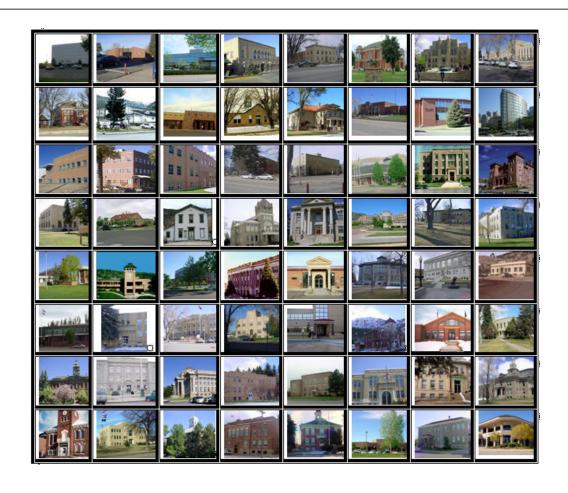


# 2012 KIT CARSON COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2012

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

**RE:** Final Report for the 2012 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2012 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

Harry J. Zulla

Wildrose Appraisal Inc. – Audit Division



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# INTRODUCTION



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 subdivision and discounting procedures. Valuation methodology for vacant land, improved properties commercial residential and 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 2012 and is pleased to report its findings for Kit Carson County in the following report.



# REGIONAL/HISTORICAL SKETCH OF KIT CARSON COUNTY

# **Regional Information**

Kit Carson County is located in the Eastern Plains region of Colorado. The Eastern Plains of Colorado refer to the region on the east side of the Rocky Mountain. It is east of the population centers of the Front Range,

including Baca, Bent, Cheyenne, Crowley, Elbert, Kiowa, Kit Carson, Lincoln, Logan, Morgan, Otero, Phillips, Prowers, Sedgwick, Washington, and Yuma counties.





## **Historical Information**

Kit Carson County has a population of approximately 8,270 people with 3.83 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 3.23 percent change from the 2000 Census.

Kit Carson County is on the I-70 corridor in East Central Colorado at the Kansas border. It is among the State's top livestock, wheat and corn producing counties. Founded in 1889, its county seat is located in Burlington.

Founded in 1838, and at one time the western terminus for the Union Pacific Railroad, Kit Carson's location has made it a commercial trade center. With wide tracts of prairie grassland and more than 400 active oil and gas wells, it's no surprise that farming, cattle ranching and the production of oil are the area's chief industries.

Burlington was originally laid out one mile west of its present location in 1887 by a man named Lowell in anticipation of the arrival of the railroad. In addition to having the location wrong, Lowell also did not have title to the

land. When the railroad did arrive (the Chicago, Rock Island and Pacific Railroad), it built its depot at the present site of Burlington and those who had built in Old Burlington moved their building to the new townsite. Trains began running in 1888.

The county is home to the Kit Carson Museum and other notable buildings, including the old pool hall and pumphouse which are now on the National Register of Historic Places. One of the finest examples of the wooden carousels carved in America between 1885 and the 1930's is located on the county fairgrounds in Burlington. The sixth of 74 carousels manufactured by the Philadelphia Toboggan Company (PTC) between 1904 and 1933, the Kit Carson County Carousel is a three-row, stationary machine housed in a 12-sided frame building. It is the only antique carousel in America still having original paint on both the scenery panels and on the animals. PTC No.6 is the only surviving menagerie carousel made by PTC.

(Wikipedia.org, kitcarsoncounty.org & kitcarsoncountycarousel.com)



# RATIO ANALYSIS

# Methodology

All significant classes of properties were Sales were collected for each analyzed. property class over the appropriate sale period, which was typically defined as the 18-month period between January 2009 and June 2010. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2010 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 pricerelated 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 Kit Carson County are:

Kit Carson County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis	
Commercial/Industrial	28	0.976	0.969	7.4	Compliant	
Condominium	N/A	N/A	N/A	N/A	N/A	
Single Family	72	0.965	1.022	12.4	Compliant	
Vacant Land	N/A	N/A	N/A	N/A	N/A	

After applying the above described methodologies, it is concluded from the sales ratios that Kit Carson County is in compliance with SBOE, DPT, and Colorado State Statute valuation guidelines.

