2017
OURAY COUNTY
PROPERTY ASSESSMENT STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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.

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

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.

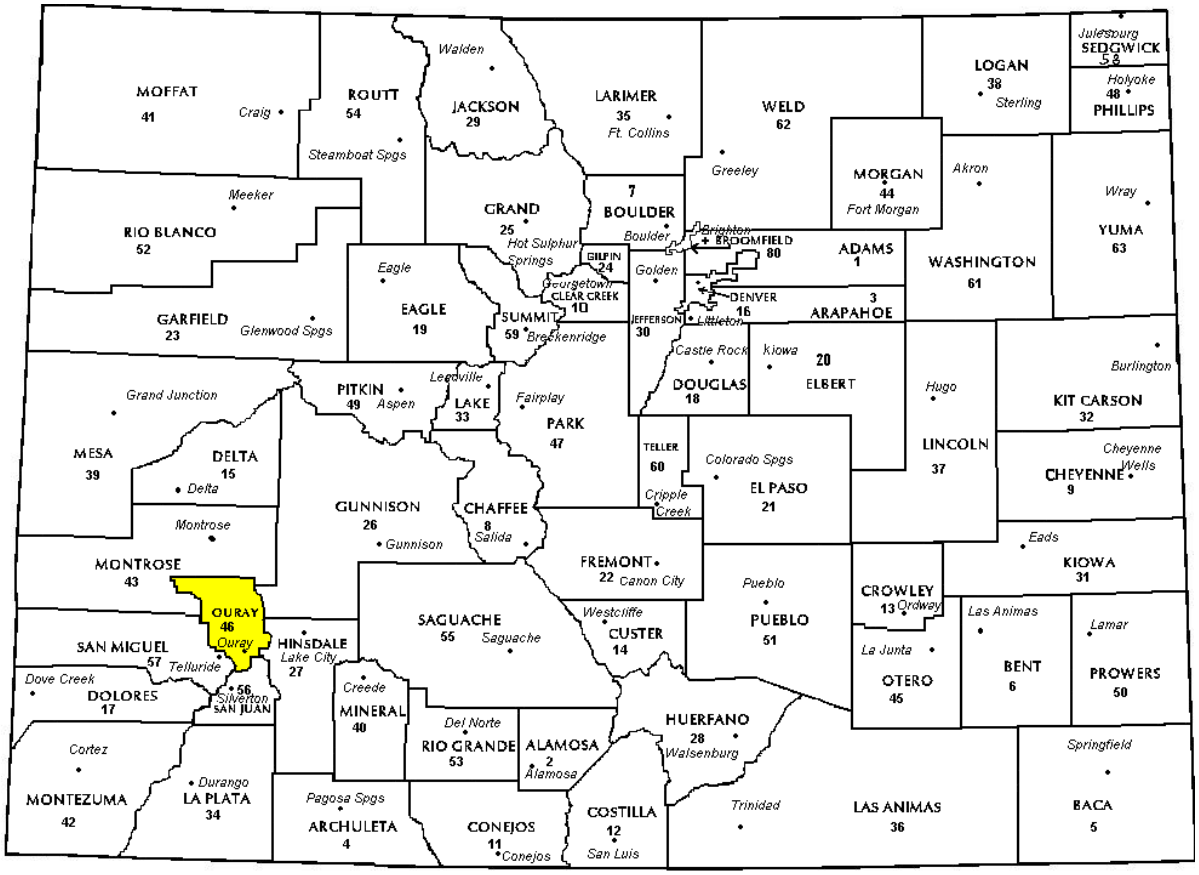
Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax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

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

REGIONAL / HISTORICAL SKETCH OF OURAY COUNTY

Regional Information

Ouray 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

Ouray County had an estimated population of approximately 4,857 people with 9.0 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 9.5 percent change from April 1, 2010 to July 1, 2016.

Ouray County lies in the southwestern corner of Colorado in the heart of the San Juan mountains. Ouray County's landscape is dominated by mountain peaks with 12 peaks 13,000 ft or higher.

Ouray County was formed out of San Juan County on 18 January 1877, the first county designated by the newly formed Colorado State Legislature. It was named for Chief Ouray, a distinguished Ute Indian chief. Ouray was designated county seat on 8 March 1877. On 19 February 1881, Dolores County was formed out of Ouray County.

On February 27, 1883, Ouray County was split into San Miguel County and what is currently Ouray County. The portion that became San Miguel County almost retained the name Ouray County when the Colorado General Assembly initially renamed Ouray County as Uncompaghre County. Four days later on March 2nd, the General Assembly changed its mind and changed the name of Uncompaghre County back to Ouray County.

The county covers 542 square miles. Two municipalities lie within the county, the city of Ouray and the town of Ridgway. During the late 19th and early 20th centuries the primary industries in the county were mining and agriculture. With the decline of the mining industry, tourism increased with many drawn to Ouray County for its natural beauty and variety of outdoor activities.

