2017
CHAFFEE COUNTY PROPERTY ASSESSMENT STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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APPRAISAL, INCORPORATED
Audit Division

September 15, 2017

Mr. Mike Mauer
Director of Research
Colorado Legislative Council
Room 029, State Capitol Building
Denver, Colorado 80203

RE: Final Report for the 2017 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2017 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
Project Manager
Wildrose Appraisal Inc. – 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.

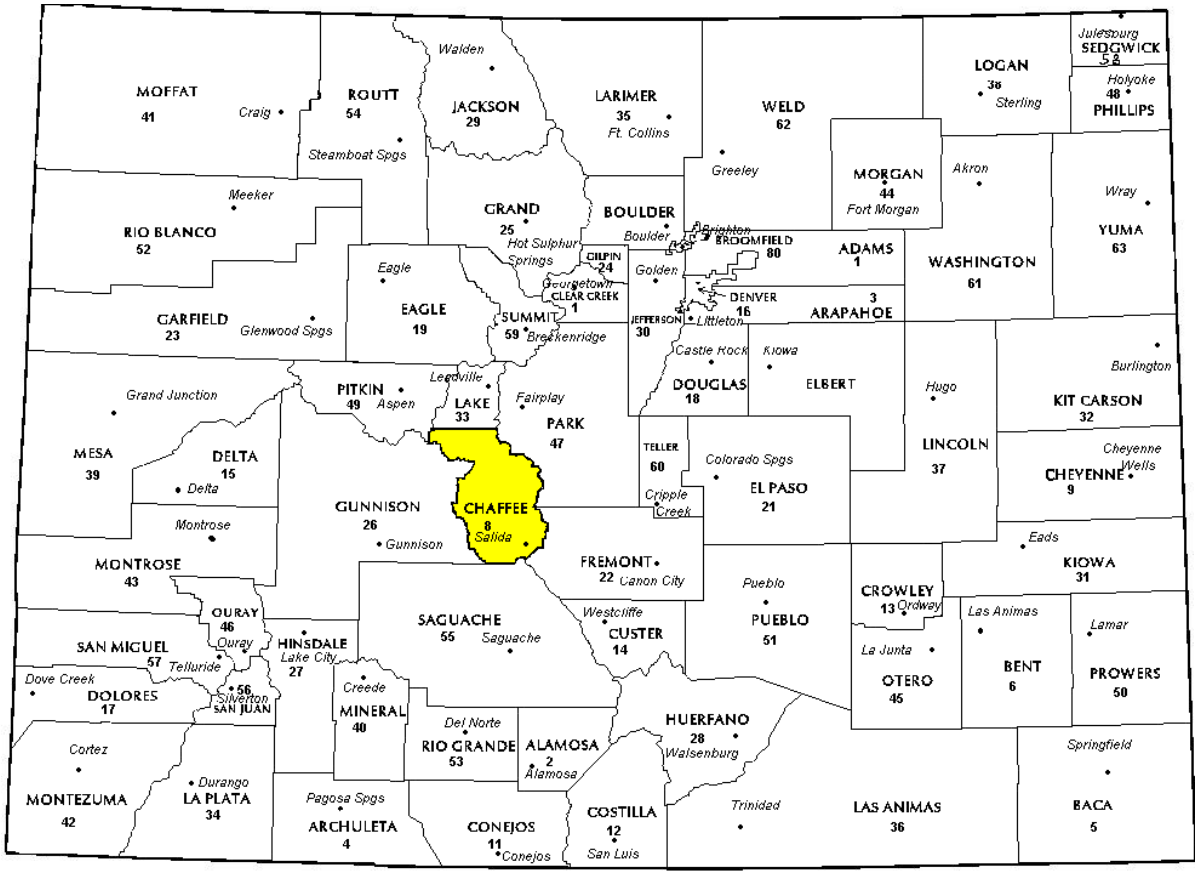
Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax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

Wildrose Audit has completed the Property Assessment Study for 2017 and is pleased to report its findings for Chaffee County in the following report.

REGIONAL / HISTORICAL SKETCH OF CHAFFEE COUNTY

Regional Information

Chaffee County is located in the Central Mountains region of Colorado. The Central Mountains Region is in the central portion of Colorado. It extends from the northern Gilpin county boundary approximately 210 miles southeasterly to the southern boundary of Colorado, including Chaffee, Clear Creek, Custer, Fremont, Gilpin, Huerfano, Lake, Las Animas, Park, and Teller counties.



Historical Information

Chaffee County had an estimated population of approximately 19,058 people with 18.8 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 7.0 percent change from April 1, 2010 to July 1, 2016.

Chaffee County is on the eastern slope of the Rocky Mountains in central Colorado. Bordered on the west by the Sawatch Range, including the 14,000 foot Continental Divide, the eastern boundary of the county follows the Mosquito Range, descending toward the south. Located high in the Upper Arkansas Valley, the Arkansas River flows toward the southeast, between the two mountain ranges.

The area is the crossroads for the three highways: U.S. 24, 50 and 285. Driving distance from Denver is approximately 144 miles, 102 miles from Colorado Springs and Pueblo, and 65 miles from Gunnison.

The elevation of the area ranges from just under 7,000 to over 14,000 feet on its highest peaks, providing some of the most spectacular views to be seen anywhere in the world. In fact, Chaffee County has more mountain peaks of 14,000-foot or more than any other county in Colorado and is often referred to as the "Fourteener" Region.

