



2017

EAGLE COUNTY PROPERTY ASSESSMENT STUDY



WILDROSE
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.

A handwritten signature in black ink that reads "Harry J. Fuller". The signature is written in a cursive style.

Harry J. Fuller
Project Manager
Wildrose Appraisal Inc. – Audit Division

TABLE OF CONTENTS

INSERT TABLE OF CONTENTS

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.

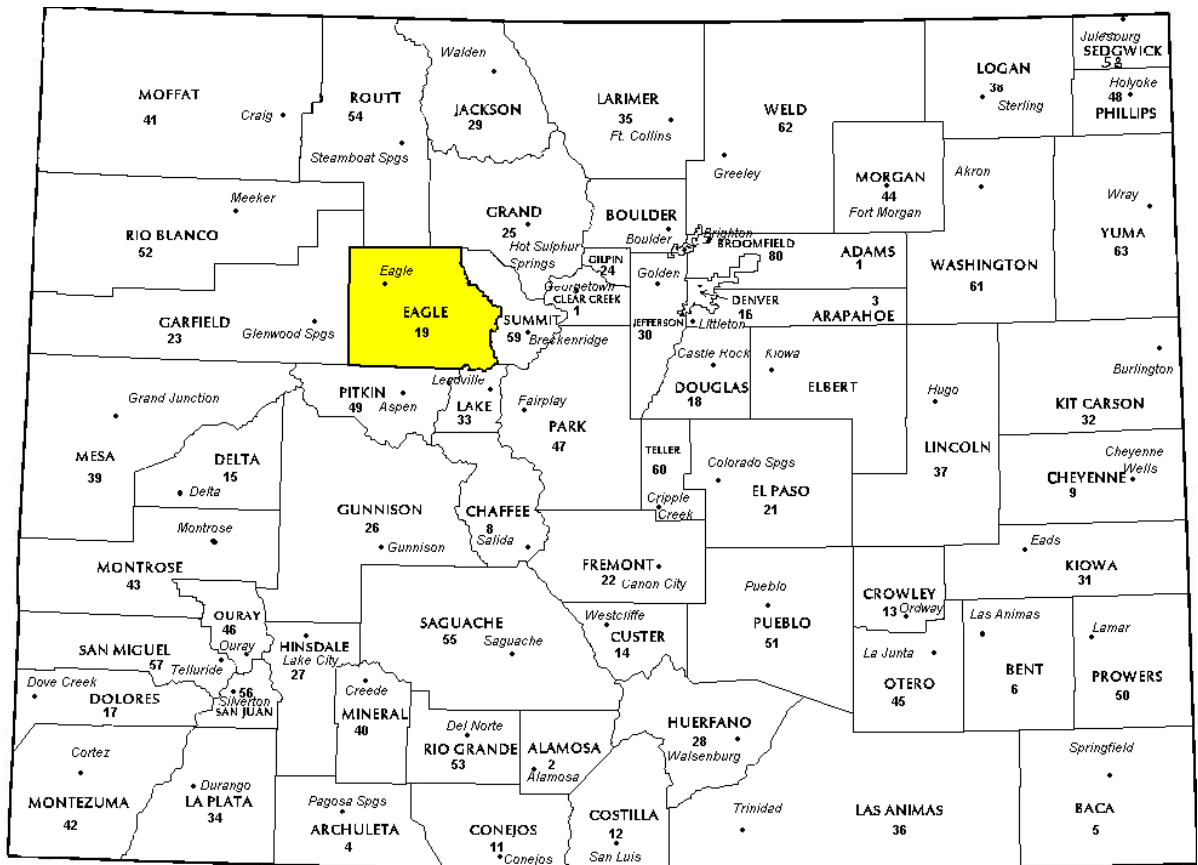
Wildrose Audit has completed the Property Assessment Study for 2017 and is pleased to report its findings for Eagle County in the following report.

REGIONAL/HISTORICAL SKETCH OF EAGLE COUNTY

Regional Information

Eagle County is located in the Western Slope region of Colorado. The Western Slope of Colorado refers to the region west of the Rocky Mountains. It includes Archuleta, Delta, Dolores, Eagle, Garfield, Grand,

Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit counties.



Historical Information

Eagle County had an estimated population of approximately 53,989 people with 32.0 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 3.4 percent change from April 1, 2010 to July 1, 2016.

Eagle County was created by the Colorado legislature on February 11, 1883, from portions of Summit County. It was named after the Eagle River, which runs through the county. The county seat was originally set in Red Cliff, Colorado, but was moved to the town of Eagle in 1921. The Vail and Beaver Creek ski areas are located in Eagle County.

Much of the county is taken up by White River National Forest, and much of the rest is managed by the Bureau of Land Management. Interstate 70 crosses the county from east to west. The Eagle River rises in the southeastern part of the county. It receives Gore Creek at Dowds Junction, and joins the Colorado River in the west. Fryingpan River and the Roaring

Fork River intersect the southwest corner of the county.

The town of Vail was established in 1966 at the base of Vail Ski Resort, which opened in December 1962. The town is famous for having the second largest single ski mountain in North America and other winter sports in addition to being a year round destination for outdoor activities.