The county seat is the city of Ouray which was originally established by miners chasing silver and gold in the surrounding mountains. The town at one time boasted more horses and mules than people. Prospectors arrived in the area in 1875 searching for silver and gold. At the height of the mining, Ouray had more than 30 active mines.

Today, the entirety of Main St. is registered as a National Historic District with most of the buildings dating back to the late nineteenth century. The Beaumont Hotel and the Ouray City Hall and Walsh Library are listed on the National Register of Historic Places individually, while the Ouray County Courthouse, St. Elmo Hotel, St. Joseph's Miners' Hospital (currently housing the Ouray County Historical Society and Museum), Western Hotel, and Wright's Opera House are included in the historic district.
(www.Wikipedia.org, ouraycountyco.gov)

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 Ouray County are:

Ouray County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
*Commercial/Industrial	13	0.988	1.010	4.3	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	196	0.984	0.997	4.4	Compliant
Vacant Land	103	0.986	1.021	13.4	Compliant

**County Sales File augmented by seven supplemental appraisals*

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

Ouray 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

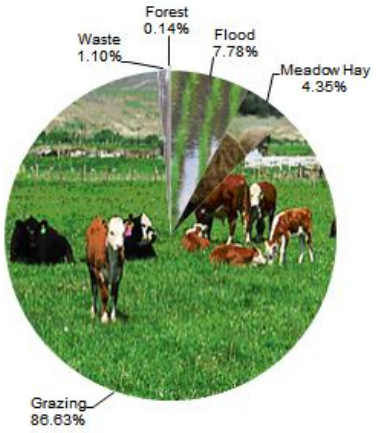
After applying the above described methodologies, it is concluded that Ouray County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

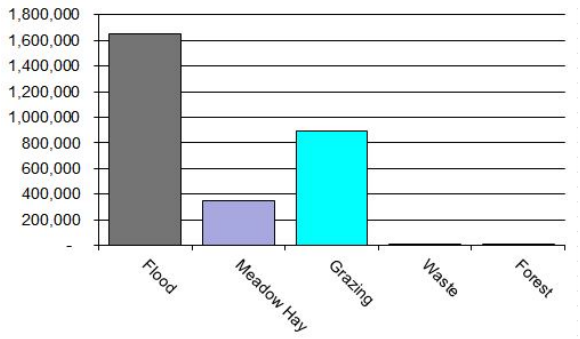
None

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:

Ouray 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	10,313	160.29	1,653,081	1,644,664	1.01
4137	Meadow Hay	5,764	60.12	346,556	346,556	1.00
4147	Grazing	114,906	7.75	889,990	889,990	1.00
4177	Forest	192	3.03	581	581	1.00
4167	Waste	1,461	2.22	3,246	3,246	1.00
Total/Avg		**132,636**	**21.82**	**2,893,454**	**2,885,037**	**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.

Conclusions

Ouray 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

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

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

Ouray 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 Ouray County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 40 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 Ouray County:

2112 Merchandising
2130 Special Purpose
3115 Manufacturing/Processing
3215 Manufacturing/Processing
3230 Industrial Condominiums

Conclusions

Ouray 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

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

Ouray 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.

Ouray County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural and commercial 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

Ouray 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

Ouray 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.

Ouray 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
- Internet
- Social Networks

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.

Ouray 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

- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts protested with substantial disagreement

Conclusions

Ouray 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*

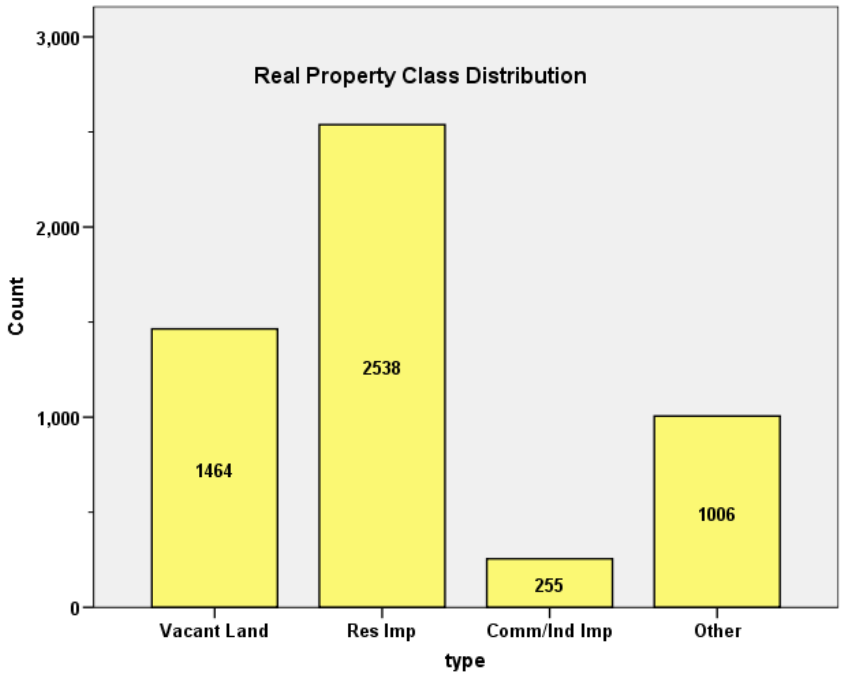
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR OURAY COUNTY
2017

I. OVERVIEW

Ouray County is located in southwestern Colorado. The county has a total of 5,263 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 1112) accounted for 59.6% of all vacant land parcels.

