Boulder County Colorado

2021
BOULDER COUNTY
PROPERTY ASSESSMENT
STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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APPRAISAL, INCORPORATED
Audit Division

September 15, 2021

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

RE: Final Report for the 2021 Colorado Property Assessment Study

Dear Ms. Mullis:

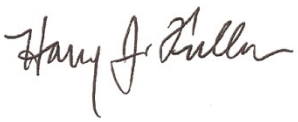
Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2021 Colorado Property Assessment Study.

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.

Wildrose Appraisal Inc. – 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
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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.

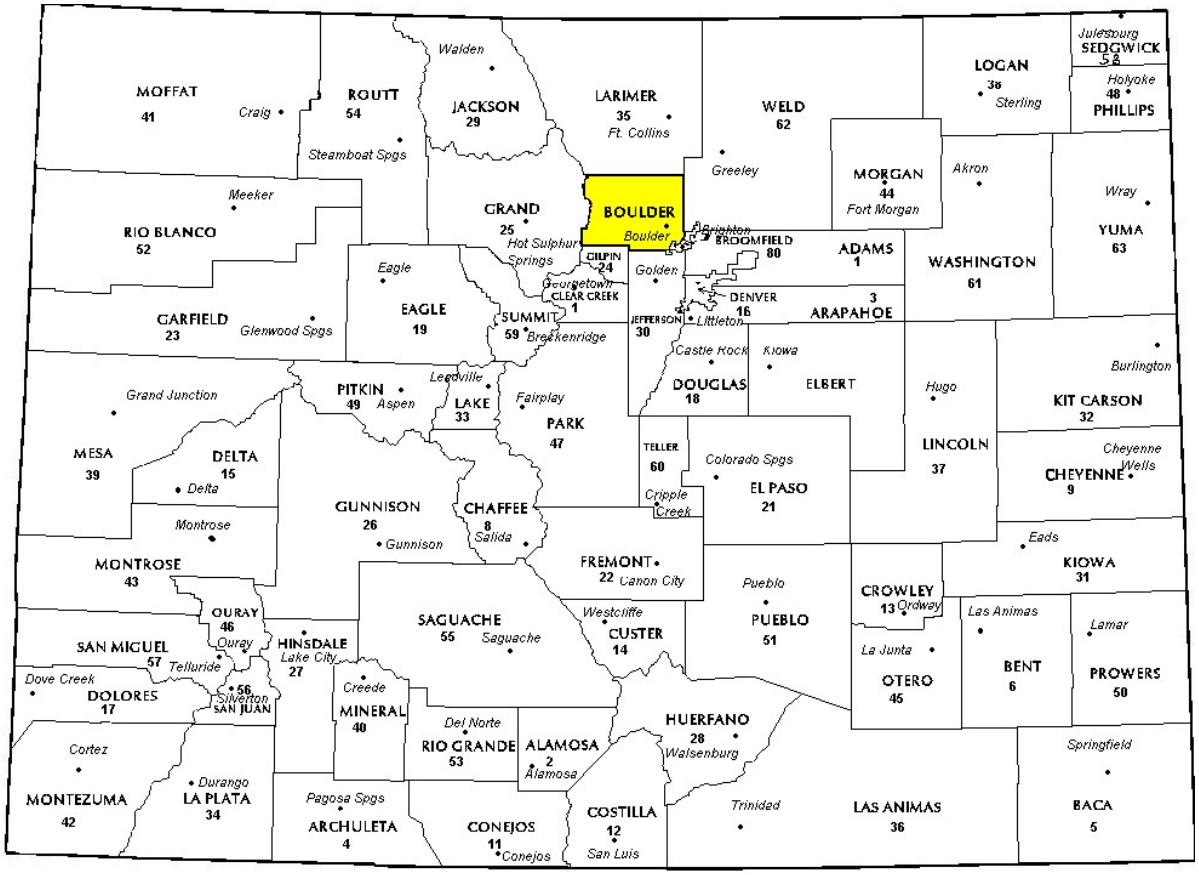
Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax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

Wildrose Audit has completed the Property Assessment Study for 2021 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 726.3 square miles and an estimated population of approximately 326,196 people with 405.6 people per square mile, 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
Residential Condominium	Between .95-1.05	Less than 15.99
Residential	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	114	0.950	1.050	10.1	Compliant
Residential	10,550	0.999	1.009	8.1	Compliant
Vacant Land	148	1.016	0.984	20.6	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
Residential	Compliant
Vacant Land	Compliant

Conclusions

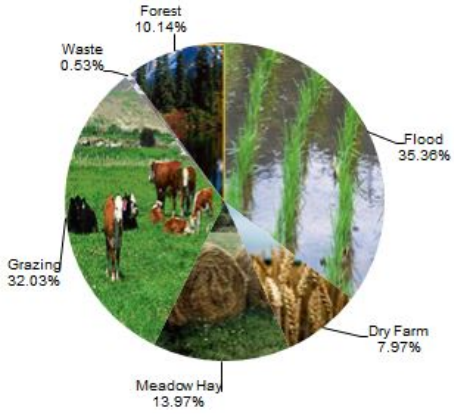
After applying the above described methodologies, it is concluded that Boulder County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

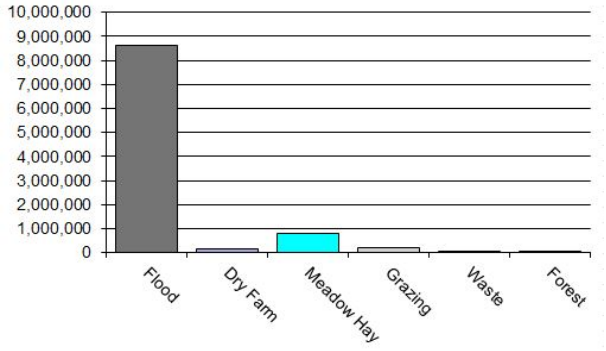
None

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	21,549	399.10	8,600,103	8,259,989	1.04
4127	Dry Farm	4,858	36.41	176,902	182,388	0.97
4137	Meadow Hay	8,517	95.63	814,489	803,658	1.01
4147	Grazing	19,521	11.44	223,330	223,330	1.00
4177	Forest	6,178	4.41	27,260	27,591	0.99
4167	Waste	323	2.42	781	781	1.00
Total/Avg		**60,946**	**161.50**	**9,842,865**	**9,497,737**	**1.04**

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 substantially 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
- General off duty observations of the county's agricultural activities

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
- General off duty observations of the county's agricultural activities.

Boulder County has substantially 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.

WRA reviewed the sales verification procedures in 2021 for Boulder County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 57 sales listed as unqualified.

