Boulder County Colorado

2024
BOULDER COUNTY PROPERTY ASSESSMENT STUDY

EastWest ECONOMETRICS

September 15, 2024

Ms. Natalie Castle
Director of Research
Colorado Legislative Council
Room 029, State Capitol Building
Denver, Colorado 80203

RE: Final Report for the 2024 Colorado Property Assessment Study

Dear Ms. Castle:

East West Econometrics.-Audit Division is pleased to submit the Final Reports for the 2024 Colorado Property Assessment Study.

These reports are the result of two analyses: A procedural audit and a statistical audit.

The procedural audit examines all classes of property. It specifically looks at how the assessor develops economic areas, confirms and qualifies sales, develops time adjustments and performs periodic physical property inspections. The audit reviews the procedures for determining subdivision absorption and subdivision discounting. Valuation methodology is examined for residential properties and commercial properties. Procedures are reviewed for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims.

Statistical audits are performed on vacant land, residential properties, commercial/industrial properties and agricultural land. A statistical analysis is performed for personal property compliance on the eleven largest counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. The remaining counties receive a personal property procedural study.

East West Econometrics – Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

Harry J. Fuller
Project Manager
East West Econometrics. – Audit Division

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INTRODUCTION

Colorado

The State Board of Equalization (SBOE) reviews assessments for conformance to the Constitution. The SBOE will order revaluations for counties whose valuations do not reflect the proper valuation period level of value.

The statutory basis for the audit is found in C.R.S. 39-1-104 (16)(a)(b) and (c).

The legislative council sets forth two criteria that are the focus of the audit group:

To determine whether each county assessor is applying correctly the constitutional and statutory provisions, compliance requirements of the State Board of Equalization, and the manuals published by the State Property Tax Administrator to arrive at the actual value of each class of property.

To determine if each assessor is applying correctly the provisions of law to the actual values when arriving at valuations for assessment of all locally valued properties subject to the property tax.

The property assessment audit conducts a two-part analysis: A procedural analysis and a statistical analysis.

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for vacant land, improved residential properties and commercial properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

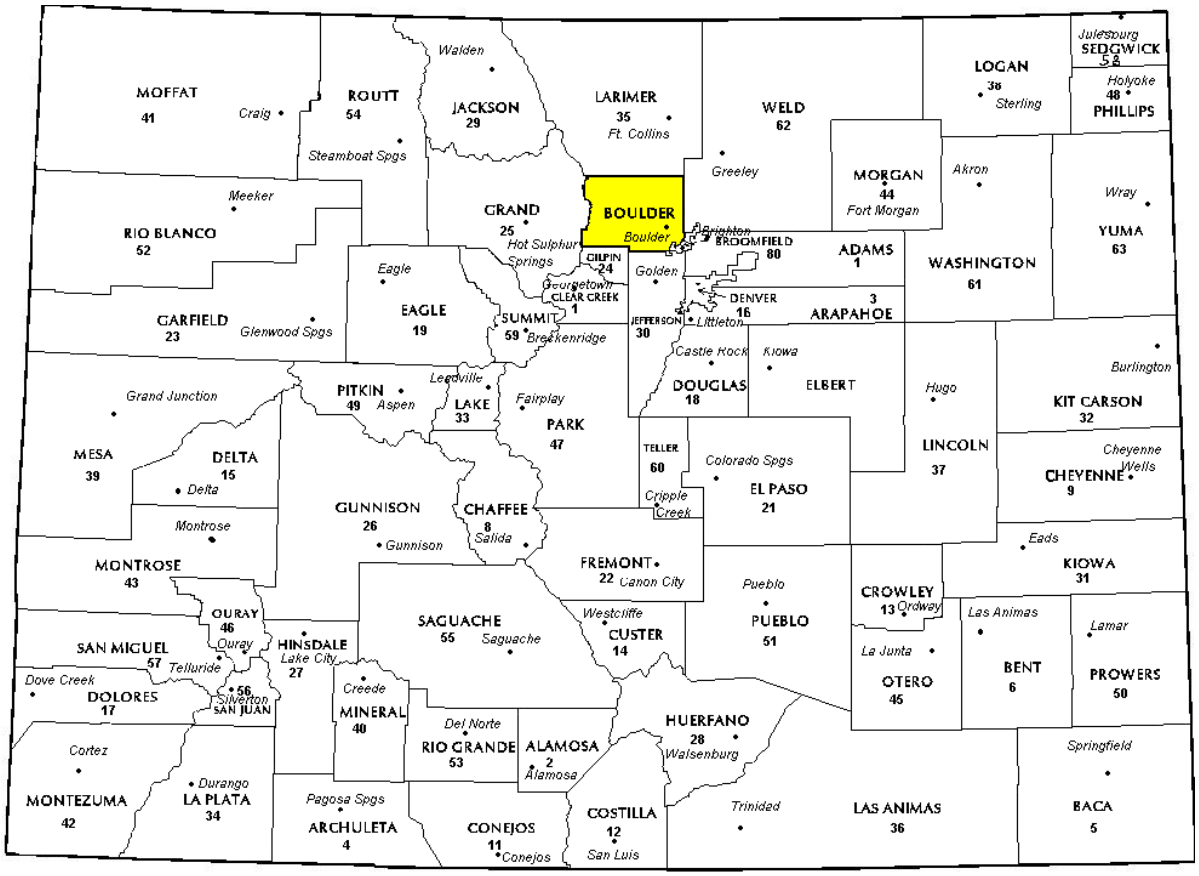
Statistical analysis is performed on vacant land, residential properties, commercial/industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax Administrator.

East West Econometrics has completed the Property Assessment Study for 2024 and is pleased to report its findings for Boulder County in the following report.

Regional / Historical Sketch of Boulder County

Regional Information

Boulder County is located in the Front Range region of Colorado. The Colorado Front Range is a colloquial geographic term for the populated areas of the State that are just east of the foothills of the Front Range. It includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties.



Historical Information

Boulder County has approximately 726.29 square miles and an estimated population of approximately 326,196 people, according to the U.S. Census Bureau's 2020 estimated census data. This represents a 10.7 percent change from April 1, 2010 to July 1, 2019.

Boulder County was one of the original 17 counties created by the Territory of Colorado on January 11,1861. The county was named for Boulder City and Boulder Creek, so named because of the abundance of boulders in the area. Boulder County retains essentially the same borders as in 1861, although a small portion of its southeastern corner became part of the City and County of Broomfield in 2001.

In the early to mid 1800s, the nomadic Southern Arapaho Native American tribe frequently wintered at the base of the foothills in the Boulder area. Chief Niwot and his band called the site their home. Other nomadic tribes included the Utes, Cheyennes, Comanches, and Sioux.

The first recorded European settlers in the area were gold prospectors who arrived in 1858, when Boulder was part of the Nebraska Territory (The former boundary between Nebraska and Kansas territories is the present Baseline Road in Boulder). The "Boulder City Town Company" was founded on February 10, 1859. Boulder's first school house was built in 1860, followed by the creation of the Colorado Territory in 1861. In 1871 'Boulder City' was incorporated. In 1873 the railroad was extended to Boulder and, in 1890, the Boulder Railroad Depot was constructed to serve as a station for the Union Pacific Railroad. In 1876 Colorado was granted statehood, and in that same year the University of Colorado at Boulder opened.

Mining gold, silver, and coal continued to be a prominent part of the local economy until the mid 1900s. A coal miners strike lasted from 1910 to 1915, causing a military presence in nearby Louisville. Mining's relevance in the local economy declined in the 1940s, when the city began actively recruiting clean industry, such as the National Bureau of Standards, which today is the National Institute of Standards and Technology, home of the atomic clock.
(Wikipedia.org)

RATIO ANALYSIS

Methodology

All significant classes of property were analyzed. Sales were collected for each property class over the eighteen month period from January 1, 2019 through June 30th, 2020. Property classes with less than thirty sales had the sales period extended in six month increments up to an additional forty-two months. If this extended sales period did not produce the minimum thirty qualified sales, the Audit performed supplemental appraisals to reach the minimum.

Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming.

All sixty-four counties were examined for compliance on the economic area level. Where there were sufficient sales data, the neighborhood and subdivision levels were tested for compliance. Although counties are determined to be in or out of compliance at the class level, non-compliant economic areas, neighborhoods and subdivisions (where applicable) were discussed with the Assessor.

Data on the individual economic areas, neighborhoods and subdivisions are found in the STATISTICAL APPENDIX.

Conclusions

For this final analysis report, the minimum acceptable statistical standards allowed by the State Board of Equalization are:

ALLOWABLE STANDARDS RATIO GRID		
Property Class	**Unweighted Median Ratio**	**Coefficient of Dispersion**
Commercial/Industrial	Between .95-1.05	Less than 20.99
Condominium	Between .95-1.05	Less than 15.99
Single Family	Between .95-1.05	Less than 15.99
Vacant Land	Between .95-1.05	Less than 20.99

The results for Boulder County are:

Boulder County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	179	0.952	1.010	13.4	Compliant
Single Family	11,874	0.974	1.021	7.7	Compliant
Vacant Land	161	0.955	1.072	20.8	Compliant

After applying the above described methodologies, it is concluded from the sales ratios that Boulder County is in compliance with SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations

None

TIME TRENDING VERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market trending adequately, and a further examination is warranted. This validation method also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

After verification and analysis, it has been determined that Boulder County has complied with the statutory requirements to analyze the effects of time on value in their county. Boulder County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD/UNSOLD ANALYSIS

Methodology

Boulder County was tested for the equal treatment of sold and unsold properties to ensure that "sales chasing" has not occurred. The auditors employed a multi-step process to determine if sold and unsold properties were valued in a consistent manner.

We test the hypothesis that the assessor has valued unsold properties consistent with what is observed with the sold properties based on several units of comparison and tests. The units of comparison include the actual value per square foot and the change in value from the previous base year period to the current base year. The first test compares the actual value per square foot between sold and unsold properties by class. The median and mean value per square foot is compared and tested for any significant difference. This is tested using non-parametric methods, such as the Mann-Whitney test for differences in the distributions or medians between sold and unsold groups. It is also examined graphically and from an appraisal perspective. Data can be stratified based on location and subclass. The second test compares the difference in the median change in value from the previous base year to the current base year between sold and unsold properties by class. The same combination of non-parametric and appraisal testing is used as with the first test. A third test employing a valuation model testing a sold/unsold binary variable while controlling for property attributes such as location, size, age and other attributes. The model determines if the sold/unsold variable is statistically and empirically significant. If all three tests indicate a significant difference between sold and unsold properties for a given class, the Auditor may meet with the county to determine if sale chasing is actually occurring, or if there are other explanations for the observed difference.

If the unsold properties have a higher median value per square foot than the sold properties, or if the median change in value is greater for the unsold properties than the sold properties, the analysis is stopped and the county is concluded to be in compliance with sold and unsold guidelines. All sold and unsold properties in a given class are first tested, although properties with extreme unit values or percent changes can be trimmed to stabilize the analysis. The median is the primary comparison metric, although the mean can also be used as a comparison metric if the distribution supports that type of measure of central tendency.

The first test (unit value method) is applied to both residential and commercial/industrial sold and unsold properties. The second test is applied to sold and unsold vacant land properties. The second test (change in value method) is also applied to residential or commercial sold and unsold properties if the first test results in a significant difference observed and/or tested between sold and unsold properties. The third test (valuation modeling) is used in instances where the results from the first two tests indicate a significant difference between sold and unsold properties. It can also be used when the number of sold and unsold properties is so large that the non-parametric testing is indicating a false rejection of the hypothesis that there is no difference between the sold and unsold property values.

These tests were supported by both tabular and graphics presentations, along with written documentation explaining the methodology used.

Sold/Unsold Results	
Property Class	**Results**
Commercial/Industrial	Compliant
Single Family	Compliant
Vacant Land	Compliant

Conclusions

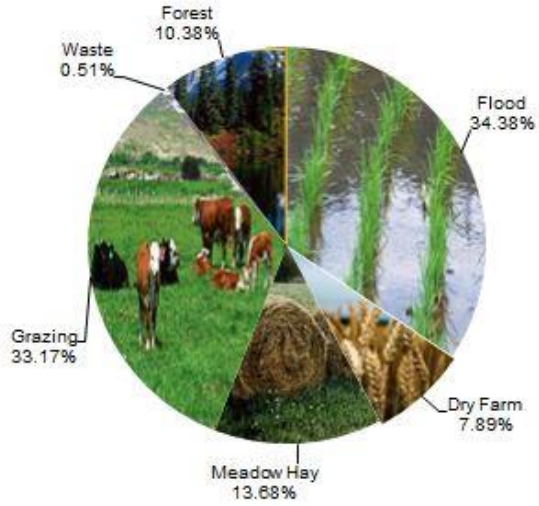
After applying the above described methodologies, it is concluded that Boulder County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

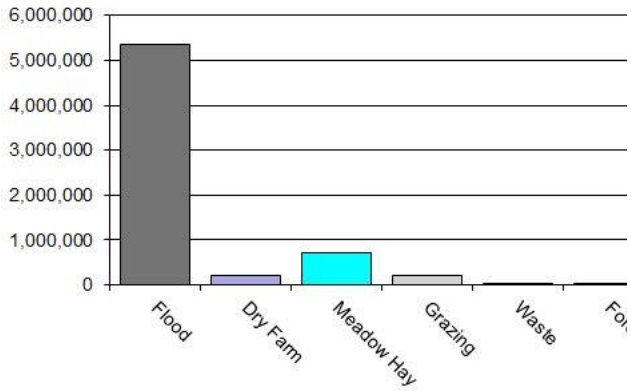
None

AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. County yields compared favorably to those published by Colorado Agricultural Statistics. Expenses used by the county were allowable expenses and were in an acceptable range. Grazing lands carrying capacities were in an acceptable range. The data analyzed resulted in the following ratios:

Boulder County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4117	Flood	19,802	269.83	5,343,272	5,427,081	0.98
4127	Dry Farm	4,542	48.74	221,393	219,987	1.01
4137	Meadow Hay	7,878	92.51	728,829	728,365	1.00
4147	Grazing	19,105	10.93	208,768	208,768	1.00
4177	Forest	5,979	4.43	26,513	26,409	1.00
4167	Waste	296	2.19	647	647	1.00
Total/Avg		**57,602**	**113.35**	**6,529,423**	**6,611,258**	**0.99**

Recommendations

None

Agricultural Outbuildings

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.74 through 5.77 were being followed.

Conclusions

Boulder County has complied with the procedures provided by the Division of Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

Agricultural Land Under Improvements

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.19 and 5.20 were being followed.

Conclusions

Boulder County has used the following methods to discover land under a residential improvement on a farm or ranch that is determined to be not integral under 39-1-102, C.R.S.:

- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Aerial Photography/Pictometry

Boulder County has used the following methods to discover the land area under a residential improvement that is determined to be not integral under 39-1-102, C.R.S.:

- Property Record Card Analysis
- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Aerial Photography/Pictometry

Boulder County has complied with the procedures provided by the Division of Property Taxation for the valuation of land under residential improvements that may or may not be integral to an agricultural operation.

Recommendations

None

SALES VERIFICATION

According to 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.)

Part of the Property Assessment Study is the sales verification analysis. WRA has used the above-cited statutes as a guide in our study of the county's procedures and practices for verifying sales.

