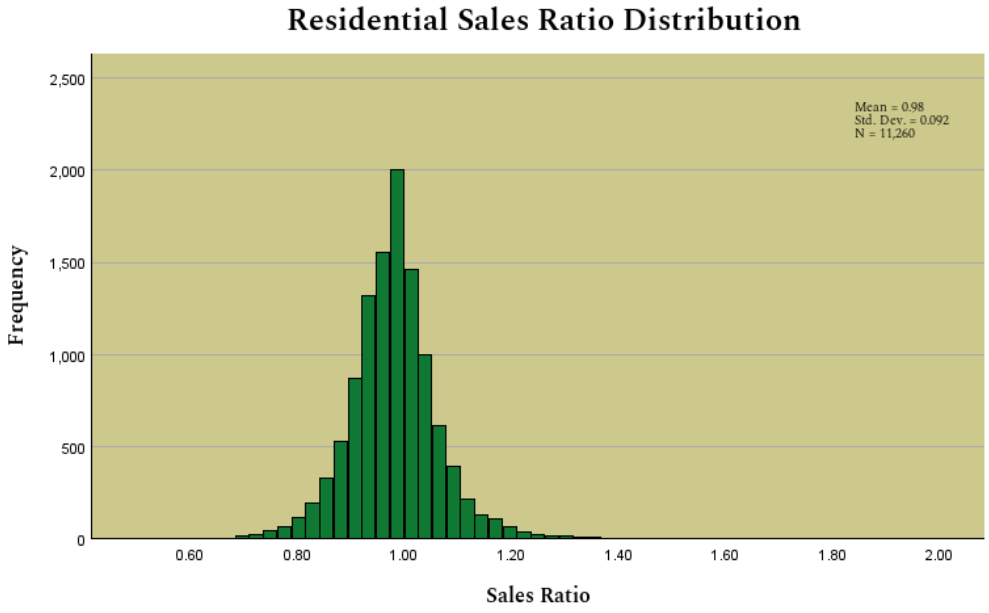
Overview

Larimer County was found to be compliant for Residential properties.

	Result	Value
Residential		
Median Sales Ratio	Pass	0.98
Coefficient of Dispersion	Pass	6.53%
Time Adjustments	Pass	0.169
Price Related Differential	Sufficient	1.01
Price Related Bias	Sufficient	-0.03
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	Yes	

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 Larimer County was calculated to be 0.98, 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

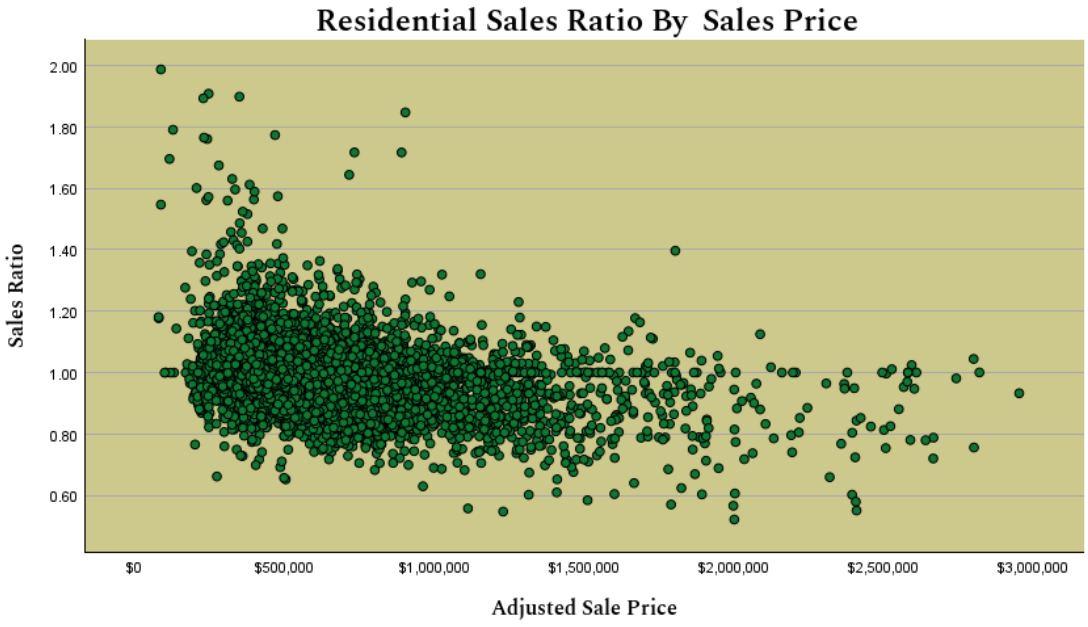
The Coefficient of Dispersion (COD) tests for undesirable variance in the valuations. The variance in sales ratios should be as small as possible. The COD for Residential properties in Larimer County was calculated at 6.53% which is within the acceptable statistical standard of 15.99% or less established 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 24 - month period of sales. There does not appear to be a significant effect of time on Larimer 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 Larimer 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 Larimer County, the PRB was calculated at -0.03 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 11,295 Residential sales. We have confirmed that more than 50% of all sales were qualified.

4. Commercial and Industrial

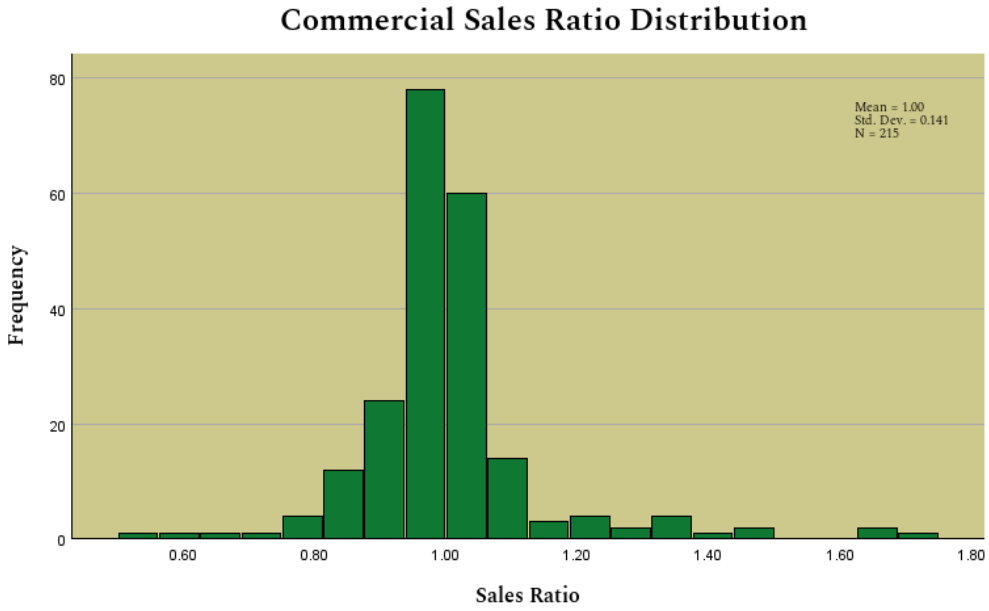
Overview

Larimer was found to be compliant for Commercial and Industrial properties.

	Result	Value
Commercial and Industrial		
Median Sales Ratio	Pass	1.00
Coefficient of Dispersion	Pass	7.96%
Time Adjustments	Pass	0.975
Price Related Differential	Sufficient	1.02
Price Related Bias	Sufficient	0.00
Sold/Unsold Similarity	Sufficient	
Qualified Sales > 50%	No	See Section 11

Commercial 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 Commercial MSR for Larimer County was calculated to be 1.00, 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.

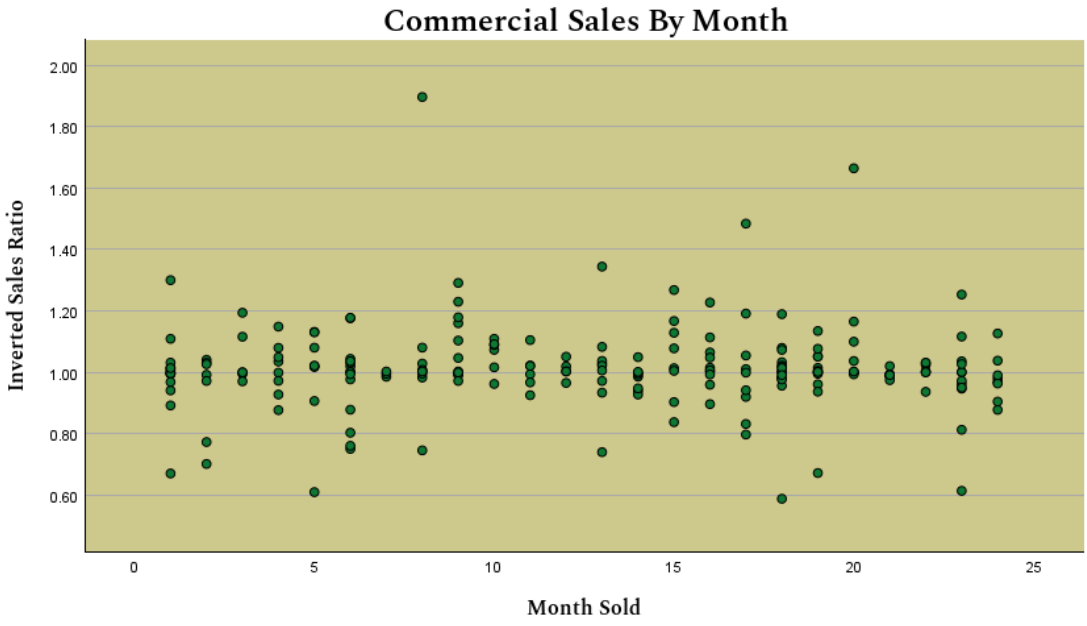


Commercial Coefficient of Dispersion

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 Commercial properties in Larimer County was calculated at 7.96% which is within the acceptable statistical standard of 20.99% 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.

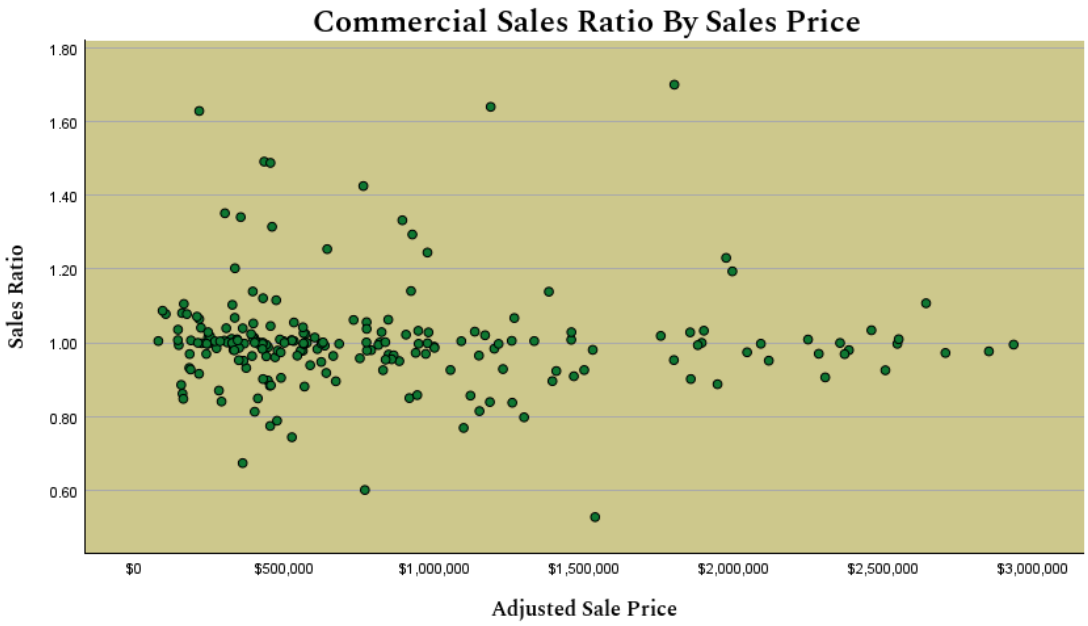
Commercial Market (Time) Adjustments

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 24 - month period of sales. There does not appear to be a significant effect of time on Larimer County's Commercial sales ratios.



Commercial 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 Larimer County was calculated at 1.02, 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.



Commercial 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 Larimer County, the PRB was calculated at 0.00 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.

Commercial Sold/Unsold Comparison

All previous commercial statistics focus only on the compliance of properties that were sold during the Commercial 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 study indicates that commercial sold and unsold properties are treated similarly. See appendix for more details.

Commercial 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 Commercial sales are being coded in an acceptable way.

There were 248 commercial sales. We have confirmed that less than 50% of all sales were qualified.

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).