The history of the County and the surrounding area is a rich mix of many influences. The area was originally settled by the Ute Indians, for whom many of the local mountain peaks are named. Chaffee County was established in 1879 and named for Jerome Chaffee, Colorado's first United States Senator and local investor.

Early in its history the area experienced an influx of explorers, miners, railroad expansionists, farmers and ranchers. The influence of each has dwindled over the years, but their mark in the history of the area is evident throughout the valley.
(salida.com)

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, 2015 through June 20, 2016. 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. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

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 Chaffee County are:

Chaffee County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	79	1.015	1.051	15.6	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	1,362	0.995	1.014	9	Compliant
Vacant Land	390	1.000	1.020	6.9	Compliant

After applying the above described methodologies, it is concluded from the sales ratios that Chaffee 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 Chaffee County has complied with the statutory requirements to analyze the effects of time on value in their county. Chaffee 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

Chaffee 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
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

Conclusions

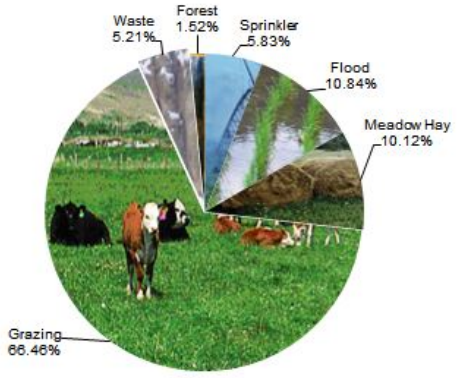
After applying the above described methodologies, it is concluded that Chaffee County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

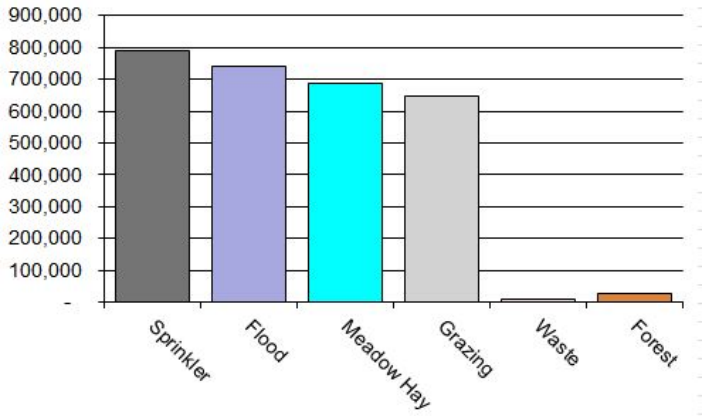
None

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:

Chaffee County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4107	Sprinkler	3,743	211.19	790,428	835,744	0.95
4117	Flood	6,961	106.52	741,551	768,346	0.97
4137	Meadow Hay	6,499	105.99	688,839	688,839	1.00
4147	Grazing	42,669	15.11	644,735	644,735	1.00
4177	Forest	979	2.22	26,080	26,080	1.00
4167	Waste	3,347	2.22	7,437	7,437	1.00
Total/Avg		**64,198**	**45.16**	**2,899,070**	**2,971,181**	**0.98**

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

Chaffee 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

Chaffee 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
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry
- Generic grazing leases

Chaffee 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
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Chaffee 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 2017 for Chaffee County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 99 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 $500, 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.

The following subclasses were analyzed for Chaffee County:

2112 Merchandising
2130 Special Purpose
2212 Merchandising
3112 Contract/Service
3115 Manufacturing/Processing
3212 Contract/Service
3215 Manufacturing/Processing

Conclusions

Chaffee County appears to be doing a good 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

Chaffee County has submitted a written narrative describing the economic areas that make up the county's market areas. Chaffee 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 Chaffee 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

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2017 in Chaffee 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

Chaffee 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.

Chaffee 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

Chaffee 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

Chaffee 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.

Chaffee 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
- 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
- Online Ads
- Social Media

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.

Chaffee County submitted their personal property written audit plan and was current for the 2017 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
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Non-filing Accounts - Best Information Available
- Accounts close to the $7,400 actual value exemption status

- Accounts protested with substantial disagreement
- At request of Business Owner

Conclusions

Chaffee 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

Harry J. Fuller, *Audit Project Manager*

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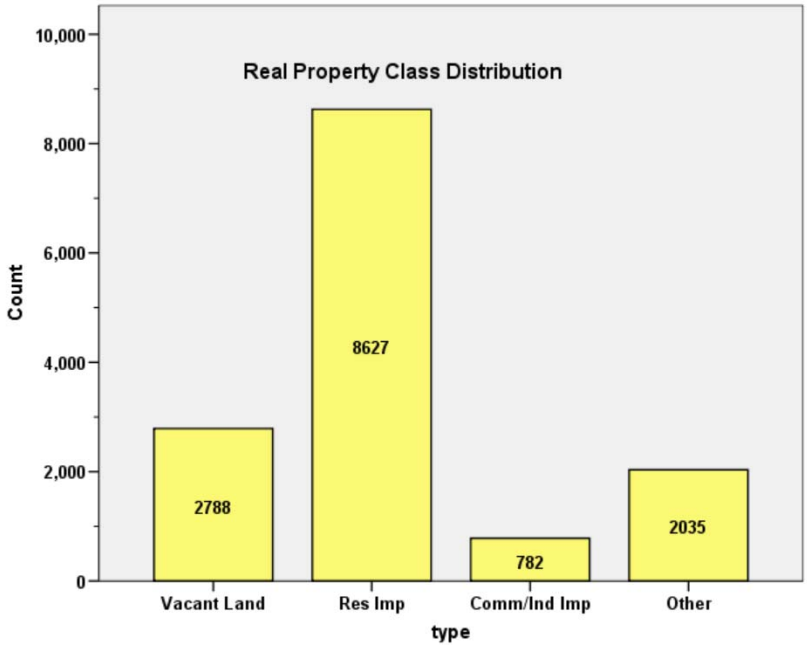
APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR CHAFFEE COUNTY
2017