EWE reviewed the sales verification procedures in 2024 for Boulder County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically EWE selected 52 sales listed as unqualified.

All but 1 of the sales selected in the sample gave reasons that were clear and supportable. One sale had insufficient reason for disqualification.

For residential, commercial, and vacant land sales with considerations over $100,000, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

> The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.
>
> The contractor has reviewed with the assessor any analysis indicating that sales data are inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code. If there appears to be any inconsistency in the coding, the contractor has

conducted further analysis to determine if the sales included in that code have been assigned appropriately.

Conclusions

Boulder County appears to be doing an adequate job of verifying their sales.

Recommendations

None

Economic Area Review and Evaluation

Methodology

Boulder County has submitted a written narrative describing the economic areas that make up the county's market areas. Boulder County has also submitted a map illustrating these areas. Each of these narratives have been read and analyzed for logic and appraisal sensibility. The maps were also compared to the narrative for consistency between the written description and the map.

Conclusions

After review and analysis, it has been determined that Boulder County has adequately identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

Conclusions

The County has applied the correct formulas and state guidelines to earth and stone production.

Recommendations

None

Producing Oil and Gas

Methodology

Assessors Reference Library (ARL) Volume 3, Chapter 6: Valuation of Natural Resources

STATUTORY REFERENCES
Section § 39-1-103, C.R.S., specifies that producing oil or gas leaseholds and lands are valued according to article 7 of title 39, C.R.S.
Actual value determined - when.
(2) The valuation for assessment of leaseholds and lands producing oil or gas shall be determined as provided in article 7 of this title.
§ 39-1-103, C.R.S.
Article 7 covers the listing, valuation, and assessment of producing oil and gas leaseholds and lands.

Valuation:
Valuation for assessment.
(1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:
(a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;
(b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.
§ 39-7-102, C.R.S.

Conclusions

The county applied approved appraisal procedures in the valuation of oil and gas.

Recommendations

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2024 in Boulder County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14) and by applying the recommended methodology in ARL Vol 3, Chap 4. Subdivision Discounting in the intervening year can be accomplished by reducing the absorption period by one year.

In instances where the number of sales within an approved plat was less than the absorption rate per year calculated for the plat, the absorption period was left unchanged.

Conclusions

Boulder County has implemented proper procedures to adequately estimate absorption periods, discount rates, and lot values for qualifying subdivisions.

Recommendations

None

Possessory Interest Properties

Possessory Interest

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of Chapter 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been granted under lease, permit, license, concession, contract, or other agreement.

Boulder County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural, commercial and ski area possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

Conclusions

Boulder County has implemented a discovery process to place possessory interest properties on the roll. They have also correctly and consistently applied the correct procedures and valuation methods in the valuation of possessory interest properties.

Recommendations

None

PERSONAL PROPERTY AUDIT

Boulder County was studied for its procedural compliance with the personal property assessment outlined in the Assessor's Reference Library (ARL) Volume 5, and in the State Board of Equalization (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, classification, documentation procedures, current economic lives table, cost factor tables, depreciation table, and level of value adjustment factor table.

The personal property audit standards narrative must be in place and current. A listing of businesses that have been audited by the assessor within the twelve-month period reflected in the plan is given to the auditor. The audited businesses must be in conformity with those described in the plan.

Aggregate ratio will be determined solely from the personal property accounts that have been physically inspected. The minimum assessment sample is one percent or ten schedules, whichever is greater, and the maximum assessment audit sample is 100 schedules.

For the counties having over 100,000 population, WRA selected a sample of all personal property schedules to determine whether the assessor is correctly applying the provisions of law and manuals of the Property Tax Administrator in arriving at the assessment levels of such property. This sample was selected from the personal property schedules audited by the assessor. In no event was the sample selected by the contractor less than 30 schedules. The counties to be included in this study are Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

Boulder County is compliant with the guidelines set forth in ARL Volume 5 regarding discovery procedures, using the following methods to discover personal property accounts in the county:

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor
- Secretary of State business search
- Leasing Company Information

The county uses the Division of Property Taxation (DPT) recommended classification and documentation procedures. The DPT's recommended cost factor tables, depreciation tables and level of value adjustment factor tables are also used.

Boulder County submitted their personal property written audit plan and was current for the 2024 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Accounts with obvious discrepancies
- New businesses filing for the first time
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Accounts with omitted property

- Same business type or use
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts close to the $52,000 actual value exemption status
- Accounts protested with substantial disagreement

Boulder County's median ratio is 1.00. This is in compliance with the State Board of Equalization (SBOE) compliance requirements which range from .90 to 1.10 with no COD requirements.

Conclusions

Boulder County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their personal property assessment and is in statistical compliance with SBOE requirements.

Recommendations

None

East West Econometrics
Auditor Staff

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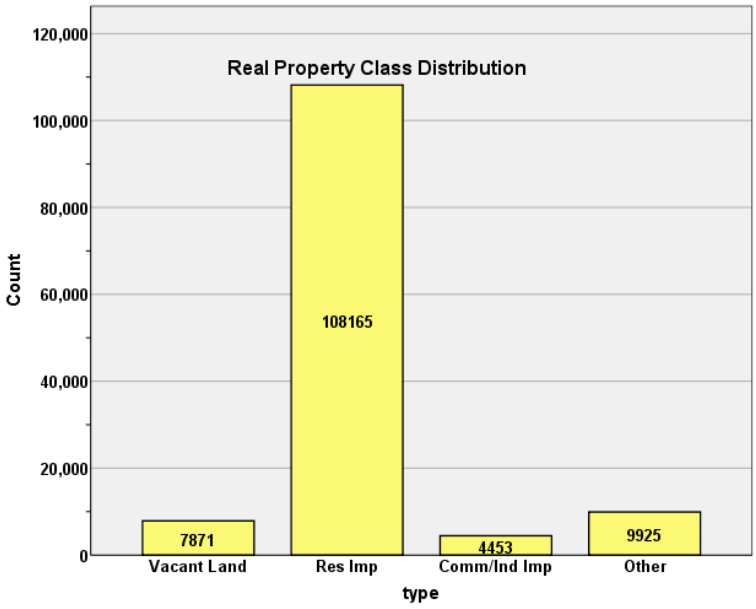
APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR BOULDER COUNTY
2024

I. OVERVIEW

Boulder County is an urban county located along Colorado's Front Range. The county has a total of 130,414 real property parcels, according to data submitted by the county assessor's office in 2024. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100, 1110 and 1112) accounted for 75.6% of all vacant land parcels.

The residential class of properties was dominated by single family residences, which accounted for 82.2% of all residential parcels.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.4% of all such properties in this county.

II. DATA FILES

Information was provided by the Boulder Assessor Office in May 2024. All five file types were provided.