Larimer 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
- Forest land is classified properly and valued like surrounding parcels
- 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

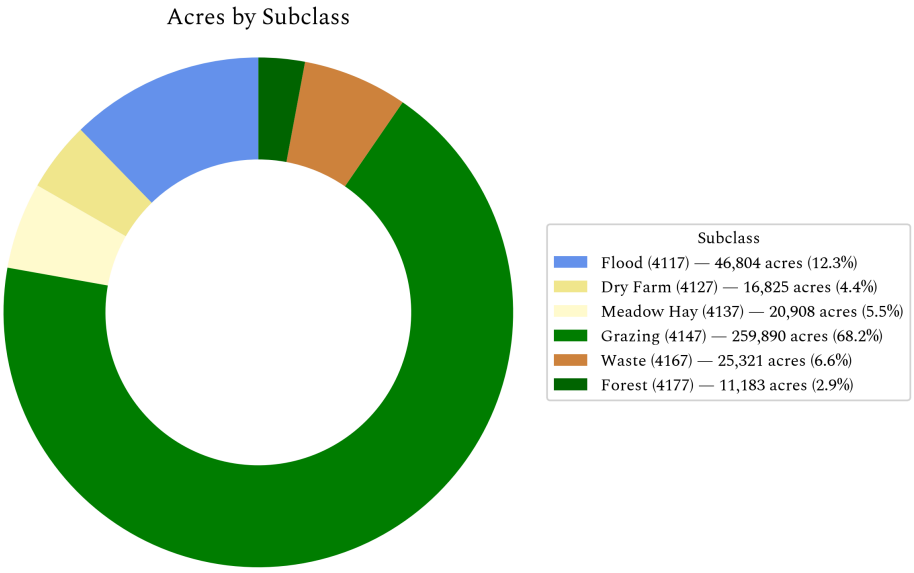
Based on the review and analysis, SMDA considers Larimer County's appraisal practices for agricultural property acceptable and in alignment with statutory requirements. The directives, commodity pricing, and expense figures issued by the Property Tax Administrator were correctly applied throughout the 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.

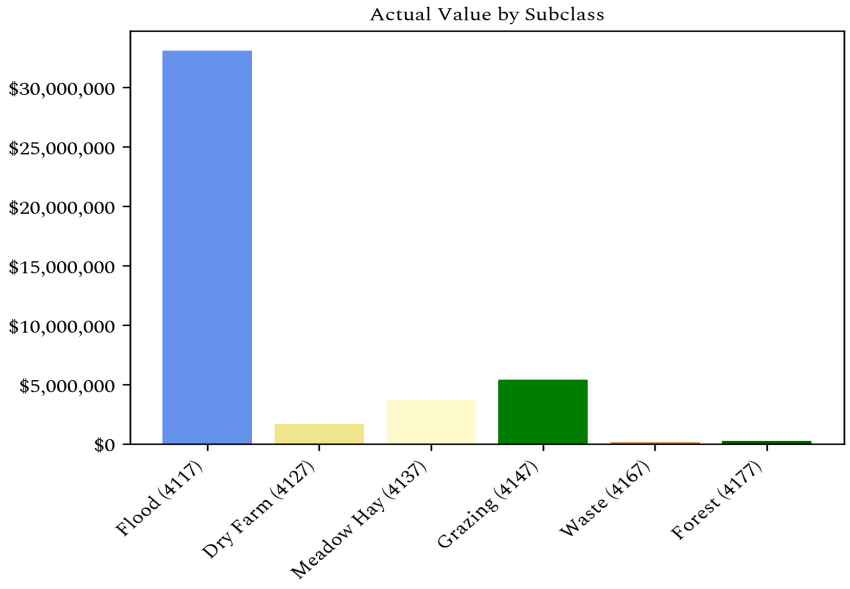
Recommendations

None

Agricultural Land Breakdown

Abstract	Class	Acres	Actual Value	Actual Value/Acre	Assessed Value
4117	Flood	46,803.52	$33,056,525.53	$706.28	$8,925,261.89
4127	Dry Farm	16,825.14	$1,716,318.68	$102.01	$463,406.04
4137	Meadow Hay	20,908.23	$3,733,804.85	$178.58	$1,008,127.31
4147	Grazing	259,890.41	$5,430,895.46	$20.90	$1,466,341.77
4167	Waste	25,321.19	$167,626.28	$6.62	$45,259.10
4177	Forest	11,183.11	$277,798.26	$24.84	$75,005.53





6. Agriculture Non-Integral

Methodology

SMDA reviewed Larimer 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 Larimer 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, Larimer County applied the following discovery methods:

- Field Inspections
- Phone Interviews
- In Person Interviews
- Written Correspondence
- Personal Knowledge of Occupants
- Aerial Photography

For Residential Improvements Not Integral to Agriculture

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

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

Conclusions

Larimer 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

Larimer 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 Larimer 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. For counties with populations over 100,000, including Larimer, a statistically valid sample of audited schedules was selected to confirm compliance with state laws and Property Tax Administrator guidelines.

To identify and discover personal property accounts, Larimer 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.

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

- Accounts protested with substantial disagreement
- Non-filing taxpayers
- Businesses with no deletions or additions for 2 or more years
- Incomplete or inconsistent declarations
- Accounts with obvious discrepancies

Conclusions

Larimer 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 Larimer 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 Larimer County's assessment procedures for compliance with these guidelines for **agricultural and commercial** 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

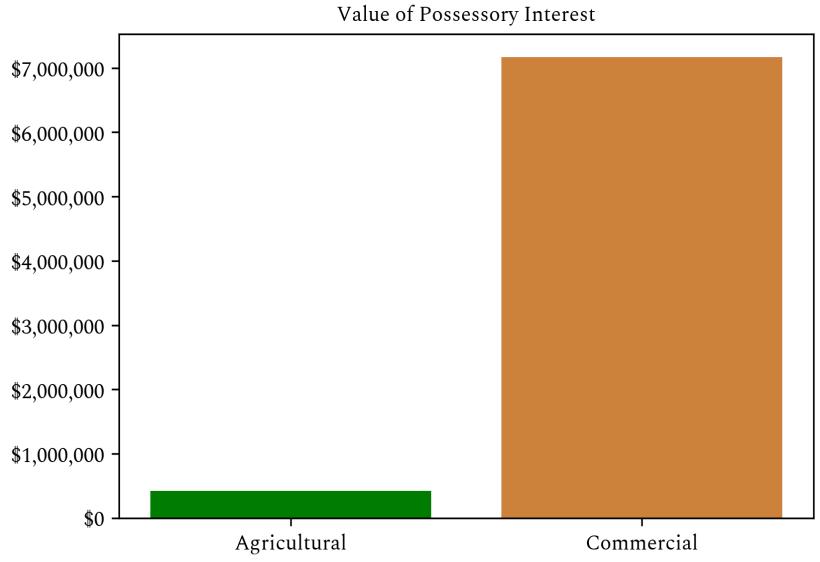
Larimer County established an effective discovery process to ensure that possessory interest properties were added to the tax roll. The county consistently applied the proper procedures and valuation methods according to State guidelines, resulting in accurate and compliant assessments.

Recommendations

None

Possessory Interest Breakdown

Possessory Interest Type	Value
Agricultural	$420,530
Commercial	$7,169,780



11. Sales Verification

Methodology

As part of the Property Assessment Study, SMDA conducted an evaluation of Larimer 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 Larimer County's sales verification practices for the 2025 valuation period by reviewing a selection of sales from Larimer County's master sales list. A total of 188 unqualified and 5 qualified sales were analyzed. Of these, the 182 unqualified sales provided clear and supportable reasons for disqualification, and the other 6 sales were switched to qualified after the analysis.

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.

Conclusions

Based on SMDA's review, Larimer County performed adequately in verifying vacant land and residential sales, while applying statutory requirements.

Qualified commercial sales represented less than 50% of the total over the two-year period. This was due in large part to multiple-parcel transactions and 2245 commercial condo parcels classified as improvement-only. After discussion with Larimer County, it appears that some of these commercial condo improvement-only parcels should likely have been qualified, which would raise the percentage of qualified sales above the 50% threshold.

Recommendations

Coordinate with the DPT to define clear guidance for the treatment of 2245 commercial condo improvement only parcels in sales qualification.

12. Subdivision Discounting

Methodology

SMDA reviewed Larimer County's subdivision discounting practices to ensure compliance with **§39-1-103(14), C.R.S.** The review confirmed that discounting was applied to subdivisions where fewer than 80% of vacant lots had been sold. For each qualifying subdivision, an absorption rate was estimated to reflect the expected timeframe for selling the remaining parcels. Using the Summation Method and following the Division of Property Taxation guidelines, an appropriate discount rate was developed to account for the anticipated holding period and associated carrying costs.

Conclusions

Larimer County properly applied discounting procedures for qualifying subdivisions. The county's estimates of absorption periods, discount rates, and lot values are consistent with statutory requirements and state-recommended methodologies.

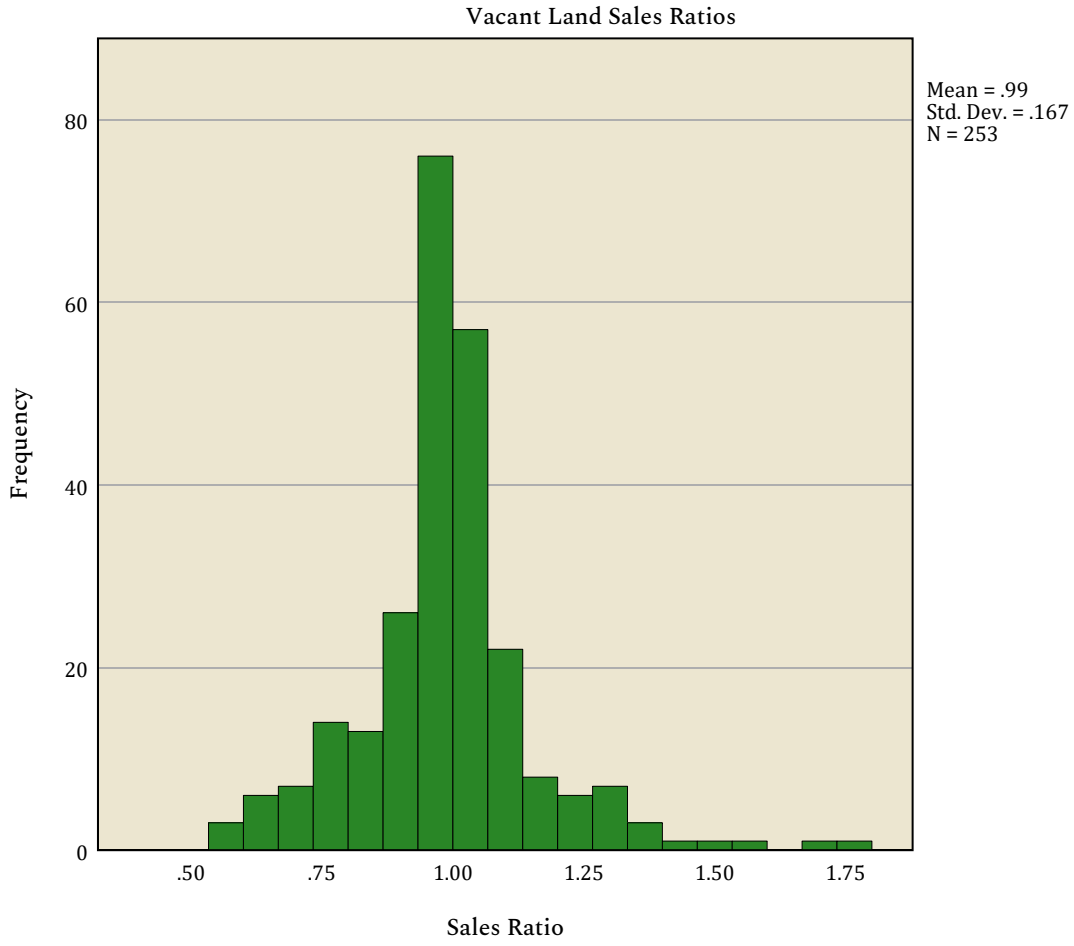
Recommendations

None

13. Appendix

OVERALL Vacant Land: Sales Ratio Distribution

Graph



OVERALL Vacant Land: Central Tendencies

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

N	Median	Coefficient of Dispersion
266	.993	.134

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.042	1.097

OVERALL Vacant Land: Sales Price by Sales Ratio

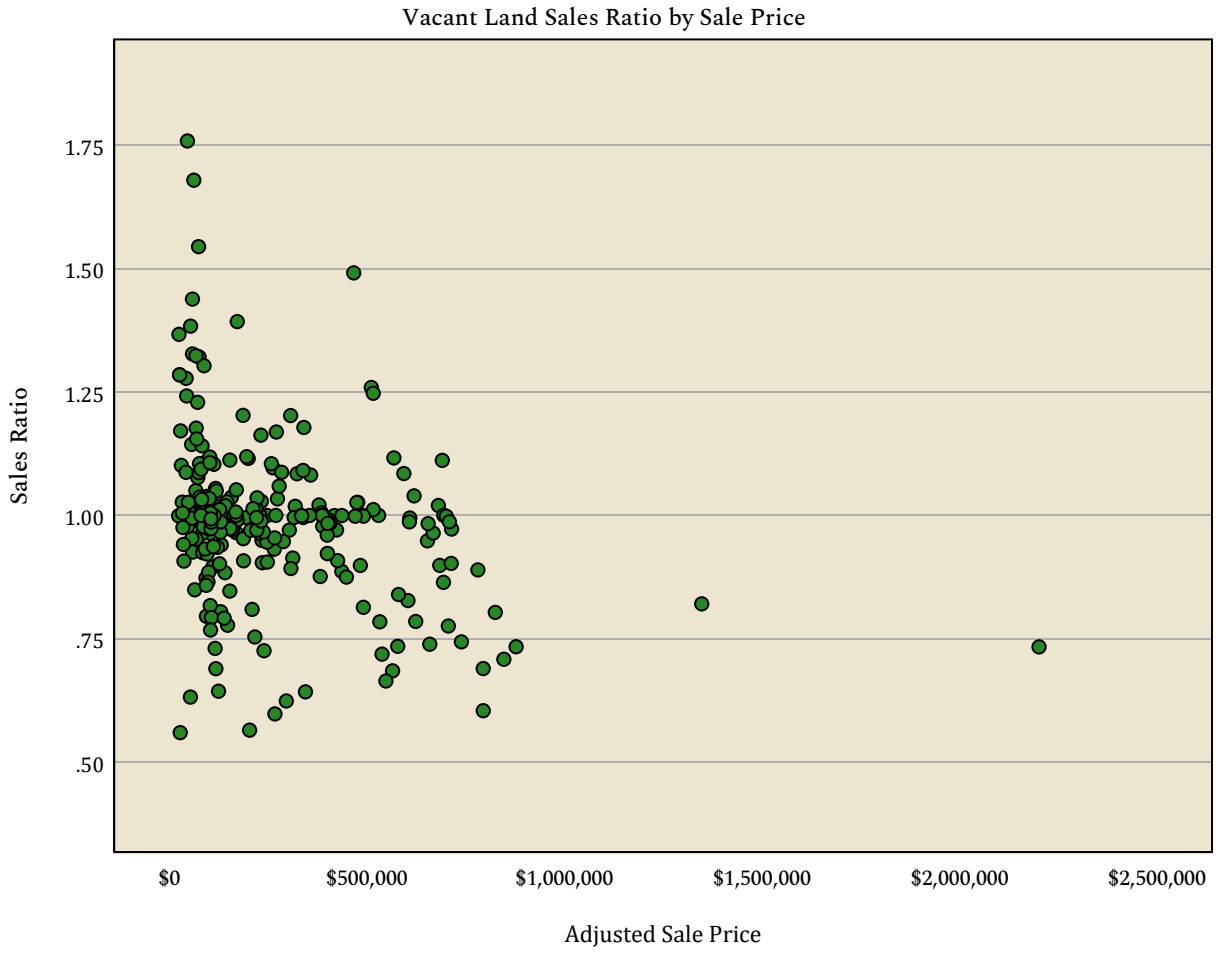
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.031	.017		62.446	<.001
	Adjusted Sale Price	-2.520E-7	.000	-.369	-6.455	<.001