The ski area was founded by Pete Seibert and the local rancher Earl Eaton in 1962, between the town of Eagle and Vail Pass. The pass was named after Charles Vail, the highway engineer that routed U.S. Highway 6 through the valley in 1940. Seibert, a New England native, served in the U.S. Army's 10th Mountain Division during World War II, which trained at Camp Hale, just southeast of Vail. He was seriously wounded in Italy and was told he should become a professional skier when he recovered. He was recognized as the best skier in the world for a short time.

(www.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, 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 Eagle County are:

Eagle County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	179	0.993	1.002	8.4	Compliant
Condominium	1,231	0.981	1.011	4.7	Compliant
Single Family	1,713	0.979	1.013	7.1	Compliant
Vacant Land	212	0.984	1.033	11.5	Compliant

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

Eagle 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	Compliant
Single Family	Compliant
Vacant Land	Compliant

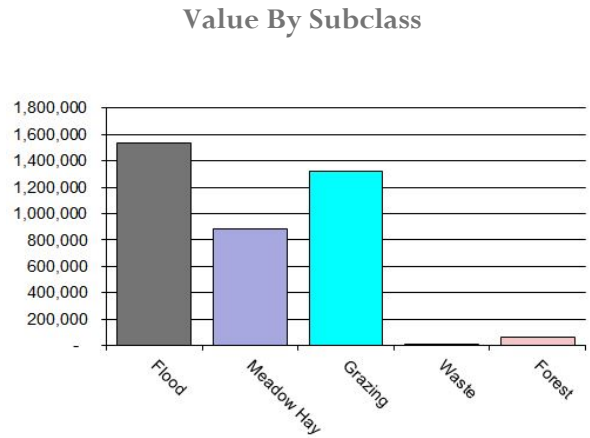
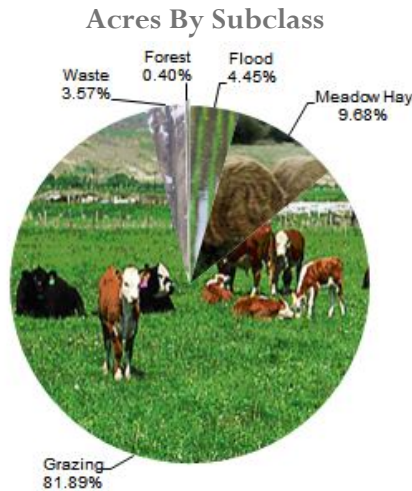
Conclusions

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

Recommendations

None

AGRICULTURAL LAND STUDY



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:

Eagle 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	6,177	247.83	1,530,682	1,527,059	1.00
4137	Meadow Hay	13,434	65.17	879,735	879,735	1.00
4147	Grazing	113,584	11.59	1,316,773	1,316,773	1.00
4177	Forest	560	119.12	66,706	66,706	1.00
4167	Waste	4,956	2.22	11,011	11,011	1.00
Total/Avg		138,711	27.43	3,805,089	3,801,285	1.00

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.

Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

Conclusions

Eagle County has substantially complied with the procedures provided by the Division of

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

Eagle 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
- Property Record Card Analysis

Eagle 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

Eagle 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 Eagle County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 31 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.

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

Conclusions

Eagle 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

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

Eagle 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.

Eagle 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

Eagle 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

Eagle 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.

Eagle 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

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.

Eagle 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
- 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 protested with substantial disagreement

Conclusions

Eagle 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*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician*

Carl W. Ross, *Agricultural / Natural Resource Analyst*

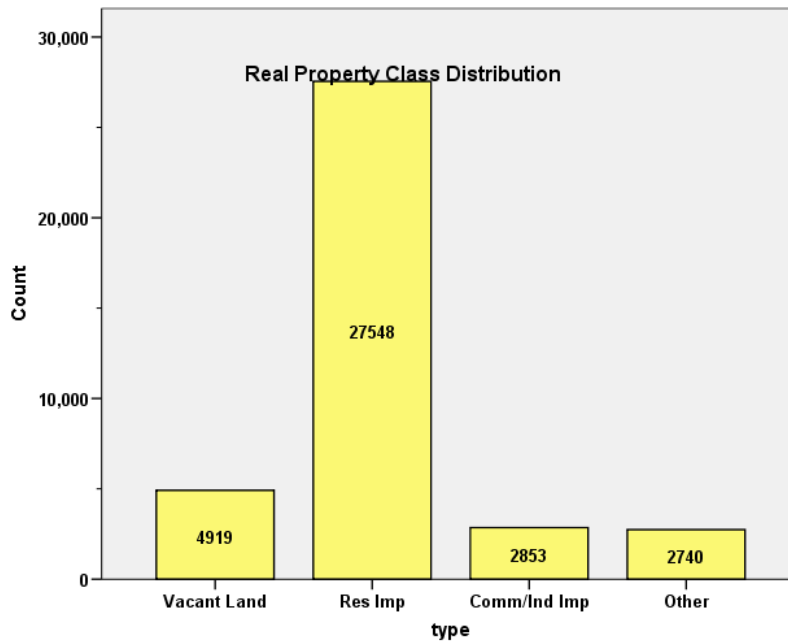
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT FOR EAGLE COUNTY 2017

I. OVERVIEW

Eagle County is a mountain resort county located in western Colorado. The county has a total of 38,060 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 land. Residential lots (coded 100 and 400) accounted for 46.2% of all vacant land parcels.

