

# KIT CARSON COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2019

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

RE: Final Report for the 2019 Colorado Property Assessment Study

Dear Ms. Mullis:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2019 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. Zulln

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 twopart 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 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.

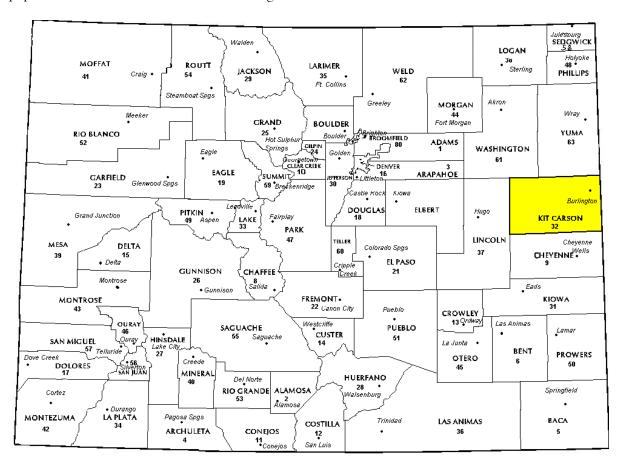
Wildrose Audit has completed the Property Assessment Study for 2019 and is pleased to report its findings for Kit Carson County in the following report.



# 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 had an estimated population of approximately 8,195 people with 3.8 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a -0.9 percent change from April 1, 2010 to July 1, 2016.

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 property were analyzed. Sales were collected for each property class over the eighteen month period from January 1, 2017 through June 30, 2018. Property classes with less than thirty sales had the sales period extended in six month increments up to an additional forty-two months. If this extended sales period did not produce the minimum thirty qualified sales, the Audit performed supplemental appraisals to reach the minimum.

Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In

every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming.

All sixty-four counties were examined for compliance on the economic area level. Where there were sufficient sales data, the neighborhood and subdivision levels were tested for compliance. Although counties are determined to be in or out of compliance at the class level, non-compliant economic areas, neighborhoods and subdivisions (where applicable) were discussed with the Assessor.

# Data on the individual economic areas, neighborhoods and subdivisions are found in the STATISTICAL APPENDIX.

### 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	19	1.007	1.052	7.4	Compliant	
Condominium	N/A	N/A	N/A	N/A	N/A	
Single Family	136	0.950	1.010	13.7	Compliant	
Vacant Land	N/A	N/A	N/A	N/A	N/A	

<sup>\*</sup>County Sales File augmented by one supplemental appraisal

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



# 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 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.

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. 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. determines if the sold/unsold variable is statistically and empirically significant. 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 nonparametric 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 R	esults
Property Class	Results
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	N/A

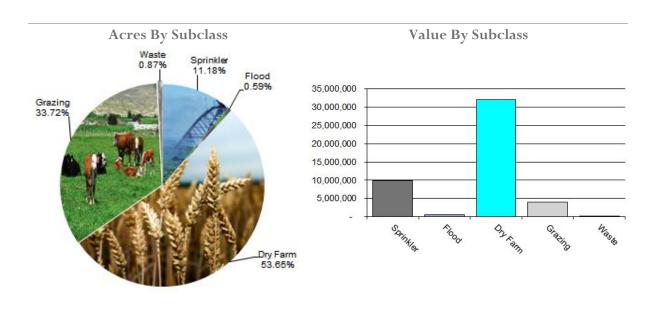
# Conclusions

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 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 carrying locally developed yields, 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	147,907	67.47	9,979,348	10,122,095	0.99
4117	Flood	7,752	67.47	523,031	530,512	0.99
4127	Dry Farm	709,878	45.18	32,072,958	30,800,514	1.04
4147	Grazing	446,089	8.92	3,976,989	3,976,989	1.00
4167	Waste	11,477	2.39	27,382	27,382	1.00
Total/Avg		1,323,103	35.20	46,579,708	45,457,493	1.02

### 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



# **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 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.:

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

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

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 2019 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 51 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.

When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number of properties or by value, from the prior year. The contractor has



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

If 50 percent or more of the sales are qualified, the contractor has reviewed a statistically significant sample of unqualified sales, excluding sales that were disqualified for obvious reasons.

The following subclasses were analyzed for Kit Carson County:

2130 Special Purpose

2135 Warehouse/Storage

2230 Special Purpose
3115 Manufacturing/Processing

3215 Manufacturing/Processing

### **Conclusions**

Kit Carson 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



# ECONOMIC AREA REVIEW AND 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**

# 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

Kit Carson County is exempt from the Vacant Land Subdivision Discount Study.