All of the sales in the unqualified sales sample had reasons that were clear and supportable.

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.
>
> When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number of properties or by value, from the prior year. 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.

If 50 percent or more of the sales are qualified, the contractor has reviewed a statistically significant sample of unqualified sales, excluding sales that were disqualified for obvious reasons.

Boulder County did not qualify for in-depth subclass analysis.

Conclusions

Boulder County appears to be doing an adequate job of verifying their sales. WRA agreed with the county's reason for disqualifying each of the sales selected in the sample. There are no recommendations or suggestions.

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 2021 in Boulder County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was developed using the summation method. Subdivision land with structures was appraised at full market value.

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
- Boulder County Business Report
- Web Search by Business Type

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 2021 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:

- Businesses in a selected area
- 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 $7,900 actual value exemption status
- Lowest or highest quartile of value per square foot
- 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

WILDROSE AUDITOR STAFF

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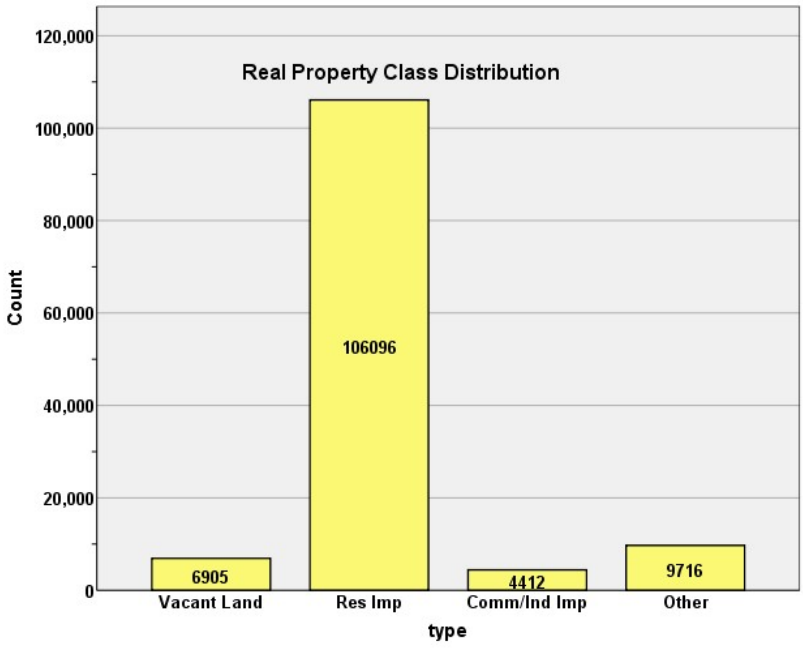
STATISTICAL APPENDIX

STATISTICAL COMPLIANCE REPORT
FOR BOULDER COUNTY
2021

I. OVERVIEW

Boulder County is an urban county located along Colorado's Front Range. The county has a total of 127,129 real property parcels, according to data submitted by the county assessor's office in 2021. 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 73.1% of all vacant land parcels.

For residential improved properties, single family properties accounted for 82.8% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.5% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2021 Colorado Property Assessment Study. Information was provided by the Boulder Assessor's Office in May 2021. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 10,550 qualified residential sales in the 24-month sale period ending June 30, 2020. The sales ratio analysis was analyzed as follows:

Median	**0.999**
Price Related Differential	**1.009**
Coefficient of Dispersion	**8.1**

We next stratified the sale ratio analysis by economic area and neighborhood. The minimum count for the neighborhood stratification is 30 sales. The following are the results of this stratification analysis:

Economic Area
Case Processing Summary

		Count	Percent
ECONAREA	1.00	1384	13.1%
	2.00	583	5.5%
	3.00	311	2.9%
	4.00	3003	28.5%
	5.00	3340	31.7%
	6.00	1928	18.3%
Overall		10549	100.0%
Excluded		2	
Total		10551	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	1.003	1.019	.090
2.00	.996	1.021	.112
3.00	1.019	1.038	.117
4.00	.999	1.002	.068
5.00	1.002	.998	.067
6.00	.984	1.011	.104
Overall	.999	1.009	.081

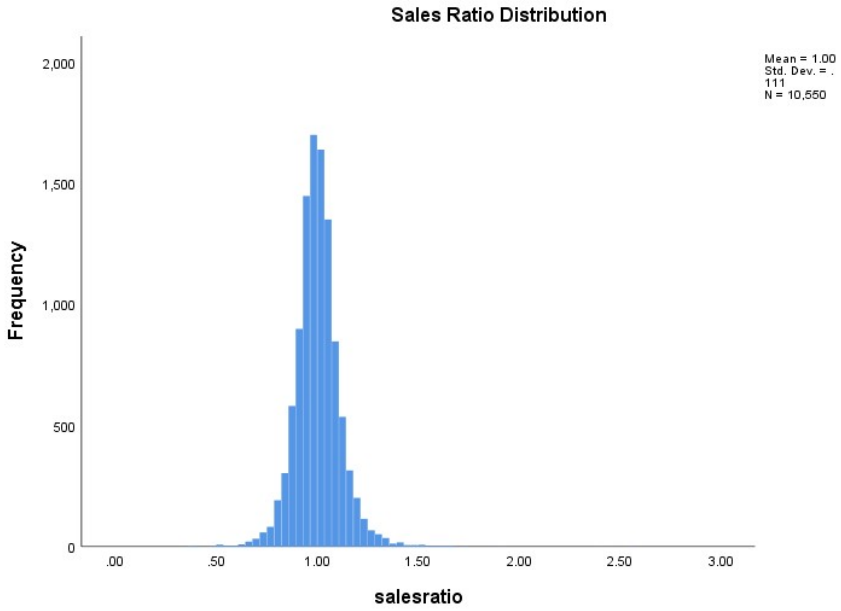
Neighborhoods with at least 30 sales
Ratio Statistics for CURRTOT / TASP