For residential improved properties, single family properties accounted for 88.9% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 4.85% of all such properties in this county.

II. DATA FILES

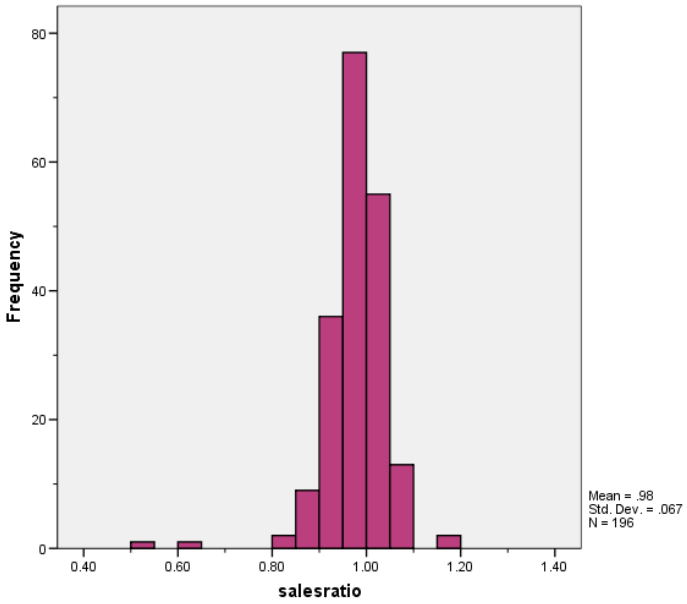
The following sales analyses were based on the requirements of the 2017 Colorado Property Assessment Study. Information was provided by the Ouray Assessor's Office in May 2017. The data included all 5 property record files as specified by the Auditor.

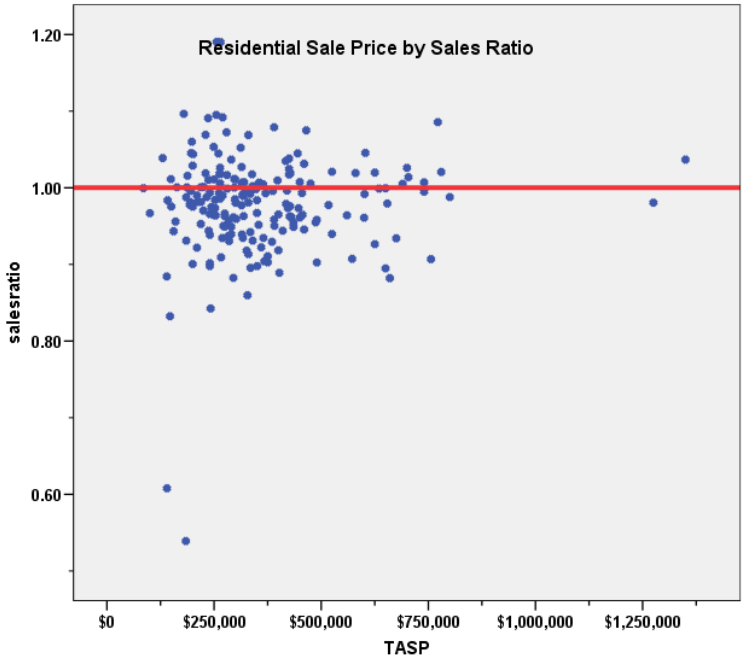
III. RESIDENTIAL SALES RESULTS

There were 196 qualified residential sales for the 24 month sale period ending June 30, 2016. The sales ratio analysis was analyzed as follows:

Median	**0.984**
Price Related Differential	**0.997**
Coefficient of Dispersion	**4.4**

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.