I. OVERVIEW

Chaffee County is located in central Colorado. The county has a total of 14,232 real property parcels, according to data submitted by the county assessor's office in 2017. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential and PUD land. Residential lots (coded 100) accounted for 73.9% of all vacant land parcels.

For residential improved properties, single family properties accounted for 89.6% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 5.5% of all such properties in this county.

II. DATA FILES

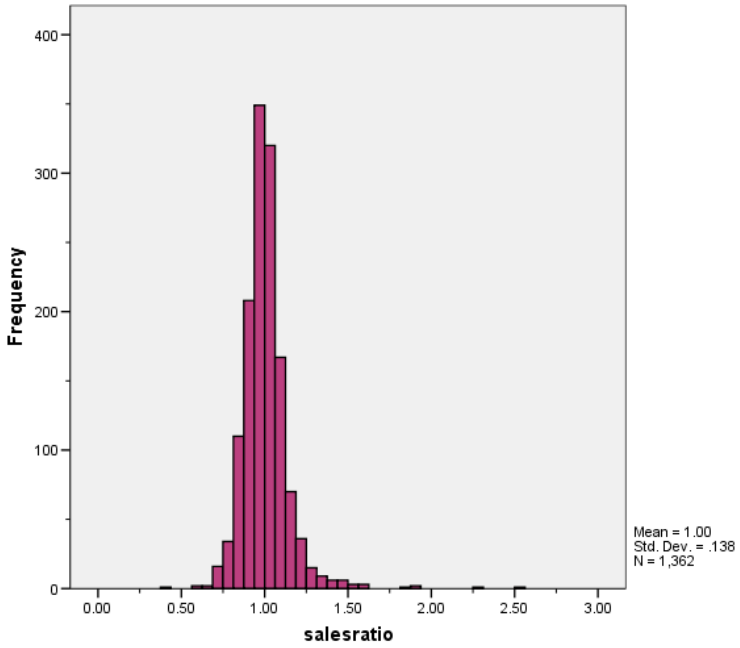
The following sales analyses were based on the requirements of the 2017 Colorado Property Assessment Study. Information was provided by the Chaffee Assessor's Office in May 2017. The data included all 5 property record files as specified by the Auditor.

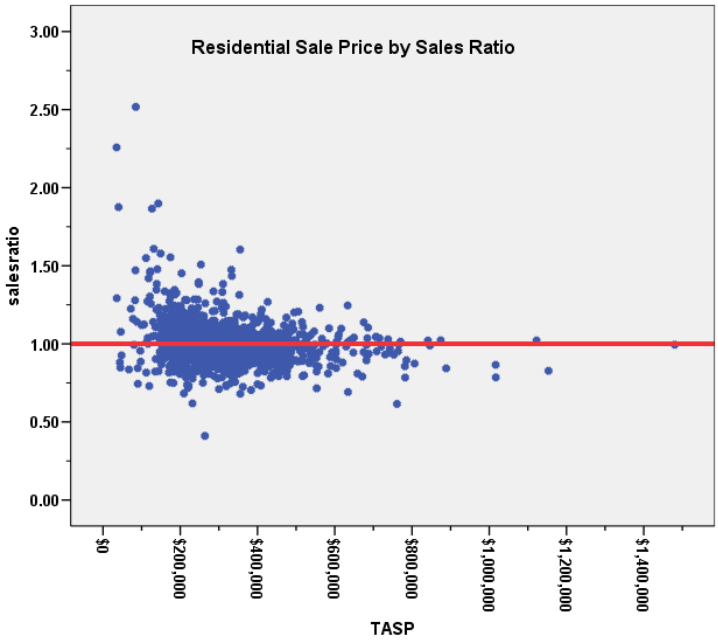
III. RESIDENTIAL SALES RESULTS

After excluding one sale with an extreme sales ratio, there were 1,362 qualified residential sales in the 48-month period ending June 30, 2016. The sales ratio analysis was analyzed as follows:

Median	**0.995**
Price Related Differential	**1.014**
Coefficient of Dispersion	**9.0**

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. No sales were trimmed.