a. Dependent Variable: Sales Ratio

Graph



OVERALL Vacant Land: Months by Inverted Sales Ratio

Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.156	.072		16.148	<.001
	Vacant Land Time in Months	-.001	.005	-.011	-.181	.856

a. Dependent Variable: Inverted Sales Ratio

Graph

OVERALL Vacant Land: Descriptive Statistics

Frequencies

Statistics

		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	266	266	266
	Missing	0	0	0
Mean		$195,171.57	$250,918.95	$55,747.38
Median		$135,600.00	$163,500.00	$14,100.00
Percentiles	2.5	$38,105.00	$34,000.00	-$52,112.50
	25	$85,000.00	$85,000.00	-$3,500.00
	50	$135,600.00	$163,500.00	$14,100.00
	75	$281,357.50	$384,825.00	$76,250.00
	97.5	$505,000.00	$700,000.00	$366,778.50

OVERALL Vacant Land: Mann-Whitney U-Test (Rank-sum)

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Current Total Value is the same across categories of Vacant Land 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

Current Total Value across Vacant Land Sold vs. Unsold

Independent-Samples Mann-Whitney U Test Summary

Total N	12182
Mann-Whitney U	775867.500
Wilcoxon W	72123352.500
Test Statistic	775867.500
Standard Error	53606.460
Standardized Test Statistic	-11.932
Asymptotic Sig.(2-sided test)	<.001

Nonparametric Tests

OVERALL Vacant Land: Mann-Whitney U-Test (Rank-sum)

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Total Value is the same across categories of Vacant Land 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

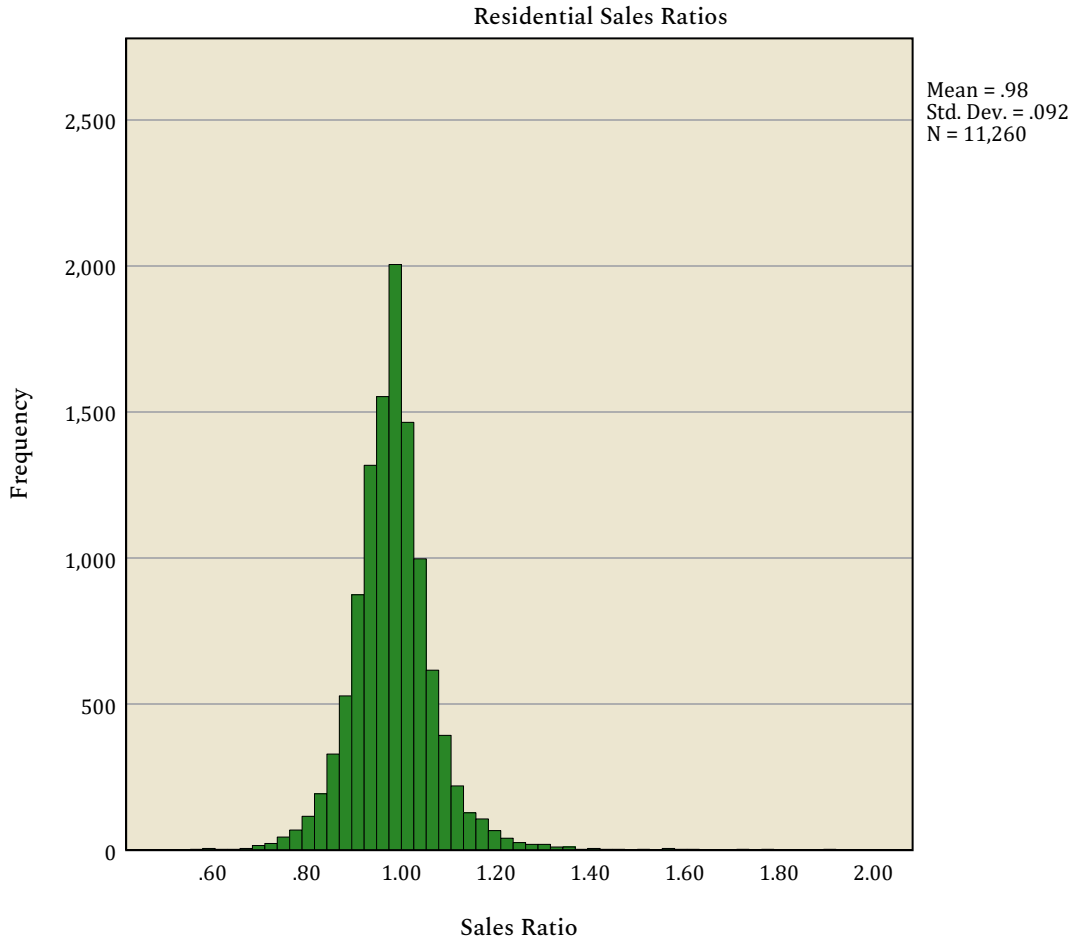
Difference in Total Value across Vacant Land Sold vs. Unsold

Independent-Samples Mann-Whitney U Test Summary

Total N	13865
Mann-Whitney U	1410756.500
Wilcoxon W	94210632.500
Test Statistic	1410756.500
Standard Error	60923.172
Standardized Test Statistic	-3.900
Asymptotic Sig.(2-sided test)	<.001

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
11295	.982	.065

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.033	1.013

OVERALL Residential: Sales Price by Sales Ratio

Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.985	.001		980.275	<.001
	Adjusted Sale Price	-2.883E-9	.000	-.049	-5.212	<.001

a. Dependent Variable: Sales Ratio

Graph

OVERALL Residential: Months by Inverted Sales Ratio

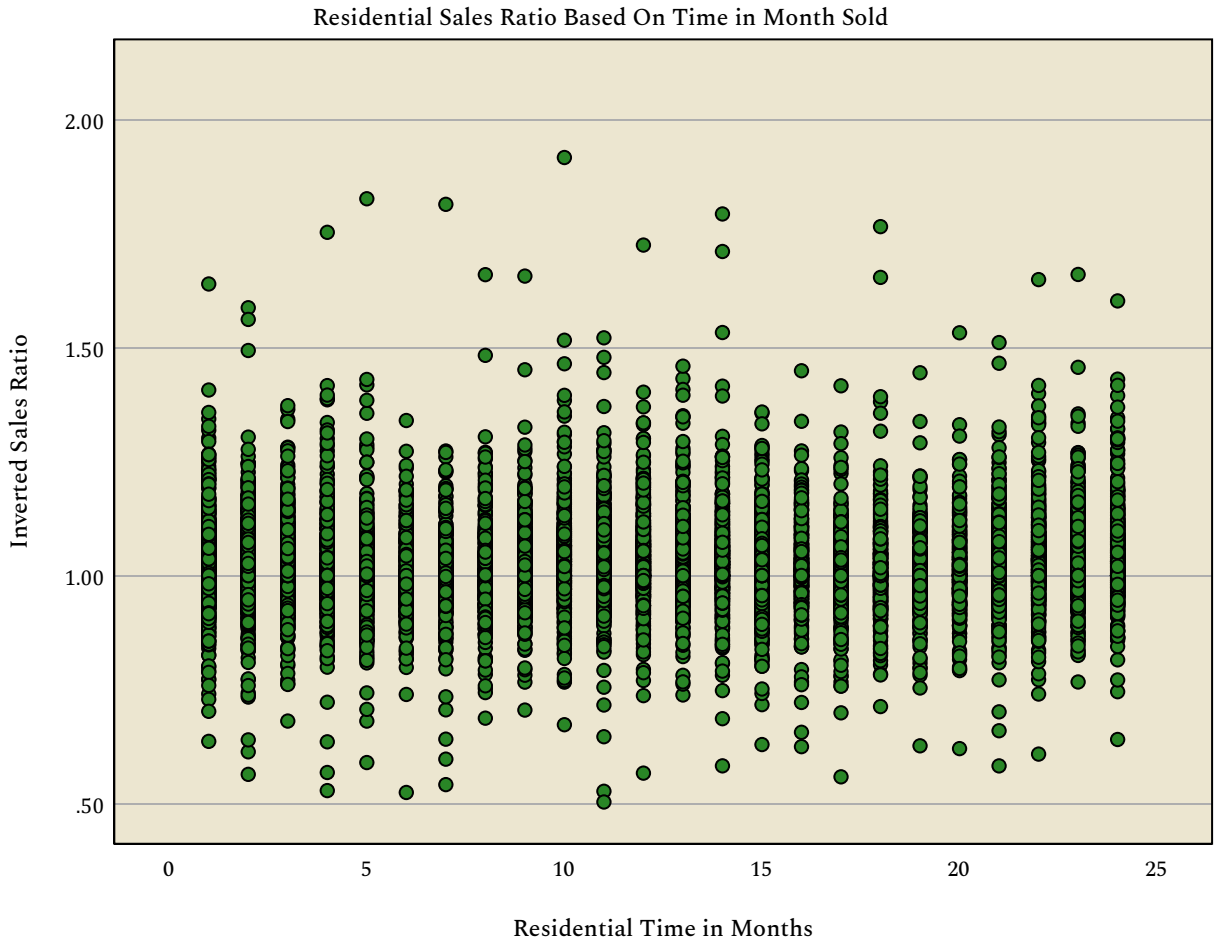
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.021	.011		95.226	<.001
	Residential Time in Months	.001	.001	.013	1.375	.169

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	11295	11295	11295
	Missing	0	0	0
Mean		$1,395.31	$1,477.15	1.07
Median		$282.90	$282.05	.99
Percentiles	2.5	$146.71	$182.65	.83
	25	$234.92	$238.94	.95
	50	$282.90	$282.05	.99
	75	$335.10	$332.74	1.03
	97.5	$507.10	$512.76	1.87

Frequencies

Statistics

		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	11295	11295	11295
	Missing	0	0	0
Mean		$622,146.54	$632,207.41	$10,060.87
Median		$540,000.00	$535,500.00	-$6,900.00
Percentiles	2.5	$230,860.00	$284,700.00	-$119,600.00
	25	$442,600.00	$444,100.00	-$25,500.00
	50	$540,000.00	$535,500.00	-$6,900.00
	75	$669,000.00	$661,000.00	$16,200.00
	97.5	$1,221,860.00	$1,289,140.00	$299,860.00

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

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Total Value is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.824

Hypothesis Test Summary

	Decision
1	Retain 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	118497
Mann-Whitney U	470561208.000
Wilcoxon W	6512149134.000
Test Statistic	470561208.000
Standard Error	3050707.892
Standardized Test Statistic	-.222
Asymptotic Sig.(2-sided test)	.824

Nonparametric Tests

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

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of 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

Price Per Foot across Residential Sold vs Unsold

Independent-Samples Mann-Whitney U Test Summary

Total N	118566
Mann-Whitney U	501072965.500
Wilcoxon W	6550907966.500
Test Statistic	501072965.500
Standard Error	3051570.554
Standardized Test Statistic	9.779
Asymptotic Sig.(2-sided test)	<.001

Nonparametric Tests

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

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
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	.646

Hypothesis Test Summary

	Decision
1	Retain 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	118566
Mann-Whitney U	472512641.500
Wilcoxon W	6516519126.500
Test Statistic	472512641.500
Standard Error	3060256.679
Standardized Test Statistic	-.459
Asymptotic Sig.(2-sided test)	.646

OVERALL Residential: Unit Value Comparison

Summarize

Sold vs Unsold

Difference in Price Per Foot

Residential Sold vs Unsold	N	Median	Mean
SOLD	8971	.98	1.00
UNSOLD	115837	.98	1.00
Total	124808	.98	1.00