III. RESIDENTIAL SALES RESULTS

There were 11,874 qualified residential sales in the 24-month sale period ending June 30, 2022. The sales ratio analysis results were as follows:

Median	**0.974**
Price Related Differential	**1.021**
Coefficient of Dispersion	**7.7**

We next stratified the sale ratio analysis by economic area and neighborhood. The minimum count for the neighborhood stratification is 35 sales. The following are the results of this stratification analysis:

Economic Area
Case Processing Summary

		Count	Percent
ECONAREA	1	1814	15.3%
	2	778	6.6%
	3	438	3.7%
	4	3181	26.8%
	5	3330	28.0%
	6	2331	19.6%
Overall		11872	100.0%
Excluded		2	
Total		11874	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.972	1.028	.087
2	.974	1.034	.094
3	.979	1.038	.110
4	.976	1.009	.069
5	.978	1.003	.072
6	.967	1.031	.077
Overall	.974	1.021	.077

Neighborhoods with at least 35 sales
Ratio Statistics for CURRTOT / TASP

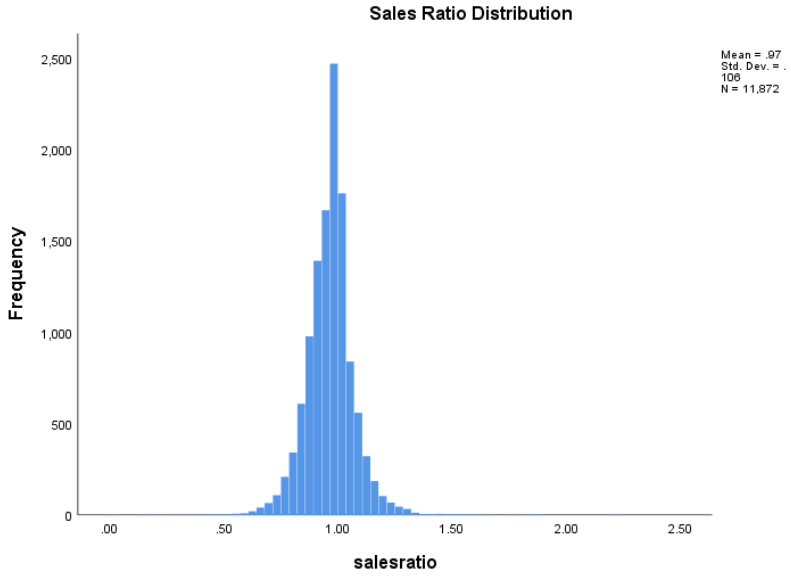
Group	Median	Price Related Differential	Coefficient of Dispersion
101	1.000	1.005	.089
102	.991	1.019	.090
103	.972	1.036	.117
105	**.932**	**1.044**	**.113**
107	1.000	1.019	.119
109	.979	1.023	.086
115	.955	1.028	.100
120	.950	1.067	.098
122	.987	1.025	.079
124	.999	1.018	.079
126	**.945**	**1.003**	**.070**

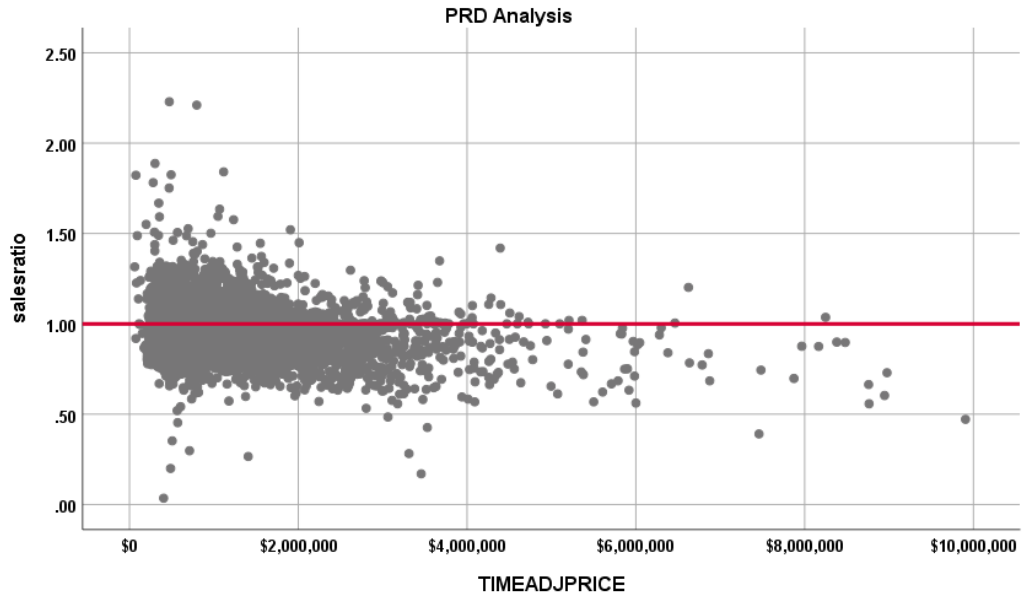
128	.972	1.002	.060
130	.973	1.004	.060
132	.984	1.037	.093
133	.994	1.002	.054
135	.979	1.011	.067
140	.970	.993	.074
142	.961	1.008	.073
144	**.939**	**1.027**	**.111**
145	.984	1.025	.099
146	.979	1.026	.080
148	.967	1.025	.086
150	**.937**	**1.016**	**.078**
155	.979	1.005	.059
158	**.943**	**1.020**	**.087**
160	.976	1.018	.080
162	.954	1.026	.092
164	1.000	1.004	.045
170	.949	1.027	.092
172	.959	1.041	.122
174	.990	1.023	.079
178	.960	1.017	.084
201	.991	1.005	.091
202	.980	1.003	.067
203	.983	1.004	.080
204	**.929**	**1.009**	**.095**
205	.995	.999	.063
223	.993	1.008	.069
240	.986	.999	.077
241	.965	1.005	.072
242	.990	1.012	.064
243	.981	1.003	.060
255	.959	1.001	.066
256	**.944**	**1.004**	**.077**
257	.993	.996	.058
401	**.941**	**1.032**	**.122**
405	1.000	1.074	.092
410	.962	1.010	.064
415	.976	1.007	.071
420	1.000	1.004	.054
425	.993	1.014	.086
430	.955	1.001	.087
440	.972	1.004	.061
445	.992	1.014	.060
450	1.000	1.010	.068
451	1.000	1.023	.070
455	**.931**	**.995**	**.087**
460	.970	1.020	.097
465	.950	1.006	.061
470	.951	1.007	.065
480	**.946**	**1.002**	**.069**
501	.988	1.005	.074
820	.990	1.060	.137
825	.984	1.020	.093
830	1.000	1.034	.105
901	.976	1.015	.082
903	.961	1.023	.086
910	.978	1.116	.107

911	.960	1.038	.123
940	.962	1.005	.096
960	.991	1.035	.100
962	1.000	1.010	.061
Overall	.975	1.016	.077

NOTE: Red above indicates outside of SBOE guidelines

The above ratio statistics were in overall compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales, by economic area and by most neighborhoods. The following graphs describe further the sales ratio distribution for these properties:





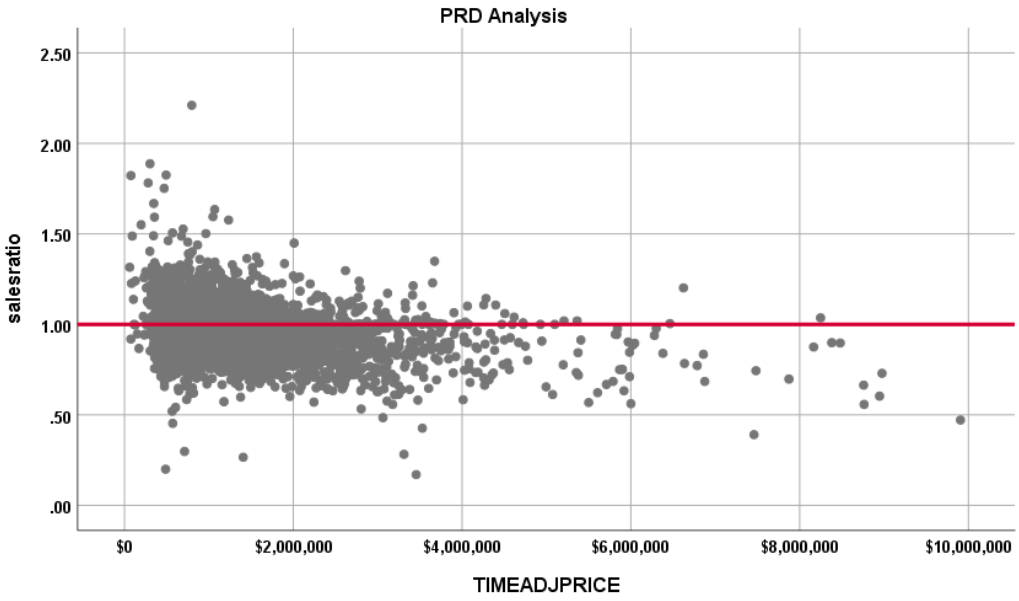
NOTE – SALES OVER $10,000,000 EXCLUDED

The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

Subclass 1212 PRD Analysis

We next analyzed residential properties identified as 1212 using the state abstract code system. These include single family residences, town homes and purged manufactured homes. The following indicates the distribution of sales ratios across the sale price spectrum:

1212 SALES



The Price-Related Differential (PRD) for 1212 sales is 1.019, which is within IAAO standards for the PRD. We also performed a regression analysis between the sales ratio and the assessor's current value to further test for regressivity or progressivity in the residential sales valuation, as follows:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.975	.002		485.135	.000
	CURRTOT	-.00000000821	.000	-.049	-4.783	.000

a. Dependent Variable: salesratio

The slope of the line (red box) indicates that there is virtually no slope in the regression line (i.e. sales ratios are similar across the entire sale price array).

Case Processing Summary

		Count	Percent
SPRec	LT $300K	27	0.3%
	$300K to $400K	129	1.4%
	$400K to $500K	655	7.0%
	$500K to $600K	1315	14.0%
	$600K to $750K	1749	18.6%
	$750K to $1000K	2255	24.0%
	$1000K to $2000K	2555	27.2%
	Over $2000K	701	7.5%
Overall		9386	100.0%
Excluded		1	
Total		9387	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $300K	1.138	1.007	.159	22.0%
$300K to $400K	.980	1.005	.116	18.2%
$400K to $500K	.962	.999	.083	11.7%
$500K to $600K	.977	1.000	.063	8.7%
$600K to $750K	.986	1.000	.067	9.2%
$750K to $1000K	.992	1.000	.062	9.1%
$1000K to $2000K	.967	1.004	.081	10.9%
Over $2000K	.901	1.013	.124	15.9%
Overall	.976	1.019	.077	10.9%

The above statistical results and table indicate that there is no regressivity in the sales ratios across sale price categories.

Residential Market Trend Analysis

We next analyzed the residential dataset using the 24-month sale period for any residual market trending and broken down by economic area, as follows:

Coefficients[a]

ECONAREA	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	1	(Constant)	.942	.005		176.203	.000
		SalePeriod	.002	.000	.091	3.908	.000
2	1	(Constant)	.970	.010		99.141	.000
		SalePeriod	.000	.001	-.022	-.601	.548
3	1	(Constant)	.934	.014		64.803	.000
		SalePeriod	.002	.001	.077	1.616	.107
4	1	(Constant)	.954	.003		289.663	.000
		SalePeriod	.001	.000	.084	4.753	.000
5	1	(Constant)	.961	.003		281.339	.000
		SalePeriod	.001	.000	.066	3.842	.000
6	1	(Constant)	.961	.004		228.770	.000
		SalePeriod	.000	.000	.030	1.436	.151

a. Dependent Variable: salesratio

There was no significant residual market trending present in the sale ratio data for most economic areas; the three economic areas with statistically significant residual trends were not significant in terms of the magnitude of the trend. We therefore concluded that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for the current base year between each group. The data was analyzed both as a whole and broken down by economic area and by neighborhoods with at least 35 sales, as follows:

Report

VALSF

sold	N	Median	Mean
UNSOLD	96124	$465	$690
SOLD	11870	$461	$524

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of VALSF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.181	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .01.

Economic Area

Report

VALSF

ECONAREA	sold	N	Median	Mean
1	UNSOLD	18866	$793	$831
	SOLD	1814	$816	$851
2	UNSOLD	7582	$484	$515
	SOLD	777	$519	$556
3	UNSOLD	4966	$587	$723
	SOLD	437	$598	$633
4	UNSOLD	24129	$449	$1,090
	SOLD	3181	$435	$460
5	UNSOLD	26056	$365	$380
	SOLD	3330	$372	$390
6	UNSOLD	14233	$453	$482
	SOLD	2331	$474	$519

Neighborhoods with at least 35 sales

Report

VALSF

NBHD	sold	N	Median	Mean
101	UNSOLD	1198	$748	$735
	SOLD	170	$796	$817
102	UNSOLD	1148	$805	$831
	SOLD	124	$847	$901
103	UNSOLD	525	$1,049	$1,104
	SOLD	42	$1,048	$1,107
105	UNSOLD	745	$877	$915
	SOLD	88	$830	$885
107	UNSOLD	566	$1,094	$1,143
	SOLD	70	$1,104	$1,222
109	UNSOLD	900	$909	$942
	SOLD	121	$908	$959
115	UNSOLD	1374	$812	$819
	SOLD	135	$828	$832
120	UNSOLD	786	$841	$873
	SOLD	77	$849	$889
122	UNSOLD	1373	$670	$656
	SOLD	162	$671	$711
124	UNSOLD	1237	$591	$573
	SOLD	116	$623	$631
126	UNSOLD	1976	$437	$483
	SOLD	291	$454	$483
128	UNSOLD	821	$495	$496
	SOLD	141	$500	$509
130	UNSOLD	591	$419	$461
	SOLD	78	$427	$444
132	UNSOLD	1233	$475	$493
	SOLD	149	$460	$486
133	UNSOLD	609	$475	$502
	SOLD	46	$483	$530
135	UNSOLD	1047	$588	$562
	SOLD	210	$622	$625
140	UNSOLD	1748	$525	$546
	SOLD	215	$552	$585

142	UNSOLD	968	$554	$578
	SOLD	95	$563	$609
144	UNSOLD	495	$636	$665
	SOLD	45	$678	$706
145	UNSOLD	941	$616	$628
	SOLD	90	$628	$641
146	UNSOLD	629	$687	$705
	SOLD	71	$749	$751
148	UNSOLD	1788	$543	$578
	SOLD	230	$527	$584
150	UNSOLD	779	$736	$725
	SOLD	73	$831	$777
155	UNSOLD	3279	$404	$2,020
	SOLD	540	$424	$433
158	UNSOLD	1145	$784	$846
	SOLD	109	$770	$864
160	UNSOLD	1849	$879	$873
	SOLD	161	$877	$857
162	UNSOLD	462	$988	$992
	SOLD	39	$989	$1,001
164	UNSOLD	856	$707	$696
	SOLD	80	$714	$719
170	UNSOLD	1605	$1,018	$1,039
	SOLD	183	$952	$1,003
172	UNSOLD	670	$725	$752
	SOLD	90	$788	$798
174	UNSOLD	1383	$789	$779
	SOLD	166	$757	$771
178	UNSOLD	803	$592	$618
	SOLD	98	$646	$653
201	UNSOLD	1704	$456	$468
	SOLD	173	$486	$509
202	UNSOLD	2597	$398	$402
	SOLD	295	$421	$422
203	UNSOLD	2041	$364	$377
	SOLD	266	$390	$398
204	UNSOLD	1598	$357	$371
	SOLD	187	$388	$389
205	UNSOLD	3277	$313	$319
	SOLD	427	$316	$324
223	UNSOLD	3090	$368	$374
	SOLD	337	$375	$387
240	UNSOLD	258	$334	$332
	SOLD	44	$395	$383
241	UNSOLD	1379	$378	$384
	SOLD	153	$372	$386
242	UNSOLD	3402	$378	$390
	SOLD	521	$388	$399
243	UNSOLD	1297	$370	$350
	SOLD	145	$381	$383
255	UNSOLD	3165	$321	$334
	SOLD	420	$321	$342
256	UNSOLD	2220	$328	$343
	SOLD	271	$326	$338
257	UNSOLD	802	$315	$335
	SOLD	335	$311	$335
401	UNSOLD	484	$695	$697