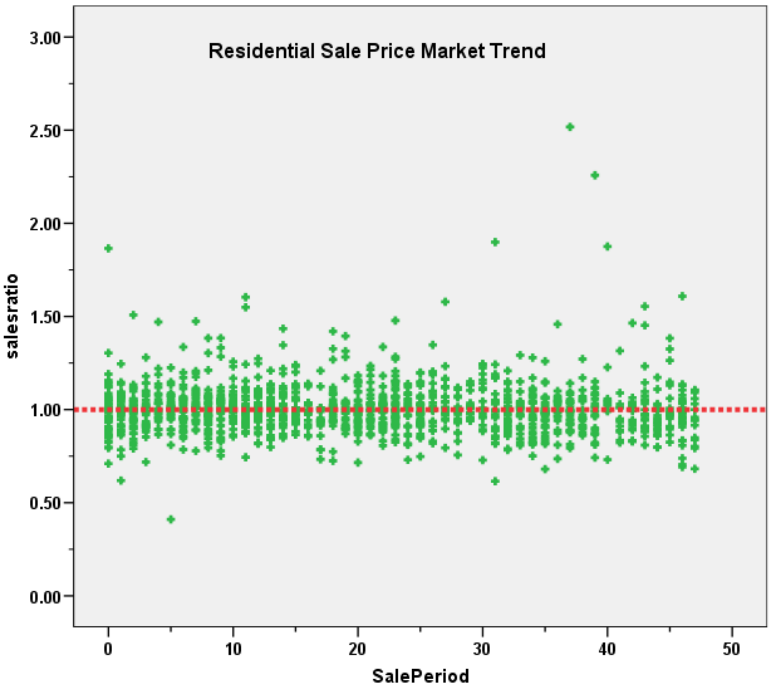
Residential Market Trend Analysis

We next analyzed the residential dataset using the 48-month sale period for any residual market trending, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.008	.007		148.127	.000
	SalePeriod	.000	.000	-.025	-.919	.359

a. Dependent Variable: salesratio



Based on the above analysis, we concluded that the assessor has adequately addressed market trending for residential sold 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 2017 between each group, as follows:

Report

VALSF

sold	N	Median	Mean
UNSOLD	7,099	$154	$184
SOLD	1,361	$157	$164

Report

VALSF

ECONAREA	sold	N	Median	Mean
2.00	UNSOLD	3,600	$158	$190
	SOLD	645	$157	$163
3.00	UNSOLD	3,273	$149	$168
	SOLD	617	$149	$153

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	.856	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

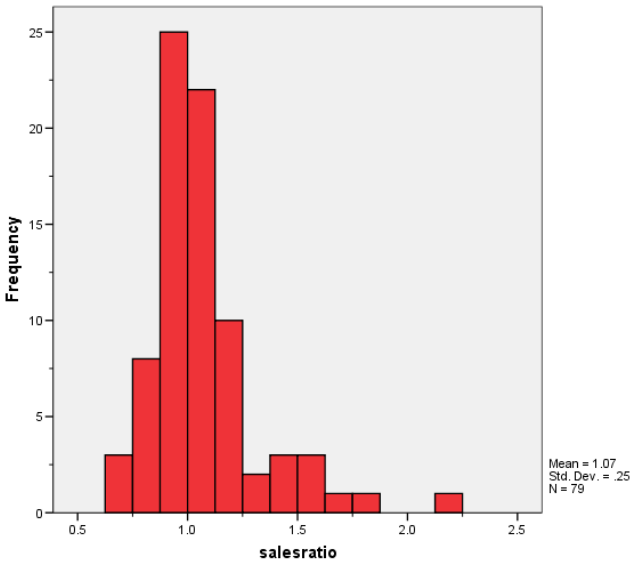
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

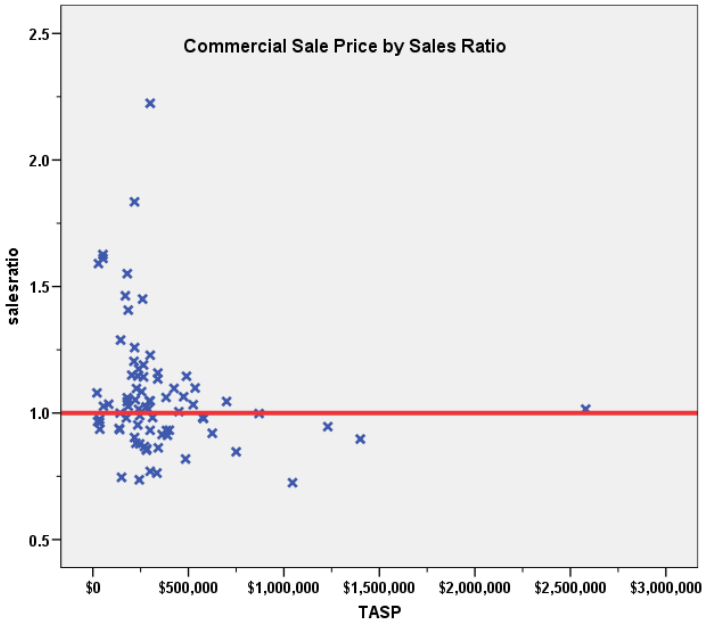
IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 79 qualified commercial sales in the 60 month period ending June 30, 2016. The sales ratio analysis was analyzed as follows:

Median	**1.015**
Price Related Differential	**1.051**
Coefficient of Dispersion	**15.6**