OVERALL Residential: Neighborhood Group

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
18729 1997	36	1.017	.046
18729 8014	47	1.001	.054
18933 100668	57	1.003	.021
18933 1971	43	.969	.033
18933 5006	85	.957	.105
18933 5007	42	.970	.045
18933 5008	49	.947	.082
18933 5010	73	.965	.076
18933 5013	33	.961	.068
18933 5022	220	.988	.067
18933 5024	222	.970	.046
18933 8098	36	.953	.050
18933 8132	40	.995	.048
18933 8255	158	.968	.041
18933 8268	48	1.016	.082
18933 8468	69	.975	.037
18934 6045	94	.997	.023
18934 6048	36	.990	.042
18934 6055	41	.994	.041
18934 6067	53	.957	.055
19601 1344	30	.978	.057
19613 8450	61	.993	.035
19613 8451	119	.941	.058
19614 18513	34	.997	.047
19722 1301	40	.981	.055
19836 8116	43	1.002	.066
19836 8226	69	.967	.058
28506 240568	47	.985	.055
28506 2725	229	.973	.051

OVERALL Residential: Neighborhood Group

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
28506 2736	30	.976	.032
28506 2753	38	.994	.039
28506 2760	229	.968	.050
28506 5802	67	.987	.043
28506 5802001001	45	.993	.036
28506 5817	184	1.005	.034
28506 8528	71	.982	.026
28623 5504	37	.972	.057
28623 5510	115	.977	.090
28623 5514	31	.970	.083
28623 5523	80	.977	.057
29414 4067	38	.991	.028
29414 4104	99	.942	.094
29414 4114	94	.972	.058
29414 4118	55	.947	.054
29414 4120	49	.966	.044
29414 4125	30	.956	.063
29414 4128	94	.953	.052
29414 4137	31	.981	.023
29502 2223	32	.979	.050
29502 2558	38	.977	.039
29502 2624	31	.978	.040
29517 2631	34	.999	.047
29522 2803	36	.951	.052
29635 2769	60	.969	.028
29635 8525	115	.979	.033
33525 0223	38	1.000	.069
42915 0327	53	1.000	.067
43028 0272	81	.965	.094
Overall	4089	.979	.055

OVERALL Residential: Neighborhood Group

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
18729 1997	36	-.003	1.002
18729 8014	47	-.160	1.008
18933 100668	57	-.090	1.001
18933 1971	43	.028	1.001
18933 5006	85	-.060	1.024
18933 5007	42	-.049	1.002
18933 5008	49	-.244	1.016
18933 5010	73	-.067	1.011
18933 5013	33	-.046	1.011
18933 5022	220	-.156	1.011
18933 5024	222	.022	.999
18933 8098	36	-.132	1.002
18933 8132	40	-.076	1.005
18933 8255	158	-.065	1.005
18933 8268	48	-.417	1.029
18933 8468	69	-.060	1.002
18934 6045	94	-.034	1.001
18934 6048	36	-.204	1.004
18934 6055	41	-.082	1.002
18934 6067	53	-.162	1.004
19601 1344	30	-.261	1.005
19613 8450	61	.017	1.001
19613 8451	119	-.181	1.010
19614 18513	34	-.213	1.005
19722 1301	40	.203	.996
19836 8116	43	-.040	1.006
19836 8226	69	-.016	1.003
28506 240568	47	-.017	1.002
28506 2725	229	-.012	1.004

OVERALL Residential: Neighborhood Group

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
28506 2736	30	.096	1.000
28506 2753	38	.106	1.000
28506 2760	229	.001	1.002
28506 5802	67	-.034	1.003
28506 5802001001	45	-.022	1.002
28506 5817	184	-.095	1.003
28506 8528	71	.121	1.000
28623 5504	37	-.052	1.010
28623 5510	115	-.107	1.025
28623 5514	31	-.191	1.025
28623 5523	80	-.103	1.005
29414 4067	38	.059	1.000
29414 4104	99	-.078	1.034
29414 4114	94	.103	.998
29414 4118	55	-.103	1.006
29414 4120	49	-.379	1.003
29414 4125	30	-.305	1.010
29414 4128	94	-.394	1.006
29414 4137	31	.247	1.000
29502 2223	32	-.027	1.002
29502 2558	38	.071	.999
29502 2624	31	-.038	1.005
29517 2631	34	-.023	1.004
29522 2803	36	.003	1.001
29635 2769	60	-.004	1.001
29635 8525	115	-.027	1.001
33525 0223	38	.042	1.002
42915 0327	53	-.100	1.012
43028 0272	81	-.118	1.020
Overall	4089	-.032	1.011

OVERALL Residential: Number of Sales by Value Group

Frequencies

Statistics

Groups of Value

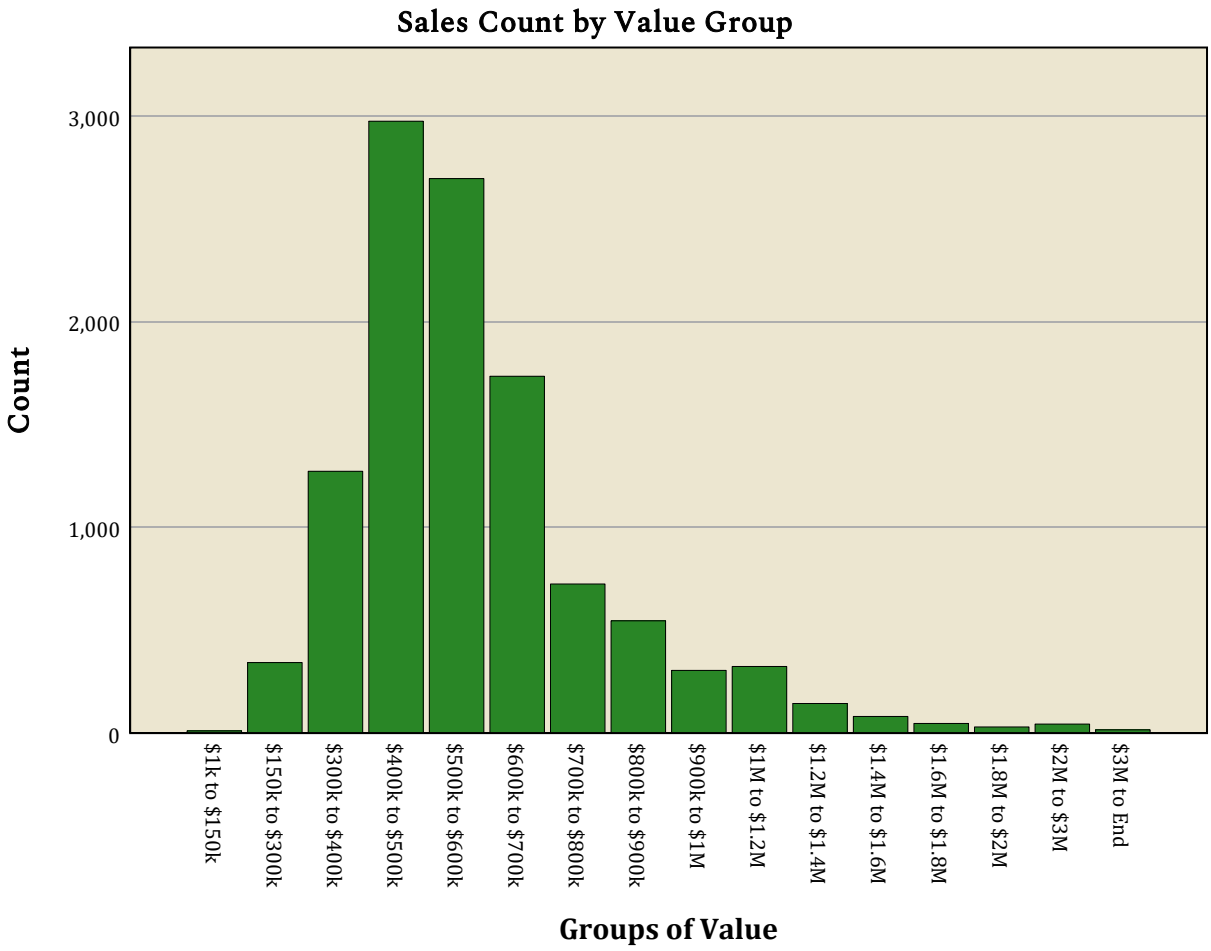
N	Valid	11295
	Missing	0

Groups of Value

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	$1k to $150k	11	.1	.1	.1
	$150k to $300k	343	3.0	3.0	3.1
	$300k to $400k	1273	11.3	11.3	14.4
	$400k to $500k	2975	26.3	26.3	40.7
	$500k to $600k	2696	23.9	23.9	64.6
	$600k to $700k	1735	15.4	15.4	80.0
	$700k to $800k	725	6.4	6.4	86.4
	$800k to $900k	546	4.8	4.8	91.2
	$900k to $1M	305	2.7	2.7	93.9
	$1M to $1.2M	324	2.9	2.9	96.8
	$1.2M to $1.4M	144	1.3	1.3	98.1
	$1.4M to $1.6M	81	.7	.7	98.8
	$1.6M to $1.8M	47	.4	.4	99.2
	$1.8M to $2M	30	.3	.3	99.5
	$2M to $3M	44	.4	.4	99.9
	$3M to End	16	.1	.1	100.0
	Total	11295	100.0	100.0	

Graph

OVERALL Residential: Number of Sales by Value Group



OVERALL Residential: Central Tendencies by Value Group

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
$1k to $150k	11	1.000	.485
$150k to $300k	343	.973	.070
$300k to $400k	1273	.973	.059
$400k to $500k	2975	.989	.056
$500k to $600k	2696	.984	.059
$600k to $700k	1735	.974	.069
$700k to $800k	725	.980	.069
$800k to $900k	546	.988	.074
$900k to $1M	305	.977	.092
$1M to $1.2M	324	.965	.100
$1.2M to $1.4M	144	.957	.102
$1.4M to $1.6M	81	1.000	.106
$1.6M to $1.8M	47	.957	.097
$1.8M to $2M	30	1.000	.093
$2M to $3M	44	.958	.113
$3M to End	16	1.000	.044
Overall	11295	.982	.065

Ratio Statistics

OVERALL Residential: Central Tendencies by Value Group

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
$1k to $150k	11	-.890	2.125
$150k to $300k	343	-.215	1.012
$300k to $400k	1273	-.359	1.009
$400k to $500k	2975	-.372	1.006
$500k to $600k	2696	-.556	1.007
$600k to $700k	1735	-.780	1.010
$700k to $800k	725	-.797	1.009
$800k to $900k	546	-.933	1.011
$900k to $1M	305	-1.049	1.016
$1M to $1.2M	324	-.816	1.020
$1.2M to $1.4M	144	-.941	1.023
$1.4M to $1.6M	81	-1.144	1.023
$1.6M to $1.8M	47	-1.119	1.028
$1.8M to $2M	30	-1.064	1.015
$2M to $3M	44	-.368	1.018
$3M to End	16	.000	.997
Overall	11295	-.033	1.013

OVERALL Residential: Sales by Building Area Group

Frequencies

Statistics

Groups by Building Area

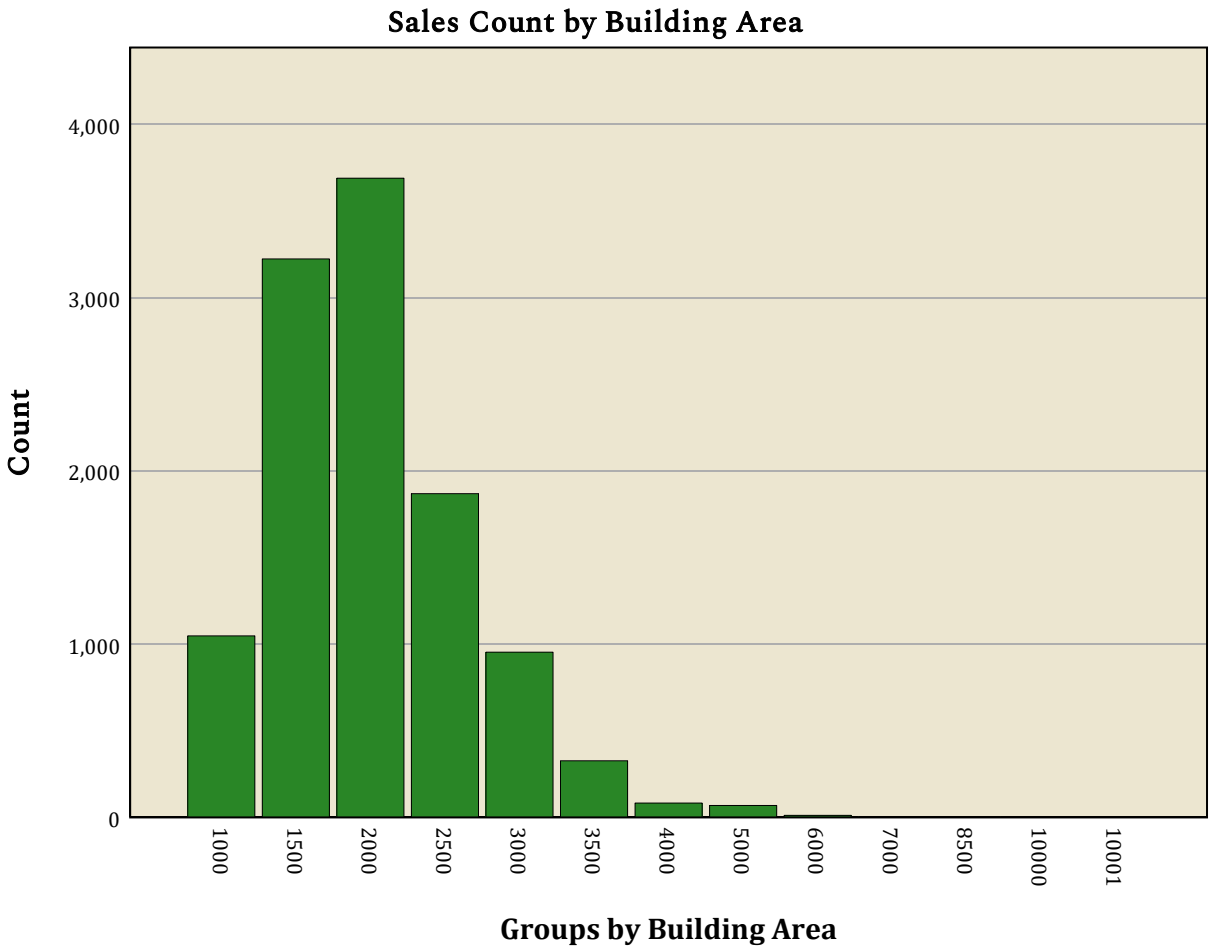
N	Valid	11295
	Missing	0

Groups by Building Area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1000	1048	9.3	9.3	9.3
	1500	3224	28.5	28.5	37.8
	2000	3690	32.7	32.7	70.5
	2500	1869	16.5	16.5	87.0
	3000	954	8.4	8.4	95.5
	3500	327	2.9	2.9	98.4
	4000	83	.7	.7	99.1
	5000	69	.6	.6	99.7
	6000	12	.1	.1	99.8
	7000	5	.0	.0	99.9
	8500	5	.0	.0	99.9
	10000	3	.0	.0	99.9
	10001	6	.1	.1	100.0
	Total	11295	100.0	100.0	