	SOLD	37	$703	$730
405	UNSOLD	235	$514	$540
	SOLD	54	$434	$502
410	UNSOLD	1418	$538	$574
	SOLD	132	$584	$612
415	UNSOLD	739	$489	$2,887
	SOLD	74	$508	$509
420	UNSOLD	1377	$509	$525
	SOLD	183	$511	$523
425	UNSOLD	957	$537	$8,263
	SOLD	63	$534	$574
430	UNSOLD	1193	$570	$594
	SOLD	110	$628	$629
440	UNSOLD	3882	$339	$341
	SOLD	828	$338	$343
445	UNSOLD	434	$398	$413
	SOLD	126	$309	$342
450	UNSOLD	2490	$473	$481
	SOLD	300	$497	$511
451	UNSOLD	432	$450	$457
	SOLD	47	$472	$493
455	UNSOLD	416	$390	$390
	SOLD	84	$398	$397
460	UNSOLD	741	$464	$480
	SOLD	82	$471	$496
465	UNSOLD	1374	$435	$462
	SOLD	167	$445	$467
470	UNSOLD	839	$517	$522
	SOLD	82	$539	$544
480	UNSOLD	2295	$396	$435
	SOLD	325	$422	$463
501	UNSOLD	1547	$516	$527
	SOLD	189	$532	$557
820	UNSOLD	991	$558	$586
	SOLD	78	$571	$594
825	UNSOLD	796	$468	$506
	SOLD	82	$488	$521
830	UNSOLD	1171	$591	$642
	SOLD	115	$599	$653
901	UNSOLD	1045	$443	$468
	SOLD	134	$476	$501
903	UNSOLD	662	$556	$585
	SOLD	71	$576	$595
910	UNSOLD	482	$534	$571
	SOLD	36	$506	$537
911	UNSOLD	513	$399	$408
	SOLD	55	$400	$415
940	UNSOLD	638	$386	$407
	SOLD	71	$437	$454
960	UNSOLD	1045	$421	$439
	SOLD	87	$462	$471
962	UNSOLD	1095	$511	$520
	SOLD	112	$514	$542

Although there was some differences seen between sold and unsold residential properties at the neighborhood level, when the second percent change in value test is employed, the difference is

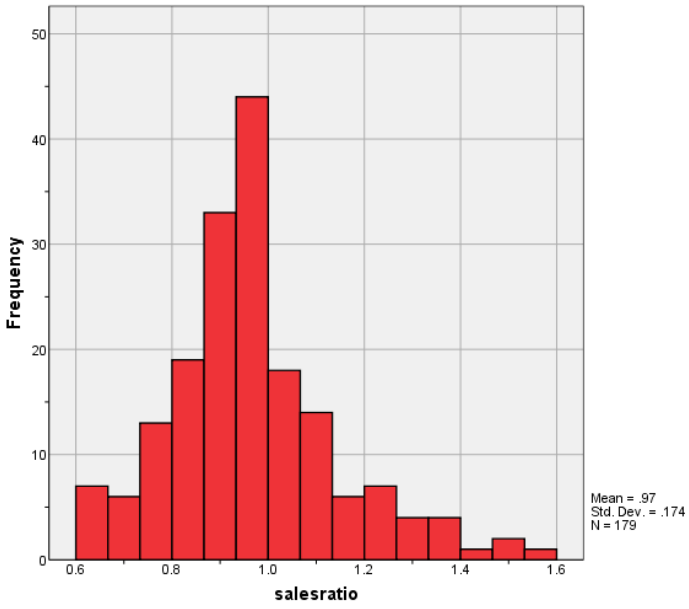
reduced greatly. The above overall and economic area results indicate that sold and unsold residential properties were valued in a consistent manner.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 179 qualified commercial and industrial sales in the 24-month sale period ending June 30, 2022. The sales ratio analysis results were as follows:

Median	**0.952**
Price Related Differential	**1.010**
Coefficient of Dispersion	**13.4**

The above table indicates that the Boulder County commercial/industrial sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:



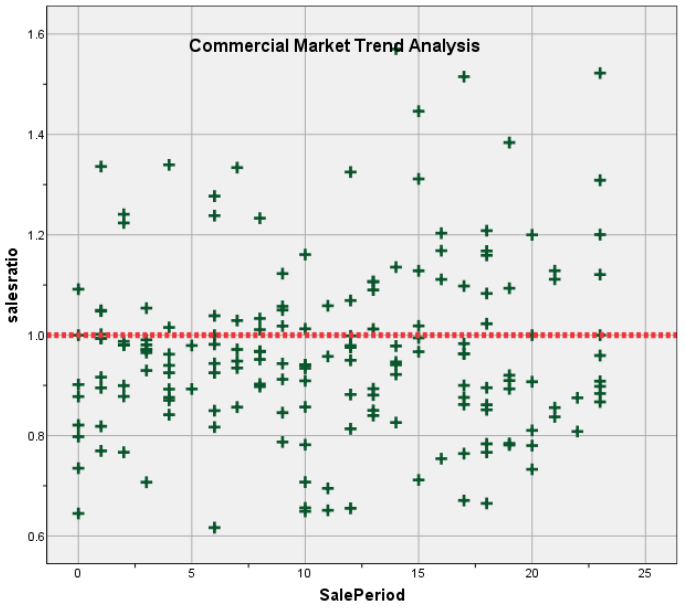
Commercial/Industrial Market Trend Analysis

The commercial/industrial sales were analyzed, examining the sale ratios across the 24-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.943	.024		38.521	.000
	SalePeriod	.002	.002	.088	1.170	.244

a. Dependent Variable: salesratio



There was no residual market trending present in the commercial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the commercial/industrial valuation.

Sold/Unsold Analysis

We compared the median and mean change in actual value for the previous base year and the current base year for sold and unsold commercial properties, as follows:

Report

DIFF

sold	N	Median	
UNSOLD	4021	1.28	1.38
SOLD	176	1.31	1.41

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.107	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .00.

Report

DIFF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	553	1.22	1.32
	SOLD	13	1.32	1.51
2220.00	UNSOLD	475	1.26	1.34
	SOLD	18	1.35	1.47
2221.00	UNSOLD	69	1.33	1.36
	SOLD	9	1.35	1.44
2230.00	UNSOLD	113	1.23	1.37
	SOLD	9	1.46	1.52
2234.00	UNSOLD	194	1.21	1.29
	SOLD	5	1.66	1.49
2237.00	UNSOLD	103	1.35	1.43
	SOLD	4	1.44	1.47
2238.00	UNSOLD	103	1.39	1.47
	SOLD	5	1.52	1.42
2245.00	UNSOLD	772	1.18	1.18
	SOLD	73	1.22	1.25

Based on similarities between the sold and unsold median change in value, we concluded that there was no evidence of the assessor adjusting the values of sold commercial properties by a greater amount than with unsold commercial properties between valuation years.