# 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, 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 classification, procedures, current economic lives table, cost factor tables, depreciation table, and level of 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 2019 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 \$7,700 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

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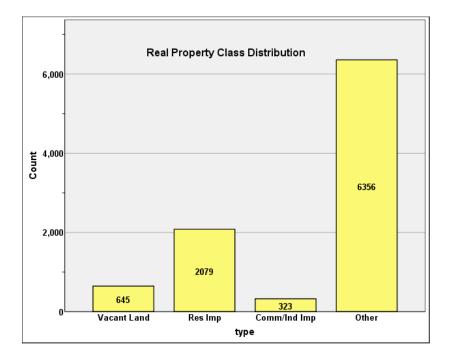
# STATISTICAL APPENDIX



# FOR KIT CARSON COUNTY 2019

### I. OVERVIEW

Kit Carson County is an agricultural county located in eastern Colorado. The county has a total of 9,403 real property parcels, according to data submitted by the county assessor's office in 2019. The following provides a breakdown of property classes for this county:



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 96.6% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.4% of all such properties in this county.

Based on the Audit questionnaire, 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	N

Codes

**V**=Valid Geographic Level – used for modeling **N** = Not used as Geographic Level for modeling

*Note:* The Neighborhood code is the same thing as the Economic Area in our system

### II. DATA FILES

The following sales analyses were based on the requirements of the 2019 Colorado Property Assessment Study. Information was provided by the Kit Carson Assessor's Office in April 2019. The data included all 5 property record files as specified by the Auditor.

### III. RESIDENTIAL SALES RESULTS

There were 137 **qualified residential sales** for this analysis; one sale was trimmed based on IAAO standards. The remaining 136 residential sales spanned the period from July 1, 2016 to June 30, 2018. The sales ratio analysis results were as follows:

Median	0.950
Price Related Differential	1.010
Coefficient of Dispersion	13.7

We next stratified the sale ratio analysis by economic, neighborhood, and subdivision. The minimum count for this analysis was 10 sales. The following are the results of this stratification analysis:

### **Case Processing Summary**

		Count	Percent
NBHD	100.0	70	51.5%
	200.0	21	15.4%
	200.1	18	13.2%
	300.1	6	4.4%
	400.5	2	1.5%
	400.9	1	0.7%
	500.0	15	11.0%
	500.1	2	1.5%
	500.2	1	0.7%
Overall		136	100.0%
Excluded		0	
Total		136	

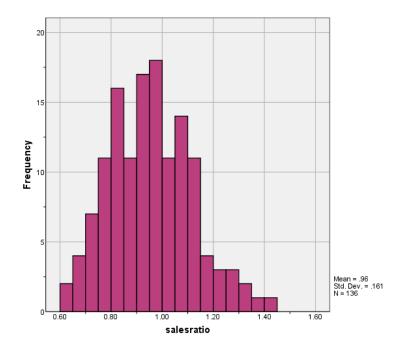


### **Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion
100.0	.987	1.005	.139
200.0	.906	.993	.153
200.1	.922	.994	.112
300.1	.908	.995	.140
400.5	.747	1.029	.146
400.9	1.007	1.000	.000
500.0	.904	1.018	.088
500.1	1.065	1.015	.209
500.2	.951	1.000	.000
Overall	.950	1.010	.137

The above ratio statistics for the entire class were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The largest neighborhood (NBHD 100.0-Burlington) was also in compliance, although the next three largest neighborhoods (NBHDs 200.0, 200.1, and 500.0) had median ratios less than the 0.95 lower limit. All three have 21 or fewer sales, although we did contact the assessor's office to advise them of these results.

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**

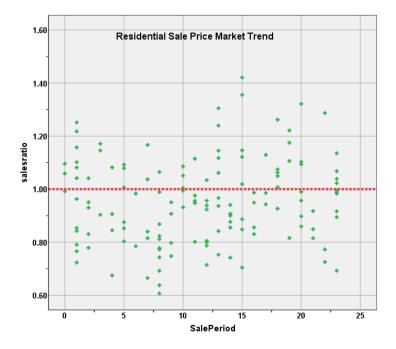
We next analyzed the residential dataset using the 24-month sale period, with the following results:

### **Coefficients**<sup>a</sup>

		Unstandardized		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.925	.027		34.351	.000
	SalePeriod	.003	.002	.116	1.354	.178

a. Dependent Variable: salesratio





The lack of a significant sale ratio trend over the 24 month period indicates that the assessor has adequately adjusted for any market tending in their residential sale analysis.