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





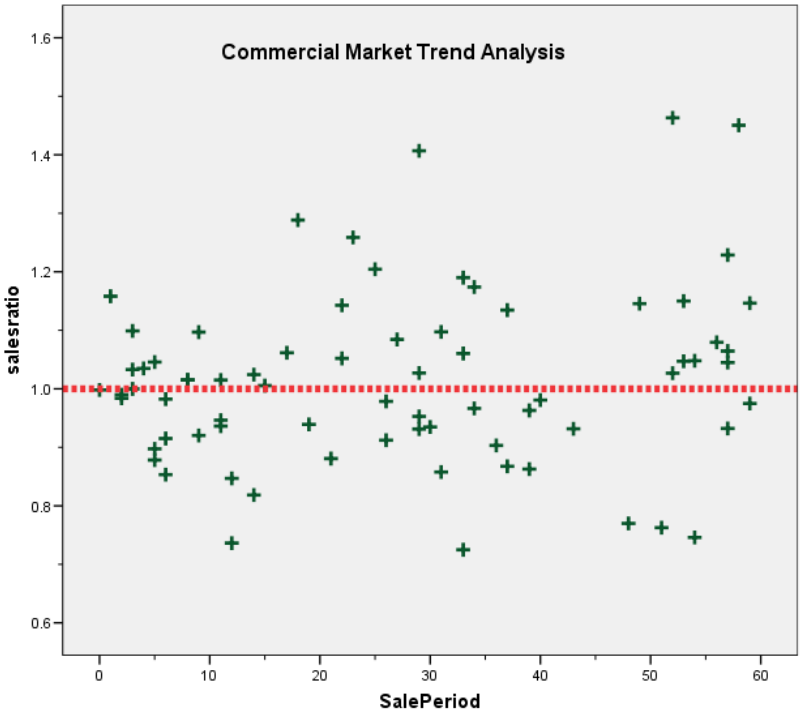
Commercial Market Trend Analysis

The 79 commercial/industrial sales were next analyzed, examining the sales ratios across the 60-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.977	.031		31.377	.000
	SalePeriod	.001	.001	.174	1.493	.140

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend, indicating that the assessor has adequately addressed the issue of market trending for commercial/industrial properties in Chaffee County.

Sold/Unsold Analysis

We compared the median actual value per square foot for sold and unsold commercial properties to determine if the assessor was valuing each group consistently, as follows:

Report
VALSF

sold	N	Median	Mean
UNSOLD	693	$91	$102
SOLD	79	$112	$124

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	.005	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Given there was a significant difference between sold and unsold commercial properties using this metric, we next compared the change in actual value for sold and unsold commercial properties between taxable years 2016 and 2017, as follows:

Report

DIFF

sold	N	Median	Mean
UNSOLD	685	1.07	1.14
SOLD	79	1.11	1.13

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	.356	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

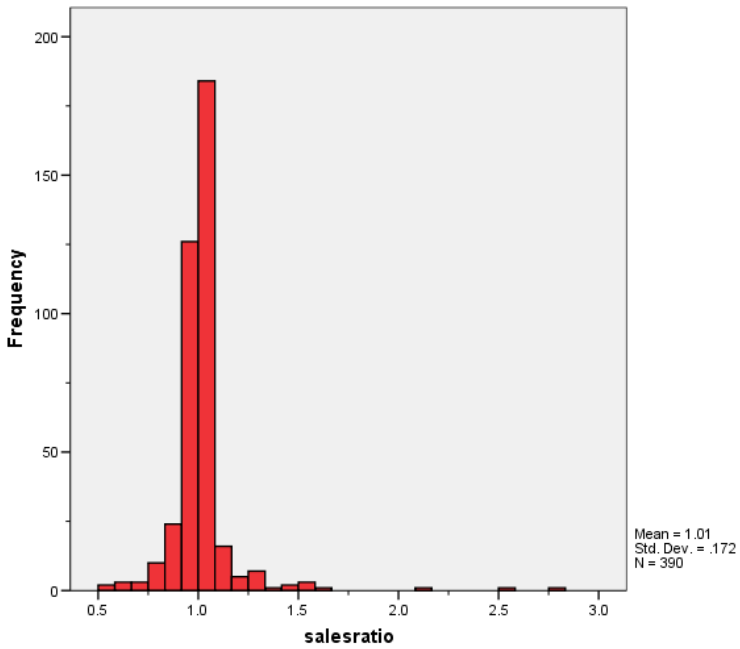
Based on these results, we concluded that the assessor was valuing sold and unsold commercial properties consistently in Chaffee County.