## Recommendations

None

# **Random Deed Analysis**

An additional analysis was performed as part of the Ratio Analysis. Ten randomly selected deeds with documentary fees were obtained from the Clerk and Recorder. These deeds were for sales that occurred from January 1, 2009 through June 30, 2010. These sales were then checked for inclusion on the Assessor's qualified or unqualified database.

## **Conclusions**

After comparing the list of randomly selected deeds with the Assessor's database, Kit Carson County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

## Recommendations



# 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 methodology 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 Kit Carson County has complied with the statutory requirements to analyze the effects of time on value in their county. Kit Carson County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

## Recommendations



# SOLD/UNSOLD ANALYSIS

## Methodology

Kit Carson 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.

All qualified residential and commercial class properties were examined using the unit value method, where the actual value per square foot was compared between sold and unsold properties. A class was considered qualified if it met the criteria for the ratio analysis. The median value per square foot for both groups was compared from an appraisal and statistical perspective. If no significant difference was indicated, then we concluded that no further testing was warranted and that the county was in compliance in terms of sold/unsold consistency.

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2010 and 2012 actual values for each qualified class of property. All qualified vacant land classes were tested using this method. The sale property ratios were arrayed using a range of 0.8 to 1.5, which theoretically excluded changes between years that were due to other unrelated changes in the property. These ratios were also stratified at the appropriate level of analysis. percent change was determined for each appropriate class and sub-class, the next step was to select the unsold sample. This sample

was at least 1% of the total population of unsold properties and excluded any sale properties. The unsold sample was filtered based on the attributes of the sold dataset to closely correlate both groups. The ratio analysis was then performed on the unsold properties and stratified. The median and mean ratio distribution was then compared between the sold and unsold group. A nonparametric test such as the Mann-Whitney test for differences between independent samples was undertaken to determine whether any observed differential was significant. If this test determined that the unsold properties were treated in a manner similar to the sold properties, it was concluded that no further testing was warranted and that the county was in compliance.

If a class or sub-class of property was determined to be significantly different by this method, the final step was to perform a multivariate mass appraisal model that developed ratio statistics from the sold properties that were then applied to the unsold sample. This test compared the measures of central tendency and confidence intervals for the sold properties with the unsold property sample. If this comparison was also determined to be significantly different, then the conclusion was that the county had treated the unsold properties in a different manner than sold properties.

These tests were supported by both tabular and chart presentations, along with saved sold and unsold sample files.



Sold/Unsold Re	sults
Property Class	Results
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	N/A

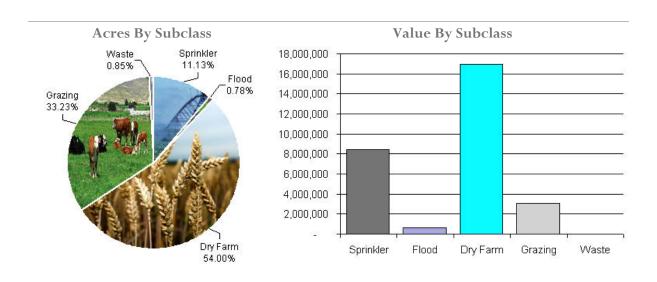
## Conclusions

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

## Recommendations



# AGRICULTURAL LAND STUDY



# **Agricultural Land**

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: 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 developed locally 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:



	Kit Carson 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	150,665	56.00	8,463,373	8,504,491	1.00	
4117	Flood	10,624	60.00	633,934	634,553	1.00	
4127	Dry Farm	731,343	23.00	16,966,440	16,882,279	1.00	
4147	Grazing	450,052	7.00	3,056,054	3,056,054	1.00	
4167	Waste	11,568	2.00	18,670	18,670	1.00	
Total/Avg		1,354,252	22.00	29,138,471	29,096,047	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**

Kit Carson 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**

Kit Carson 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



# 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 2012 for Kit Carson County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 25 sales listed as unqualified.

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

## Conclusions

Kit Carson County appears to be doing an excellent 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



# EVALUATION EVALUATION

## Methodology

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



# NATURAL RESOURCES

## **Earth and Stone Products**

## Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

## **Conclusions**

The County has applied the correct formulas and state guidelines to earth and stone production.