### **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 2019 between each group, as follows:

<b>Report</b> VALSF				
sold	N	Median	Mean	
UNSOLD	1943	\$40	\$43	
SOLD	134	\$43	\$47	

# **Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of VALSF is th same across categories of sold	Independent- Samples Mann- Whitney U Test	.006	Retain the null hypothesis.

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

We also compared residential sold and unsold properties by neighborhood, as follows:



# Report VALSF

NBHD	sold	N	Median	Mean
100.00	UNSOLD	990	\$44	\$47
	SOLD	70	\$51	\$53
200.00	UNSOLD	246	\$32	\$34
	SOLD	19	\$33	\$34
200.10	UNSOLD	245	\$31	\$32
	SOLD	18	\$35	\$37
300.10	UNSOLD	74	\$26	\$29
	SOLD	6	\$33	\$34
400.50	UNSOLD	17	\$59	\$59
	SOLD	2	\$35	\$35
400.90	UNSOLD	24	\$53	\$57
	SOLD	1	\$33	\$33
500.00	UNSOLD	156	\$48	\$50
	SOLD	15	\$54	\$58

A similar comparison of residential sold and unsold properties using the second method (median change in value for taxable years 2018 and 2019) indicated no difference between these groups both overall and by neighborhood.

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

### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

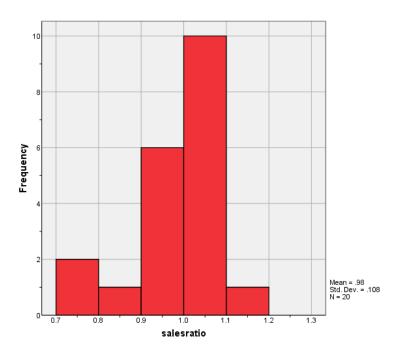
A total of 19 **valid and qualified sales** were identified in the five year period ending June 30, 2018 (a  $20^{th}$  sale was not used for this analysis because it was a mixed use property). Because there were fewer than 20 sales, 1 supplemental appraisal was completed to bring the total to 20 properties for the sales ratio analysis. The market trending and sold/unsold analysis was performed using the 19 sold properties.

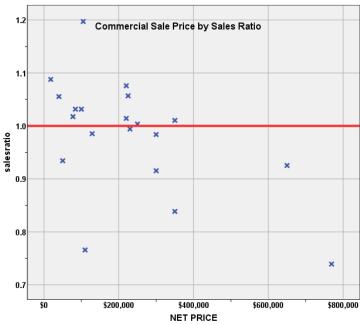
The following ratio analysis was completed as follows:

Median	1.007
Price Related Differential	1.052
Coefficient of Dispersion	7.4

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**

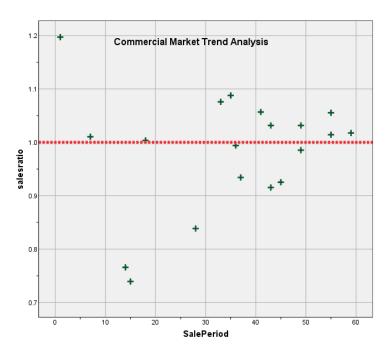
The 19 sales were analyzed next to verify that the assessor properly applied market trend adjustments to the commercial sales:



### **Coefficients**<sup>a</sup>

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.949	.061		15.628	.000
	SalePeriod	.001	.002	.151	.629	.538

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.

Report VALSF				
sold	N	Median	Mean	
UNSOLD	307	\$23	\$40	
SOLD	19	\$22	\$25	



# **Hypothesis Test Summary**

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of VALSF is the same across categories of sold	Independent- Samples ne Mann- I. Whitney U Test	.834	Retain the null hypothesis.

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

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

### VI. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Kit Carson County.



### **STATISTICAL ABSTRACT**

### Residential

### Ratio Statistics for CURRTOT / TASP

		nce Interval for ean		95% Cor	nfidence Interval fo	r Median			nce Interval for ed Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.956	.929	.983	.950	.916	.987	95.2%	.947	.915	.978	1.010	.137	16.9%

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 / NET PRICE

	95% Confiden Me	nce Interval for ean		95% Confidence Interval for Median 95% Confidence Weighted					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
.983	.933	1.034	1.007	.934	1.032	95.9%	.935	.855	1.014	1.052	.074	11.0%

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

### **Vacant Land**

Not applicable



### **Residential Median Ratio Stratification**

### **Sale Price**

# **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	3	2.2%
	\$25K to \$50K	11	8.1%
	\$50K to \$100K	35	25.7%
	\$100K to \$150K	42	30.9%
	\$150K to \$200K	21	15.4%
	\$200K to \$300K	17	12.5%
	\$300K to \$500K	7	5.1%
Overall		136	100.0%
Excluded		0	
Total		136	