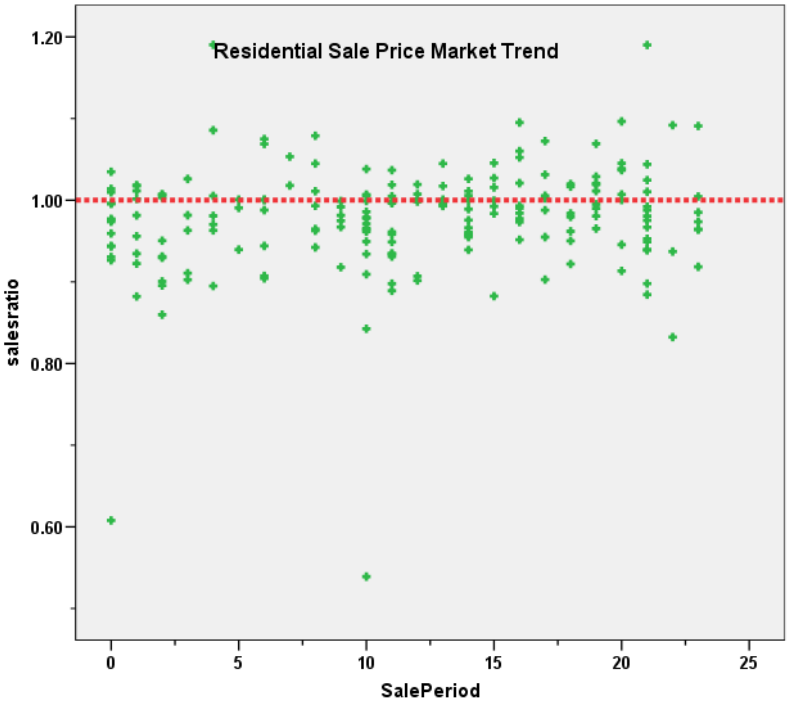
Residential Market Trend Analysis

We next analyzed the residential dataset using the 24-month sale period used by the county for any residual market trending, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.961	.009		105.050	.000
	SalePeriod	.002	.001	.160	2.255	.025

a. Dependent Variable: salesratio



The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

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

Report

VALSF

sold	N	Median	Mean
UNSOLD	2,331	$167	$172
SOLD	196	$173	$173

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	.292	Retain the null hypothesis.

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

Report

VALSF

ECONAREA	sold	N	Median	Mean
1.00	UNSOLD	621	$163	$169
	SOLD	51	$150	$159
2.00	UNSOLD	838	$173	$179
	SOLD	73	$177	$180
3.00	UNSOLD	39	$133	$143
	SOLD	1	$154	$154
4.00	UNSOLD	85	$157	$174
	SOLD	3	$177	$156
6.00	UNSOLD	473	$165	$171
	SOLD	35	$167	$166
7.00	UNSOLD	87	$159	$157
	SOLD	10	$168	$164

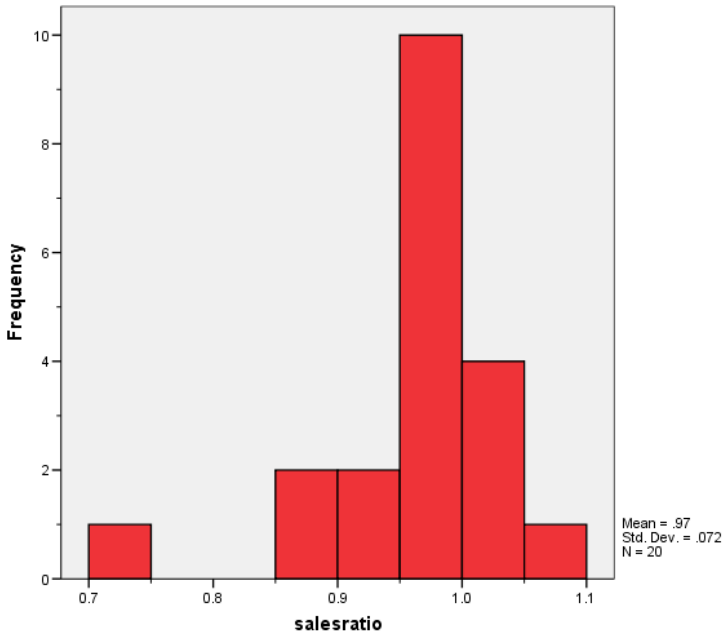
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

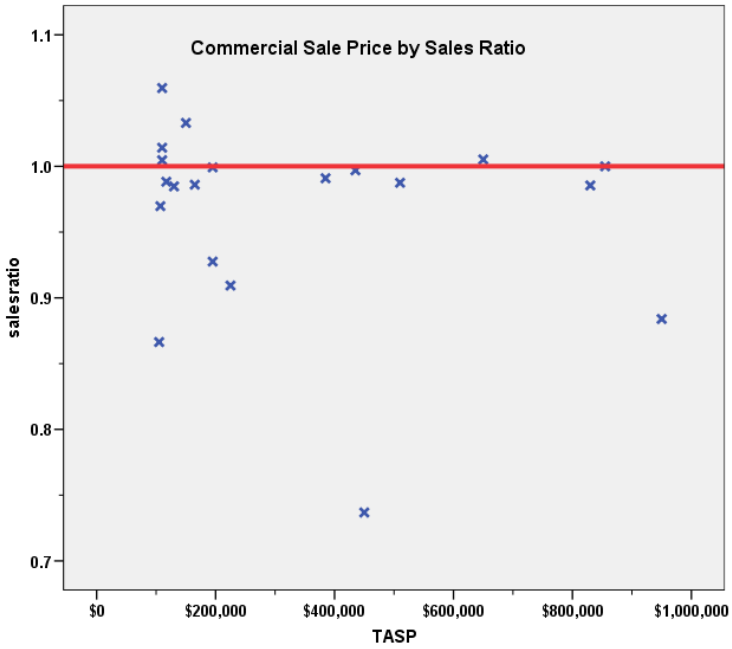
IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 13 qualified commercial/industrial sales for the 60 month sale period ending June 30, 2016. We therefore augmented these sales with 7 supplemental appraisals, bringing the total to 20 sales. We used the sales and supplemental appraisals to perform the sales ratio analysis, and the 13 sales to perform the market trending and sold/unsold analyses. The sales ratio analysis was analyzed as follows:

Median	**0.988**
Price Related Differential	**1.010**
Coefficient of Dispersion	**4.3**

The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall commercial/industrial 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.