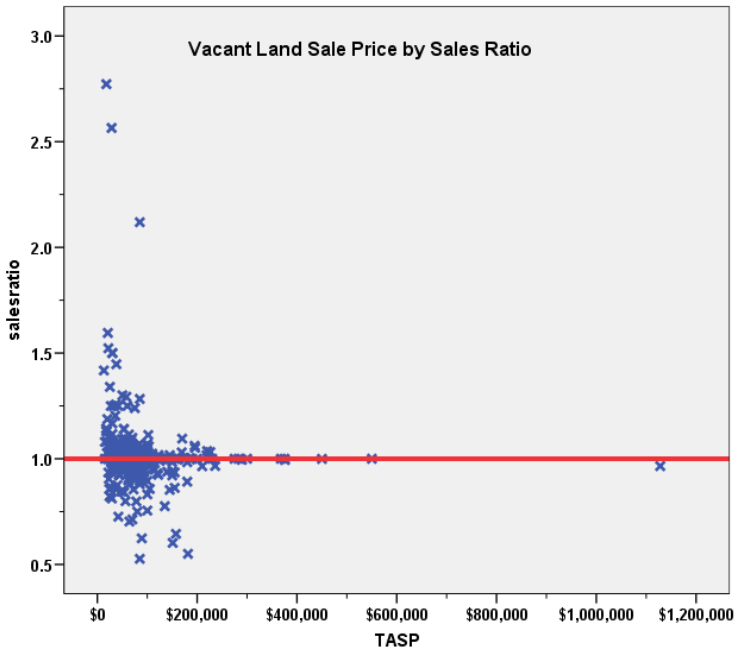
V. VACANT LAND SALE RESULTS

There were 390 qualified vacant land sales in the 24-month period ending June 30, 2016. The sales ratio analysis was analyzed as follows:

Median	**1.000**
Price Related Differential	**1.020**
Coefficient of Dispersion	**6.9**

The above tables indicate that the Chaffee County vacant land sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:





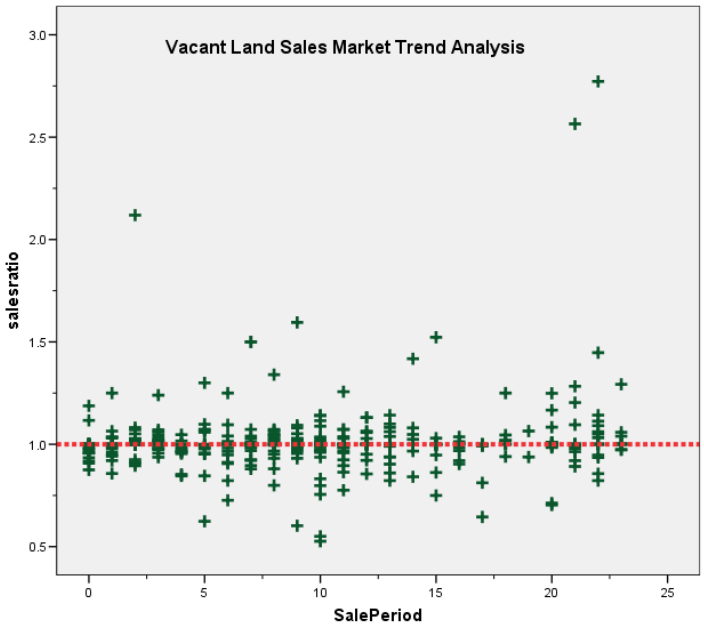
Vacant Land Market Trend Analysis

The 390 vacant land sales were next analyzed, examining the sales 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)	.987	.015		64.734	.000
	SalePeriod	.003	.001	.103	2.040	.042

a. Dependent Variable: salesratio



Based on the above results, we concluded that the assessor has adequately addressed market trending in the vacant land valuation.

Sold/Unsold Analysis

We compared the median change in actual value between taxable years 2016 and 2017 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Report

DIFF

sold	N	Median	Mean
UNSOLD	2354	1.02	1.09
SOLD	363	1.06	1.13

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	.002	Reject the null hypothesis.

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

Given the statistical significance of the above comparison analysis, we next compared the change in value for subdivisions with at least 10 sales:

Report

DIFF

SUBDIVNO	sold	N	Median	Mean
100	UNSOLD	178	1.20	1.20
	SOLD	13	1.20	1.20
215	UNSOLD	174	.93	1.01
	SOLD	12	1.09	1.10
PS 704	UNSOLD	81	1.00	.99
	SOLD	22	1.00	1.01
SA132	UNSOLD	13	1.07	1.23
	SOLD	10	1.07	1.14
SAL409	UNSOLD	12	1.04	1.03
	SOLD	32	1.02	1.02

The above results indicated that sold and unsold vacant land properties were valued consistently at the subdivision level.

VI. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the actual value per square foot rate for this group and compared it to rates assigned to residential single family improvements in Chaffee County.

The following indicates that agricultural residential improvements were valued in a manner similar to the single family residential improvements in this county:

Report

IMPVALSF

ABSTRIMP	N	Median	Mean
1212.00	7730	$107.37	$113.70
4277.00	44	$109.18	$109.13

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of IMPVALSF is the same across categories of ABSTRIMP.	Independent-Samples Mann-Whitney U Test	.691	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

VII. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Chaffee County as of the date of this report.

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.003	.996	1.010	.995	.990	1.000	95.2%	.989	.983	.995	1.014	.090	13.8%

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/Industrial

Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.015	.980	1.050	1.005	.967	1.045	96.6%	.991	.956	1.027	1.024	.111	14.8%

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

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.012	.995	1.029	1.000	1.000	1.000	95.2%	.993	.981	1.004	1.020	.069	17.0%

