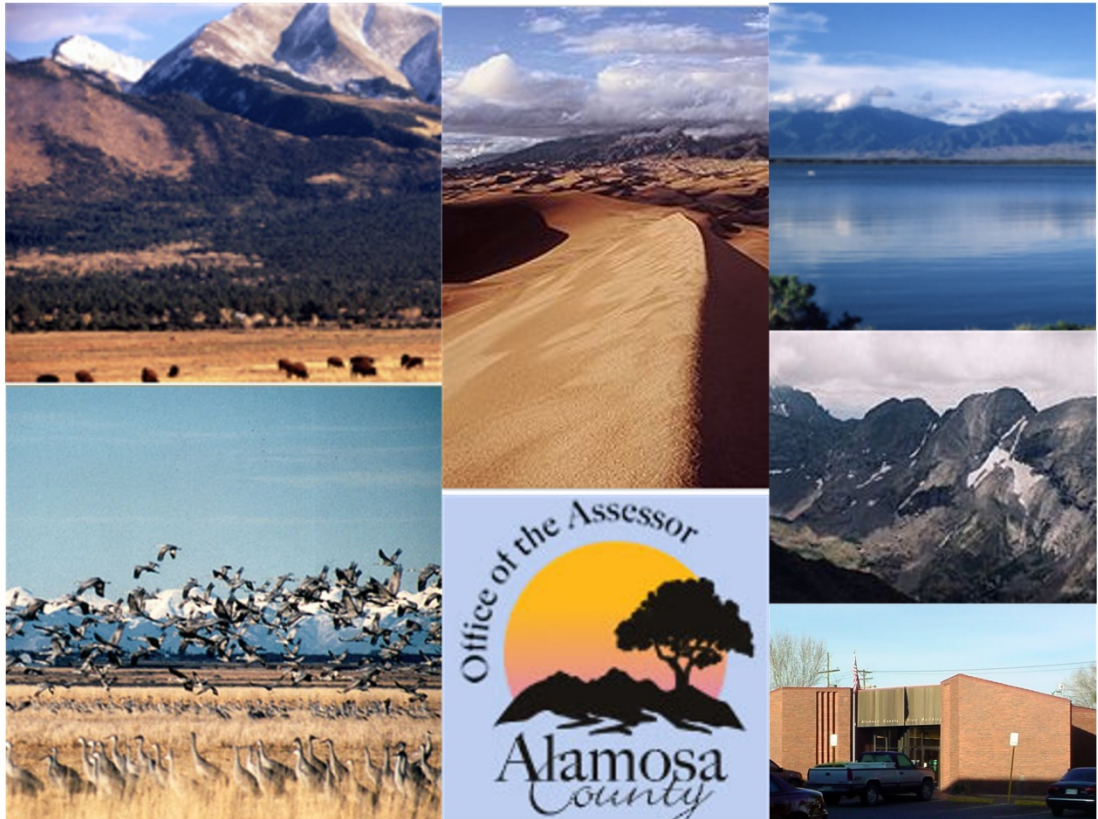




2020

ALAMOSA COUNTY PROPERTY ASSESSMENT STUDY



WILDROSE
APPRAISAL, INCORPORATED
Audit Division



September 15, 2020

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

RE: Final Report for the 2020 Colorado Property Assessment Study

Dear Ms. Mullis:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2020 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

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INTRODUCTION



Colorado

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

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

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

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

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

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

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

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

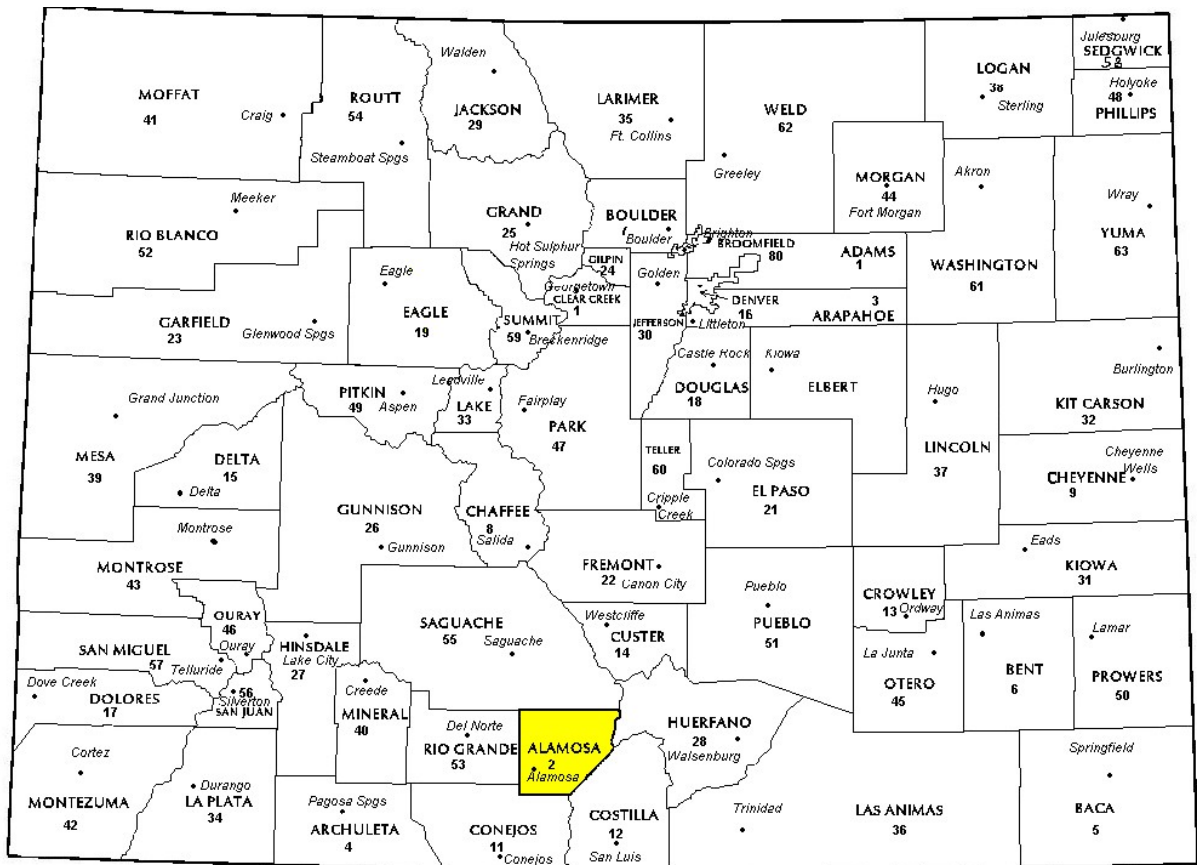
Wildrose Audit has completed the Property Assessment Study for 2020 and is pleased to report its findings for Alamosa County in the following report.