## Recommendations

None

# Producing Oil and Gas Procedures

# Methodology

Assessors Reference Library (ARL) Volume 3, Chapter 6: Valuation of Natural Resources

## STATUTORY REFERENCES

Section § 39-1-103, C.R.S., specifies that producing oil or gas leaseholds and lands are valued according to article 7 of title 39, C.R.S.

## Actual value determined - when.

(2) The valuation for assessment of leaseholds and lands producing oil or gas shall be determined as provided in article 7 of this title. § 39-1-103, C.R.S.

Article 7 covers the listing, valuation, and assessment of producing oil and gas leaseholds and lands.

#### Valuation:

## Valuation for assessment.

- (1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:
- (a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;
- (b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.

## § 39-7-102, C.R.S.

## Conclusions

The county applied approved appraisal procedures in the valuation of oil and gas.

## Recommendations



# VACANT LAND

## **Subdivision Discounting**

Subdivisions were reviewed in 2012 in Kit Carson 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 was 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**

Kit Carson County has implemented proper procedures to adequately estimate absorption periods, discount rates, and lot values for qualifying subdivisions.

## Recommendations



# 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 C.R.S. Chapter 39-1-103 (17)(a)(II)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 under lease, permit, license, concession, contract, or other agreement.

Kit Carson 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

Kit Carson 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



# PERSONAL PROPERTY AUDIT

Kit Carson 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 of Equalization Board (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, documentation procedures, classification, 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.

Kit Carson County is compliant with the guidelines set forth in ARL Volume 5 regarding discovery procedures, using the following methods to discover personal property accounts in the county:

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor

The county uses the Division of Property Taxation (DPT) recommended classification and documentation procedures. The DPT's recommended cost factor tables, depreciation tables and level of value adjustment factor tables are also used.

Kit Carson County submitted their personal property written audit plan and was current for the 2012 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Businesses in a selected area
- Accounts with obvious discrepancies
- New businesses filing for the first time
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Same business type or use



- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts Best Information Available
- Accounts close to the \$5,500 actual value exemption status
- Accounts protested with substantial disagreement

## **Conclusions**

Kit Carson 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



# 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



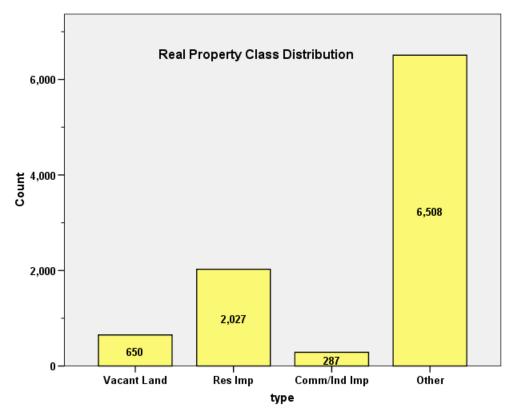
# APPENDICES



# STATISTICAL COMPLIANCE REPORT FOR KIT CARSON COUNTY 2012

## I. OVERVIEW

Kit Carson County is an agricultural county located in eastern Colorado. The county has a total of 9,472 real property parcels, according to data submitted by the county assessor's office in 2012. 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 or 1212) accounted for 47% of all vacant land parcels. Based on the number of vacant land parcels in Kit Carson County, we were not required to analyze this class of property for audit compliance.

For residential improved properties, single family properties accounted for 96.5% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 3% of all such properties in this county.



## II. DATA FILES

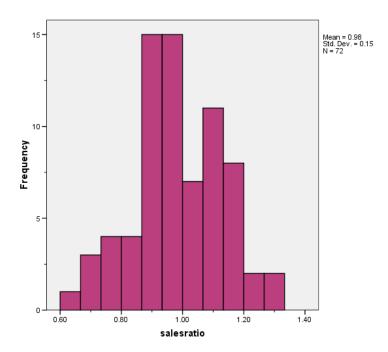
The following sales analyses were based on the requirements of the 2012 Colorado Property Assessment Study. Information was provided by the Kit Carson Assessor's Office in April 2012. The data included all 5 property record files as specified by the Auditor.