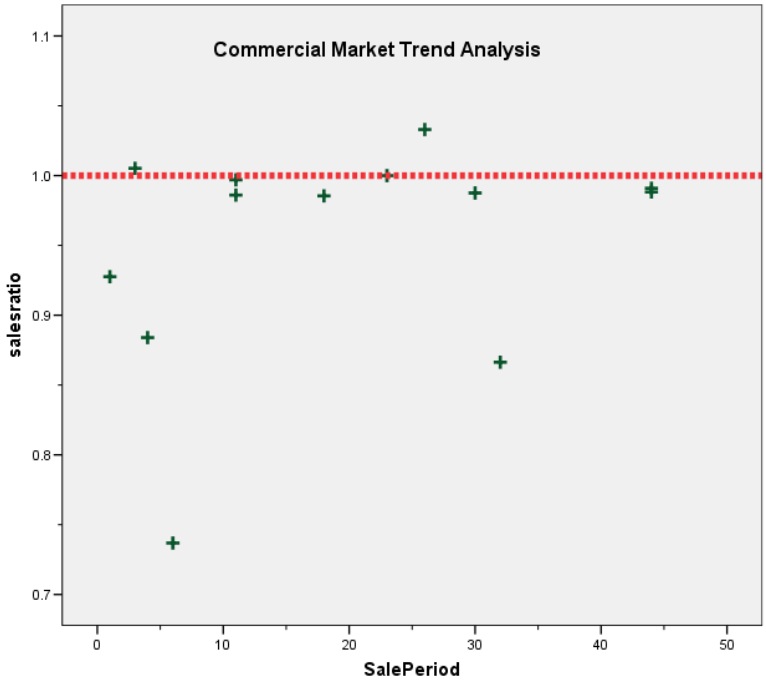
Commercial Market Trend Analysis

We next analyzed the commercial/industrial dataset using the 60-month sale period used by the county to analyze market trending) for any residual market trending, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.919	.037		24.582	.000
	SalePeriod	.002	.002	.318	1.114	.289

a. Dependent Variable: salesratio



The above analysis indicated that the assessor has adequately addressed market trending in the valuation of commercial properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold commercial properties, we compared the median actual value per square foot for 2017 between each group, as follows:

Report
VALSF

sold	N	Median	Mean
UNSOLD	221	$137	$146
SOLD	13	$183	$169

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	.075	Retain the null hypothesis.

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

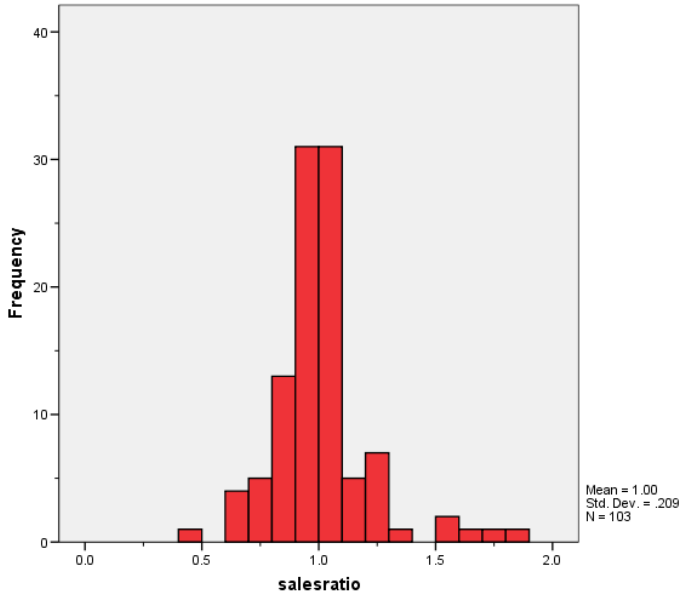
The above results indicate that sold and unsold commercial/industrial properties were valued in a consistent manner.