For residential improved properties, single family properties accounted for 55.5% of all residential properties. Residential condominiums accounted for 43.1% of all residential improved properties. Based on the large number of residential condominiums in this county, they will be analyzed separately from single family residences in the residential ratio analysis section.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 7.5% 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. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 2,944 qualified residential sales in Eagle County for the 24 month ending June 30, 2016. The sales ratio analysis results were as follows:

Residential Non-Condo = 1,713

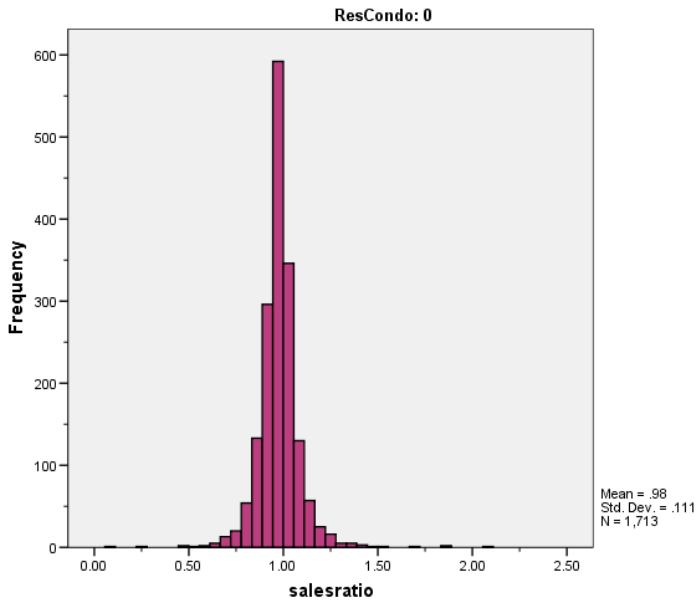
Median	0.979
Price Related Differential	1.013
Coefficient of Dispersion	7.1

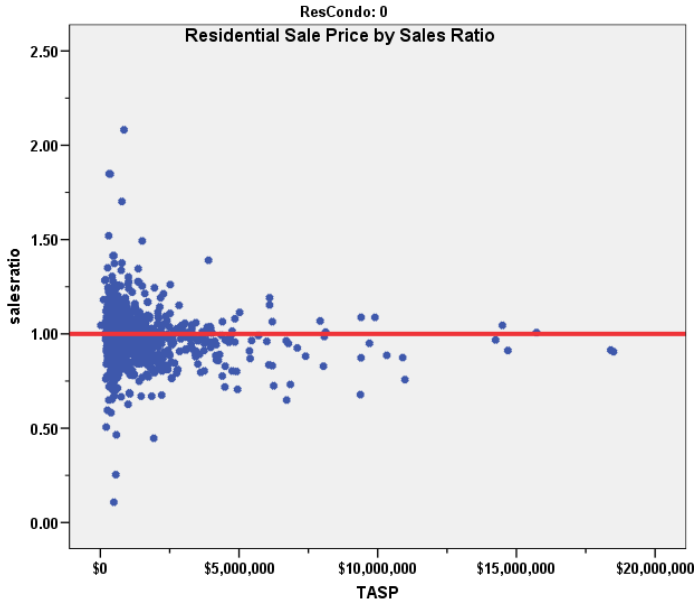
Residential Condo = 1,231

Median	0.981
Price Related Differential	1.011
Coefficient of Dispersion	4.7

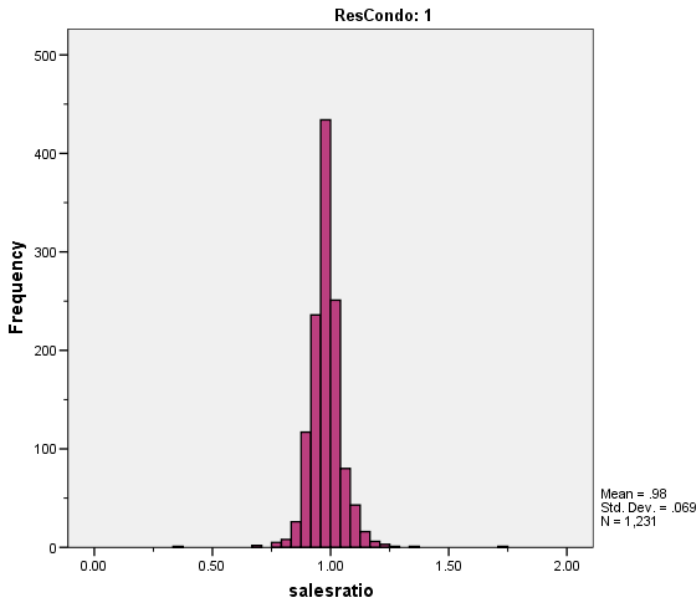
The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The following graphs describe further the sales ratio distribution for these properties:

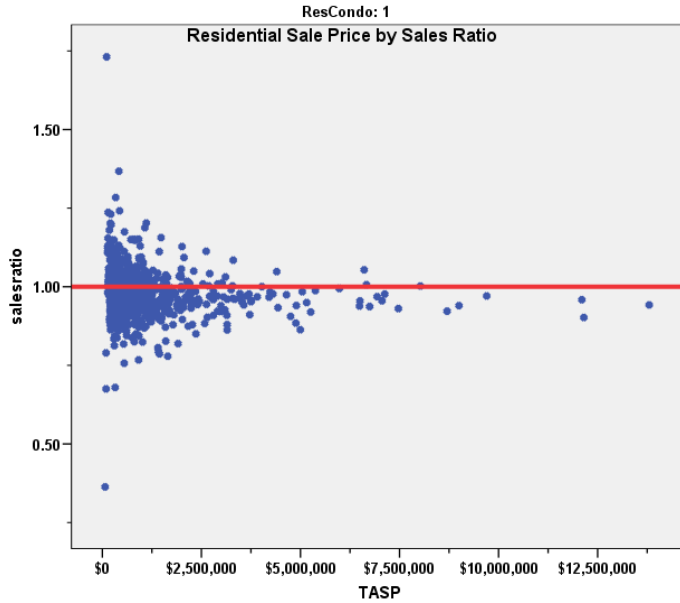
RES NON-CONDO





RES CONDO





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 24-month sale period for any residual market trending. We again stratified the analysis between residential non-condominiums and condominiums, with the following results:

Coefficients^a

ResCondo	Model		Unstandardized Coefficients B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
0	1	(Constant)	.983	.005		202.961	.000
		SalePeriod	.000	.000	-.031	-1.262	.207
1	1	(Constant)	.989	.004		278.988	.000
		SalePeriod	-.001	.000	-.078	-2.750	.006

a. Dependent Variable: salesratio

The residential non- condominium analysis indicated no significant market trending across the 24-month period used by the assessor. For the residential condominium market trend analysis, while there was a marginal trend statistically, the magnitude of the trend (at approximately -0.1% per month) was not significant.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the 2017 median actual value per square foot for 2017 between each group stratified by residential non-condominiums and condominiums, as follows:

Report				
VALSF				
ResCondo	sold	N	Median	Mean
NON-CONDO	UNSOLD	13,939	\$344	\$457
	SOLD	1,713	\$330	\$420
CONDO	UNSOLD	10,596	\$455	\$641
	SOLD	1,227	\$437	\$568

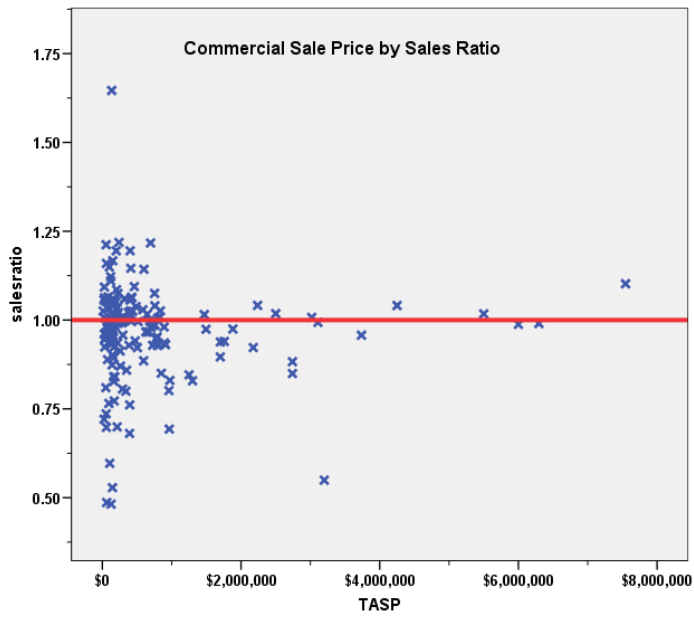
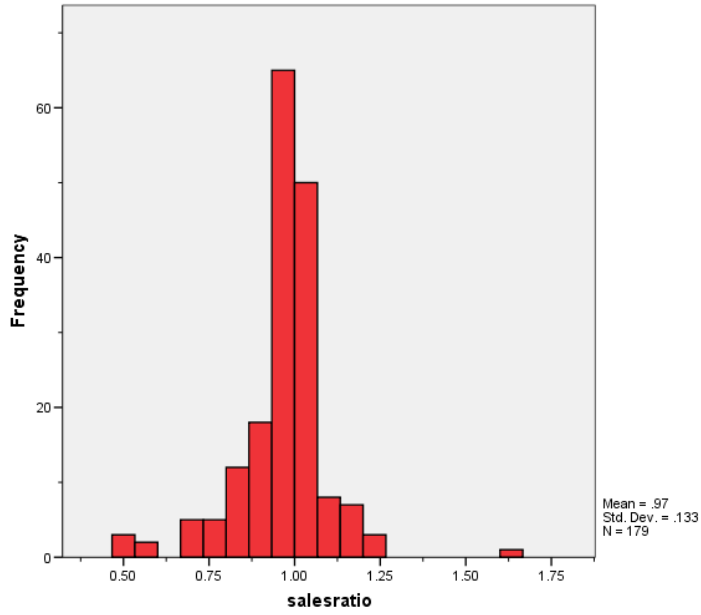
The above results indicate that sold and unsold residential properties were valued in a consistent manner. The mean and median values per square foot were actually higher for unsold residential properties as compared to sold residential properties.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 179 qualified commercial and industrial sales in Eagle County for the 24 month ending June 30, 2016. The sales ratio analysis results were as follows:

Median	0.993
Price Related Differential	1.002
Coefficient of Dispersion	8.4

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



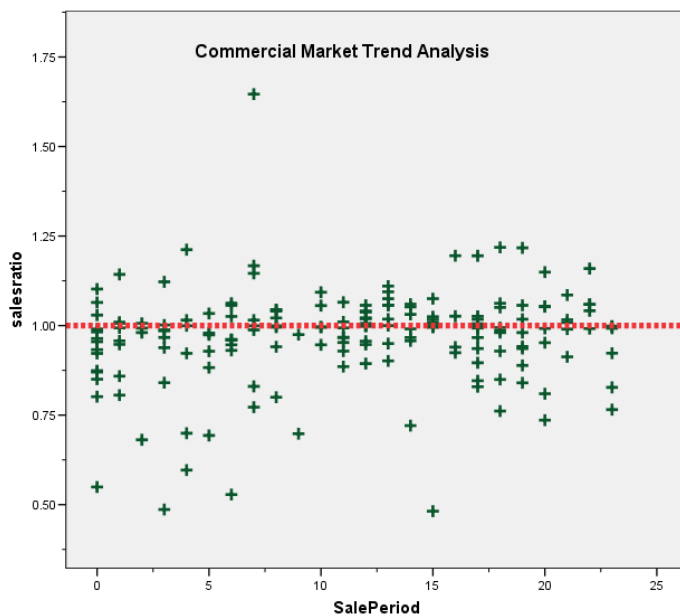
Commercial Market Trend Analysis

The 179 commercial/industrial sales were next analyzed by subclass for any residual market trending, examining the sale ratios across the 24-month sale period with the following results:

Coefficients^a

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta		
1	(Constant)	.941	.019		50.186	.000
	SalePeriod	.003	.001	.138	1.852	.066

a. Dependent Variable: salesratio



The market trend results indicated no significant market trend. We concluded that the assessor adequately considered market trending in their valuation of commercial/industrial properties.

Sold/Unsold Analysis

For the sold/unsold analysis of commercial properties, we compared the median change in actual value for taxable years 2016 and 2017 between sold and unsold commercial/industrial properties to determine if the assessor was valuing each group consistently, as follows:

Report

DIFF	N	Median	Mean
UNSOLD	2,675	1.13	1.25
SOLD	179	1.16	1.22

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	.254	Retain the null hypothesis.

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

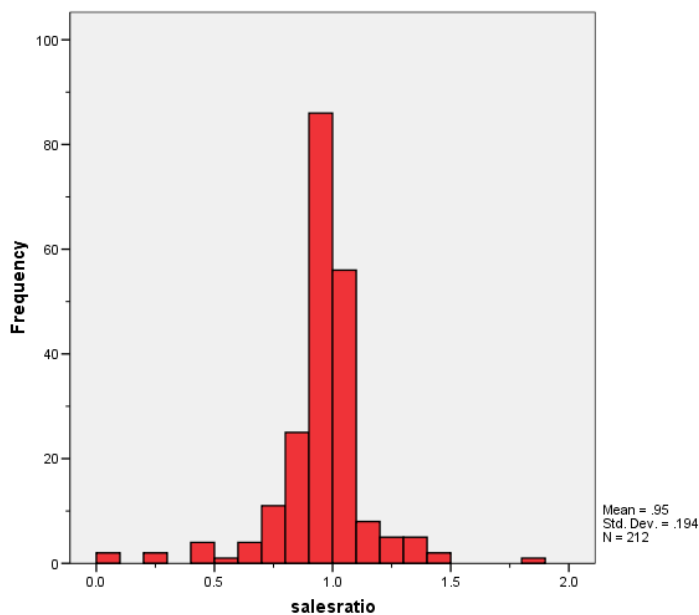
Based on the results of these comparisons, we concluded that the Eagle County assessor was valuing sold and unsold commercial properties consistently.

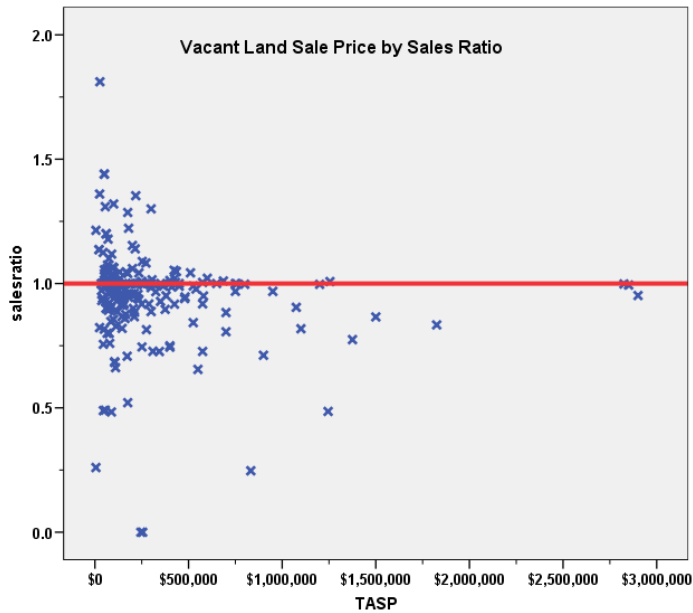
V. VACANT LAND SALE RESULTS

There were 212 qualified vacant land sales in Eagle County for the 24 month period ending June 30, 2016. The sales ratio analysis results were as follows:

Median Sales Ratio	0.984
Price Related Differential	1.033
Coefficient of Dispersion	11.5

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





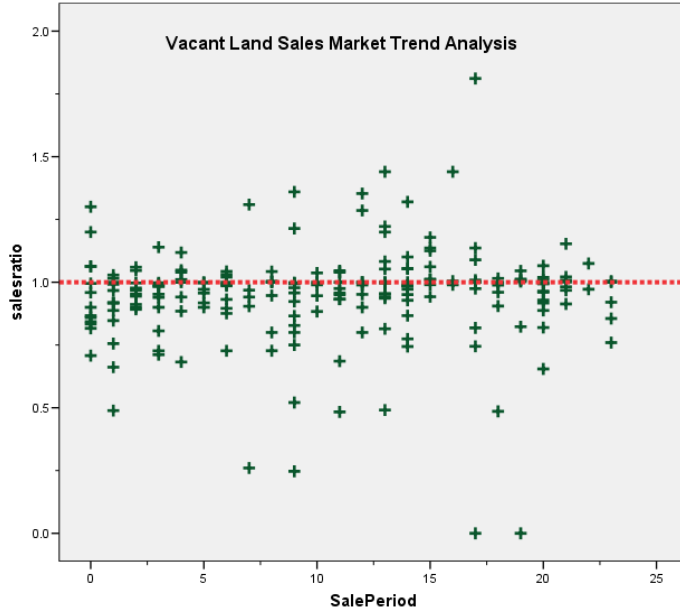
Vacant Land Market Trend Analysis

The assessor did not apply any market trend adjustments to the vacant land dataset. The 212 vacant land sales were analyzed, examining the sale ratios across the 24-month sale period with the following results:

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.932	.025		37.693	.000
	SalePeriod	.002	.002	.058	.836	.404

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concluded that the assessor has adequately considered market tending in Eagle County’s vacant land valuation for 2017.

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, both overall and by subdivision with at least 3 sales, as follows:

Report			
DIFF			
	N	Median	Mean
UNSOLD	3,456	1.10	1.30
SOLD	211	1.18	3.11

Report

DIFF

SUBDIVNO	sold	N	Median	Mean
342	UNSOLD	2	1.11	1.11
	SOLD	4	1.11	1.17
374	UNSOLD	22	1.02	1.04
	SOLD	3	1.02	1.07
414	UNSOLD	7	1.07	1.11
	SOLD	4	1.07	1.10
538	UNSOLD	15	1.37	22.14
	SOLD	6	1.51	1.46
1187	UNSOLD	22	1.02	1.07
	SOLD	5	1.02	1.09
1294	UNSOLD	16	1.50	1.47
	SOLD	4	1.50	1.50
1337	UNSOLD	5	1.25	1.59
	SOLD	3	2.94	2.40
1361	UNSOLD	28	1.50	1.50
	SOLD	3	1.50	1.50
1421	UNSOLD	16	1.61	1.55
	SOLD	3	1.61	1.41
1583	UNSOLD	41	1.18	1.42
	SOLD	4	1.10	1.19
1626	UNSOLD	53	.85	.86
	SOLD	14	.85	.85
1676	UNSOLD	18	1.25	1.26
	SOLD	5	1.48	1.50
1686	UNSOLD	24	1.59	1.44
	SOLD	9	1.66	1.61
1766	UNSOLD	29	.83	.88
	SOLD	3	.79	.81
1768	UNSOLD	20	1.25	1.19
	SOLD	4	1.25	1.25
1822	UNSOLD	5	1.42	1.45
	SOLD	3	1.42	1.46
1918	UNSOLD	18	1.00	.93
	SOLD	3	1.00	1.00
1930	UNSOLD	20	.91	1.07
	SOLD	3	1.25	1.31
1936	UNSOLD	94	1.60	1.54
	SOLD	6	1.60	1.68
1959	UNSOLD	29	1.25	1.23
	SOLD	4	1.06	1.08
1994	UNSOLD	24	1.60	1.54
	SOLD	3	1.60	1.60
2015	UNSOLD	42	1.37	1.37
	SOLD	3	1.37	1.35

The above results indicated that sold and unsold vacant land properties were valued consistently when stratified by subdivision with significant number of sales.

VI. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements; based on the parameters developed for the 2017 audit. Eagle County was exempt from this analysis.

VII. CONCLUSIONS

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

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

ResC ondo	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 Mean Centered
		Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
0	.978	.973	.983	.979	.976	.982	95.2%	.965	.956	.974	1.013	.071	11.3%
1	.981	.977	.985	.981	.978	.984	95.4%	.970	.966	.975	1.011	.047	7.0%

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.