Graph

OVERALL Residential: Sales by Building Area Group



OVERALL Residential: Central Tendencies by Area Group

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
1000	1048	.978	.080
1500	3224	.984	.061
2000	3690	.983	.062
2500	1869	.982	.065
3000	954	.981	.066
3500	327	.949	.078
4000	83	.975	.086
5000	69	.959	.084
6000	12	.932	.143
7000	5	.994	.206
8500	5	1.304	.112
10000	3	1.000	.107
10001	6	.999	.032
Overall	11295	.982	.065

Ratio Statistics

OVERALL Residential: Central Tendencies by Area Group

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
1000	1048	-.044	1.013
1500	3224	-.043	1.007
2000	3690	-.060	1.009
2500	1869	-.065	1.012
3000	954	-.044	1.014
3500	327	-.052	1.016
4000	83	-.078	1.025
5000	69	-.064	1.027
6000	12	-.240	1.063
7000	5	-.408	1.096
8500	5	-.110	1.054
10000	3	-.420	1.026
10001	6	.054	.994
Overall	11295	-.033	1.013

OVERALL Residential: Sales by Economic Area Group

Frequencies

Statistics

economic_area

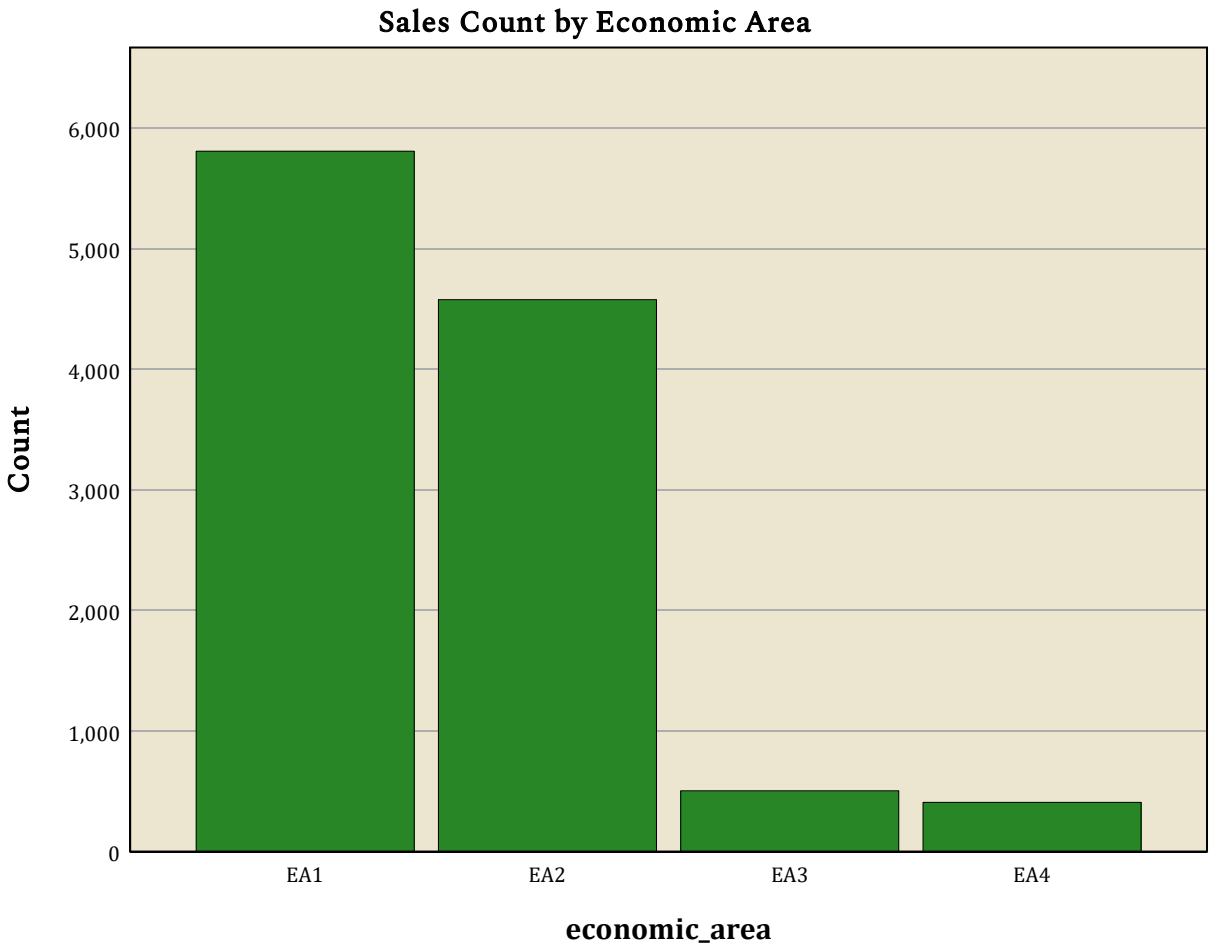
N	Valid	11295
	Missing	0

economic_area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	EA1	5807	51.4	51.4	51.4
	EA2	4576	40.5	40.5	91.9
	EA3	504	4.5	4.5	96.4
	EA4	408	3.6	3.6	100.0
	Total	11295	100.0	100.0	

Graph

OVERALL Residential: Sales by Economic Area Group



OVERALL Residential: Central Tendencies by Economic Area Group

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
EA1	5807	.981	.065
EA2	4576	.981	.060
EA3	504	.989	.083
EA4	408	1.000	.102
Overall	11295	.982	.065

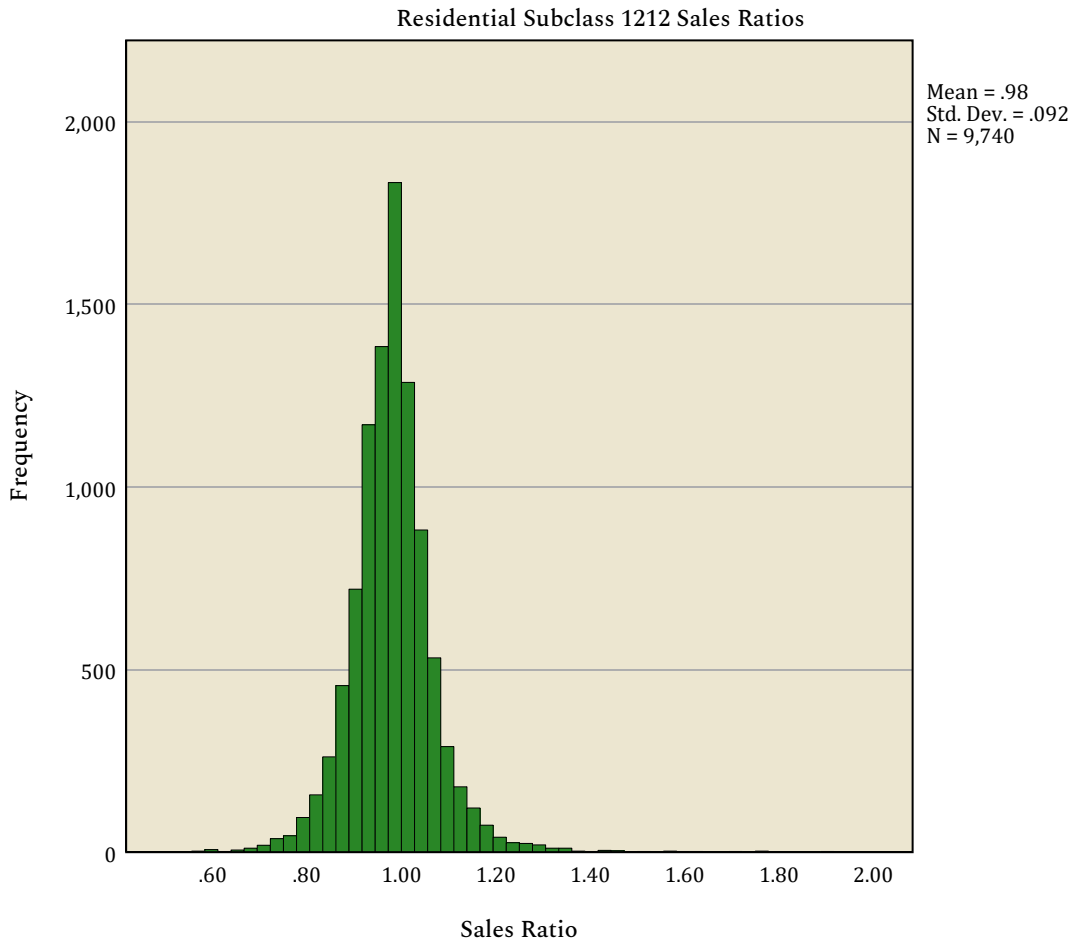
Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
EA1	5807	-.033	1.014
EA2	4576	-.026	1.010
EA3	504	-.037	1.015
EA4	408	-.080	1.032
Overall	11295	-.033	1.013

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
9762	.981	.066

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.046	1.014

Residential Subclass 1212: Sales Price by Sales Ratio

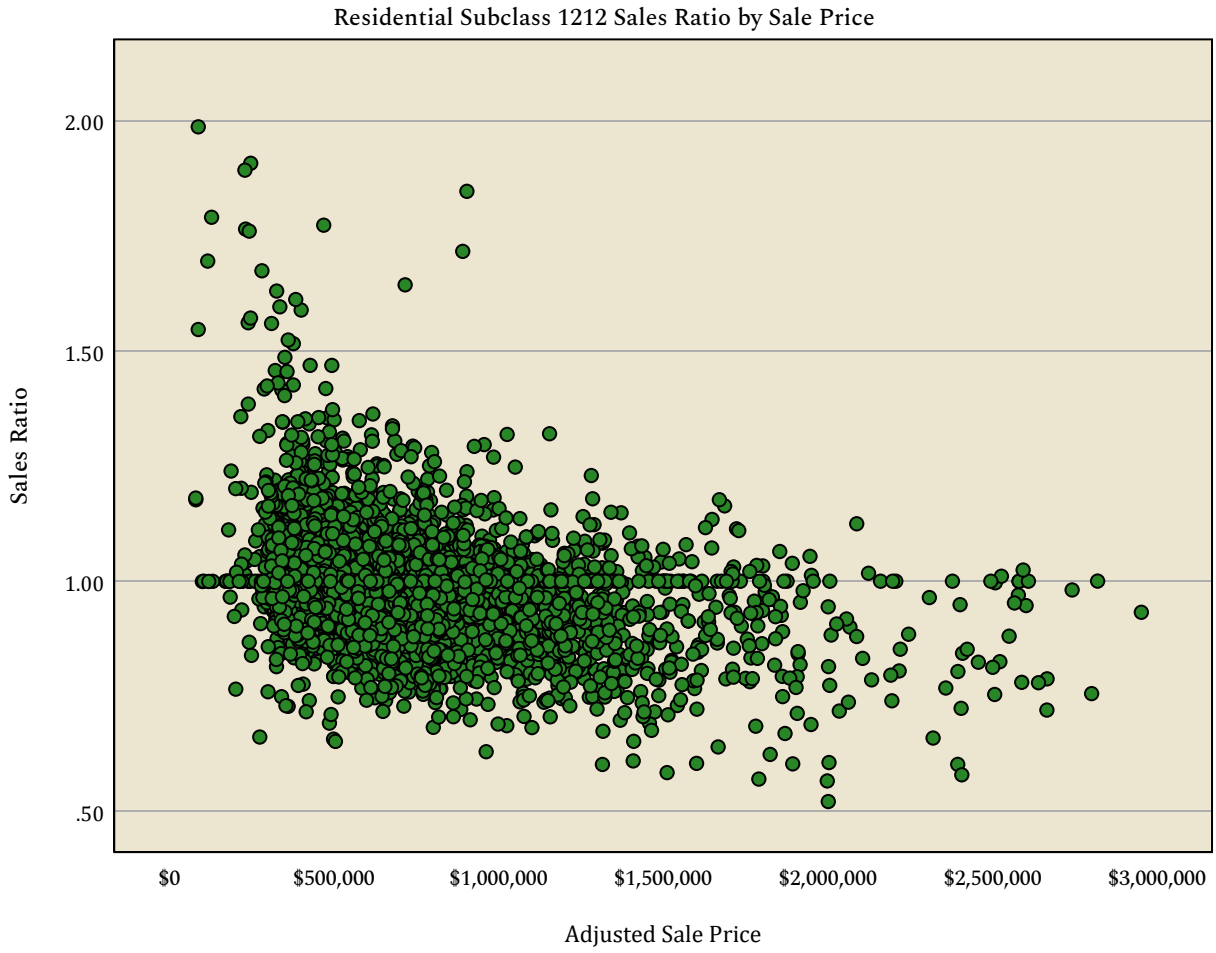
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.044	.002		462.047	<.001
	Adjusted Sale Price	-9.790E-8	.000	-.296	-30.630	<.001