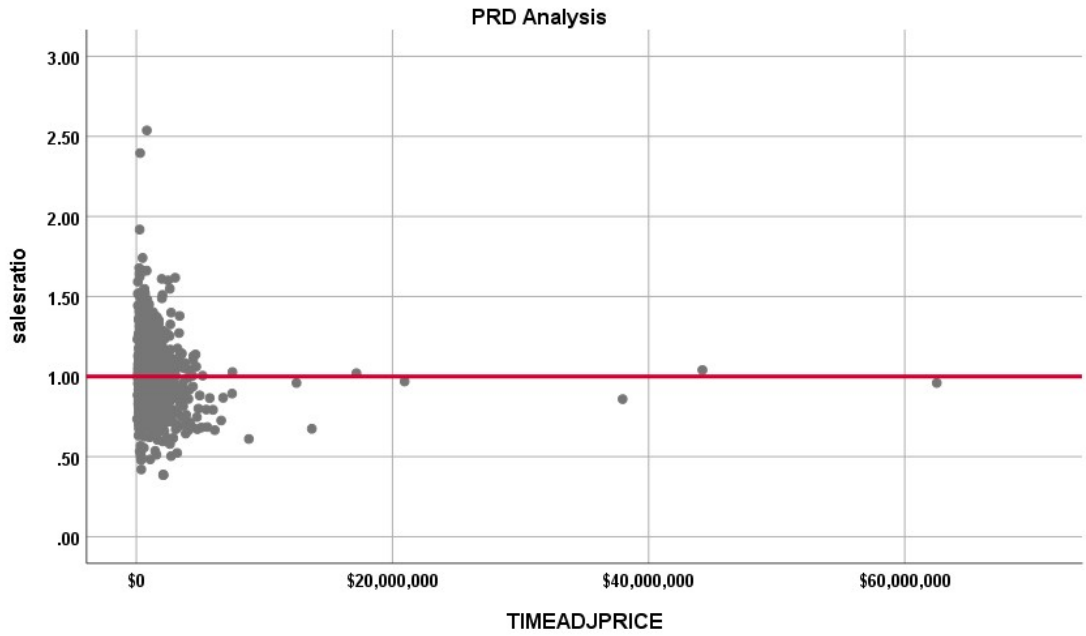
Group	Median	Price Related Differential	Coefficient of Dispersion
101	.986	1.021	.164
102	1.033	1.018	.090
105	1.030	1.044	.144
107	.995	1.055	.134
109	1.000	1.027	.107
115	.983	1.026	.094
120	1.002	1.048	.098
122	1.014	1.038	.090
124	1.028	.995	.125
126	.960	1.008	.086
128	.968	.991	.069

130	.976	1.002	.054
132	1.027	1.007	.076
133	.987	1.004	.059
135	.993	1.011	.074
140	.997	.995	.096
142	1.002	1.003	.075
145	1.033	1.010	.121
146	.974	1.008	.089
148	1.011	1.012	.090
150	.991	1.007	.053
155	1.006	1.004	.061
158	.989	1.012	.071
160	1.030	1.024	.079
162	1.011	1.015	.109
164	1.001	1.003	.053
170	.990	1.014	.117
172	1.002	1.011	.120
174	1.021	1.003	.081
178	1.013	1.032	.103
201	.988	1.006	.096
202	.991	1.001	.055
203	.987	.999	.080
204	.935	1.019	.089
205	1.018	.995	.058
223	1.038	1.001	.060
240	.994	1.006	.063
241	.987	1.003	.052
242	1.020	1.010	.072
243	.970	1.004	.046
255	.986	.996	.056
256	.977	.987	.067
257	1.000	.996	.073
401	.996	1.016	.105
405	1.001	1.007	.104
410	.999	1.006	.068
415	1.035	1.006	.064
420	1.018	1.007	.068
425	.992	1.004	.062
430	.980	1.005	.068
440	1.003	1.002	.058
445	.990	1.006	.055
450	1.020	.999	.064
451	1.022	1.012	.058
455	1.057	1.001	.059
460	.965	1.021	.112
465	.964	1.004	.067
470	.950	1.001	.058
480	.968	.994	.076
501	.998	.980	.087
820	.980	1.024	.128
825	1.063	1.021	.099
830	1.011	1.099	.111
901	.988	1.006	.122
903	.934	.992	.139
910	1.015	1.067	.124
911	.966	1.043	.121
940	.993	1.016	.094

960	1.017	1.061	.109
962	1.003	1.008	.085
Overall	.999	1.007	.079

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



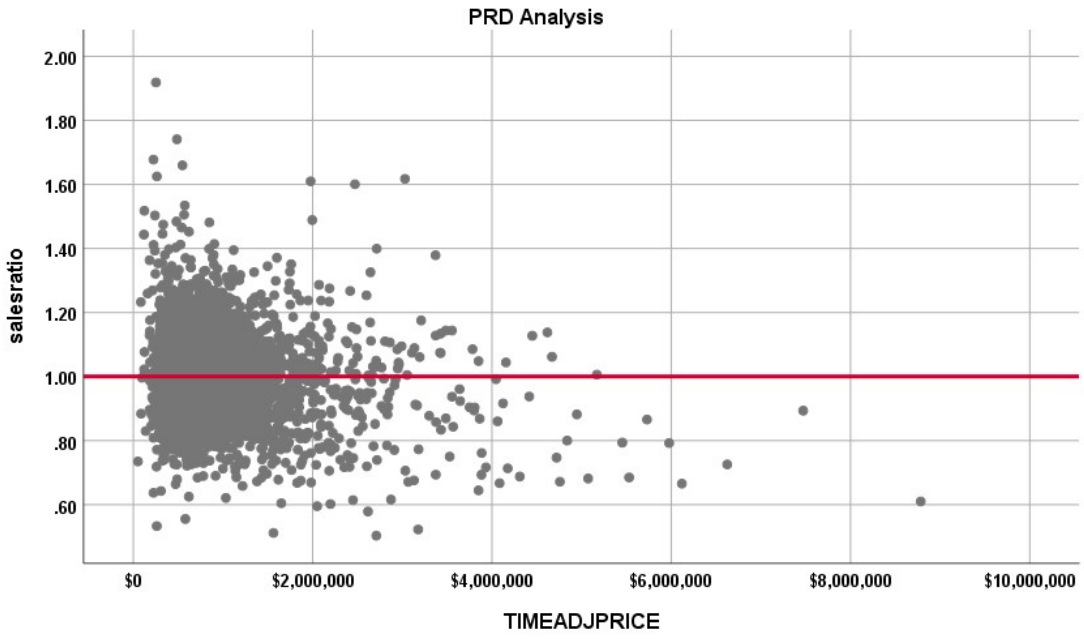


The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

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 1.008, 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)	.991	.002		491.514	.000
	CURRTOT	.000000018	.000	.081	7.539	.000

a. Dependent Variable: salesratio

The slope of the line at 0.000000018 indicates that there is virtually no slope in the regression line, which indicates that sales ratios are similar across the entire sale price array. This indicates no regressivity or progressivity in the residential values assigned by the assessor.