0 = Residential Non-Condominiums, 1 = Residential Condominiums

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.970	.950	.990	.993	.980	.999	96.4%	.968	.935	1.001	1.002	.084	13.7%

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 Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.950	.923	.976	.984	.960	.990	95.4%	.919	.886	.953	1.033	.115	20.4%

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	LT \$25K	1	0.0%
	\$50K to \$100K	3	0.1%
	\$100K to \$150K	12	0.4%
	\$150K to \$200K	57	1.9%
	\$200K to \$300K	272	9.2%
	\$300K to \$500K	837	28.4%
	\$500K to \$750K	705	23.9%
	\$750K to \$1,000K	346	11.8%
	Over \$1,000K	711	24.2%
Overall		2944	100.0%
Excluded		0	
Total		2944	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.046	1.000	.000	.
\$50K to \$100K	.675	.964	.210	34.8%
\$100K to \$150K	1.120	1.010	.091	17.8%
\$150K to \$200K	1.000	1.001	.045	7.9%
\$200K to \$300K	.994	1.000	.058	9.0%
\$300K to \$500K	.981	1.000	.059	9.8%
\$500K to \$750K	.980	.999	.055	8.2%
\$750K to \$1,000K	.986	1.000	.060	10.7%
Over \$1,000K	.968	1.008	.066	9.8%
Overall	.980	1.013	.061	9.7%

Sub Class

Case Processing Summary

		Count	Percent
ABSTRIMP	.00	4	0.1%
	1212.00	1689	57.4%
	1215.00	20	0.7%
	1220.00	2	0.1%
	1225.00	1	0.0%
	1230.00	1227	41.7%
	4277.00	1	0.0%
	Overall		2944
Excluded		0	
Total		2944	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
.00	.561	1.215	.292	35.3%
1212.00	.980	1.012	.071	11.2%
1215.00	.969	1.052	.104	15.5%
1220.00	.964	1.001	.011	1.5%
1225.00	.960	1.000	.000	.
1230.00	.981	1.012	.046	6.7%
4277.00	.670	1.000	.000	.
Overall	.980	1.013	.061	9.7%

Age

Case Processing Summary

	Count	Percent
AgeRec	0	4
Over 100	15	0.5%
75 to 100	15	0.5%
50 to 75	36	1.2%
25 to 50	1123	38.1%
5 to 25	1575	53.5%
5 or Newer	176	6.0%
Overall	2944	100.0%
Excluded	0	
Total	2944	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.561	1.215	.292	35.3%
Over 100	.929	1.015	.100	14.5%
75 to 100	.961	1.012	.062	9.5%
50 to 75	.984	.989	.078	13.3%
25 to 50	.979	1.015	.056	8.5%
5 to 25	.981	1.013	.061	9.4%
5 or Newer	.978	1.013	.077	15.1%
Overall	.980	1.013	.061	9.7%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	4	0.1%
	LE 500 sf	27	0.9%
	500 to 1,000 sf	457	15.5%
	1,000 to 1,500 sf	797	27.1%
	1,500 to 2,000 sf	717	24.4%
	2,000 to 3,000 sf	620	21.1%
	3,000 sf or Higher	322	10.9%
Overall		2944	100.0%
Excluded		0	
Total		2944	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.561	1.215	.292	35.3%
LE 500 sf	.964	1.011	.066	8.5%
500 to 1,000 sf	.983	1.008	.053	8.4%
1,000 to 1,500 sf	.978	1.006	.054	8.0%
1,500 to 2,000 sf	.979	1.006	.057	9.1%
2,000 to 3,000 sf	.979	1.022	.068	11.0%
3,000 sf or Higher	.982	1.020	.081	12.7%
Overall	.980	1.013	.061	9.7%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	2	1.1%
	\$25K to \$50K	15	8.4%
	\$50K to \$100K	18	10.1%
	\$100K to \$150K	25	14.0%
	\$150K to \$200K	23	12.8%
	\$200K to \$300K	18	10.1%
	\$300K to \$500K	25	14.0%
	\$500K to \$750K	15	8.4%
	\$750K to \$1,000K	16	8.9%
Over \$1,000K	22	12.3%	
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	.873	1.062	.175	24.7%
\$25K to \$50K	1.006	1.010	.058	7.5%
\$50K to \$100K	.993	.995	.123	18.7%
\$100K to \$150K	.981	.999	.126	22.3%
\$150K to \$200K	.999	.998	.065	9.7%
\$200K to \$300K	.993	1.002	.072	11.4%
\$300K to \$500K	1.016	.998	.074	11.5%
\$500K to \$750K	.985	.999	.053	8.6%
\$750K to \$1,000K	.950	1.007	.076	10.6%
Over \$1,000K	.974	.978	.075	12.0%
Overall	.993	1.002	.084	13.6%

Sub Class

Case Processing Summary

	Count	Percent
ABSTRIMP	17	9.5%
1230.00	24	13.4%
1712.00	1	0.6%
1721.00	1	0.6%
1725.00	1	0.6%
1878.67	1	0.6%
2212.00	4	2.2%
2215.00	2	1.1%
2220.00	5	2.8%
2221.00	1	0.6%
2227.50	1	0.6%
2235.00	8	4.5%
2240.00	1	0.6%
2245.00	112	62.6%
Overall	179	100.0%
Excluded	0	
Total	179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
.00	.913	1.025	.157	20.6%
1230.00	.978	1.011	.049	6.9%
1712.00	.928	1.000	.000	.
1721.00	.549	1.000	.000	.
1725.00	1.041	1.000	.000	.
1878.67	1.016	1.000	.000	.
2212.00	1.018	.992	.032	6.9%
2215.00	1.011	.999	.015	2.1%
2220.00	.988	1.021	.082	12.8%
2221.00	1.094	1.000	.000	.
2227.50	.829	1.000	.000	.
2235.00	.993	1.008	.156	27.9%
2240.00	.967	1.000	.000	.
2245.00	.997	1.005	.075	11.9%
Overall	.993	1.002	.084	13.6%