a. Dependent Variable: Sales Ratio

Graph



Residential Subclass 1212: Months by Inverted Sales Ratio

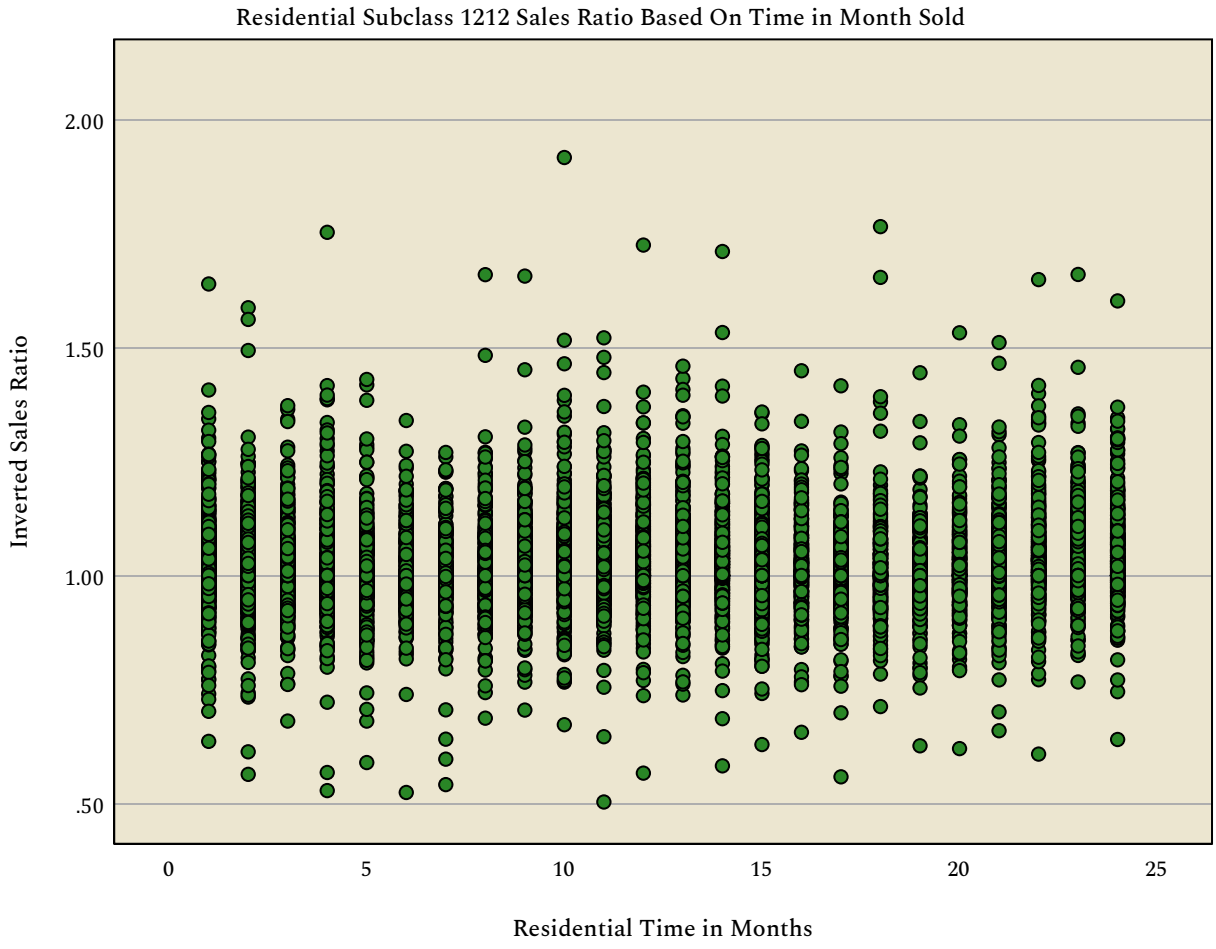
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.021	.002		494.085	<.001
	Residential Time in Months	.001	.000	.042	4.179	<.001

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	9762	9762	9762
	Missing	0	0	0
Mean		$418.41	$458.38	1.08
Median		$276.23	$275.13	.98
Percentiles	2.5	$140.64	$180.95	.82
	25	$230.89	$233.92	.95
	50	$276.23	$275.13	.98
	75	$327.01	$322.89	1.03
	97.5	$495.94	$493.26	1.92

Frequencies

Statistics

		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	9762	9762	9762
	Missing	0	0	0
Mean		$609,802.83	$618,774.39	$8,971.56
Median		$559,550.00	$554,200.00	-$8,100.00
Percentiles	2.5	$250,752.50	$343,300.00	-$123,462.50
	25	$473,600.00	$470,100.00	-$27,525.00
	50	$559,550.00	$554,200.00	-$8,100.00
	75	$685,250.00	$676,500.00	$15,600.00
	97.5	$1,248,600.00	$1,323,990.00	$323,762.50

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

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Total Value is the same across categories of Residential Sold vs Unsold.	Independent-Samples Mann-Whitney U Test	.741

Hypothesis Test Summary

	Decision
1	Retain 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	104283
Mann-Whitney U	354672477.000
Wilcoxon W	5057863068.000
Test Statistic	354672477.000
Standard Error	2479959.800
Standardized Test Statistic	.330
Asymptotic Sig.(2-sided test)	.741

Nonparametric Tests

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

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of 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

Price Per Foot across Residential Sold vs Unsold

Independent-Samples Mann-Whitney U Test Summary

Total N	104340
Mann-Whitney U	386757492.500
Wilcoxon W	5093828343.500
Test Statistic	386757492.500
Standard Error	2484039.033
Standardized Test Statistic	12.855
Asymptotic Sig.(2-sided test)	<.001

Nonparametric Tests

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

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
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	.660

Hypothesis Test Summary

	Decision
1	Retain 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	104340
Mann-Whitney U	354627080.500
Wilcoxon W	5059757601.500
Test Statistic	354627080.500
Standard Error	2487176.610
Standardized Test Statistic	-.440
Asymptotic Sig.(2-sided test)	.660

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	7668	.98	1.00
UNSOLD	102164	.98	1.00
Total	109832	.98	1.00

Summarize

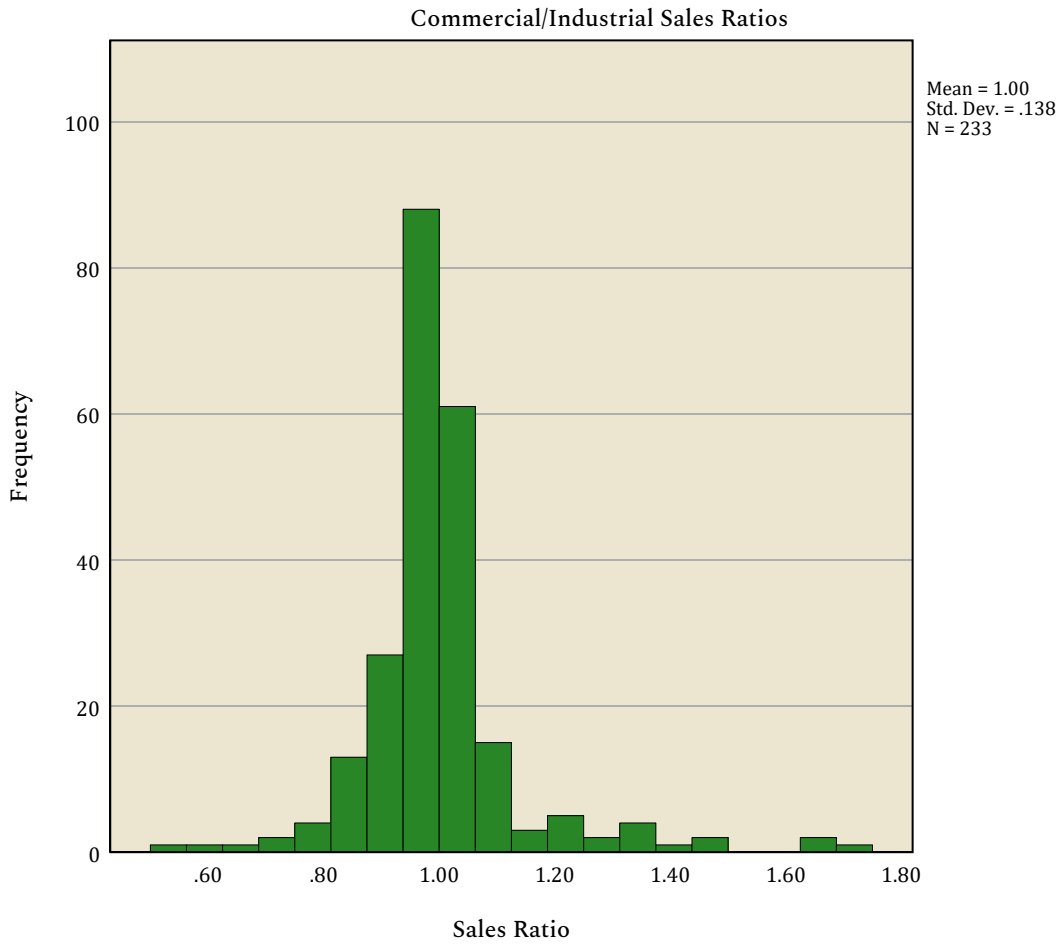
Sold vs Unsold Percent Change for Subclass 1212 by Economic Area

Difference in Price Per Foot

economic_area	Residential Sold vs Unsold	N	Median	Mean
	UNSOLD	256	1.09	1.09
	Total	256	1.09	1.09
EA1	SOLD	3846	.99	1.00
	UNSOLD	53401	.99	1.01
	Total	57247	.99	1.01
EA2	SOLD	3153	.98	1.00
	UNSOLD	37396	.98	.99
	Total	40549	.98	.99
EA3	SOLD	265	.96	.98
	UNSOLD	4304	.95	.97
	Total	4569	.95	.98
EA4	SOLD	404	.94	.97
	UNSOLD	6807	.94	.98
	Total	7211	.94	.98
Total	SOLD	7668	.98	1.00
	UNSOLD	102164	.98	1.00
	Total	109832	.98	1.00

OVERALL Commercial/Industrial: Sales Ratio Distribution

Graph



OVERALL Commercial/Industrial: Central Tendencies

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

N	Median	Coefficient of Dispersion
248	.997	.080

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.004	1.022

OVERALL Commercial/Industrial: Sales Price by Sales Ratio

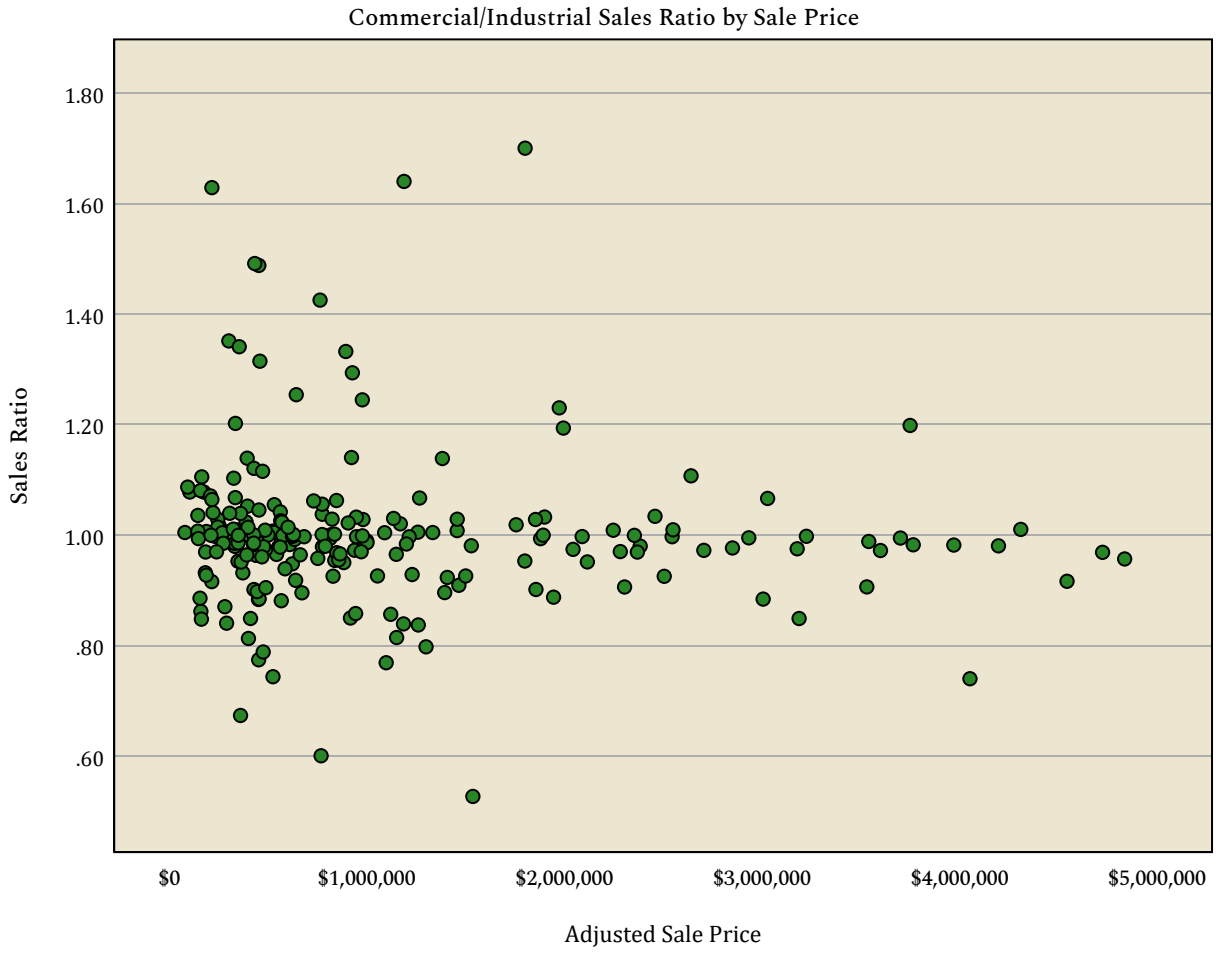
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.013	.012		87.864	<.001
	Adjusted Sale Price	-5.394E-9	.000	-.087	-1.374	.171