Case Processing Summary

		Count	Percent
SPRec	LT $300K	149	1.7%
	$300K to $400K	1231	14.4%
	$400K to $500K	1517	17.7%
	$500K to $600K	1477	17.3%
	$600K to $750K	1736	20.3%

	$750K to $1000K	1313	15.4%
	$1000K to $2000K	917	10.7%
	Over $2000K	207	2.4%
Overall		8547	100.0%
Excluded		0	
Total		8547	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $300K	.992	1.005	.120	18.6%
$300K to $400K	.982	1.000	.063	8.7%
$400K to $500K	1.003	1.000	.066	8.8%
$500K to $600K	1.018	1.000	.068	9.0%
$600K to $750K	1.010	1.000	.064	8.5%
$750K to $1000K	1.005	1.000	.078	10.2%
$1000K to $2000K	.984	1.002	.101	13.1%
Over $2000K	.937	1.016	.147	19.1%
Overall	1.001	1.008	.075	10.2%

The above table indicates 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.
1.00	1	(Constant)	1.027	.007		155.467	.000
		SalePeriod	-.002	.001	-.101	-3.767	.000
2.00	1	(Constant)	1.022	.013		80.878	.000
		SalePeriod	-.001	.001	-.060	-1.439	.151
3.00	1	(Constant)	.999	.018		54.125	.000
		SalePeriod	.001	.001	.053	.935	.350
4.00	1	(Constant)	1.006	.003		309.192	.000
		SalePeriod	.000	.000	-.031	-1.699	.089
5.00	1	(Constant)	1.016	.003		351.122	.000
		SalePeriod	-.001	.000	-.083	-4.819	.000
6.00	1	(Constant)	.992	.006		162.332	.000
		SalePeriod	.000	.000	.025	1.077	.282

a. Dependent Variable: salesratio

There was no significant residual market trending present in the sale ratio data for most economic areas; the two 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 2021 between each group. The data was analyzed both as a whole and broken down by economic area and by neighborhoods with at least 30 sales, as follows:

Class

Report
VALSF

sold	N	Median	Mean
UNSOLD	95362	$355	$539
SOLD	10550	$335	$523

Economic Area

Report
VALSF

ECONAREA	sold	N	Median	Mean
1.00	UNSOLD	19288	$594	$1,291
	SOLD	1384	$622	$1,702
2.00	UNSOLD	7689	$364	$386
	SOLD	583	$380	$421
3.00	UNSOLD	5212	$416	$442
	SOLD	311	$414	$450
4.00	UNSOLD	23161	$336	$352
	SOLD	3003	$319	$338
5.00	UNSOLD	25436	$270	$282
	SOLD	3340	$275	$288
6.00	UNSOLD	14307	$378	$408
	SOLD	1927	$382	$413

Neighborhoods with at least 30 sales

Report
VALSF

NBHD	sold	N	Median	Mean
101	UNSOLD	1171	$618	$652
	SOLD	158	$661	$690
102	UNSOLD	1182	$650	$675
	SOLD	89	$691	$707
105	UNSOLD	763	$710	$732
	SOLD	65	$851	$795
107	UNSOLD	582	$894	$7,239
	SOLD	44	$878	$925
109	UNSOLD	945	$701	$730
	SOLD	65	$733	$761
115	UNSOLD	1384	$606	$1,266
	SOLD	122	$656	$654
120	UNSOLD	814	$617	$640
	SOLD	47	$640	$648
122	UNSOLD	1413	$531	$663
	SOLD	105	$543	$563
124	UNSOLD	1256	$461	$442
	SOLD	95	$475	$477
126	UNSOLD	2058	$367	$401
	SOLD	211	$371	$397

128	UNSOLD	852	$393	$394
	SOLD	110	$397	$401
130	UNSOLD	599	$339	$352
	SOLD	67	$360	$375
132	UNSOLD	1253	$347	$362
	SOLD	128	$350	$373
133	UNSOLD	607	$341	$359
	SOLD	48	$388	$406
135	UNSOLD	1020	$466	$457
	SOLD	194	$527	$519
140	UNSOLD	1834	$422	$439
	SOLD	132	$431	$458
142	UNSOLD	1003	$416	$444
	SOLD	77	$433	$463
145	UNSOLD	964	$439	$453
	SOLD	68	$480	$498
146	UNSOLD	640	$518	$526
	SOLD	58	$485	$505
148	UNSOLD	1825	$438	$451
	SOLD	194	$421	$452
150	UNSOLD	797	$553	$557
	SOLD	56	$564	$568
155	UNSOLD	3079	$304	$306
	SOLD	465	$308	$326
158	UNSOLD	1161	$605	$659
	SOLD	93	$664	$701
160	UNSOLD	1863	$663	$754
	SOLD	148	$706	$688
162	UNSOLD	472	$719	$729
	SOLD	30	$783	$787
164	UNSOLD	886	$534	$532
	SOLD	50	$605	$596
170	UNSOLD	1658	$750	$5,271
	SOLD	120	$794	$12,900
172	UNSOLD	698	$539	$560
	SOLD	56	$586	$619
174	UNSOLD	1420	$593	$599
	SOLD	123	$563	$593
178	UNSOLD	824	$435	$455
	SOLD	69	$497	$523
201	UNSOLD	1711	$338	$344
	SOLD	162	$364	$373
202	UNSOLD	2623	$292	$296
	SOLD	269	$306	$314
203	UNSOLD	2095	$271	$297
	SOLD	197	$288	$301
204	UNSOLD	1609	$260	$268
	SOLD	160	$292	$319
205	UNSOLD	3106	$235	$237
	SOLD	508	$240	$239
223	UNSOLD	3135	$272	$277
	SOLD	293	$291	$296
240	UNSOLD	149	$249	$264
	SOLD	70	$278	$279
241	UNSOLD	1313	$281	$285
	SOLD	220	$232	$263
242	UNSOLD	3193	$282	$291

	SOLD	644	$288	$301
243	UNSOLD	1048	$285	$291
	SOLD	166	$268	$276
255	UNSOLD	3186	$240	$244
	SOLD	395	$248	$256
256	UNSOLD	2123	$248	$252
	SOLD	253	$241	$252
257	UNSOLD	797	$241	$242
	SOLD	283	$251	$263
401	UNSOLD	475	$513	$520
	SOLD	45	$502	$513
405	UNSOLD	237	$392	$408
	SOLD	30	$377	$392
410	UNSOLD	1455	$407	$437
	SOLD	112	$403	$437
415	UNSOLD	809	$372	$379
	SOLD	60	$385	$382
420	UNSOLD	1356	$387	$406
	SOLD	185	$408	$414
425	UNSOLD	1042	$396	$416
	SOLD	88	$428	$445
430	UNSOLD	1190	$431	$449
	SOLD	114	$472	$479
440	UNSOLD	3205	$245	$247
	SOLD	812	$237	$241
445	UNSOLD	391	$283	$294
	SOLD	43	$288	$290
450	UNSOLD	2361	$350	$356
	SOLD	285	$363	$370
451	UNSOLD	413	$323	$331
	SOLD	40	$344	$349
455	UNSOLD	433	$283	$285
	SOLD	55	$297	$298
460	UNSOLD	731	$344	$351
	SOLD	82	$353	$364
465	UNSOLD	1356	$325	$343
	SOLD	157	$348	$357
470	UNSOLD	833	$369	$373
	SOLD	88	$375	$385
480	UNSOLD	2231	$300	$321
	SOLD	359	$302	$320
501	UNSOLD	1568	$368	$375
	SOLD	157	$377	$381
820	UNSOLD	1010	$388	$410
	SOLD	63	$389	$420
825	UNSOLD	809	$325	$351
	SOLD	54	$338	$366
830	UNSOLD	1226	$402	$435
	SOLD	68	$383	$434
901	UNSOLD	1047	$346	$362
	SOLD	108	$349	$373
903	UNSOLD	678	$403	$419
	SOLD	49	$427	$442
910	UNSOLD	477	$390	$412
	SOLD	38	$360	$426
911	UNSOLD	508	$299	$313
	SOLD	60	$286	$301