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.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	7	0.5%
	$50K to $100K	13	1.0%
	$100K to $150K	40	2.9%
	$150K to $200K	163	12.0%
	$200K to $300K	507	37.2%
	$300K to $500K	527	38.7%
	$500K to $750K	87	6.4%
	$750K to $1,000K	13	1.0%
	Over $1,000K	5	0.4%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$25K to $50K	1.077	1.035	.367	56.1%
$50K to $100K	1.120	1.004	.243	40.8%
$100K to $150K	1.120	1.001	.189	25.3%
$150K to $200K	1.021	1.000	.093	12.3%
$200K to $300K	1.001	1.001	.081	11.1%
$300K to $500K	.980	1.001	.078	10.7%
$500K to $750K	.982	1.000	.077	10.3%
$750K to $1,000K	.931	.998	.093	12.8%
Over $1,000K	.866	.991	.093	12.8%
Overall	.995	1.014	.090	13.9%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1135.00	1	0.1%
	1173.50	2	0.1%
	1185.00	1	0.1%
	1212.00	1244	91.3%
	1213.50	3	0.2%
	1215.00	12	0.9%
	1220.00	1	0.1%
	1230.00	98	7.2%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1135.00	.836	1.000	.000	.
1173.50	1.638	1.405	.379	53.5%
1185.00	1.876	1.000	.000	.
1212.00	.996	1.014	.092	13.6%
1213.50	1.010	1.001	.015	2.3%
1215.00	.990	1.001	.055	7.2%
1220.00	.900	1.000	.000	.
1230.00	.989	1.000	.056	8.1%
Overall	.995	1.014	.090	13.9%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	69	5.1%
	75 to 100	63	4.6%
	50 to 75	158	11.6%
	25 to 50	329	24.2%
	5 to 25	624	45.8%
	5 or Newer	119	8.7%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.955	1.018	.130	16.6%
75 to 100	1.011	1.024	.132	17.7%
50 to 75	1.001	1.027	.110	15.0%
25 to 50	.991	1.016	.098	14.6%
5 to 25	.996	1.012	.081	13.6%
5 or Newer	.997	1.004	.046	6.8%
Overall	.995	1.014	.090	13.9%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	10	0.7%
	500 to 1,000 sf	114	8.4%
	1,000 to 1,500 sf	307	22.5%
	1,500 to 2,000 sf	349	25.6%
	2,000 to 3,000 sf	325	23.9%
	3,000 sf or Higher	257	18.9%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.955	1.002	.148	19.9%
500 to 1,000 sf	.995	1.029	.123	21.7%
1,000 to 1,500 sf	.988	1.017	.097	15.9%
1,500 to 2,000 sf	.997	1.011	.090	12.5%
2,000 to 3,000 sf	.991	1.015	.088	12.6%
3,000 sf or Higher	1.003	1.010	.069	9.8%
Overall	.995	1.014	.090	13.9%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	427	31.4%
	Average Plus	181	13.3%
	Excellent	2	0.1%
	Fair	305	22.4%
	Fair Plus	319	23.4%
	Good	51	3.7%
	Good Plus	7	0.5%
	Low	6	0.4%
	Low Plus	63	4.6%
	Very Good	1	0.1%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.996	1.007	.067	9.5%
Average Plus	.995	1.014	.089	13.4%
Excellent	1.008	1.002	.014	1.9%
Fair	.989	1.018	.105	16.2%
Fair Plus	.997	1.013	.090	12.6%
Good	.989	1.016	.074	12.4%
Good Plus	1.023	1.007	.072	10.2%
Low	.898	1.014	.154	22.8%
Low Plus	1.017	1.048	.186	28.2%
Very Good	1.045	1.000	.000	.
Overall	.995	1.014	.090	13.9%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	595	43.7%
	Badly Worn	13	1.0%
	Good	753	55.3%
	Worn Out	1	0.1%
Overall		1362	100.0%
Excluded		0	
Total		1362	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.994	1.020	.110	16.6%
Badly Worn	1.068	1.172	.236	34.2%
Good	.995	1.008	.071	10.4%
Worn Out	1.549	1.000	.000	.
Overall	.995	1.014	.090	13.9%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	2	2.7%
	$25K to $50K	3	4.1%
	$50K to $100K	2	2.7%
	$100K to $150K	5	6.8%
	$150K to $200K	6	8.2%
	$200K to $300K	28	38.4%
	$300K to $500K	15	20.5%
	$500K to $750K	7	9.6%
	$750K to $1,000K	1	1.4%
	Over $1,000K	4	5.5%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.023	1.004	.055	7.8%
$25K to $50K	.963	1.000	.013	2.1%
$50K to $100K	1.031	.999	.004	0.6%
$100K to $150K	.939	1.001	.129	21.5%
$150K to $200K	1.053	1.001	.139	23.3%
$200K to $300K	1.036	1.003	.124	15.7%
$300K to $500K	.982	.997	.104	12.5%
$500K to $750K	.984	1.006	.063	8.5%
$750K to $1,000K	.998	1.000	.000	.
Over $1,000K	.922	.967	.092	13.8%
Overall	1.005	1.024	.111	15.0%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1712.00	1	1.4%
	2212.00	21	28.8%
	2215.00	1	1.4%
	2216.00	3	4.1%
	2220.00	3	4.1%
	2221.00	1	1.4%
	2223.50	1	1.4%
	2225.00	2	2.7%
	2227.50	1	1.4%