REGIONAL/HISTORICAL SKETCH OF ALAMOSA COUNTY

Regional Information

Alamosa County is located in the San Luis Valley region of Colorado. The San Luis Valley is a large, broad, alpine valley in the Rio Grande Basin of south-central Colorado. The valley is drained to the south by the Rio Grande

River which rises in the San Juan Mountains to the west of the valley. The San Luis Valley includes Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.



Historical Information

Alamosa County had an estimated population of approximately 16,654 people with 23.05 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 7.8 percent change from April 1, 2010 to July 1, 2016.

Alamosa offers majestic mountain views, the winding Rio Grande, clear skies, breathing room, abundant agriculture, a thriving economy, and two institutions of higher learning.

Gold and silver discoveries near Summitville in 1870 fueled the mining rush to the San Luis Valley environs. While other mining settlements quickly followed at Creede and Bonzana, the history of the Valley's settlement was greatly influenced by the railroad, farming, ranching, and timber.

Before written history, native American cultures, including Clovis and Folsom, hunted and gathered in the area 11,000 years ago. Spain claimed the area in the 1500's and established land grants to attract settlers. Clashes with Comanches, however, left the valley largely unsettled for many years. Zebulon Pike, exploring the southern part of the Louisiana Purchase and after his discovery of Pike's Peak, was awed by the view of the Sand Dunes (probably from Medano Pass) in

1807. Until Mexico's liberation from Spain in 1821, Spain claimed the San Luis Valley. The 1850's saw the first permanent settlements.

Just two years after Colorado became a state, a narrow-gauge train loaded with expectant settlers and their belongings stopped at a protected bend in the Rio Grande shaded by a grove of cottonwoods. In 1878 Alamosa, Spanish for cottonwood grove, was founded.

Trains delivered lumber and hardware and left with agricultural products. Over the next ten years rails were laid in all four directions and Alamosa became a veritable center of the San Luis Valley.

The easy access to the mountain regions surrounding the San Luis Valley are a major attraction for visitors and locals alike. Not only a provider of recreation, the forests are a key economic resource. The extensive Rio Grande National Forest first came under government control in 1891 with the authorization of the Timber Reserves Act in 1891. Established to conserve the nation's timber, range and water resources, much of this land has remained unspoiled and public. The Great Sand Dunes National Park (first created as a monument in 1932) and The San Luis Lakes State Park offer outdoor recreation on the valley floor.

(Alamosa.org)

RATIO ANALYSIS

Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 1, 2017 and June 30, 2018. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2018 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. 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 Alamosa County are:

Alamosa County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	30	0.989	1.091	6.9	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	175	0.972	1.019	13.4	Compliant
Vacant Land	113	1.000	1.049	12	Compliant

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

Alamosa 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

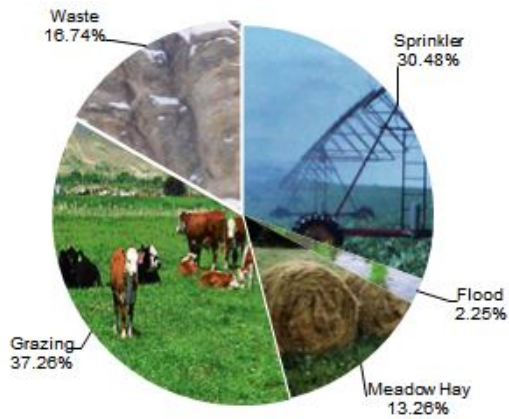
After applying the above described methodologies, it is concluded that Alamosa County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

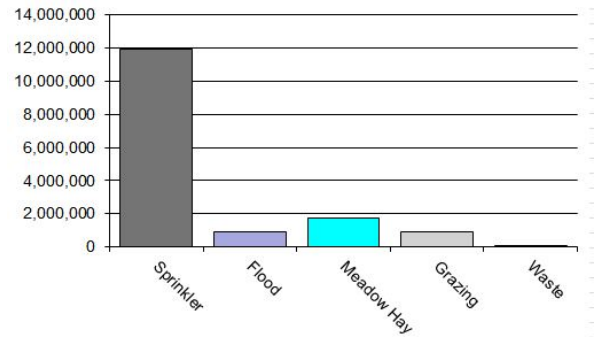
None

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:

Alamosa County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4107	Sprinkler	69,880	171.24	11,966,583	12,153,981	0.98
4117	Flood	5,158	181.94	938,504	943,545	0.99
4137	Meadow Hay	30,391	57.60	1,750,402	1,705,188	1.03
4147	Grazing	85,423	10.78	920,548	920,548	1.00
4167	Waste	38,379	2.39	91,565	91,565	1.00
Total/ Avg		229,231	68.35	15,667,602	15,814,826	0.99

Recommendations

None

Agricultural Outbuildings

Methodology

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

Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

Conclusions

Alamosa County has 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

Alamosa 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

Alamosa 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

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

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

A representative body of sales is required when considering the market approach to appraisal.