940	UNSOLD	669	$296	$313
	SOLD	35	$310	$360
960	UNSOLD	1067	$322	$335
	SOLD	56	$350	$386
962	UNSOLD	1098	$371	$383
	SOLD	85	$395	$416

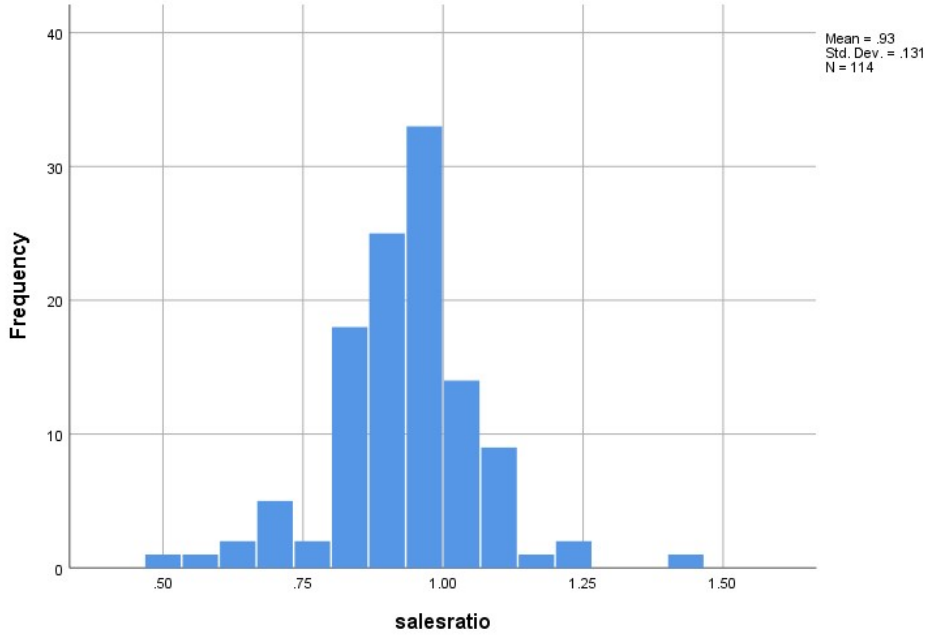
Although there was some differences seen between sold and unsold residential properties at the neighborhood level, when the second percent change in value test is employed, the difference is reduced greatly. The above overall and economic area results indicate that sold and unsold residential properties were valued in a consistent manner.

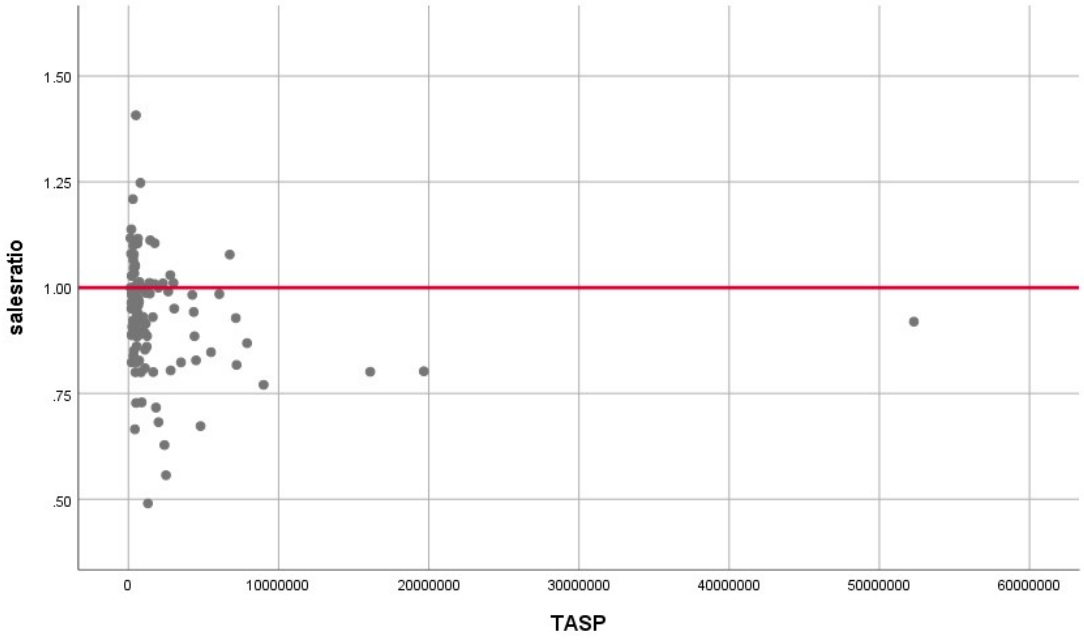
IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 114 qualified commercial and industrial sales in the 24 month sale period ending June 30, 2020. The sales ratio analysis was analyzed as follows:

Median	**0.95**
Price Related Differential	**1.05**
Coefficient of Dispersion	**10.1**

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:





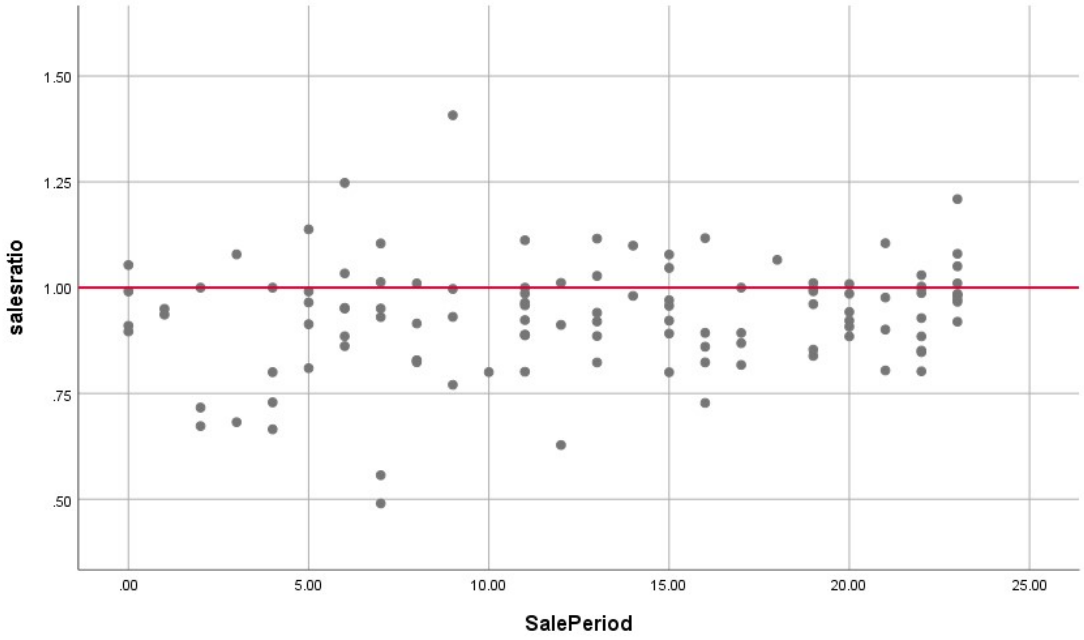
Commercial/Industrial Market Trend Analysis

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		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.893	.026		34.907	.000
	SalePeriod	.003	.002	.166	1.777	.078

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 valuation year 2018 and valuation year 2020 for sold and unsold commercial properties, as follows:

Report
DIFF

sold	N	Median	Mean
UNSOLD	4232	1.0351	1.1218
SOLD	114	1.0408	1.0403

Report
DIFF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	585	1.0189	1.0324
	SOLD	11	1.0093	1.0017
2220.00	UNSOLD	511	1.0320	1.1123
	SOLD	9	1.0160	1.0037
2221.00	UNSOLD	75	1.0200	1.0442
	SOLD	4	1.0512	1.0268
2225.00	UNSOLD	21	1.0000	.9868
	SOLD	2	1.0356	1.0356
2230.00	UNSOLD	127	1.0000	1.3459
	SOLD	3	1.0000	1.0112
2231.00	UNSOLD	61	1.0250	1.0386
	SOLD	3	1.1212	1.1037
2232.00	UNSOLD	62	1.0368	1.0492
	SOLD	2	.9571	.9571

2234.00	UNSOLD	202	1.0203	1.0340
	SOLD	7	1.0000	1.0105
2235.00	UNSOLD	404	1.0226	1.5589
	SOLD	2	1.0574	1.0574
2237.00	UNSOLD	105	1.0250	1.0450
	SOLD	5	1.0667	1.0643
2245.00	UNSOLD	809	1.0498	1.0441
	SOLD	29	1.0500	1.0387
3210.00	UNSOLD	171	1.0500	1.1083
	SOLD	7	1.0500	1.0470
3215.00	UNSOLD	328	1.0500	1.0727
	SOLD	5	1.0403	1.0529
3230.00	UNSOLD	141	1.0490	1.0503
	SOLD	7	1.0510	1.0718
3235.00	UNSOLD	114	1.0500	1.1497
	SOLD	5	1.0486	1.1345

Based on the differences observed, we concluded that there was no pattern of the assessor adjusting the values of sold commercial properties by a greater amount than with unsold commercial properties between valuation years.

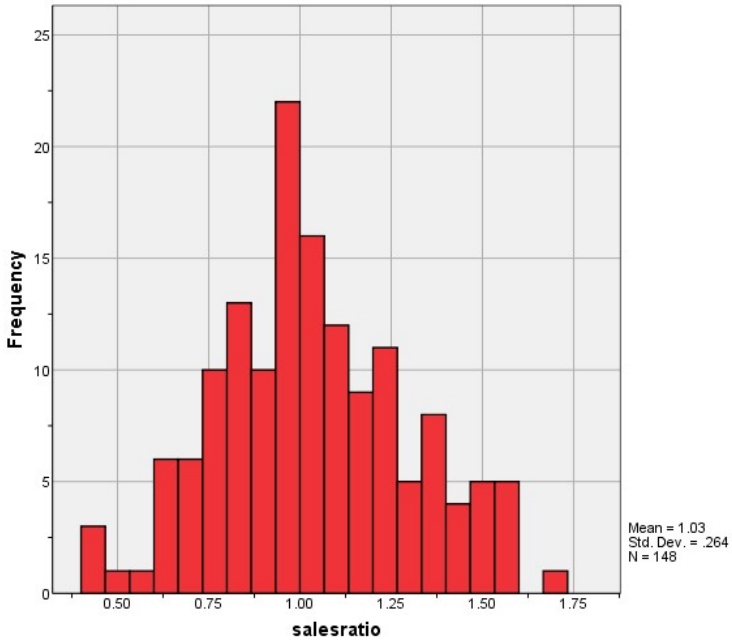
V. VACANT LAND SALE RESULTS

There were 156 qualified vacant land sales for the 24 month sale period ending June 30, 2020. Using IAAO standards, 8 sales were removed, resulting in 148 qualified vacant land sales.

The sales ratio was analyzed with the following results:

Median	**1.016**
Price Related Differential	**0.984**
Coefficient of Dispersion	**20.6**

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.

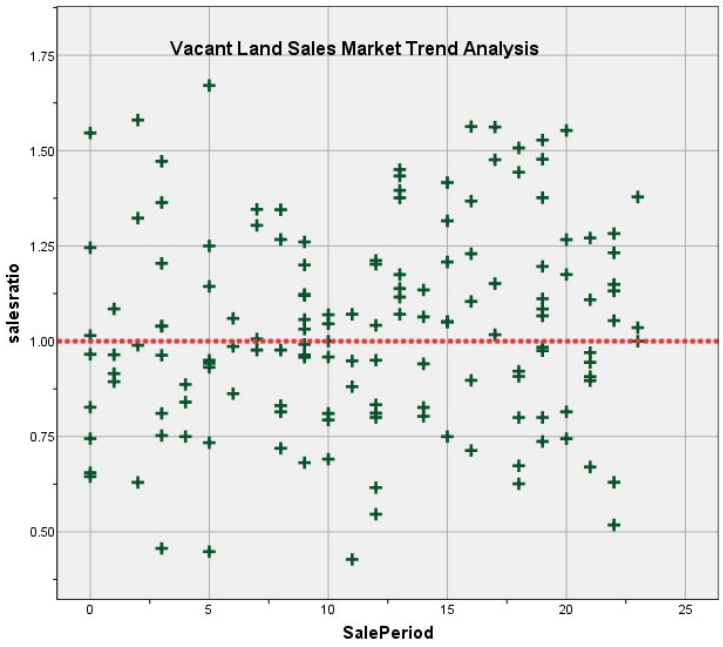
Vacant Land Market Trend Analysis

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

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.978	.043		22.684	.000
	SalePeriod	.005	.003	.123	1.496	.137