a. Dependent Variable: Sales Ratio

Graph



OVERALL Commercial/Industrial: Months by Inverted Sales Ratio

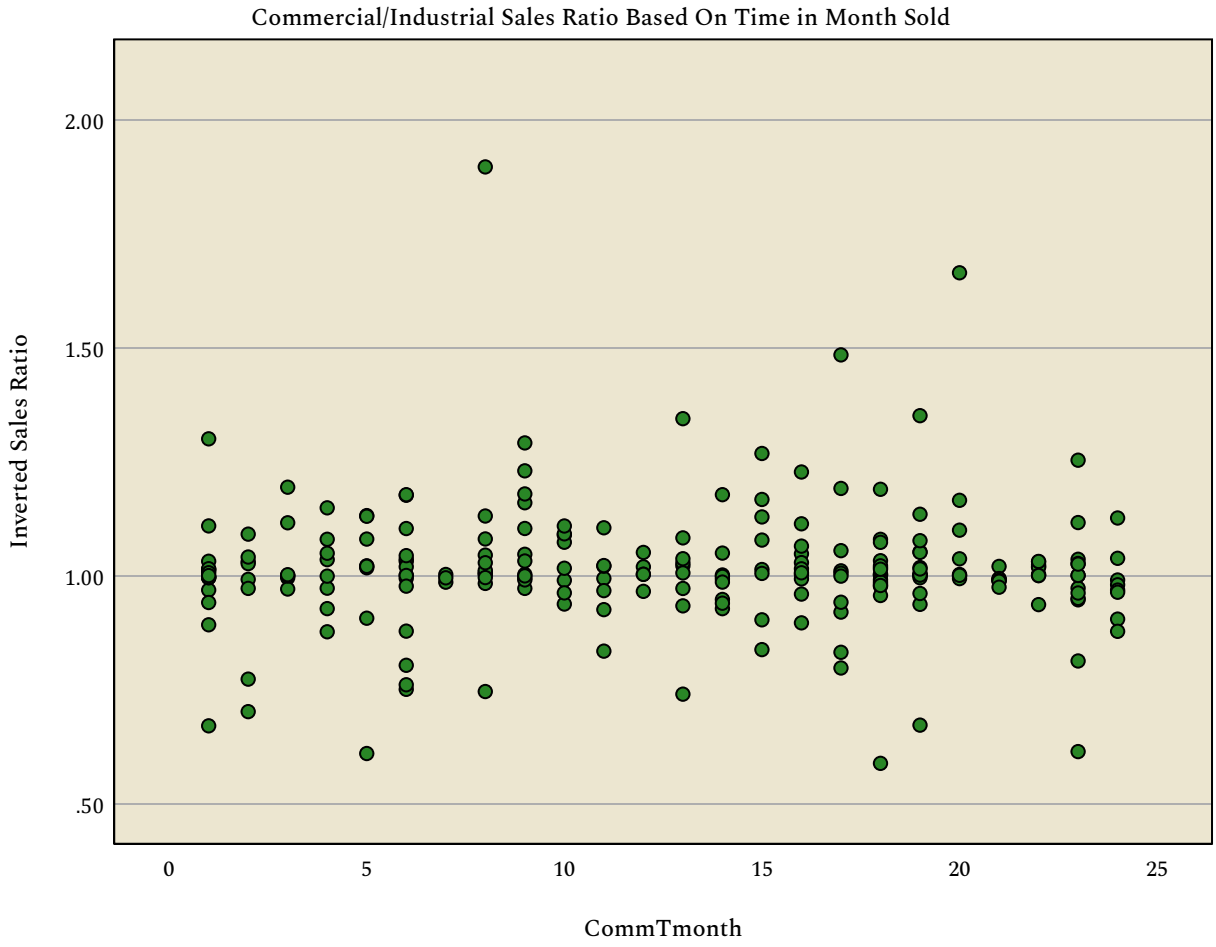
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.015	.018		57.640	<.001
	CommTmonth	-3.935E-5	.001	-.002	-.032	.974

a. Dependent Variable: Inverted Sales Ratio

Graph



OVERALL Commercial/Industrial: Descriptive Statistics

Frequencies

Statistics

		Previous Price Per Foot	Price Per Foot	Difference in Price Per Foot
N	Valid	248	248	248
	Missing	0	0	0
Mean		$227.60	$283.44	1.30
Median		$199.95	$248.00	1.18
Percentiles	2.5	$85.59	$128.11	.86
	25	$161.05	$200.00	1.07
	50	$199.95	$248.00	1.18
	75	$282.89	$355.49	1.41
	97.5	$490.08	$615.52	2.37

Frequencies

Statistics

		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	248	248	248
	Missing	0	0	0
Mean		$1,149,368.39	$1,527,187.10	$377,818.71
Median		$519,650.00	$678,350.00	$87,600.00
Percentiles	2.5	$112,830.00	$140,155.00	-$125,512.50
	25	$308,850.00	$380,775.00	$29,675.00
	50	$519,650.00	$678,350.00	$87,600.00
	75	$1,125,850.00	$1,555,950.00	$308,600.00
	97.5	$6,451,152.50	$8,887,422.50	$2,850,352.50

OVERALL Commercial/Industrial: Mann-Whitney U-Test (Rank-sum)

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Total Value is the same across categories of CommSOLDFLG.	Independent-Samples Mann-Whitney U Test	.593

Hypothesis Test Summary

	Decision
1	Retain 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 CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	5900
Mann-Whitney U	641212.000
Wilcoxon W	16712827.000
Test Statistic	641212.000
Standard Error	25375.930
Standardized Test Statistic	-.534
Asymptotic Sig.(2-sided test)	.593

Nonparametric Tests

OVERALL Commercial/Industrial: Mann-Whitney U-Test (Rank-sum)

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Price Per Foot is the same across categories of CommSOLDFLG.	Independent-Samples Mann-Whitney U Test	.005

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 CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	5915
Mann-Whitney U	624404.500
Wilcoxon W	16696019.500
Test Statistic	624404.500
Standard Error	26220.686
Standardized Test Statistic	-2.780
Asymptotic Sig.(2-sided test)	.005

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Price Per Foot is the same across categories of CommSOLDFLG.	Independent-Samples Mann-Whitney U Test	.032

OVERALL Commercial/Industrial: Mann-Whitney U-Test (Rank-sum)

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 CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	5918
Mann-Whitney U	610130.000
Wilcoxon W	16766900.000
Test Statistic	610130.000
Standard Error	25612.930
Standardized Test Statistic	-2.143
Asymptotic Sig.(2-sided test)	.032

OVERALL Commercial/Industrial: Unit Value Comparison

Summarize

Sold vs Unsold

Difference in Price Per Foot

CommSOLDFLG	N	Median	Mean
SOLD	247	1.18	1.30
UNSOLD	5983	1.16	1.28
Total	6230	1.16	1.28

Summarize

Sold vs Unsold

Difference in Price Per Foot

Improvement Abstract Codes	CommSOLDFLG	N	Median	Mean
2023	UNSOLD	39	1.00	1.19
	Total	39	1.00	1.19
2212	SOLD	28	1.29	1.43
	UNSOLD	771	1.29	1.45
	Total	799	1.29	1.45
2215	SOLD	8	1.09	1.27
	UNSOLD	173	1.08	1.13
	Total	181	1.08	1.13
2220	SOLD	23	1.04	1.15
	UNSOLD	572	1.08	1.20
	Total	595	1.08	1.20
2225	SOLD	3	1.45	1.63
	UNSOLD	53	1.19	1.38
	Total	56	1.20	1.39
2230	SOLD	50	1.28	1.34
	UNSOLD	1127	1.20	1.42
	Total	1177	1.21	1.42
2235	SOLD	22	1.38	1.49
	UNSOLD	758	1.20	1.29
	Total	780	1.20	1.29

OVERALL Commercial/Industrial: Unit Value Comparison

Sold vs Unsold

Difference in Price Per Foot

Improvement Abstract Codes	CommSOLDFLG	N	Median	Mean
2240	UNSOLD	36	1.37	1.42
	Total	36	1.37	1.42
2245	SOLD	105	1.15	1.21
	UNSOLD	2240	1.13	1.19
	Total	2345	1.14	1.19
2250	UNSOLD	22	1.03	1.18
	Total	22	1.03	1.18
3212	UNSOLD	5	1.14	1.16
	Total	5	1.14	1.16
3215	SOLD	7	1.37	1.59
	UNSOLD	150	1.16	1.32
	Total	157	1.17	1.33
3230	SOLD	1	1.21	1.21
	UNSOLD	17	1.24	1.23
	Total	18	1.24	1.23
4279	UNSOLD	3	.92	.92
	Total	3	.92	.92
9229	UNSOLD	2	1.04	1.04
	Total	2	1.04	1.04
9239	UNSOLD	3	1.00	1.09
	Total	3	1.00	1.09
9249	UNSOLD	4	1.13	1.15
	Total	4	1.13	1.15
9250	UNSOLD	3	1.06	1.18
	Total	3	1.06	1.18
9279	UNSOLD	4	.93	.75
	Total	4	.93	.75
9299	UNSOLD	1	1.05	1.05
	Total	1	1.05	1.05

OVERALL Commercial/Industrial: Unit Value Comparison

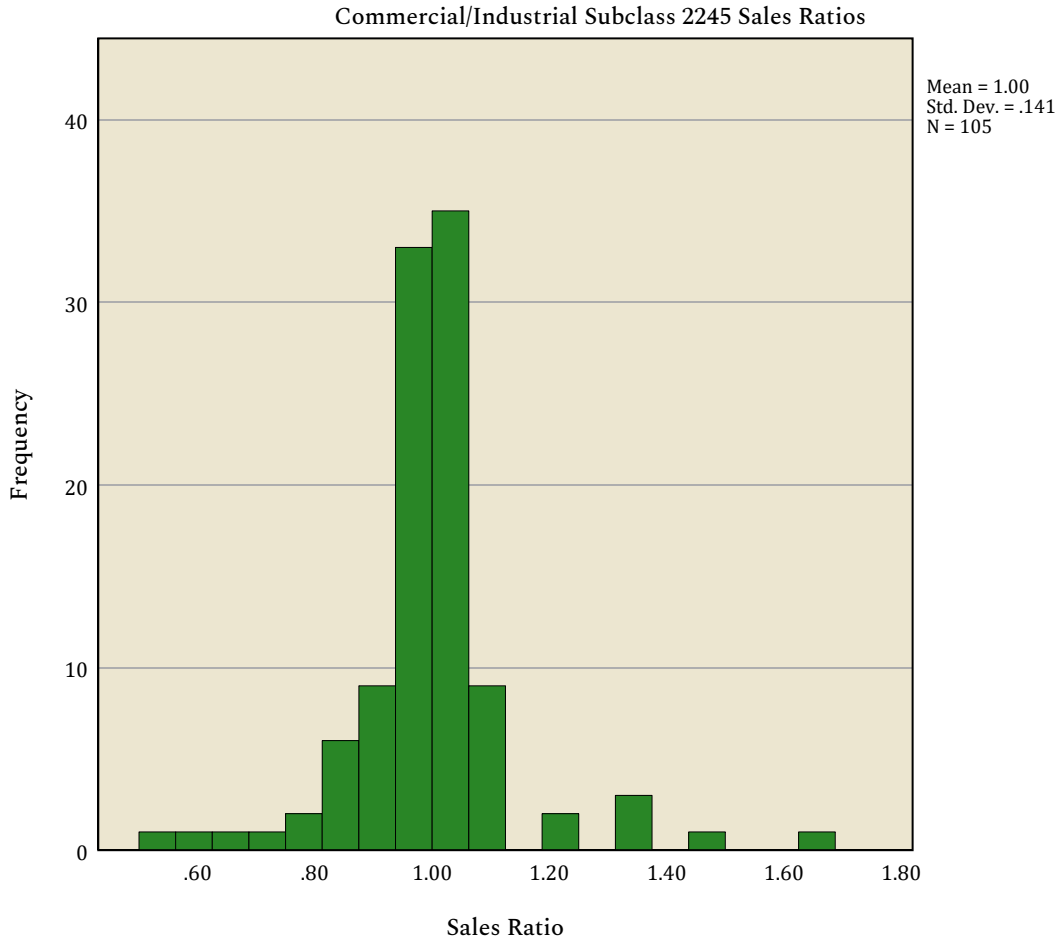
Sold vs Unsold

Difference in Price Per Foot

Improvement Abstract Codes	CommSOLDFLG	N	Median	Mean
Total	SOLD	247	1.18	1.30
	UNSOLD	5983	1.16	1.28
	Total	6230	1.16	1.28