(8) In any case in which sales prices of comparable properties within any class or subclass are utilized when considering the market approach to appraisal in the determination of actual value of any taxable property, the following limitations and conditions shall apply:

(a)(I) Use of the market approach shall require a representative body of sales, including sales by a lender or government, sufficient to set a pattern, and appraisals shall reflect due consideration of the degree of comparability of sales, including the extent of similarities and dissimilarities among properties that are compared for assessment purposes. In order to obtain a reasonable sample and to reduce sudden price changes or fluctuations, all sales shall be included in the sample that reasonably reflect a true or typical sales price during the period specified in section 39-1-104 (10.2). Sales of personal property exempt pursuant to the provisions of sections 39-3-102, 39-3-103, and 39-3-119 to 39-3-122 shall not be included in any such sample.

(b) Each such sale included in the sample shall be coded to indicate a typical, negotiated sale, as screened and verified by the assessor. (39-1-103, C.R.S.)

The assessor is required to use sales of real property only in the valuation process.

(8)(f) Such true and typical sales shall include only those sales which have been determined on an individual basis to reflect the selling price of the real property only or which have been adjusted on an individual basis to reflect the selling price of the real property only. (39-1-103, C.R.S.)

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

WRA reviewed the sales verification procedures in 2020 for Alamosa County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 42 sales listed as unqualified.

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

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

The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.

The contractor has reviewed with the assessor any analysis indicating that sales data are inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code. If there appears to be any inconsistency in the coding, the contractor has

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

Conclusions

Alamosa 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

Alamosa County has submitted a written narrative describing the economic areas that make up the county's market areas. Alamosa 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 Alamosa 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 2020 in Alamosa County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14) and by applying the recommended methodology in ARL Vol 3, Chap 4. Subdivision Discounting in the intervening year can be accomplished by reducing the absorption period by one year.

In instances where the number of sales within an approved plat was less than the absorption

rate per year calculated for the plat, the absorption period was left unchanged.

Conclusions

Alamosa 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.

Alamosa 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

Alamosa 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

Alamosa 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.

Alamosa 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
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Businesses no audited in 4 years

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.

Alamosa County submitted their personal property written audit plan and was current for the 2020 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Accounts with obvious discrepancies
- New businesses filing for the first time
- Non-filing Accounts - Best Information Available
- Accounts protested with substantial disagreement



Conclusions

Alamosa 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*

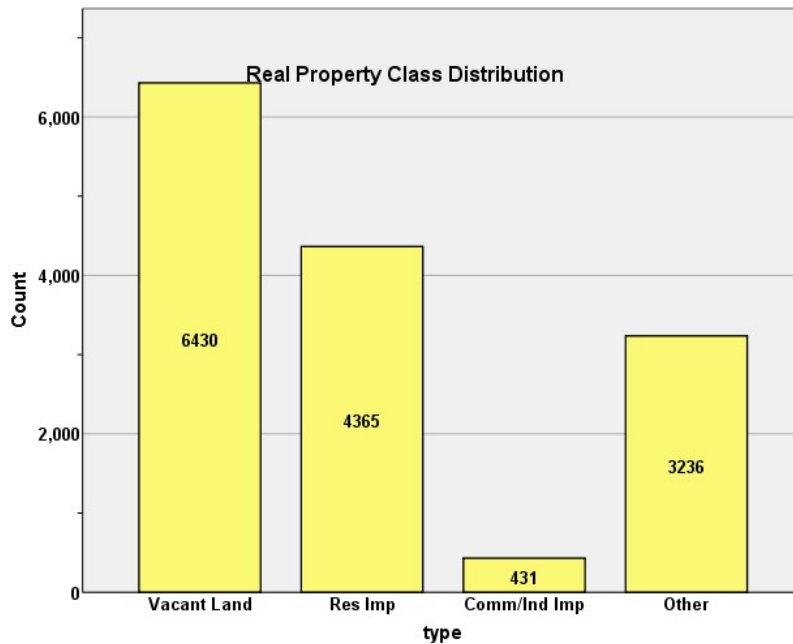
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT FOR ALAMOSA COUNTY 2020

I. OVERVIEW

Alamosa County is located in south central Colorado. The county has a total of 14,622 real property parcels, according to data submitted by the county assessor's office in 2020. 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) accounted for 72.9% of all vacant land parcels.

For residential improved properties, single family properties accounted for 94.3% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 3.0% of all such properties in this county.