## III. RESIDENTIAL SALES RESULTS

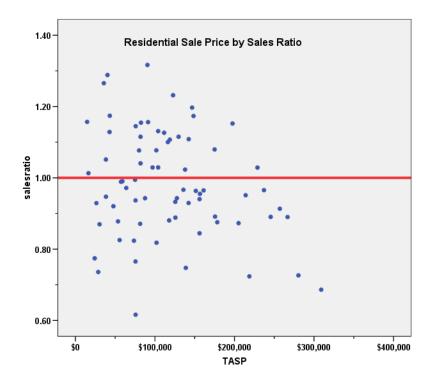
We therefore used a total of **72 qualified residential sales** for this analysis. These sales spanned the period from January 2009 to June 2010. The sales ratio analysis resulted in the following:

Median	0.965
Price Related Differential	1.022
Coefficient of Dispersion	.124

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 all of these properties:







The above graphs indicate that the distribution of the sale ratios was within state mandated limits, and that there were no significant price-related differential issues. No sales were trimmed.

## **Residential Market Trend Analysis**

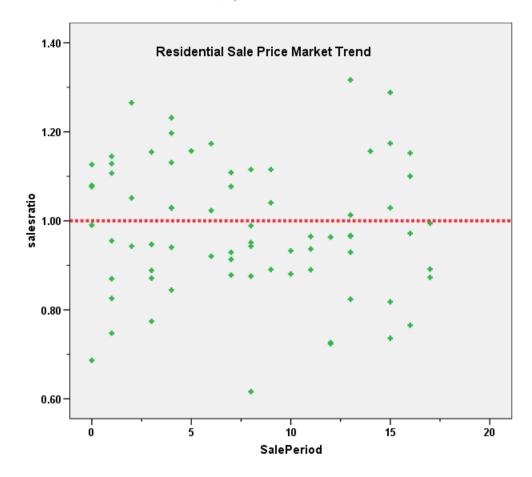
We next analyzed the residential dataset using the 18-month sale period, with the following results:

Coefficients<sup>a</sup>

N	1odel	Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.000	.031		31.931	.000
ı	SalePeriod	002	.003	080	674	.503

a. Dependent Variable: salesratio





The above analysis indicated that no residual market trend was present in the sale ratio data.

## **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 2012 between each group. We stratified the residential properties by neighborhood area, comparing the sold and unsold groups of properties as follows:

Group	No. Props	Median	Mean
Unsold	1,887	\$48	\$51
Sold	72	\$48	\$52

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

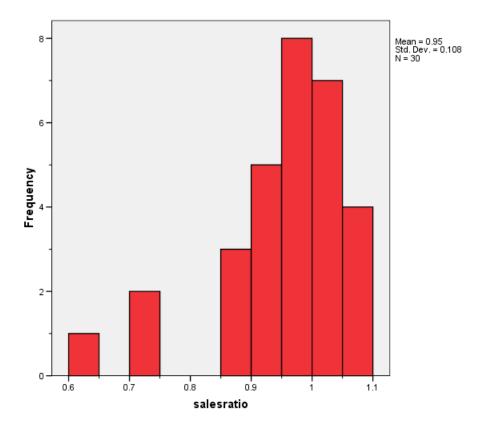


## IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

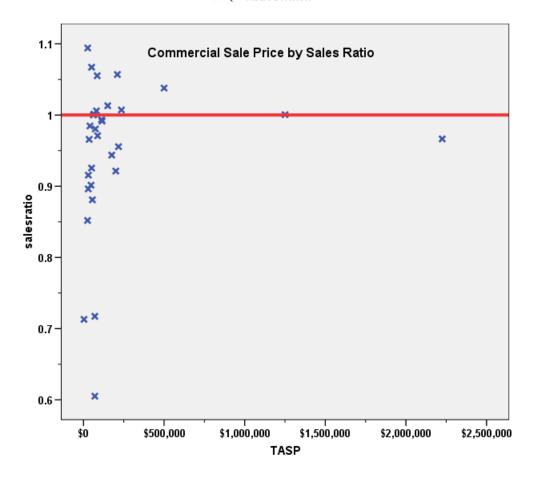
As with the residential sales, we used the 2012 sales for the commercial and industrial ratio analysis. A total of **28 valid and qualified sales** were identified in the five year period prior to June 30, 2010. Because there were fewer than 30 sales, 2 supplemental appraisals of unsold commercial properties were completed to bring the total number of analyzed properties to 30 for the final sales ratio analysis. We used all 30 sold and appraised properties for the ratio analysis, and the 28 sold properties for the market trending and sold/unsold analysis.