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 for valuation year 2018 and valuation year 2020 between each group, as follows:

Report

DIFF

sold	N	Median	Mean
UNSOLD	3283	1.0000	1.0840
SOLD	133	1.1284	1.1929

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

Report
DIFF

SUBDIVNO	sold	N	Median	Mean
452	UNSODL	28	1.0000	1.0035
	SOLD	3	1.0000	1.0000
672	UNSODL	6	1.0000	.9636
	SOLD	3	1.0000	1.2212
1126	UNSODL	2	1.1329	1.1329
	SOLD	4	1.1344	1.1344
1658	UNSODL	9	1.1747	1.1718
	SOLD	3	1.0534	1.0401
4261	UNSODL	12	1.2394	1.2935
	SOLD	4	1.2598	1.3228
7632	UNSODL	5	1.3557	1.3572
	SOLD	3	1.3500	1.3536
9909	UNSODL	7	1.0500	1.0629
	SOLD	2	1.1519	1.1519
9914	UNSODL	58	1.0000	1.0852
	SOLD	4	1.0000	1.1222
9915	UNSODL	84	1.0000	1.0139
	SOLD	4	1.0000	1.0895
9916	UNSODL	111	1.0000	1.0687
	SOLD	6	1.3332	1.2685
9918	UNSODL	99	.9985	.9540
	SOLD	5	1.0661	1.0388
9919	UNSODL	57	1.0000	.9425
	SOLD	5	1.0000	.9585
9940	UNSODL	98	1.0000	1.1750
	SOLD	2	1.0000	1.0000
9942	UNSODL	141	1.0000	1.0526
	SOLD	6	1.0587	1.0676
9943	UNSODL	65	1.0000	1.0993
	SOLD	6	1.0000	.9933

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

V. CONCLUSIONS

Based on this 2021 audit statistical analysis, residential, commercial/industrial and vacant land properties were found to be in compliance with state guidelines.

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
.	.753	-.792	2.298	.753	.632	.875	100.0%	.757	-.786	2.300	.995	.161	22.8%
1.00	1.006	.999	1.012	1.003	.998	1.009	95.0%	.987	.977	.996	1.019	.090	12.6%
2.00	1.006	.994	1.019	.996	.983	1.012	95.3%	.986	.966	1.006	1.021	.112	15.3%
3.00	1.014	.996	1.031	1.019	.998	1.040	95.9%	.977	.946	1.008	1.038	.117	15.4%
4.00	1.001	.998	1.004	.999	.995	1.003	95.1%	.999	.995	1.002	1.002	.068	9.2%
5.00	1.004	1.001	1.007	1.002	.999	1.005	95.3%	1.006	1.002	1.010	.998	.067	8.7%
6.00	1.004	.989	1.019	.984	.980	.989	95.2%	.993	.971	1.016	1.011	.104	32.7%

The confidenc e 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 Actual Value / 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
.933	.909	.957	.946	.919	.970	95.1%	.889	.857	.921	1.049	.101	14.0%

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
1.034	.991	1.077	1.016	.966	1.064	96.0%	1.050	.994	1.107	.984	.206	25.5%

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.

Residential Median Ratio Stratification

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	8545	81.0%
	1213.50	1	0.0%
	1215.00	73	0.7%
	1217.50	2	0.0%
	1220.00	38	0.4%
	1224.17	1	0.0%
	1225.00	12	0.1%
	1230.00	1876	17.8%
	1717.00	1	0.0%
	2137.45	1	0.0%
	3597.44	1	0.0%
Overall		10551	100.0%
Excluded		0	
Total		10551	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	1.001	1.008	.075	10.3%
1213.50	.719	1.000	.000	.
1215.00	.971	.999	.155	24.4%
1217.50	.940	1.034	.086	12.2%
1220.00	.949	1.038	.143	21.8%
1224.17	.960	1.000	.000	.
1225.00	.992	2.031	1.185	400.1%
1230.00	.985	.998	.096	13.4%
1717.00	1.062	1.000	.000	.
2137.45	.605	1.000	.000	.
3597.44	.950	1.000	.000	.
Overall	.999	1.009	.081	16.9%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	241	2.3%
	75 to 100	215	2.0%
	50 to 75	1383	13.1%
	25 to 50	3794	36.0%
	5 to 25	2934	27.8%
	5 or Newer	1984	18.8%
Overall		10551	100.0%
Excluded		0	
Total		10551	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.942	1.017	.125	16.6%
75 to 100	.975	1.014	.115	15.3%
50 to 75	.996	1.010	.088	11.8%
25 to 50	.987	1.006	.084	24.3%
5 to 25	1.012	1.005	.072	9.9%
5 or Newer	1.005	1.017	.071	10.7%
Overall	.999	1.009	.081	16.9%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	72	0.7%
	500 to 1,000 sf	1480	14.0%
	1,000 to 1,500 sf	3060	29.0%
	1,500 to 2,000 sf	2347	22.2%
	2,000 to 3,000 sf	2530	24.0%
	3,000 sf or Higher	1062	10.1%
Overall		10551	100.0%
Excluded		0	
Total		10551	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.919	1.000	.125	19.6%
500 to 1,000 sf	.964	1.007	.082	11.4%
1,000 to 1,500 sf	.985	1.004	.073	10.1%
1,500 to 2,000 sf	1.006	1.011	.073	10.0%
2,000 to 3,000 sf	1.019	1.017	.076	10.8%
3,000 sf or Higher	1.030	1.037	.104	41.4%
Overall	.999	1.009	.081	16.9%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	12	0.1%
	2	59	0.6%
	3	4923	46.7%
	4	4494	42.6%
	5	916	8.7%
	6	147	1.4%
Overall		10551	100.0%
Excluded		0	
Total		10551	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	1.009	1.088	.179	27.2%
2	.974	1.008	.139	17.5%
3	.976	1.006	.077	22.0%
4	1.019	1.013	.072	9.9%
5	1.024	1.025	.098	12.9%
6	1.040	1.045	.152	22.0%
Overall	.999	1.009	.081	16.9%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$100K to $150K	2	1.8%
	$150K to $200K	3	2.6%
	$200K to $300K	13	11.4%
	$300K to $500K	25	21.9%
	$500K to $750K	18	15.8%
	$750K to $1,000K	9	7.9%
	Over $1,000K	44	38.6%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$100K to $150K	1.059	1.002	.055	7.8%
$150K to $200K	1.080	1.001	.053	8.4%
$200K to $300K	.950	.997	.064	9.9%
$300K to $500K	.972	.999	.088	13.6%
$500K to $750K	.938	.996	.079	10.4%
$750K to $1,000K	.931	1.001	.107	15.8%
Over $1,000K	.903	1.006	.118	15.4%
Overall	.946	1.049	.101	13.9%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1545.33	1	0.9%
	1712.00	1	0.9%
	1716.00	1	0.9%
	1716.50	1	0.9%
	1723.50	1	0.9%
	1727.00	1	0.9%