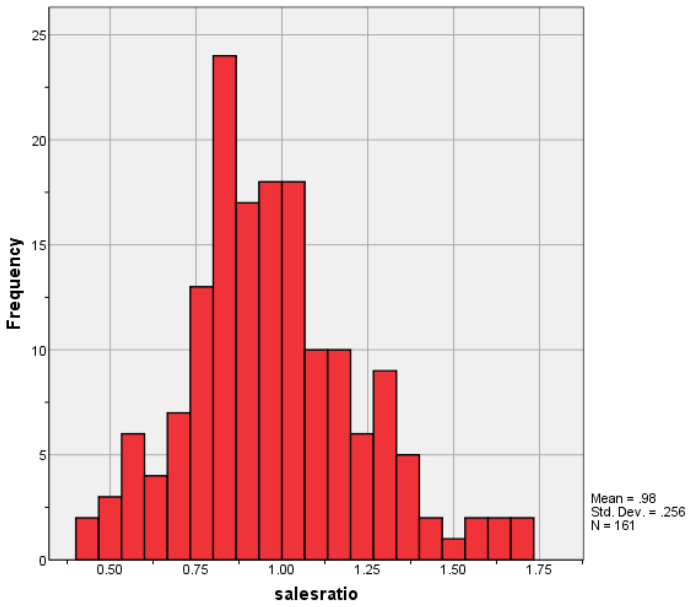
V. VACANT LAND SALE RESULTS

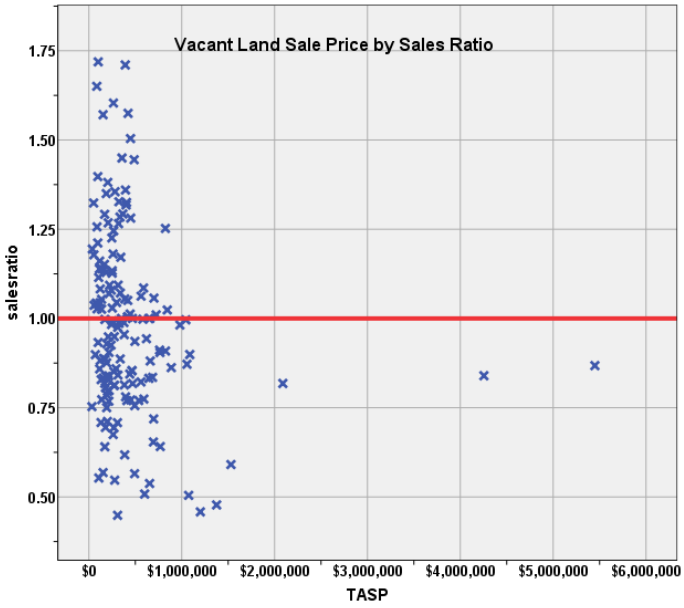
There were 161 qualified vacant land sales for the 24-month sale period ending June 30, 2022.

The sales ratio was analyzed with the following results:

Median	**0.955**
Price Related Differential	**1.072**
Coefficient of Dispersion	**20.8**

The above ratio statistics were in compliance overall with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall vacant land sales. The following graphs describe further the sales ratio distribution for all of these properties:





The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits.

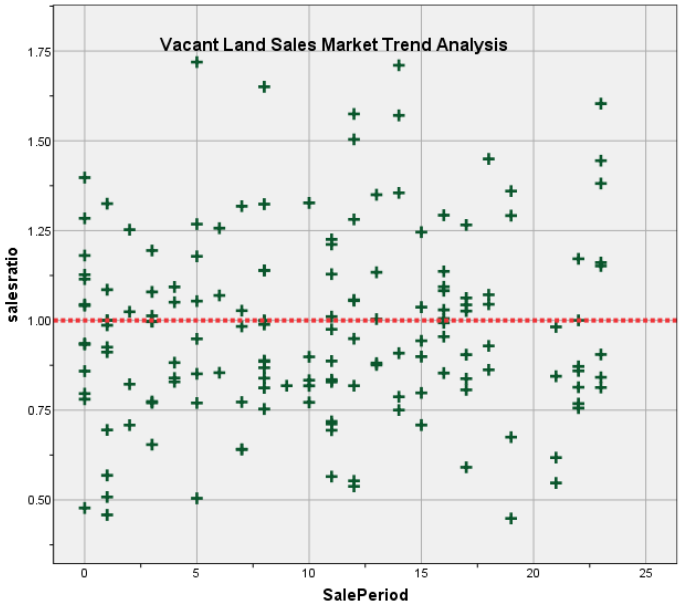
Vacant Land Market Trend Analysis

We next analyzed the vacant land dataset using the 24-month sale period, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.950	.036		26.175	.000
	SalePeriod	.003	.003	.075	.943	.347

a. Dependent Variable: salesratio



The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in value between the prior base year and the current base year, as follows:

Report
DIFF

sold	N	Median	Mean
UNSOLD	4409	1.21	1.40
SOLD	150	1.49	1.59

We also stratified the analysis by subdivision with 3 or more sales, as follows:

Report
DIFF

SUBDIVNO	sold	N	Median	Mean
1883	0	3	1.42	1.52
	1	3	2.20	2.09
5485	0	8	1.19	1.16
	1	4	1.25	1.25
5628	0	2	1.28	1.28
	1	4	1.98	2.05
7089	0	21	1.68	1.69
	1	3	1.65	1.57
8227	0	10	1.37	1.49
	1	3	1.53	1.39
8476	0	10	1.67	1.68
	1	3	1.72	1.68
9914	0	60	1.17	1.19
	1	7	1.85	1.69

9915	0	80	1.17	1.16
	1	5	1.29	1.33
9916	0	107	1.23	1.41
	1	7	1.35	1.58
9919	0	54	1.17	1.23
	1	5	1.51	1.52
9934	0	53	1.40	1.69
	1	3	1.40	1.70
9940	0	100	1.17	1.29
	1	4	1.39	1.37
9941	0	29	1.21	1.29
	1	4	2.11	2.14
9942	0	137	1.50	1.51
	1	4	1.53	1.45
9943	0	61	1.40	1.54
	1	4	1.13	1.12

Overall, we concluded that the county assessor valued sold and unsold vacant properties consistently.

V. CONCLUSIONS

Based on this statistical analysis, there were no compliance issues for residential, commercial and vacant land properties for Boulder County for 2024.

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

ECONAREA	Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
		Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
1	.960	.955	.965	.972	.966	.979	95.4%	.934	.925	.942	1.028	.087	12.1%
2	.965	.956	.975	.974	.965	.983	95.1%	.933	.918	.949	1.034	.094	14.0%
3	.954	.940	.968	.979	.961	.996	95.0%	.919	.900	.938	1.038	.110	15.7%
4	.967	.964	.971	.976	.972	.980	95.3%	.959	.954	.963	1.009	.069	10.0%
5	.972	.969	.976	.978	.974	.982	95.4%	.970	.966	.974	1.003	.072	10.0%
6	.966	.962	.970	.967	.962	.972	95.3%	.937	.912	.962	1.031	.077	10.6%

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.

Commercial Land

Ratio Statistics for CURRTOT / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.967	.942	.993	.952	.925	.976	96.4%	.958	.889	1.027	1.010	.134	18.0%

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.

Vacant Land

Ratio Statistics for CURRLND / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.979	.939	1.019	.955	.899	1.000	96.0%	.913	.868	.958	1.072	.208	26.2%

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.