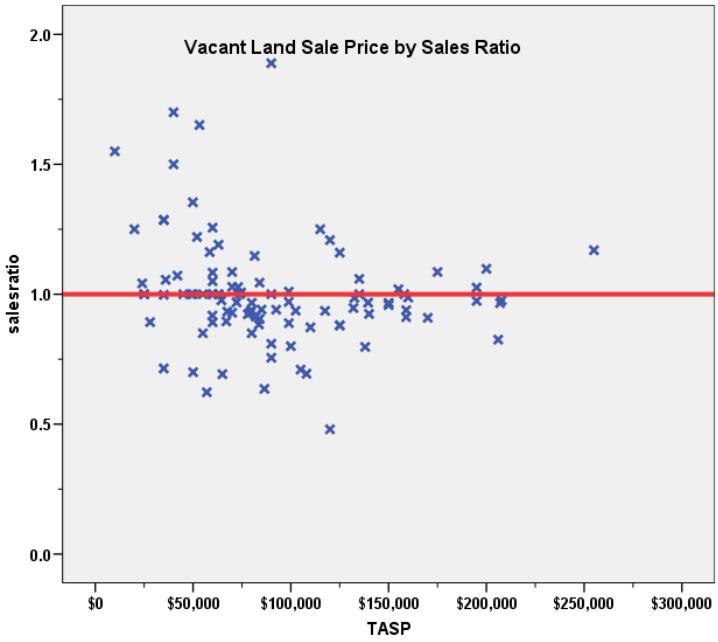
V. VACANT LAND SALE RESULTS

There were 103 qualified vacant land sales for the 24 month sale period ending June 30, 2016. The sales ratio analysis was analyzed as follows:

Median	**0.986**
Price Related Differential	**1.021**
Coefficient of Dispersion	**13.4**

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





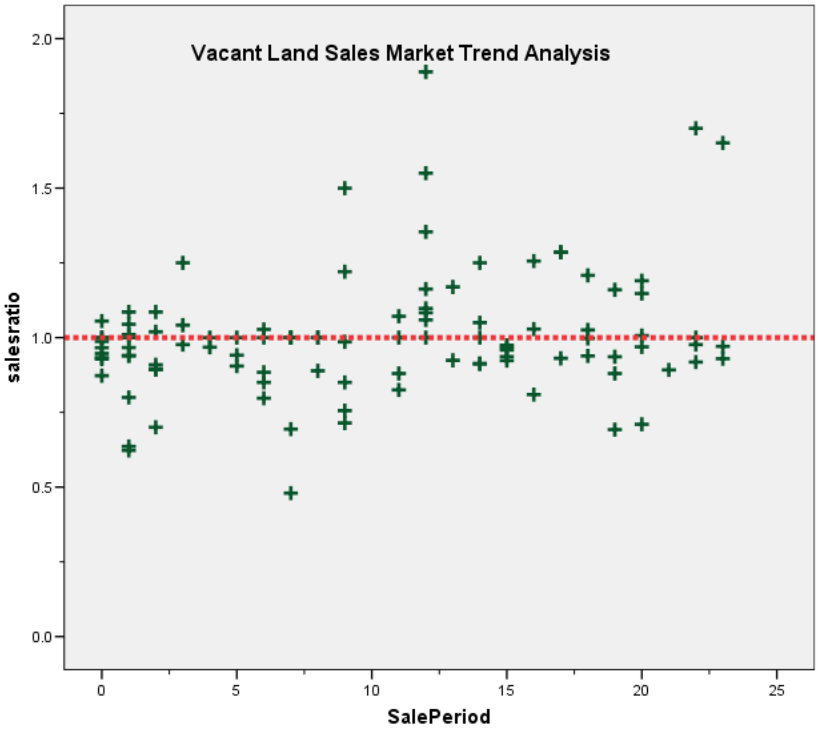
Vacant Land Market Trend Analysis

The 103 vacant land sales were analyzed, examining the sale ratios across the 24-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.931	.034		27.049	.000
	SalePeriod	.007	.003	.251	2.606	.011

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concluded that the assessor has adequately addressed market trending.

Sold/Unsold Analysis

We compared the median change in actual value for 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	1289	.98	1.06
SOLD	103	.95	1.08

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	.097	Retain the null hypothesis.

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

The above results indicated that sold and unsold vacant land properties were valued consistently overall.

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 Ouray 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	39	$96.09	$98.82
4277.00	36	$93.73	$101.23

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	.525	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 Ouray 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
.978	.969	.988	.984	.976	.993	96.2%	.981	.973	.989	.997	.044	6.8%

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 Land

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
.966	.933	1.000	.988	.970	1.000	95.9%	.957	.913	1.000	1.010	.043	7.4%

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.