	1737.50	1	0.9%
	2212.00	11	9.6%
	2215.00	1	0.9%
	2220.00	9	7.9%
	2221.00	4	3.5%
	2221.50	1	0.9%
	2223.50	1	0.9%
	2225.00	2	1.8%
	2230.00	3	2.6%
	2231.00	3	2.6%
	2232.00	2	1.8%
	2234.00	7	6.1%
	2235.00	2	1.8%
	2236.50	1	0.9%
	2237.00	5	4.4%
	2239.00	1	0.9%
	2240.00	1	0.9%
	2245.00	29	25.4%
	3210.00	7	6.1%
	3215.00	5	4.4%
	3230.00	7	6.1%
	3235.00	5	4.4%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1545.33	.891	1.000	.000	.
1712.00	1.099	1.000	.000	.
1716.00	.910	1.000	.000	.
1716.50	1.047	1.000	.000	.
1723.50	1.209	1.000	.000	.
1727.00	.991	1.000	.000	.
1737.50	1.053	1.000	.000	.
2212.00	.950	.999	.078	9.4%
2215.00	.801	1.000	.000	.
2220.00	.985	1.022	.027	4.5%
2221.00	.919	1.005	.027	4.5%
2221.50	.970	1.000	.000	.
2223.50	1.008	1.000	.000	.
2225.00	.913	.987	.093	13.2%
2230.00	1.034	1.034	.064	9.6%
2231.00	1.116	1.026	.078	11.7%
2232.00	.907	1.011	.114	16.1%
2234.00	.914	.985	.069	10.2%
2235.00	.902	1.071	.112	15.9%
2236.50	1.407	1.000	.000	.
2237.00	.952	1.015	.087	12.5%
2239.00	.770	1.000	.000	.
2240.00	.823	1.000	.000	.
2245.00	.930	1.016	.067	8.9%
3210.00	.919	1.014	.074	9.5%
3215.00	.665	.939	.234	33.6%

3230.00	.972	1.011	.072	11.4%
3235.00	.682	1.016	.063	10.1%
Overall	.946	1.049	.101	13.9%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	9	7.9%
	75 to 100	5	4.4%
	50 to 75	17	14.9%
	25 to 50	38	33.3%
	5 to 25	43	37.7%
	5 or Newer	2	1.8%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.970	1.003	.051	7.0%
75 to 100	.977	.999	.050	7.8%
50 to 75	.986	1.095	.131	19.2%
25 to 50	.955	1.040	.103	14.2%
5 to 25	.914	1.050	.091	12.4%
5 or Newer	1.034	1.017	.080	11.4%
Overall	.946	1.049	.101	13.9%

Improvement Size

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	107	93.9%
	500 to 1,000 sf	5	4.4%
	1,000 to 1,500 sf	1	0.9%
	3,000 sf or Higher	1	0.9%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.941	1.045	.100	13.9%
500 to 1,000 sf	1.047	.997	.067	10.2%
1,000 to 1,500 sf	1.209	1.000	.000	.
3,000 sf or Higher	.991	1.000	.000	.
Overall	.946	1.049	.101	13.9%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	1	0.9%
	2	3	2.6%
	3	90	78.9%
	4	20	17.5%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	.682	1.000	.000	.
2	1.011	1.010	.052	7.9%
3	.951	1.059	.103	14.5%
4	.920	1.032	.080	10.2%
Overall	.946	1.049	.101	13.9%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION		11	9.6%
	2	2	1.8%
	3	75	65.8%
	4	26	22.8%
Overall		114	100.0%
Excluded		0	
Total		114	

Ratio Statistics for Actual Value / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.986	1.187	.083	11.7%
2	.938	.980	.056	7.9%
3	.952	1.041	.114	15.7%
4	.921	1.035	.057	7.8%
Overall	.946	1.049	.101	13.9%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	1	0.7%
	$25K to $50K	9	6.1%
	$50K to $100K	25	16.9%
	$100K to $150K	27	18.2%
	$150K to $200K	12	8.1%
	$200K to $300K	28	18.9%
	$300K to $500K	26	17.6%
	$500K to $750K	12	8.1%
	$750K to $1,000K	2	1.4%
	Over $1,000K	6	4.1%
Overall		148	100.0%
Excluded		0	
Total		148	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	.800	1.000	.000	.
$25K to $50K	1.200	1.010	.125	17.1%
$50K to $100K	.992	1.026	.237	29.7%
$100K to $150K	.887	1.017	.306	38.0%
$150K to $200K	1.116	1.009	.159	20.9%
$200K to $300K	1.000	1.007	.146	22.5%
$300K to $500K	.991	.994	.191	24.2%
$500K to $750K	.987	1.010	.181	25.1%
$750K to $1,000K	1.154	1.006	.193	27.2%
Over $1,000K	1.113	1.011	.178	26.0%
Overall	1.016	.984	.206	26.0%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	74	50.0%
	200.00	5	3.4%
	300.00	10	6.8%
	400.00	4	2.7%
	510.00	6	4.1%
	520.00	25	16.9%
	530.00	7	4.7%
	540.00	8	5.4%
	550.00	7	4.7%
	1112.00	1	0.7%
	2100.00	1	0.7%
Overall		148	100.0%
Excluded		0	
Total		148	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	1.052	.950	.198	24.6%
200.00	.977	.972	.090	13.2%
300.00	.970	1.003	.142	19.4%
400.00	1.001	.997	.093	15.3%
510.00	.988	1.086	.226	35.1%
520.00	1.104	1.076	.260	31.6%
530.00	.862	1.071	.203	29.3%
540.00	1.056	1.064	.161	23.7%
550.00	.944	.980	.152	19.9%
1112.00	.881	1.000	.000	.
2100.00	.673	1.000	.000	.
Overall	1.016	.984	.206	26.0%