### **Ratio Statistics for CURRTOT / TASP**

		Dries Deleted	Coofficient of	Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$25K	.840	1.057	.193	28.9%
\$25K to \$50K	.951	1.018	.138	17.7%
\$50K to \$100K	.948	1.001	.144	17.5%
\$100K to \$150K	.952	1.004	.126	15.8%
\$150K to \$200K	1.004	1.000	.116	15.9%
\$200K to \$300K	.943	1.000	.146	18.8%
\$300K to \$500K	.877	1.004	.121	16.5%
Overall	.950	1.010	.137	17.0%

### **Sub Class**

### **Case Processing Summary**

		Count	Percent
ABSTRIMP	0	2	1.5%
	1212	132	97.1%
	1215	2	1.5%
Overall		136	100.0%
Excluded		0	
Total		136	

### **Ratio Statistics for CURRTOT / TASP**

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
0	.723	1.092	.161	22.8%
1212	.951	1.014	.136	16.9%
1215	1.005	.969	.057	8.0%
Overall	.950	1.010	.137	17.0%



# Age

# **Case Processing Summary**

		Count	Percent
AgeRec	0	2	1.5%
	Over 100	8	5.9%
	75 to 100	37	27.2%
	50 to 75	45	33.1%
	25 to 50	28	20.6%
	5 to 25	14	10.3%
	5 or Newer	2	1.5%
Overall		136	100.0%
Excluded		0	
Total		136	

# **Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.723	1.092	.161	22.8%
Over 100	.969	1.025	.106	13.6%
75 to 100	.932	1.012	.133	16.4%
50 to 75	.937	1.017	.142	18.2%
25 to 50	.929	1.025	.126	15.6%
5 to 25	1.073	1.015	.097	14.7%
5 or Newer	.988	.998	.004	0.5%
Overall	.950	1.010	.137	17.0%

# **Improved Area**

# **Case Processing Summary**

		Count	Percent
ImpSFRec	0	2	1.5%
	500 to 1,000 sf	9	6.6%
	1,000 to 1,500 sf	15	11.0%
	1,500 to 2,000 sf	20	14.7%
	2,000 to 3,000 sf	29	21.3%
	3,000 sf or Higher	61	44.9%
Overall		136	100.0%
Excluded		0	
Total		136	

### **Ratio Statistics for CURRTOT / TASP**

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
0	.723	1.092	.161	22.8%
500 to 1,000 sf	.987	1.020	.090	13.2%
1,000 to 1,500 sf	.849	.994	.103	13.5%
1,500 to 2,000 sf	.959	1.015	.126	15.0%
2,000 to 3,000 sf	.949	1.011	.144	18.7%
3,000 sf or Higher	.990	1.028	.131	16.4%
Overall	.950	1.010	.137	17.0%



# Quality

# **Case Processing Summary**

		Count	Percent
QUALITY		2	1.5%
	08 - MINIMUM	1	0.7%
	09 - FAIR	32	23.5%
	10 - AVERAGE	100	73.5%
	11 - GOOD	1	0.7%
Overall		136	100.0%
Excluded		0	
Total		136	

### **Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.723	1.092	.161	22.8%
08 - MINIMUM	1.092	1.000	.000	
09 - FAIR	1.023	.988	.137	16.7%
10 - AVERAGE	.942	1.007	.130	16.6%
11 - GOOD	.852	1.000	.000	
Overall	.950	1.010	.137	17.0%

### Condition

# **Case Processing Summary**

		Count	Percent
CONDITION		2	1.5%
	19 - POOR	1	0.7%
	20 - VERY POOR	3	2.2%
	21 - FAIR COND	18	13.2%
	22 - GOOD COND	2	1.5%
	24 - COND AVG	110	80.9%
Overall		136	100.0%
Excluded		0	
Total		136	

### **Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.723	1.092	.161	22.8%
19 - POOR	1.167	1.000	.000	
20 - VERY POOR	1.039	1.000	.075	12.7%
21 - FAIR COND	.969	1.002	.154	18.6%
22 - GOOD COND	.842	1.011	.076	10.8%
24 - COND AVG	.950	1.012	.132	16.6%
Overall	.950	1.010	.137	17.0%



# **Commercial Median Ratio Stratification**

### **Sale Price**

# **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	1	5.0%
	\$25K to \$50K	2	10.0%
	\$50K to \$100K	3	15.0%
	\$100K to \$150K	3	15.0%
	\$200K to \$300K	6	30.0%
	\$300K to \$500K	3	15.0%
	\$500K to \$750K	1	5.0%
	\$750K to \$1,000K	1	5.0%
Overall		20	100.0%
Excluded		0	
Total		20	