Based on the Audit questionnaire filled out by the assessor (see below), the following geographic levels were used by the assessor to value residential, commercial and vacant land properties:

Geo Area	Residential	Comm/Ind	Vacant Land
Economic Area	N	N	N
Neighborhood	V	V	V
Subdivision	N	N	V

Codes

V=Valid Geographic Level – used for modeling

N = Not used as Geographic Level for modeling

II. DATA FILES

The following sales analyses were based on the requirements of the 2020 Colorado Property Assessment Study. Information was provided by the Alamosa Assessor’s Office in May 2020. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 175 qualified residential sales for the 18 month period ending June 30, 2018, with the following results:

Median	0.972
Price Related Differential	1.019
Coefficient of Dispersion	13.4

We next stratified the sale ratio analysis by neighborhood. The following are the results of this stratification analysis:

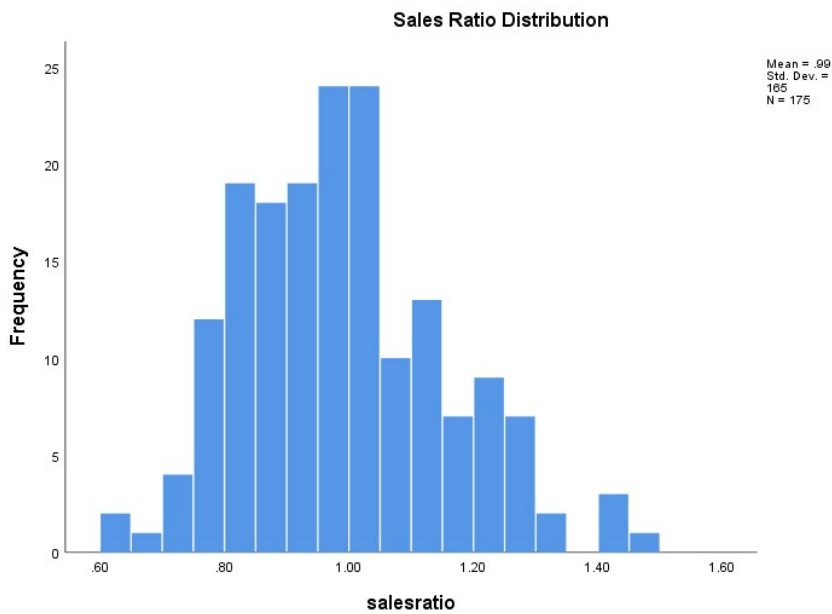
Case Processing Summary

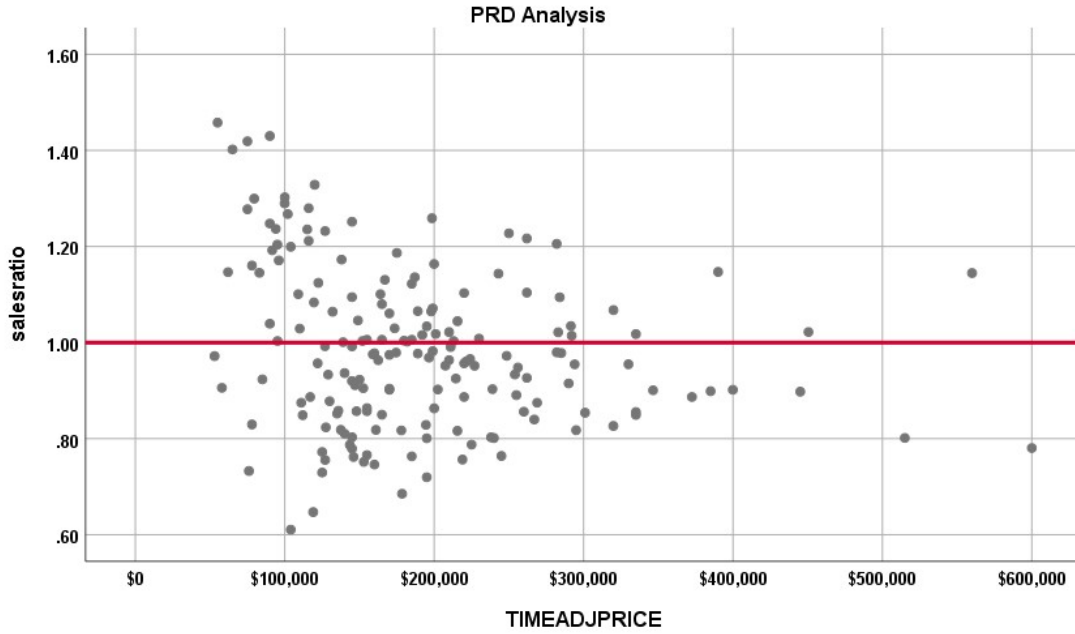
	Count	Percent
NBHD		
100	27	15.4%
200	93	53.1%
300	9	5.1%
400	1	0.6%
500	4	2.3%
600	6	3.4%
700	1	0.6%
800	2	1.1%
900	1	0.6%
1000	31	17.7%
Overall	175	100.0%
Excluded	0	
Total	175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
100	.974	1.007	.131
200	.978	1.021	.124
300	.923	1.011	.132
400	.906	1.000	.000
500	.790	1.018	.126
600	1.008	1.030	.101
700	1.267	1.000	.000
800	.876	1.003	.100
900	.957	1.000	.000
1000	.979	1.017	.162
Overall	.972	1.019	.134

Overall the neighborhoods with sufficient (i.e. more than 20) sales 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.