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
1.004	.963	1.045	.986	.958	1.000	95.2%	.983	.948	1.018	1.021	.134	20.8%

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.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$50K to $100K	2	1.0%
	$100K to $150K	7	3.6%
	$150K to $200K	17	8.7%
	$200K to $300K	63	32.1%
	$300K to $500K	79	40.3%
	$500K to $750K	22	11.2%
	$750K to $1,000K	4	2.0%
	Over $1,000K	2	1.0%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$50K to $100K	.983	1.001	.017	2.3%
$100K to $150K	.976	1.000	.104	17.2%
$150K to $200K	.988	.999	.062	12.4%
$200K to $300K	.985	1.000	.044	6.3%
$300K to $500K	.979	1.000	.037	4.6%
$500K to $750K	.993	.999	.036	4.9%
$750K to $1,000K	1.004	1.000	.053	7.4%
Over $1,000K	1.009	.999	.028	3.9%
Overall	.984	.997	.044	6.8%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	171	87.2%
	1215.00	2	1.0%
	1230.00	23	11.7%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	.988	.999	.041	6.2%
1215.00	.941	1.001	.034	4.8%
1230.00	.979	.990	.062	10.9%
Overall	.984	.997	.044	6.8%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	21	10.7%
	75 to 100	2	1.0%
	50 to 75	5	2.6%
	25 to 50	49	25.0%
	5 to 25	116	59.2%
	5 or Newer	3	1.5%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.982	1.003	.043	5.8%
75 to 100	.923	1.000	.023	3.3%
50 to 75	1.011	.997	.041	5.7%
25 to 50	.971	.997	.054	9.0%
5 to 25	.985	.997	.039	6.0%
5 or Newer	.992	1.000	.039	6.1%
Overall	.984	.997	.044	6.8%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	0.5%
	500 to 1,000 sf	17	8.7%
	1,000 to 1,500 sf	33	16.8%
	1,500 to 2,000 sf	55	28.1%
	2,000 to 3,000 sf	56	28.6%
	3,000 sf or Higher	34	17.3%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.039	1.000	.000	.
500 to 1,000 sf	.956	.998	.089	15.4%
1,000 to 1,500 sf	.981	1.002	.037	5.3%
1,500 to 2,000 sf	.979	1.002	.037	5.1%
2,000 to 3,000 sf	.993	1.003	.041	5.5%
3,000 sf or Higher	.991	1.002	.042	5.3%
Overall	.984	.997	.044	6.8%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	121203	8	4.1%
	121204	40	20.4%
	121205	49	25.0%
	121206	12	6.1%
	121207	1	0.5%
	121209	1	0.5%
	121210	1	0.5%
	121211	1	0.5%
	121212	4	2.0%
	121213	1	0.5%
	121215	6	3.1%
	121216	23	11.7%
	121217	11	5.6%
	121503	2	1.0%
	121504	8	4.1%
	121505	5	2.6%
	124001	1	0.5%
	124002	1	0.5%
	124003	2	1.0%
	124004	6	3.1%
	124005	7	3.6%
	124006	1	0.5%
	124011	2	1.0%
	124016	3	1.5%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
121203	.969	.992	.059	8.0%
121204	.966	.997	.057	9.6%
121205	.990	1.000	.033	4.0%
121206	.996	.998	.045	6.4%
121207	.981	1.000	.000	.
121209	1.037	1.000	.000	.
121210	.984	1.000	.000	.
121211	1.029	1.000	.000	.
121212	1.006	.998	.025	3.3%
121213	1.060	1.000	.000	.
121215	.996	1.004	.030	4.6%
121216	.964	.999	.038	4.8%
121217	.979	1.000	.039	5.5%
121503	1.023	1.001	.022	3.1%
121504	.992	.999	.024	3.3%
121505	.986	.999	.007	1.0%
124001	.832	1.000	.000	.
124002	.956	1.000	.000	.
124003	.959	1.000	.017	2.4%
124004	.991	1.000	.024	3.3%
124005	.979	1.011	.085	12.0%
124006	1.005	1.000	.000	.
124011	.804	1.063	.244	34.5%
124016	.985	1.000	.014	2.1%
Overall	.984	.997	.044	6.8%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	2	7	3.6%
	3	67	34.2%
	4	98	50.0%
	5	23	11.7%
	6	1	0.5%
Overall		196	100.0%
Excluded		0	
Total		196	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	1.010	1.005	.028	4.0%
3	.988	.995	.051	8.2%
4	.981	.996	.040	6.3%
5	.993	1.005	.041	5.4%
6	1.091	1.000	.000	.
Overall	.984	.997	.044	6.8%

Economic Area

Case Processing Summary

		Count	Percent
ECONAREA	1.00	94	26.1%
	2.00	161	44.7%
	3.00	4	1.1%
	4.00	7	1.9%
	6.00	72	20.0%
	7.00	22	6.1%
Overall		360	100.0%
Excluded		2178	
Total		2538	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.996	1.063	.144
2.00	1.035	1.443	.835
3.00	1.221	1.228	.627
4.00	.967	1.498	.904
6.00	1.026	1.293	.579
7.00	1.011	2.171	1.648
Overall	1.007	1.377	.667