	2230.00	13	17.8%
	2235.00	5	6.8%
	2245.00	14	19.2%
	2716.00	1	1.4%
	2717.50	1	1.4%
	3212.00	2	2.7%
	3215.00	2	2.7%
	6939.33	1	1.4%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1712.00	.912	1.000	.000	.
2212.00	.953	1.023	.136	18.0%
2215.00	1.015	1.000	.000	.
2216.00	.984	1.005	.012	2.3%
2220.00	1.158	1.047	.137	20.6%
2221.00	1.099	1.000	.000	.
2223.50	.736	1.000	.000	.
2225.00	1.174	1.011	.097	13.7%
2227.50	1.084	1.000	.000	.
2230.00	.982	1.028	.083	11.4%
2235.00	.963	.991	.018	2.5%
2245.00	1.025	1.003	.082	10.9%
2716.00	1.174	1.000	.000	.
2717.50	.853	1.000	.000	.
3212.00	1.280	1.021	.143	20.2%
3215.00	1.177	.999	.023	3.3%
6939.33	1.033	1.000	.000	.
Overall	1.005	1.024	.111	15.0%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	7	9.6%
	75 to 100	2	2.7%
	50 to 75	20	27.4%
	25 to 50	23	31.5%
	5 to 25	21	28.8%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	1.000	1.026	.102	14.1%
75 to 100	.988	.992	.077	10.9%
50 to 75	1.027	1.003	.110	15.8%
25 to 50	.979	1.002	.094	11.9%
5 to 25	1.015	1.056	.125	17.8%
Overall	1.005	1.024	.111	15.0%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	2	2.7%
	500 to 1,000 sf	8	11.0%
	1,000 to 1,500 sf	9	12.3%
	1,500 to 2,000 sf	11	15.1%
	2,000 to 3,000 sf	15	20.5%
	3,000 sf or Higher	28	38.4%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.895	.985	.167	23.6%
500 to 1,000 sf	.974	1.001	.029	3.7%
1,000 to 1,500 sf	.939	1.016	.073	8.7%
1,500 to 2,000 sf	1.048	1.011	.090	12.1%
2,000 to 3,000 sf	1.062	1.033	.121	16.0%
3,000 sf or Higher	.994	1.037	.133	18.3%
Overall	1.005	1.024	.111	15.0%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	46	63.0%
	Fair	11	15.1%
	Fair Plus	3	4.1%
	Good	7	9.6%
	Low	5	6.8%
	Low Plus	1	1.4%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	1.003	1.033	.112	15.3%
Fair	.975	1.031	.116	18.2%
Fair Plus	1.047	1.010	.148	22.8%
Good	.998	.981	.088	11.2%
Low	1.015	1.006	.085	14.5%
Low Plus	1.145	1.000	.000	.
Overall	1.005	1.024	.111	15.0%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	40	54.8%
	Badly Worn	4	5.5%
	Comm Fair	3	4.1%
	Good	26	35.6%
Overall		73	100.0%
Excluded		0	
Total		73	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.992	1.019	.094	12.5%
Badly Worn	1.105	.974	.087	11.5%
Comm Fair	.920	1.067	.195	40.7%
Good	1.010	1.029	.124	17.1%
Overall	1.005	1.024	.111	15.0%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	33	8.5%
	$25K to $50K	75	19.2%
	$50K to $100K	199	51.0%
	$100K to $150K	42	10.8%
	$150K to $200K	24	6.2%
	$200K to $300K	11	2.8%
	$300K to $500K	4	1.0%
	$500K to $750K	1	0.3%
	Over $1,000K	1	0.3%
Overall		390	100.0%
Excluded		0	
Total		390	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.050	1.015	.161	33.7%
$25K to $50K	1.000	1.009	.100	22.9%
$50K to $100K	1.000	1.002	.053	11.7%
$100K to $150K	1.000	1.002	.030	5.8%
$150K to $200K	1.000	.996	.074	15.3%
$200K to $300K	1.000	1.000	.015	2.2%
$300K to $500K	1.000	1.000	.002	0.3%
$500K to $750K	1.000	1.000	.000	.
Over $1,000K	.966	1.000	.000	.
Overall	1.000	1.020	.069	17.3%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	205	52.6%
	200.00	7	1.8%
	300.00	5	1.3%
	400.00	5	1.3%
	510.00	6	1.5%
	520.00	6	1.5%
	530.00	5	1.3%
	540.00	4	1.0%
	550.00	7	1.8%
	1112.00	123	31.5%
	1135.00	8	2.1%
	2112.00	1	0.3%
	2125.00	1	0.3%
	2130.00	1	0.3%
	2135.00	1	0.3%
	3112.00	1	0.3%
	3120.00	2	0.5%
	9159.00	1	0.3%
	9179.00	1	0.3%
Overall		390	100.0%
Excluded		0	
Total		390	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	1.000	1.020	.070	16.7%
200.00	1.000	1.021	.045	10.3%
300.00	1.000	.975	.224	56.0%
400.00	1.000	1.030	.096	22.4%
510.00	1.059	1.093	.111	18.1%
520.00	.988	1.004	.050	6.5%
530.00	1.000	1.000	.012	2.6%
540.00	.997	1.025	.028	4.6%
550.00	.980	.988	.046	8.0%
1112.00	1.000	1.019	.064	17.4%
1135.00	.992	1.173	.148	24.0%
2112.00	1.000	1.000	.000	.
2125.00	1.000	1.000	.000	.
2130.00	1.000	1.000	.000	.
2135.00	.999	1.000	.000	.
3112.00	1.000	1.000	.000	.
3120.00	1.000	1.000	.000	0.0%
9159.00	1.000	1.000	.000	.
9179.00	1.095	1.000	.000	.
Overall	1.000	1.020	.069	17.3%