Median	0.976
Price Related Differential	0.969
Coefficient of Dispersion	.074

The above table indicates that the Kit Carson County commercial/industrial sale ratios were in compliance with the SBOE standards, both overall and by relevant subclass (none in this case due to the small number of sales). The following histogram and scatter plot describe the sales ratio distribution further:







## **Commercial Market Trend Analysis**

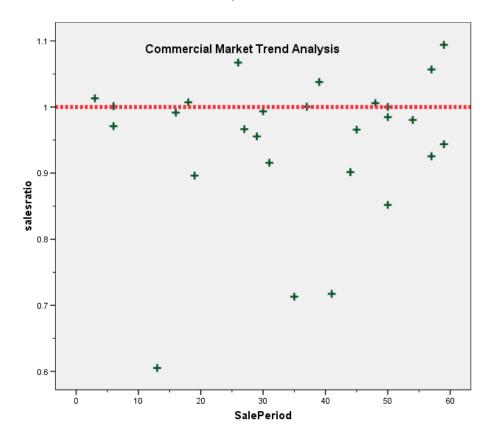
The assessor did not apply any market trend adjustment to the commercial dataset. The 27 sales did not indicate a significant trend, based on our analysis.

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	.919	.050		18.472	.000
	SalePeriod	.001	.001	.125	.627	.536

a. Dependent Variable: salesratio





## **Sold/Unsold Analysis**

We compared the median actual value per square foot between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. While this is a challenge to prove in this county, given the small number of sales and the overall small number and diversity of commercial/industrial properties in general, the following results indicate that based on the median and mean actual values per square foot, both groups were valued in a consistent manner:

Group	No.	Median	Mean
Unsold	278	\$19	\$37
Sold	27	\$24	\$37



## V. 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 Kit Carson County.

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

		Descrip	otives		
	ABSTRIN	IP.		Statistic	Std. Error
ImpValSE	<u>SFR</u>	Mean		\$45.95	\$.441
		95% Confidence Interval for Mean	Lower Bound	\$45.08	
			Upper Bound	\$46.81	
		5% Trimmed Mean		\$45.03	
		Median		\$43.69	
		Variance		380.291	
		Std. Deviation		\$19.501	
		Minimum		\$3	
		Maximum	\$132		
		Range	\$129		
		Interquartile Range		\$24	
		Skewness		.835	.055
		Kurtosis		1.529	.111
	<u>Ag</u>	Mean		\$47.96	\$1.053
	Res	95% Confidence Interval for Mean	Lower Bound	\$45.89	
			Upper Bound	\$50.03	
		5% Trimmed Mean		\$46.77	
		Median		\$46.93	
		Variance	Variance		
		Std. Deviation		\$26.909	
		Minimum		\$0	
		Maximum		\$441	
		Range		\$440	
		Interquartile Range		\$25	
		Skewness		5.151	.096
		Kurtosis		69.828	.191

## **VI. Conclusions**

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



## **STATISTICAL ABSTRACT**

## **Residential**

#### Ratio Statistics for CURRTOT / TASP

	95% Confiden Me			95% Cor	fidence Interval fo	or Median		95% Confiden Weighte				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
.982	.947	1.018	.965	.937	1.029	95.6%	.961	.920	1.001	1.022	.124	15.2%

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

## Commercial/Industrial

#### Ratio Statistics for CURRTOT / TASP

	95% Confiden Me	ce Interval for an		95% Con	fidence Interval fo	or Median		95% Confiden Weighte				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
.947	.907	.988	.976	.926	1.000	95.7%	.977	.957	.998	.969	.074	11.4%

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**

Not applicable



## **Residential Median Ratio Stratification**

## Sale Price

## **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	3	4.2%
	\$25K to \$50K	10	13.9%
	\$50K to \$100K	20	27.8%
	\$100K to \$150K	20	27.8%
	\$150K to \$200K	9	12.5%
	\$200K to \$300K	9	12.5%
	\$300K to \$500K	1	1.4%
Overall		72	100.0%
Excluded	1	0	
Total		72	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.013	1.037	.126	19.5%
\$25K to \$50K	.999	.986	.151	18.4%
\$50K to \$100K	.990	.989	.121	16.2%
\$100K to \$150K	1.053	.999	.105	12.8%
\$150K to \$200K	.955	.995	.071	10.3%
\$200K to \$300K	.891	1.003	.081	11.5%
\$300K to \$500K	.686	1.000	.000	.%
Overall	.965	1.022	.124	15.6%