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	.00	2	0.0%
	1210.67	1	0.0%
	1211.00	2	0.0%
	1211.33	1	0.0%
	1212.00	9381	79.0%
	1213.50	5	0.0%
	1214.88	1	0.0%
	1215.00	150	1.3%
	1217.50	1	0.0%
	1220.00	28	0.2%
	1221.25	1	0.0%
	1225.00	13	0.1%
	1230.00	2286	19.3%
Overall		11872	100.0%
Excluded		2	
Total		11874	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
.00	.517	.785	.933	131.9%
1210.67	1.001	1.000	.000	.
1211.00	.884	1.006	.012	1.7%
1211.33	.851	1.000	.000	.
1212.00	.976	1.019	.077	10.9%
1213.50	.867	.980	.133	18.9%
1214.88	.672	1.000	.000	.
1215.00	.945	1.025	.114	17.8%
1217.50	.744	1.000	.000	.
1220.00	.948	1.017	.129	18.4%
1221.25	.883	1.000	.000	.
1225.00	.860	1.035	.107	14.2%
1230.00	.968	.999	.076	10.2%
Overall	.974	1.021	.077	10.9%

Age

Case Processing Summary

		Count	Percent
AgeRec	0	2	0.0%
	Over 100	287	2.4%
	75 to 100	239	2.0%
	50 to 75	1712	14.4%
	25 to 50	4505	37.9%
	5 to 25	3258	27.4%
	5 or Newer	1869	15.7%
Overall		11872	100.0%
Excluded		2	
Total		11874	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.517	.785	.933	131.9%
Over 100	.964	1.020	.117	17.0%
75 to 100	.960	1.040	.124	18.0%
50 to 75	.962	1.025	.091	12.3%
25 to 50	.966	1.018	.076	10.2%
5 to 25	.983	1.019	.069	9.7%
5 or Newer	.988	1.027	.069	10.6%
Overall	.974	1.021	.077	10.9%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	2	0.0%
	LE 500 sf	72	0.6%
	500 to 1,000 sf	1892	15.9%
	1,000 to 1,500 sf	3437	29.0%
	1,500 to 2,000 sf	2653	22.3%
	2,000 to 3,000 sf	2703	22.8%
	3,000 sf or Higher	1113	9.4%
Overall		11872	100.0%
Excluded		2	
Total		11874	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.517	.785	.933	131.9%
LE 500 sf	.950	1.022	.088	13.2%
500 to 1,000 sf	.950	1.009	.077	10.5%
1,000 to 1,500 sf	.967	1.008	.074	10.2%
1,500 to 2,000 sf	.985	1.015	.071	10.2%
2,000 to 3,000 sf	.988	1.022	.077	11.2%
3,000 sf or Higher	.985	1.053	.093	13.7%
Overall	.974	1.021	.077	10.9%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	0	1	0.0%
	1	7	0.1%
	2	51	0.4%
	3	5605	47.2%
	4	4823	40.6%
	5	1181	9.9%
	6	202	1.7%
Overall		11870	100.0%
Excluded		4	
Total		11874	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.170	1.000	.000	.
1	1.000	1.047	.162	25.1%
2	.954	1.070	.179	24.3%
3	.957	1.016	.076	10.6%
4	.991	1.021	.069	9.7%
5	.993	1.031	.091	13.5%
6	1.000	1.045	.116	17.5%
Overall	.974	1.021	.077	10.9%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$150K to $200K	3	1.7%
	$200K to $300K	7	3.9%
	$300K to $500K	32	17.9%
	$500K to $750K	32	17.9%
	$750K to $1,000K	19	10.6%
	Over $1,000K	86	48.0%
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$150K to $200K	1.200	1.005	.063	9.4%
$200K to $300K	1.023	1.008	.115	18.7%
$300K to $500K	.982	.999	.121	17.0%
$500K to $750K	.947	1.003	.110	14.9%
$750K to $1,000K	.981	1.000	.100	14.2%
Over $1,000K	.913	.992	.148	21.1%
Overall	.952	1.010	.134	18.4%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	2212.00	13	7.3%
	2215.00	1	0.6%
	2215.33	1	0.6%
	2217.00	1	0.6%
	2220.00	19	10.6%
	2221.00	9	5.0%
	2221.67	1	0.6%
	2223.50	1	0.6%
	2230.00	9	5.0%
	2231.00	1	0.6%
	2232.00	1	0.6%
	2234.00	6	3.4%
	2235.00	1	0.6%
	2237.00	4	2.2%
	2238.00	5	2.8%
	2240.00	1	0.6%
	2245.00	73	40.8%
	3210.00	6	3.4%
	3215.00	12	6.7%
	3230.00	12	6.7%
	3235.00	2	1.1%

Overall	179	100.0%
Excluded	0	
Total	179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212.00	.940	.957	.088	11.3%
2215.00	.982	1.000	.000	.
2215.33	1.334	1.000	.000	.
2217.00	.979	1.000	.000	.
2220.00	.909	.971	.108	15.2%
2221.00	.943	1.010	.094	13.9%
2221.67	1.128	1.000	.000	.
2223.50	.798	1.000	.000	.
2230.00	.903	1.035	.145	26.5%
2231.00	.907	1.000	.000	.
2232.00	1.092	1.000	.000	.
2234.00	1.065	.985	.105	12.4%
2235.00	.617	1.000	.000	.
2237.00	1.032	1.038	.239	34.7%
2238.00	1.000	1.097	.144	21.3%
2240.00	1.111	1.000	.000	.
2245.00	.963	1.017	.124	16.7%
3210.00	.877	.944	.281	44.1%
3215.00	.911	1.039	.126	16.0%
3230.00	.961	1.023	.139	19.5%
3235.00	.849	.993	.033	4.7%
Overall	.952	1.010	.134	18.4%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	19	10.6%
	75 to 100	7	3.9%
	50 to 75	24	13.4%
	25 to 50	48	26.8%
	5 to 25	74	41.3%
	5 or Newer	7	3.9%
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.978	1.024	.094	13.4%
75 to 100	.952	.989	.127	25.4%
50 to 75	.925	1.091	.141	18.8%
25 to 50	.927	1.012	.137	18.8%
5 to 25	.963	.990	.141	19.3%
5 or Newer	.982	1.018	.090	12.4%
Overall	.952	1.010	.134	18.4%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	1	0.6%
	3	138	77.1%
	4	40	22.3%
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	1.048	1.000	.000	.
3	.955	1.006	.128	18.0%
4	.948	1.022	.153	20.0%
Overall	.952	1.010	.134	18.4%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	2	1	0.6%
	3	110	64.0%
	4	61	35.5%
Overall		172	100.0%
Excluded		7	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	.981	1.000	.000	.
3	.963	1.009	.130	18.2%
4	.940	1.011	.141	19.0%
Overall	.955	1.009	.134	18.4%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	2	1.2%
	$50K to $100K	13	8.1%
	$100K to $150K	14	8.7%
	$150K to $200K	22	13.7%
	$200K to $300K	31	19.3%
	$300K to $500K	43	26.7%
	$500K to $750K	18	11.2%
	$750K to $1,000K	8	5.0%
	Over $1,000K	10	6.2%
Overall		161	100.0%
Excluded		0	
Total		161	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$25K to $50K	.974	.987	.227	32.0%
$50K to $100K	1.178	.989	.168	22.0%
$100K to $150K	1.035	1.000	.145	19.9%
$150K to $200K	.857	1.005	.210	30.2%
$200K to $300K	.983	1.002	.184	23.5%
$300K to $500K	1.000	1.002	.219	28.5%
$500K to $750K	.858	1.000	.167	20.5%
$750K to $1,000K	.910	.996	.117	19.0%
Over $1,000K	.829	.946	.196	27.2%
Overall	.955	1.072	.208	26.9%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	68	42.2%
	200.00	6	3.7%
	300.00	7	4.3%
	400.00	1	0.6%
	510.00	4	2.5%
	520.00	16	9.9%
	530.00	18	11.2%
	540.00	9	5.6%
	550.00	10	6.2%
	1112.00	22	13.7%
Overall		161	100.0%
Excluded		0	
Total		161	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.934	1.051	.177	23.2%
200.00	.983	1.119	.207	31.6%
300.00	.881	1.070	.117	19.6%
400.00	1.181	1.000	.000	.
510.00	.946	1.019	.205	27.9%
520.00	.965	1.047	.217	28.5%
530.00	.999	1.030	.165	21.2%
540.00	.996	1.020	.236	29.5%
550.00	1.001	1.093	.272	35.6%
1112.00	1.000	1.181	.273	34.6%
Overall	.955	1.072	.208	26.9%