### Ratio Statistics for CURRTOT / NET PRICE

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.088	1.000	.000	
\$25K to \$50K	.995	1.007	.061	8.6%
\$50K to \$100K	1.032	.999	.005	1.0%
\$100K to \$150K	.985	1.003	.146	21.9%
\$200K to \$300K	1.009	1.002	.027	3.9%
\$300K to \$500K	.915	1.000	.063	9.4%
\$500K to \$750K	.925	1.000	.000	
\$750K to \$1,000K	.739	1.000	.000	
Overall	1.007	1.052	.074	11.0%

### **Sub Class**

# **Case Processing Summary**

		Count	Percent
ABSTRIMP	1891	1	5.0%
	1964	1	5.0%
	1972	1	5.0%
	2212	4	20.0%
	2215	1	5.0%
	2220	1	5.0%
	2225	1	5.0%
	2230	5	25.0%
	2232	1	5.0%
	2233	1	5.0%
	2235	2	10.0%
	3215	1	5.0%
Overall		20	100.0%
Excluded		0	
Total		20	



# Ratio Statistics for CURRTOT / NET PRICE

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
1891	1.076	1.000	.000	
1964	1.010	1.000	.000	
1972	.925	1.000	.000	
2212	1.036	1.184	.136	19.3%
2215	1.018	1.000	.000	
2220	.915	1.000	.000	
2225	1.055	1.000	.000	
2230	1.032	.998	.017	2.7%
2232	.839	1.000	.000	
2233	.994	1.000	.000	
2235	.850	1.039	.099	14.0%
3215	1.004	1.000	.000	
Overall	1.007	1.052	.074	11.0%

Age

# **Case Processing Summary**

		Count	Percent
AgeRec	Over 100	2	10.0%
	75 to 100	3	15.0%
	50 to 75	2	10.0%
	25 to 50	6	30.0%
	5 to 25	6	30.0%
	5 or Newer	1	5.0%
Overall	-	20	100.0%
Excluded		0	
Total		20	

# Ratio Statistics for CURRTOT / NET PRICE

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
Over 100	1.053	1.021	.033	4.7%
75 to 100	1.055	.973	.045	8.2%
50 to 75	1.021	1.006	.010	1.5%
25 to 50	.920	1.074	.115	17.0%
5 to 25	1.004	.986	.060	11.0%
5 or Newer	.985	1.000	.000	
Overall	1.007	1.052	.074	11.0%



# Improved Area

# **Case Processing Summary**

		Count	Percent
ImpSFRec	2,000 to 3,000 sf	3	15.0%
	3,000 sf or Higher	17	85.0%
Overall		20	100.0%
Excluded		0	
Total		20	

# **Ratio Statistics for CURRTOT / NET PRICE**

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
2,000 to 3,000 sf	1.032	1.012	.050	7.7%
3,000 sf or Higher	1.004	1.048	.077	11.6%
Overall	1.007	1.052	.074	11.0%

# Quality

# **Case Processing Summary**

		Count	Percent
QUALITY	02 - FAIR	1	5.0%
	03 - AVERAGE	16	80.0%
	09 - FAIR	1	5.0%
	10 - AVERAGE	2	10.0%
Overall		20	100.0%
Excluded		0	
Total		20	

# **Ratio Statistics for CURRTOT / NET PRICE**

Group	Median	Price Related Differential	Coefficient of Dispersion	Variation Median Centered
				Wicdian Ochtorea
02 - FAIR	.766	1.000	.000	
03 - AVERAGE	1.009	1.074	.068	10.4%
09 - FAIR	1.076	1.000	.000	
10 - AVERAGE	.968	1.013	.044	6.2%
Overall	1.007	1.052	.074	11.0%



### Condition

# **Case Processing Summary**

		Count	Percent
CONDITIOn	21 - FAIR COND	1	5.0%
	24 - COND AVG	2	10.0%
	ABV AVG	1	5.0%
	AVERAGE	13	65.0%
	BELOW AVG	2	10.0%
	FAIR	1	5.0%
Overall		20	100.0%
Excluded		0	
Total		20	

# Ratio Statistics for CURRTOT / NET PRICE

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
21 - FAIR COND	1.076	1.000	.000	
24 - COND AVG	.968	1.013	.044	6.2%
ABV AVG	1.032	1.000	.000	
AVERAGE	.985	1.061	.076	11.4%
BELOW AVG	1.056	1.000	.001	0.1%
FAIR	1.197	1.000	.000	
Overall	1.007	1.052	.074	11.0%

# **Vacant Land Median Ratio Stratification**

Not applicable