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$100K to $150K	8	40.0%
	$150K to $200K	3	15.0%
	$200K to $300K	1	5.0%
	$300K to $500K	3	15.0%
	$500K to $750K	2	10.0%
	$750K to $1,000K	3	15.0%
Overall		20	100.0%
Excluded		0	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$100K to $150K	.996	.998	.038	5.8%
$150K to $200K	.986	1.001	.024	4.3%
$200K to $300K	.909	1.000	.000	.
$300K to $500K	.991	1.006	.088	18.1%
$500K to $750K	.996	.999	.009	1.3%
$750K to $1,000K	.986	1.003	.039	7.4%
Overall	.988	1.010	.043	7.6%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1712.00	1	5.0%
	1713.50	1	5.0%
	1968.00	1	5.0%
	2212.00	5	25.0%
	2213.50	1	5.0%
	2230.00	1	5.0%
	2245.00	7	35.0%
	3230.00	3	15.0%
Overall		20	100.0%
Excluded		0	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1712.00	1.005	1.000	.000	.
1713.50	.884	1.000	.000	.
1968.00	1.000	1.000	.000	.
2212.00	.928	.997	.081	11.8%
2213.50	.986	1.000	.000	.
2230.00	.997	1.000	.000	.
2245.00	.986	1.005	.026	4.0%
3230.00	1.005	1.001	.024	4.0%
Overall	.988	1.010	.043	7.6%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	3	15.0%
	50 to 75	2	10.0%
	25 to 50	5	25.0%
	5 to 25	9	45.0%
	5 or Newer	1	5.0%
Overall		20	100.0%
Excluded		0	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.986	.965	.045	8.6%
50 to 75	.906	1.016	.024	3.4%
25 to 50	.988	.990	.025	4.2%
5 to 25	.991	1.047	.047	9.6%
5 or Newer	.997	1.000	.000	.
Overall	.988	1.010	.043	7.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	5.0%
	500 to 1,000 sf	8	40.0%
	1,000 to 1,500 sf	4	20.0%
	1,500 to 2,000 sf	1	5.0%
	2,000 to 3,000 sf	2	10.0%
	3,000 sf or Higher	4	20.0%
Overall		20	100.0%
Excluded		0	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.866	1.000	.000	.
500 to 1,000 sf	.996	1.000	.023	3.1%
1,000 to 1,500 sf	.959	1.028	.085	13.9%
1,500 to 2,000 sf	.909	1.000	.000	.
2,000 to 3,000 sf	.992	1.000	.005	0.7%
3,000 sf or Higher	.993	1.005	.034	6.4%
Overall	.988	1.010	.043	7.6%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	2	1	5.0%
	3	11	55.0%
	4	8	40.0%
Overall		20	100.0%
Excluded		0	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	.988	1.000	.000	.
3	.991	1.012	.053	9.6%
4	.987	1.010	.034	5.3%
Overall	.988	1.010	.043	7.6%

Economic Area

Case Processing Summary

		Count	Percent
ECONAREA	1.00	6	60.0%
	2.00	4	40.0%
Overall		10	100.0%
Excluded		10	
Total		20	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.988	.991	.044
2.00	.958	1.000	.084
Overall	.987	.989	.059

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	5	4.9%
	$25K to $50K	14	13.6%
	$50K to $100K	50	48.5%
	$100K to $150K	20	19.4%
	$150K to $200K	10	9.7%
	$200K to $300K	4	3.9%
Overall		103	100.0%
Excluded		0	
Total		103	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.042	1.052	.154	26.5%
$25K to $50K	1.028	1.001	.205	28.9%
$50K to $100K	.970	1.007	.126	21.4%
$100K to $150K	.942	.996	.127	18.8%
$150K to $200K	.994	.997	.051	6.6%
$200K to $300K	.971	.990	.091	14.6%
Overall	.986	1.021	.134	21.3%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	47	45.6%
	200.00	4	3.9%
	400.00	6	5.8%
	530.00	1	1.0%
	540.00	2	1.9%
	550.00	14	13.6%
	1112.00	25	24.3%
	2112.00	1	1.0%
	2120.00	1	1.0%
	3115.00	2	1.9%
Overall		103	100.0%
Excluded		0	
Total		103	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.998	1.015	.100	15.7%
200.00	.995	.891	.189	25.3%
400.00	.964	1.043	.176	32.7%
530.00	.918	1.000	.000	.
540.00	.867	1.006	.080	11.3%
550.00	.954	1.072	.191	25.0%
1112.00	1.000	1.032	.160	27.7%
2112.00	.977	1.000	.000	.
2120.00	.986	1.000	.000	.
3115.00	.920	1.004	.012	1.7%
Overall	.986	1.021	.134	21.3%

Economic Area

Case Processing Summary

		Count	Percent
ECONAREA	1.00	6	5.8%
	2.00	43	41.7%
	3.00	3	2.9%
	4.00	7	6.8%
	5.00	2	1.9%
	6.00	33	32.0%
	7.00	9	8.7%
Overall		103	100.0%
Excluded		0	
Total		103	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.988	.991	.072
2.00	1.000	1.008	.104
3.00	.940	1.018	.052
4.00	.967	1.089	.204
5.00	.992	1.021	.064
6.00	.931	1.034	.158
7.00	1.000	1.098	.179
Overall	.986	1.021	.134