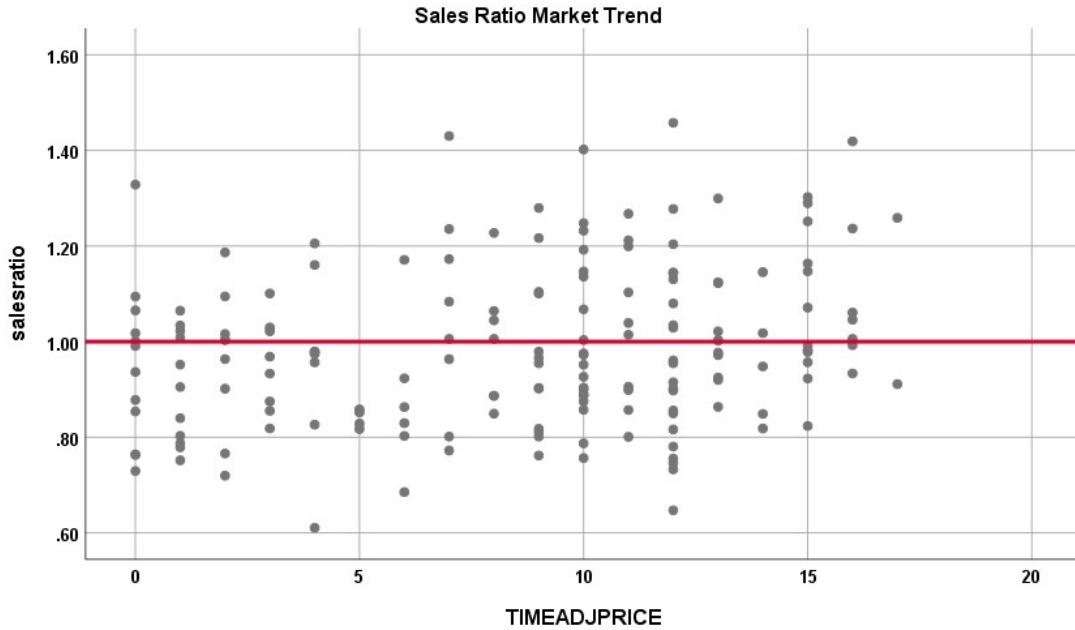
Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending, with the following results:

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.920	.024		37.617	.000
	SalePeriod	.008	.002	.230	3.110	.002

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 value per square foot for sold and unsold residential properties in 2020, as follows:

Report

VALSF			
sold	N	Median	Mean
UNSOLD	4190	\$93	\$92
SOLD	175	\$105	\$103

Given the observed difference, we next compared the median change in actual value between taxable years 2018 and 2020 for sold and unsold residential properties, both overall and by major neighborhood, as follows:

Report

DIFF			
sold	N	Median	Mean
UNSOLD	4117	1.0833	1.2345
SOLD	175	1.0906	1.0852

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	.531	Retain the null hypothesis.

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

We next stratified this analysis by neighborhood (with at least 4 sales), as follows:

Report

DIFF	NBHD	sold	N	Median	Mean
100		UNSOLD	1087	1.0878	1.1940
		SOLD	27	1.0997	1.1418
200		UNSOLD	1267	1.0967	1.2177
		SOLD	93	1.0975	1.0877
300		UNSOLD	220	1.0287	1.0396
		SOLD	9	1.0296	1.0240
500		UNSOLD	252	1.0736	1.1002
		SOLD	4	1.1027	1.0915
600		UNSOLD	114	1.0826	1.1409
		SOLD	6	1.0854	1.0359
1000		UNSOLD	869	1.0545	1.1814
		SOLD	31	1.0487	1.0635

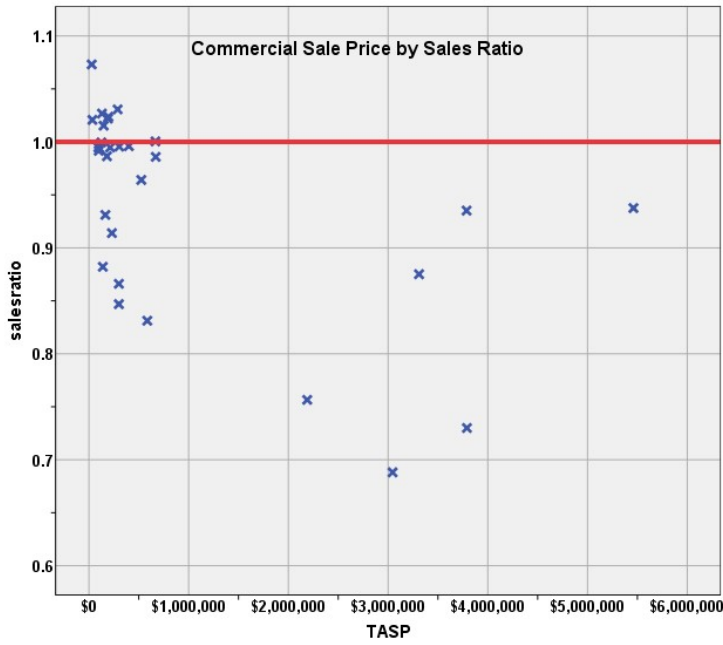
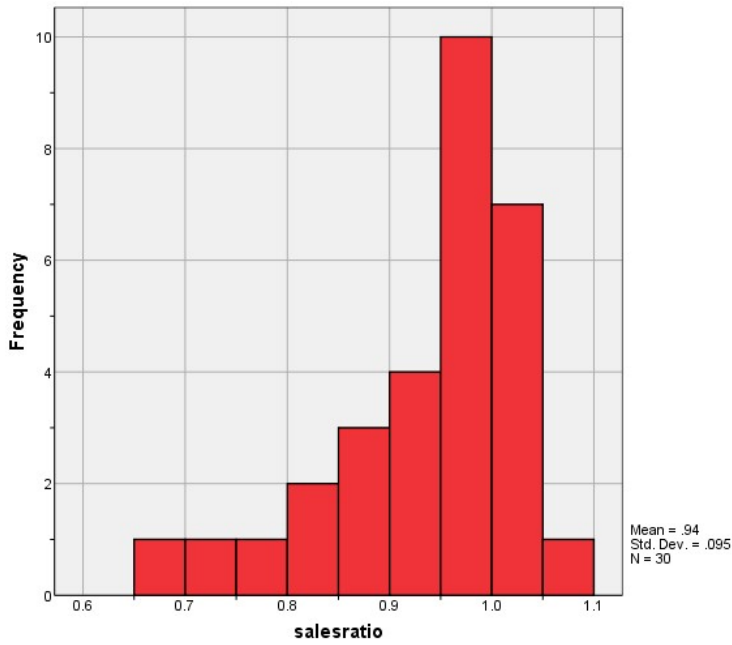
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 30 qualified residential sales for the 60-month sale period ending June 30, 2018, with the following results:

Median	0.989
Price Related Differential	1.091
Coefficient of Dispersion	6.9

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



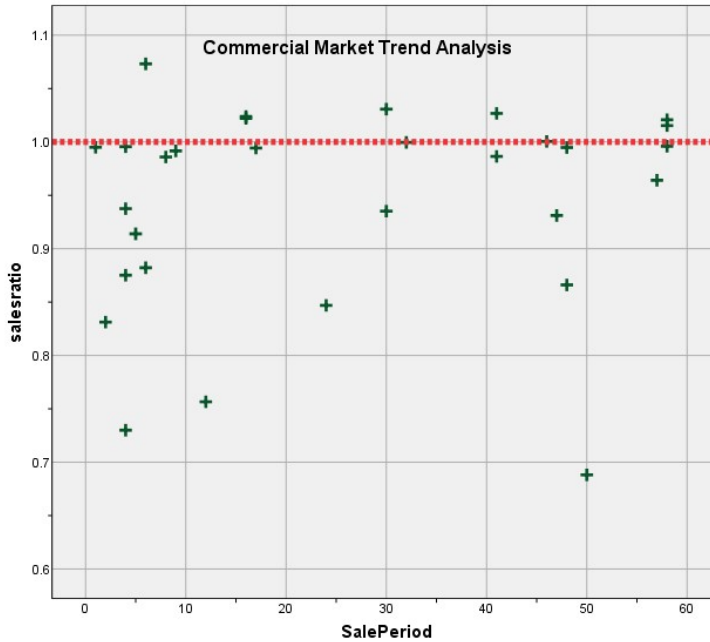
Commercial Market Trend Analysis

The commercial/industrial sales were analyzed for residual market trending, examining the sale ratios across a 60-month sale period with the following results:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.925	.028		32.463	.000
	SalePeriod	.001	.001	.154	.827	.415

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Alamosa County.

Sold/Unsold Analysis

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

Report				
VALSF				
	N	Median	Mean	
UNSOLD	401	\$42	\$72	
SOLD	30	\$49	\$62	

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	.503	Retain the null hypothesis.

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

We also stratified this analysis by subclass, as follows:

Report

VALSF	ABSTRIMP	sold	N	Median	Mean
2212.00	.00	77		\$39	\$53
	1.00	6		\$30	\$47
2215.00	.00	17		\$61	\$70
	1.00	4		\$80	\$71
2220.00	.00	59		\$61	\$68
	1.00	10		\$56	\$77
2230.00	.00	130		\$43	\$113
	1.00	6		\$47	\$62

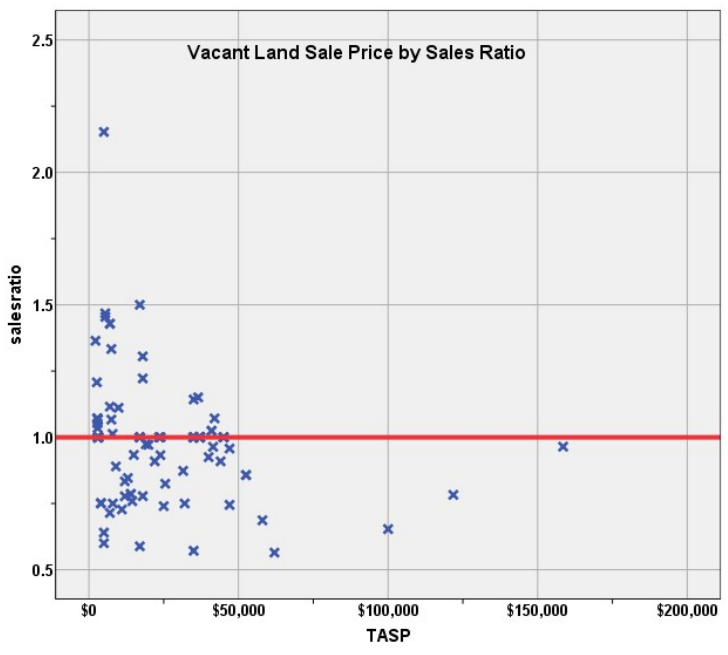
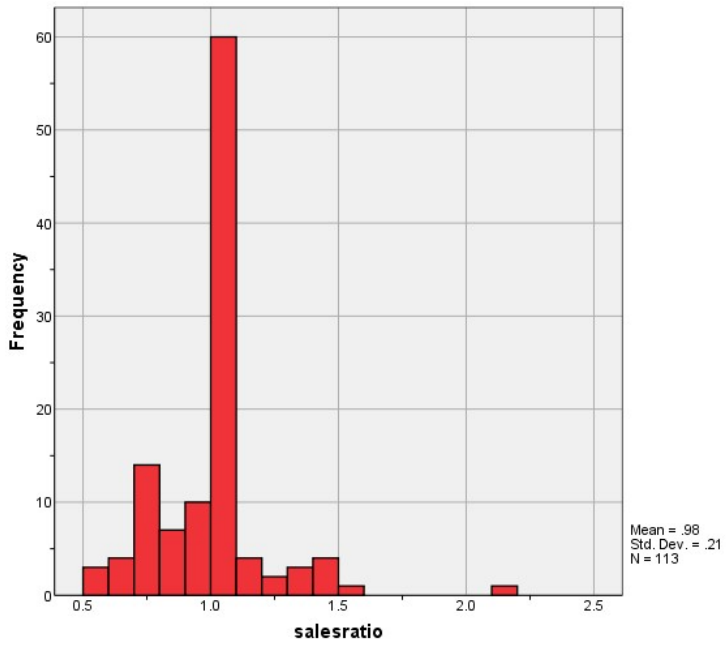
Based on the similarity between sold and unsold commercial properties, we concluded that sold and unsold commercial properties were valued consistently by the assessor.