Age

Case Processing Summary

		Count	Percent
AgeRec	0	17	9.5%
	Over 100	1	0.6%
	50 to 75	6	3.4%
	25 to 50	35	19.6%
	5 to 25	118	65.9%
	5 or Newer	2	1.1%
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.913	1.025	.157	20.6%
Over 100	.928	1.000	.000	.
50 to 75	.957	1.002	.033	4.3%
25 to 50	.985	1.025	.067	10.6%
5 to 25	.996	.991	.077	12.1%
5 or Newer	1.327	1.282	.241	34.0%
Overall	.993	1.002	.084	13.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	17	9.5%
	LE 500 sf	29	16.2%
	500 to 1,000 sf	38	21.2%
	1,000 to 1,500 sf	41	22.9%
	1,500 to 2,000 sf	20	11.2%
	2,000 to 3,000 sf	13	7.3%
	3,000 sf or Higher	21	11.7%
Overall		179	100.0%
Excluded		0	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.913	1.025	.157	20.6%
LE 500 sf	.961	1.010	.093	14.1%
500 to 1,000 sf	.999	1.014	.063	9.6%
1,000 to 1,500 sf	.988	1.023	.079	12.0%
1,500 to 2,000 sf	.999	1.026	.055	8.5%
2,000 to 3,000 sf	.997	1.020	.042	7.5%
3,000 sf or Higher	.988	1.004	.115	20.3%
Overall	.993	1.002	.084	13.6%

Economic Area

Case Processing Summary

		Count	Percent
ECONAREA	400.00	2	1.1%
	750.00	1	0.6%
	900.00	1	0.6%
	2100.00	1	0.6%
	2200.00	6	3.4%
	2300.00	3	1.7%
	2400.00	18	10.3%
	2450.00	6	3.4%
	2500.00	22	12.6%
	2800.00	64	36.6%
	2900.00	23	13.1%
	4200.00	15	8.6%
	4225.00	8	4.6%
	4470.00	2	1.1%
	6000.00	3	1.7%
	Overall		175
Excluded		4	
Total		179	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
400.00	1.011	.999	.015
750.00	.800	1.000	.000
900.00	.928	1.000	.000
2100.00	.933	1.000	.000
2200.00	1.020	.989	.051
2300.00	1.026	1.013	.040
2400.00	.992	1.014	.077
2450.00	1.001	1.013	.095
2500.00	.997	1.007	.085
2800.00	.996	1.019	.083
2900.00	.998	.954	.100
4200.00	.975	.986	.089
4225.00	.947	1.015	.036
4470.00	.681	1.008	.124
6000.00	1.000	1.000	.010
Overall	.994	1.005	.084

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	6	2.8%
	\$25K to \$50K	18	8.5%
	\$50K to \$100K	51	24.1%
	\$100K to \$150K	30	14.2%
	\$150K to \$200K	21	9.9%
	\$200K to \$300K	29	13.7%
	\$300K to \$500K	25	11.8%
	\$500K to \$750K	16	7.5%
	\$750K to \$1,000K	5	2.4%
	Over \$1,000K	11	5.2%
Overall		212	100.0%
Excluded		0	
Total		212	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.136	.918	.219	37.8%
\$25K to \$50K	1.000	1.011	.171	29.0%
\$50K to \$100K	.986	.999	.101	15.5%
\$100K to \$150K	.956	.996	.066	10.8%
\$150K to \$200K	.959	.996	.109	16.8%
\$200K to \$300K	.983	.999	.150	29.5%
\$300K to \$500K	.989	.997	.067	11.1%
\$500K to \$750K	.973	.998	.083	12.7%
\$750K to \$1,000K	.968	1.002	.214	39.6%
Over \$1,000K	.904	.973	.118	17.3%
Overall	.984	1.033	.115	20.0%

Sub Class

Case Processing Summary

	Count	Percent
ABSTRLND		
100.00	81	38.2%
200.00	5	2.4%
400.00	60	28.3%
520.00	1	0.5%
530.00	3	1.4%
540.00	6	2.8%
550.00	9	4.2%
1112.00	42	19.8%
1135.00	3	1.4%
2130.00	1	0.5%
2145.00	1	0.5%
Overall	212	100.0%
Excluded	0	
Total	212	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.964	1.046	.121	19.5%
200.00	.967	1.051	.099	16.4%
400.00	.986	1.018	.091	16.4%
520.00	1.214	1.000	.000	.
530.00	.997	.996	.019	3.7%
540.00	.973	.996	.119	19.6%
550.00	.928	1.222	.166	25.4%
1112.00	.993	.996	.084	15.1%
1135.00	.823	.923	.109	17.1%
2130.00	.000	.	.	.
2145.00	.000	.	.	.
Overall	.984	1.033	.115	20.0%