## **Sub Class**

## Case Processing Summary

		Count	Percent
ABSTRIMP	1212	69	95.8%
	1215	2	2.8%
	1225	1	1.4%
Overall		72	100.0%
Excluded		0	
Total		72	

## Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1212	.967	1.016	.123	15.4%
1215	.815	1.096	.157	22.3%
1225	.844	1.000	.000	.%
Overall	.965	1.022	.124	15.6%

# Age

## Case Processing Summary

		Count	Percent
AgeRec	Over 100	2	2.8%
	75 to 100	15	20.8%
	50 to 75	16	22.2%
	25 to 50	27	37.5%
	5 to 25	12	16.7%
Overall		72	100.0%
Excluded		0	
Total		72	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Over 100	1.002	.958	.124	17.5%
75 to 100	.929	1.025	.132	17.9%
50 to 75	.940	1.049	.132	17.1%
25 to 50	.965	1.027	.109	13.7%
5 to 25	1.026	1.042	.115	16.8%
Overall	.965	1.022	.124	15.6%



# Improved Area

## **Case Processing Summary**

		Count	Percent
ImpSFRec	500 to 1,000 sf	8	11.1%
	1,000 to 1,500 sf	16	22.2%
	1,500 to 2,000 sf	13	18.1%
	2,000 to 3,000 sf	21	29.2%
	3,000 sf or Higher	14	19.4%
Overall		72	100.0%
Excluded		0	
Total		72	

## Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
500 to 1,000 sf	.938	1.034	.120	15.8%
1,000 to 1,500 sf	1.012	1.007	.100	12.6%
1,500 to 2,000 sf	1.100	1.003	.129	18.3%
2,000 to 3,000 sf	.967	1.006	.112	15.2%
3,000 sf or Higher	.891	1.020	.112	14.7%
Overall	.965	1.022	.124	15.6%

# Quality

## Case Processing Summary

	Count	Percent
QUALITY 9	17	23.6%
10	55	76.4%
Overall	72	100.0%
Excluded	0	
Total	72	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
9	.989	1.003	.128	16.6%
10	.965	1.024	.121	15.2%
Overall	.965	1.022	.124	15.6%



## **Commercial Median Ratio Stratification**

## Sale Price

## Case Processing Summary

		Count	Percent
SPRec	LT \$25K	2	6.7%
	\$25K to \$50K	8	26.7%
	\$50K to \$100K	9	30.0%
	\$100K to \$150K	3	10.0%
	\$150K to \$200K	2	6.7%
	\$200K to \$300K	3	10.0%
	\$300K to \$500K	1	3.3%
	Over \$1,000K	2	6.7%
Overall		30	100.0%
Excluded	t	0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	.782	.935	.089	12.6%
\$25K to \$50K	.946	1.001	.063	8.4%
\$50K to \$100K	.980	.994	.101	17.2%
\$100K to \$150K	.994	.999	.007	1.4%
\$150K to \$200K	.933	1.001	.012	1.7%
\$200K to \$300K	1.007	1.001	.034	5.0%
\$300K to \$500K	1.038	1.000	.000	.%
Over \$1,000K	.983	1.005	.017	2.4%
Overall	.976	.969	.074	11.5%



## **Sub Class**

## **Case Processing Summary**

		Count	Percent
ABSTRIMP	1716	2	6.7%
	1721	1	3.3%
	2212	7	23.3%
	2215	2	6.7%
	2220	2	6.7%
	2224	1	3.3%
	2230	10	33.3%
	2232	1	3.3%
	2233	1	3.3%
	2235	3	10.0%
Overall		30	100.0%
Excluded		0	
Total		30	

## Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1716	.986	1.002	.015	2.2%
1721	.717	1.000	.000	.%
2212	.916	.976	.081	11.6%
2215	.983	1.005	.017	2.4%
2220	1.015	.986	.023	3.2%
2224	.944	1.000	.000	.%
2230	.989	.973	.076	14.0%
2232	.956	1.000	.000	.%
2233	.921	1.000	.000	.%
2235	.966	.912	.099	18.7%
Overall	.976	.969	.074	11.5%

# **Vacant Land Median Ratio Stratification**

Not applicable