Commercial/Industrial Subclass 2245: Sales Ratio Distribution

Graph



Commercial/Industrial Subclass 2245: Central Tendencies

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

N	Median	Coefficient of Dispersion
105	1.000	.077

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Price Related Bias	Price Related Differential
-.005	1.015

Commercial/Industrial Subclass 2245: Sales Price by Sales Ratio

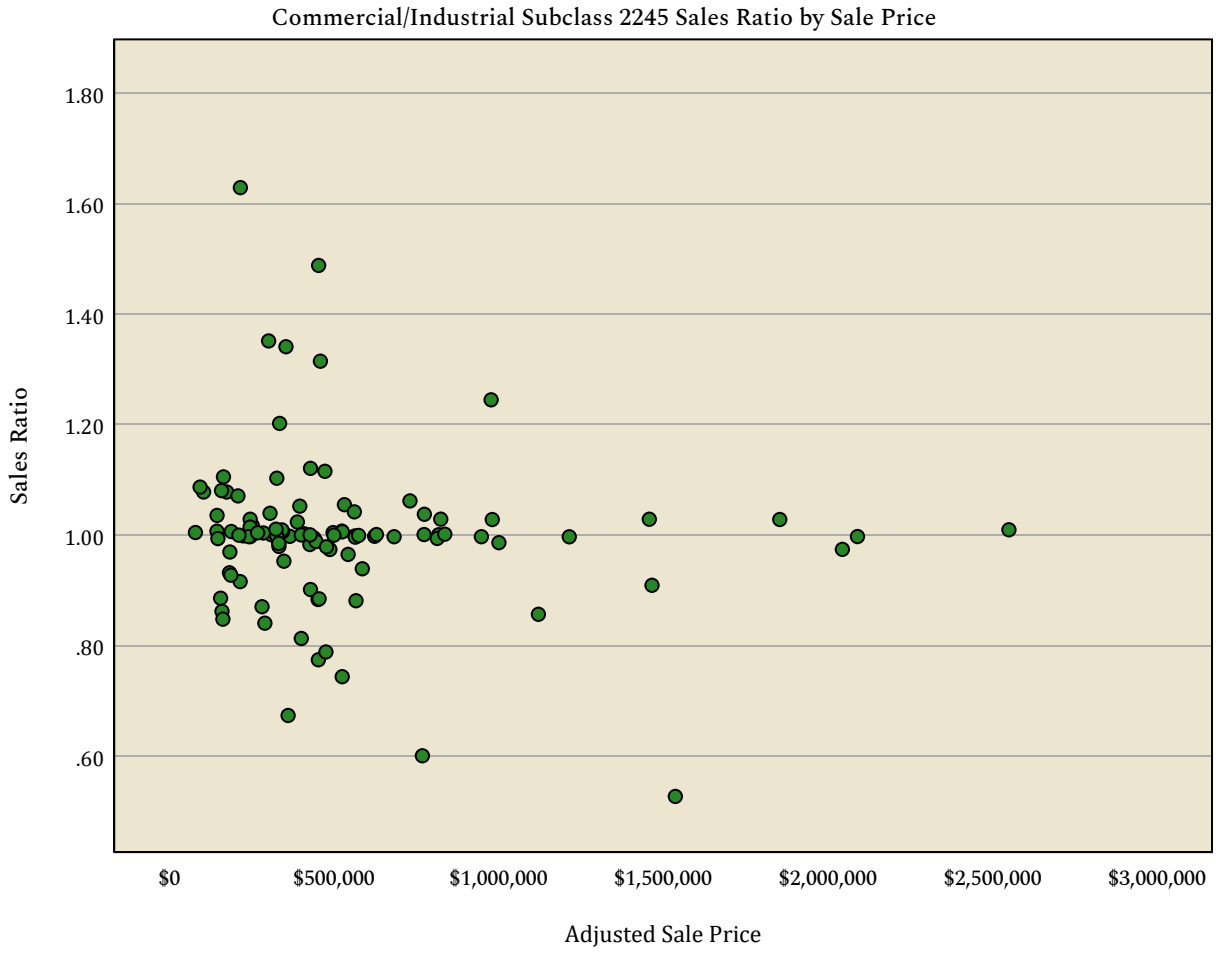
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.022	.022		47.410	<.001
	Adjusted Sale Price	-4.164E-8	.000	-.129	-1.320	.190

a. Dependent Variable: Sales Ratio

Graph



Commercial/Industrial Subclass 2245: Months by Inverted Sales Ratio

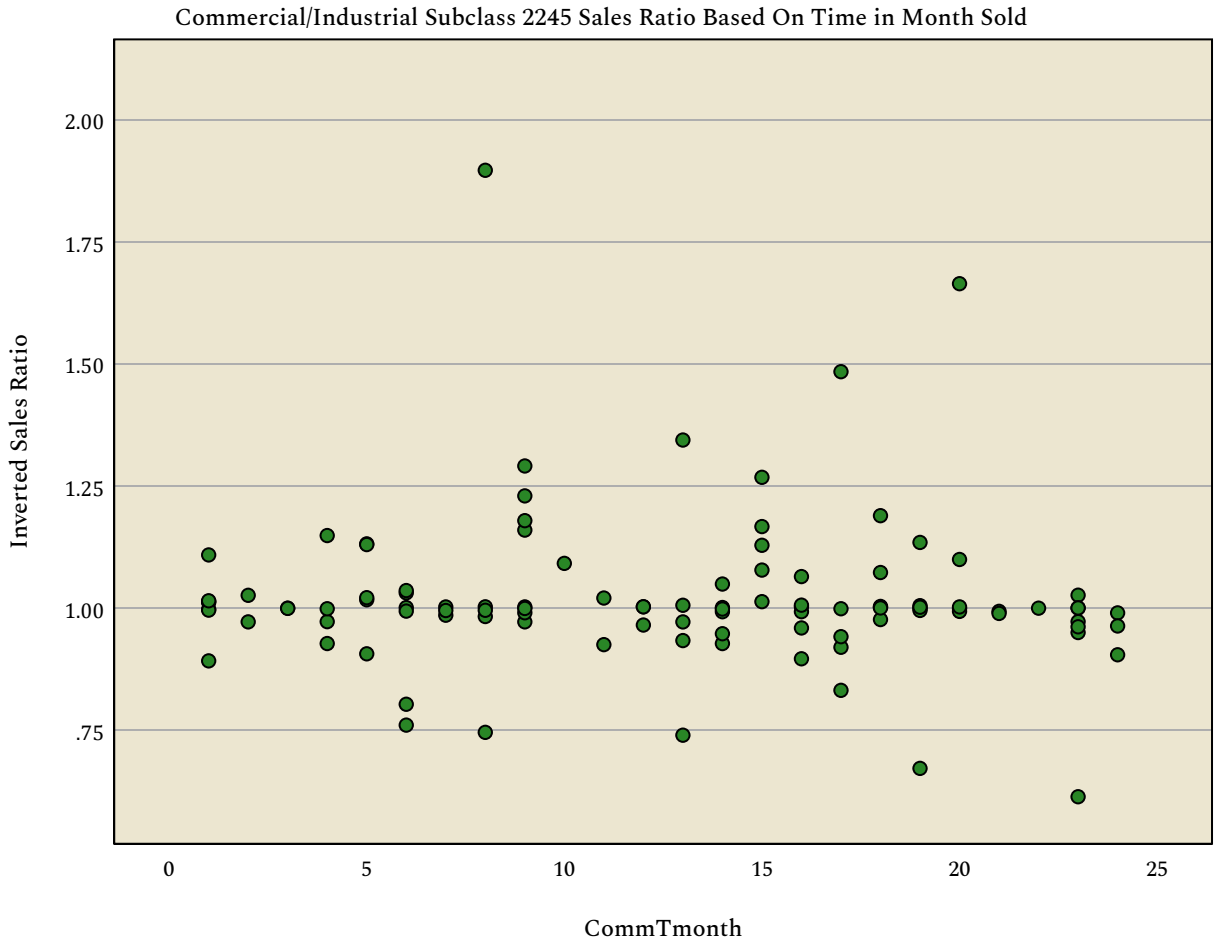
Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.033	.033		31.421	<.001
	CommTmonth	-.001	.002	-.042	-.426	.671

a. Dependent Variable: Inverted Sales Ratio

Graph



Commercial/Industrial Subclass 2245: Descriptive Statistics

Frequencies

Statistics

		Previous Price Per Foot	Price Per Foot	Difference in Price Per Foot
N	Valid	105	105	105
	Missing	0	0	0
Mean		$224.73	$261.64	1.21
Median		$197.90	$226.91	1.15
Percentiles	2.5	$112.99	$146.41	.82
	25	$161.35	$197.46	1.08
	50	$197.90	$226.91	1.15
	75	$281.64	$326.12	1.26
	97.5	$490.07	$491.97	2.03

Frequencies

Statistics

		Previous Total Value	Current Total Value	Difference in Total Value
N	Valid	105	105	105
	Missing	0	0	0
Mean		$442,784.67	$519,215.24	$76,430.57
Median		$332,700.00	$402,900.00	$47,600.00
Percentiles	2.5	$99,300.00	$109,090.00	-$152,455.00
	25	$214,600.00	$251,250.00	$24,050.00
	50	$332,700.00	$402,900.00	$47,600.00
	75	$508,900.00	$580,600.00	$104,500.00
	97.5	$1,738,305.00	$2,024,285.00	$478,665.00

Commercial/Industrial Subclass 2245: Mann-Whitney U-Test (Rank-sum)

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Total Value is the same across categories of CommSOLDFLG.	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

Difference in Total Value across CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	2217
Mann-Whitney U	89984.500
Wilcoxon W	2331887.500
Test Statistic	89984.500
Standard Error	6255.196
Standardized Test Statistic	-2.536
Asymptotic Sig.(2-sided test)	.011

Nonparametric Tests

Commercial/Industrial Subclass 2245: Mann-Whitney U-Test (Rank-sum)

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Price Per Foot is the same across categories of CommSOLDFLG.	Independent-Samples Mann-Whitney U Test	.211

Hypothesis Test Summary

	Decision
1	Retain the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Independent-Samples Mann-Whitney U Test

Price Per Foot across CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	2227
Mann-Whitney U	101412.000
Wilcoxon W	2358162.000
Test Statistic	101412.000
Standard Error	6373.242
Standardized Test Statistic	-1.251
Asymptotic Sig.(2-sided test)	.211

Nonparametric Tests

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.[a,b]
1	The distribution of Difference in Price Per Foot is the same across categories of CommSOLDFLG.	Independent-Samples Mann-Whitney U Test	.147

Commercial/Industrial Subclass 2245: Mann-Whitney U-Test (Rank-sum)

Hypothesis Test Summary

	Decision
1	Retain 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 CommSOLDFLG

Independent-Samples Mann-Whitney U Test Summary

Total N	2227
Mann-Whitney U	94329.000
Wilcoxon W	2363844.000
Test Statistic	94329.000
Standard Error	6193.467
Standardized Test Statistic	-1.449
Asymptotic Sig.(2-sided test)	.147

Commercial/Industrial Subclass 2245: Unit Comparison Method

Summarize

Sold vs Unsold Percent Change for Subclass 2245

Difference in Price Per Foot

CommSOLDFLG	N	Median	Mean
SOLD	105	1.15	1.21
UNSOLD	2269	1.14	1.20
Total	2374	1.14	1.20

Commercial/Industrial Subclass 2245: Economic Area Analysis

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Median	Coefficient of Dispersion
	71	1.002	.156
EA1	104	.987	.524
EA2	87	.983	.297
EA3	57	.059	1.546
Overall	319	.916	.473

Ratio Statistics

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	N	Price Related Bias	Price Related Differential
	71	.035	1.022
EA1	104	-.630	2.482
EA2	87	-.141	1.439
EA3	57	-4.810	2.245
Overall	319	-.335	2.737

Summarize

Commercial/Industrial Subclass 2245: Economic Area Analysis

Sold vs Unsold Percent Change for Subclass 2245 by Economic Area

Difference in Price Per Foot

economic_area	CommSOLDFLG	N	Median	Mean
	SOLD	1	1.11	1.11
	UNSOLD	233	1.13	1.28
	Total	234	1.13	1.28
EA1	SOLD	57	1.12	1.15
	UNSOLD	952	1.12	1.16
	Total	1009	1.12	1.16
EA2	SOLD	45	1.22	1.29
	UNSOLD	779	1.19	1.28
	Total	824	1.19	1.28
EA3	SOLD	2	1.06	1.06
	UNSOLD	305	1.07	1.08
	Total	307	1.07	1.08
Total	SOLD	105	1.15	1.21
	UNSOLD	2269	1.14	1.20
	Total	2374	1.14	1.20

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	266	.958	.933	.984	.993
Residential	11295	.983	.981	.985	.982
Commercial/Industrial	248	1.005	.986	1.024	.997
Overall	11809	.983	.981	.985	.982

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	.977	.999	95.7%	.874	.825
Residential	.980	.983	95.2%	.970	.967
Commercial/Industrial	.986	.999	95.1%	.983	.967
Overall	.980	.984	95.1%	.970	.967

Ratio Statistics for Current Total Value / Adjusted Sale Price

Group	95% Confidence Interval for ...	Price Related Differential	Coefficient of Dispersion
	Upper Bound		
Vacant Land	.923	1.097	.134
Residential	.973	1.013	.065
Commercial/Industrial	.999	1.022	.080
Overall	.973	1.013	.067

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.