V. VACANT LAND SALE RESULTS

There were 113 qualified residential sales for the period ending June 30, 2018 used for this analysis, with the following results:

Median	1.000
Price Related Differential	1.049
Coefficient of Dispersion	12.0

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



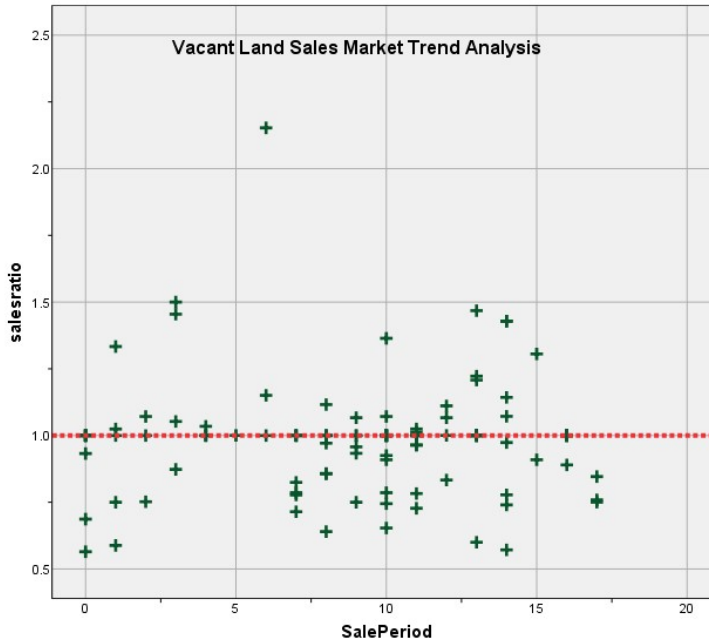
Vacant Land Market Trend Analysis

The assessor did not apply any market trend adjustment to the vacant land dataset. The vacant land sales were analyzed, examining the sale ratios across the 18-month sale period with the following results:

Coefficients^a

Model	Unstandardized Coefficients		Standardized	t	Sig.	
	B	Std. Error	Coefficients Beta			
1	(Constant)	.982	.042		23.410	.000
	SalePeriod	.000	.004	.004	.046	.964

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Alamosa County.

Sold/Unsold Analysis

We compared the median change in actual value between taxable years 2018 and 2020 for vacant land properties to determine if sold and unsold properties were valued consistently. We performed this comparison analysis for the entire class and by subdivisions with at least 5 sales, as follows:

Report

DIFF	N	Median	Mean
UNSOLD	6296	1.0000	1.0993
SOLD	92	1.0571	1.1661

Report

DIFF	SUBDIVNO	sold	N	Median	Mean
	00859	UNSOLD	136	1.0000	1.0000
		SOLD	4	1.0000	1.0313
	05204	UNSOLD	161	1.1538	1.1560
		SOLD	7	1.1538	1.1538
	05630	UNSOLD	1	1.0000	1.0000
		SOLD	5	1.0000	1.0000
	07072	UNSOLD	11	3.5418	3.3108
		SOLD	5	1.0000	1.5084

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

VI. CONCLUSIONS

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

STATISTICAL ABSTRACT

Residential

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			
.985	.961	1.010	.972	.948	1.002	95.1%	.967	.945	.990	1.019	.134	16.8%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

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			
.944	.908	.979	.989	.931	.996	95.7%	.865	.795	.935	1.091	.069	10.1%

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			
.984	.945	1.023	1.000	1.000	1.000	96.2%	.938	.899	.976	1.049	.120	21.4%

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	\$50K to \$100K	23	13.1%
	\$100K to \$150K	44	25.1%
	\$150K to \$200K	46	26.3%
	\$200K to \$300K	45	25.7%
	\$300K to \$500K	14	8.0%
	\$500K to \$750K	3	1.7%
Overall		175	100.0%
Excluded		0	
Total		175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
\$50K to \$100K	1.192	.997	.129	16.8%
\$100K to \$150K	.928	1.005	.162	20.2%
\$150K to \$200K	.978	.997	.107	13.8%
\$200K to \$300K	.957	.998	.090	12.0%
\$300K to \$500K	.900	.997	.075	11.3%
\$500K to \$750K	.801	1.000	.151	30.3%
Overall	.972	1.019	.134	17.1%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	172	98.3%
	1215.00	3	1.7%
Overall		175	100.0%
Excluded		0	
Total		175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	.975	1.019	.133	16.9%
1215.00	.764	1.005	.030	5.6%
Overall	.972	1.019	.134	17.1%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	15	8.6%
	75 to 100	26	14.9%
	50 to 75	28	16.0%
	25 to 50	46	26.3%
	5 to 25	50	28.6%
	5 or Newer	10	5.7%
Overall		175	100.0%
Excluded		0	
Total		175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.957	1.016	.149	18.2%
75 to 100	1.103	1.016	.166	20.4%
50 to 75	1.013	1.011	.109	14.7%
25 to 50	.942	1.009	.136	18.3%
5 to 25	.963	1.013	.112	14.4%
5 or Newer	.901	1.032	.080	13.8%
Overall	.972	1.019	.134	17.1%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	500 to 1,000 sf	18	10.3%
	1,000 to 1,500 sf	55	31.4%
	1,500 to 2,000 sf	48	27.4%
	2,000 to 3,000 sf	43	24.6%
	3,000 sf or Higher	11	6.3%
Overall		175	100.0%
Excluded		0	
Total		175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
500 to 1,000 sf	.879	1.039	.203	25.0%
1,000 to 1,500 sf	.963	1.027	.139	17.0%
1,500 to 2,000 sf	.986	1.030	.126	17.3%
2,000 to 3,000 sf	.957	1.020	.115	15.0%
3,000 sf or Higher	1.022	1.025	.098	13.5%
Overall	.972	1.019	.134	17.1%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	01	1	0.6%
	02	1	0.6%
	03	20	11.4%
	04	120	68.6%
	05	29	16.6%
	06	4	2.3%
Overall		175	100.0%
Excluded		0	
Total		175	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
01	1.458	1.000	.000	.
02	1.419	1.000	.000	.
03	1.145	1.005	.140	16.5%
04	.963	1.008	.119	14.8%
05	.948	1.006	.136	16.8%
06	.986	1.002	.079	11.1%
Overall	.972	1.019	.134	17.1%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	\$25K to \$50K	2	6.7%
	\$50K to \$100K	3	10.0%
	\$100K to \$150K	4	13.3%
	\$150K to \$200K	4	13.3%
	\$200K to \$300K	5	16.7%
	\$300K to \$500K	2	6.7%
	\$500K to \$750K	4	13.3%
	Over \$1,000K	6	20.0%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
\$25K to \$50K	1.047	1.003	.025	3.5%
\$50K to \$100K	.994	1.000	.001	0.2%
\$100K to \$150K	1.007	1.001	.040	7.3%
\$150K to \$200K	1.004	.998	.032	4.6%
\$200K to \$300K	.914	1.005	.068	9.0%
\$300K to \$500K	.996	1.000	.000	0.0%
\$500K to \$750K	.975	.997	.049	8.7%
Over \$1,000K	.816	.980	.117	13.4%
Overall	.989	1.091	.069	10.7%

Subclass

Case Processing Summary

	Count	Percent
ABSTRIMP	6	20.0%
2212.00	4	13.3%
2220.00	10	33.3%
2225.00	1	3.3%
2230.00	6	20.0%
2235.00	2	6.7%
2245.00	1	3.3%
Overall	30	100.0%
Excluded	0	
Total	30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212.00	.998	1.069	.049	7.2%
2215.00	.743	.968	.093	15.8%
2220.00	.986	1.016	.054	8.2%
2225.00	1.031	1.000	.000	.
2230.00	.996	1.003	.016	3.1%
2235.00	.890	1.004	.027	3.8%
2245.00	.994	1.000	.000	.
Overall	.989	1.091	.069	10.7%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	5	16.7%
	75 to 100	2	6.7%
	50 to 75	1	3.3%
	25 to 50	12	40.0%
	5 to 25	7	23.3%
	5 or Newer	3	10.0%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.992	1.051	.061	9.9%
75 to 100	1.013	1.000	.013	1.9%
50 to 75	1.015	1.000	.000	.
25 to 50	.995	1.181	.071	12.9%
5 to 25	.938	1.015	.029	4.6%
5 or Newer	.866	1.029	.056	11.1%
Overall	.989	1.091	.069	10.7%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	1,000 to 1,500 sf	3	10.0%
	1,500 to 2,000 sf	1	3.3%
	2,000 to 3,000 sf	6	20.0%
	3,000 sf or Higher	20	66.7%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1,000 to 1,500 sf	.995	1.016	.027	5.6%
1,500 to 2,000 sf	.994	1.000	.000	.
2,000 to 3,000 sf	.948	1.000	.056	7.1%
3,000 sf or Higher	.986	1.084	.080	12.2%
Overall	.989	1.091	.069	10.7%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	03	1	3.3%
	04	27	90.0%
	06	2	6.7%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
03	.986	1.000	.000	.
04	.994	1.117	.073	11.5%
06	.951	1.012	.014	2.0%
Overall	.989	1.091	.069	10.7%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	64	56.6%
	\$25K to \$50K	42	37.2%
	\$50K to \$100K	5	4.4%
	\$100K to \$150K	1	0.9%
	\$150K to \$200K	1	0.9%
Overall		113	100.0%
Excluded		0	
Total		113	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.000	1.032	.157	25.4%
\$25K to \$50K	1.000	.999	.045	10.2%
\$50K to \$100K	.687	1.022	.145	19.8%
\$100K to \$150K	.783	1.000	.000	.
\$150K to \$200K	.965	1.000	.000	.
Overall	1.000	1.049	.120	21.1%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	42	37.2%
	200.00	2	1.8%
	510.00	1	0.9%
	520.00	3	2.7%
	540.00	1	0.9%
	550.00	11	9.7%
	560.00	2	1.8%
	1112.00	48	42.5%
	2120.00	1	0.9%
	2130.00	2	1.8%
Overall		113	100.0%
Excluded		0	
Total		113	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	1.000	1.147	.153	23.9%
200.00	.911	1.032	.177	25.0%
510.00	.714	1.000	.000	.
520.00	.833	.947	.100	15.8%
540.00	1.116	1.000	.000	.
550.00	.846	1.007	.118	18.4%
560.00	.766	.988	.021	3.0%
1112.00	1.000	1.003	.045	10.0%
2120.00	2.153	1.000	.000	.
2130.00	.809	.958	.192	27.2%
Overall	1.000	1.049	.120	21.1%