WILDROSE
APPRAISAL INCORPORATED
Audit Division

September 15, 2010

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

RE: Final Report for the 2010 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2010 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

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

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INTRODUCTION

Colorado

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

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

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

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

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

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

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

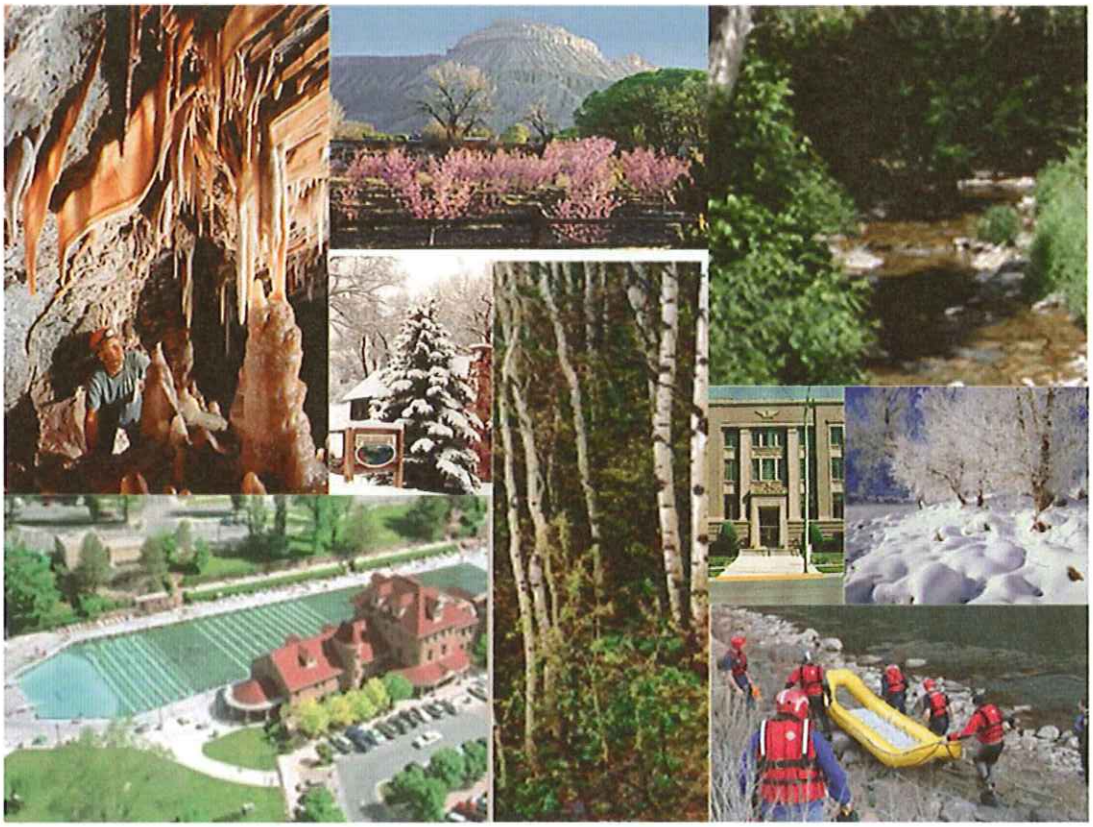
Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax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

Wildrose Audit has completed the Property Assessment Study for 2010 and is pleased to report its findings for Garfield County in the following report.

REGIONAL / HISTORICAL SKETCH OF GARFIELD COUNTY

Regional Information

Garfield County is located in the Western Slope region of Colorado. The Western Slope of Colorado refers to the region west of the Rocky Mountains. It includes Archuleta, Delta, Dolores, Eagle, Garfield, Grand, Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit counties.



Historical Information

Garfield County has a population of approximately 56,298 people with 14.9 people per square mile, according to the U.S. Census Bureau's 2009 estimated population data.

Garfield County is located in the scenic plateau and canyon country of western Colorado. Covering 3,000 square miles, it is 110 miles long and extends to the Utah border. It was carved out of Summit County on February 10, 1883. In historical times, the earliest inhabitants were the Ute Indians, and the land was theirs by treaty until April 12, 1880, when they were removed to reservations after the "Meeker Massacre" of 1879. Although explorers, missionaries, miners, and a few settlers had already visited the area of Garfield County, the main influx of settlers began to arrive and towns were founded beginning in 1880.

The towns in Garfield County are located along the Colorado and Roaring Fork rivers in the eastern end of the county, while much of the western portion has only a few roads and fewer inhabitants.

The town of Defiance was founded in 1831 by Isaac Cooper who hoped to develop the natural hot springs into a resort. Unfortunately he died before his dream could be realized. It became the county seat in 1883 and was incorporated and renamed in 1885 as Glenwood Springs, which remains the county seat and largest city today. In 1887 a coal tycoon, Walter Devereaux purchased the hot springs and vapor caves for $125,000 and began to build the famous pool and spa resort. This was the same year that the Denver and Rio Grande Railroad extended its tracks through the difficult Glenwood Canyon and into Glenwood Springs, Aspen and beyond.

While the county retains part of its ranching and farming heritage, and tourism is important, every town from Carbondale to Parachute has become a bedroom community to provide workers to the ever-booming and ever-expanding Aspen skiing economy. People commute to Aspen, 86 miles from Battlement Mesa, as well as to Grand Junction, 63 miles from Rifle.

(Garfield County, Colorado by Judy Crook and Vikki Gray)

RATIO ANALYSIS

Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 2007 and June 2008. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2008 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

Conclusions

For this final analysis report, the minimum acceptable statistical standards allowed by the State Board of Equalization are:

ALLOWABLE STANDARDS RATIO GRID		
Property Class	**Unweighted Median Ratio**	**Coefficient of Dispersion**
Commercial/Industrial	Between .95-1.05	Less than 20.99
Condominium	Between .95-1.05	Less than 15.99
Single Family	Between .95-1.05	Less than 15.99
Vacant Land	Between .95-1.05	Less than 20.99

The results for Garfield County are:

Garfield County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	107	0.992	1.043	14.6	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	2,022	1.000	1.010	6.4	Compliant
Vacant Land	469	1.000	1.030	10.5	Compliant

After applying the above described methodologies, it is concluded from the sales ratios that Garfield 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, 2007 through June 30, 2008. 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, Garfield County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

Recommendations

None

TIME TRENDING VERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market trending adequately, and a further examination is warranted. This validation 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 Garfield County has complied with the statutory requirements to analyze the effects of time on value in their county. Garfield County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD / UNSOLD ANALYSIS

Methodology

Garfield 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 2009 and 2010 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. Once the 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 non-parametric 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 multi-variate 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 Results	
Property Class	**Results**
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

Conclusions

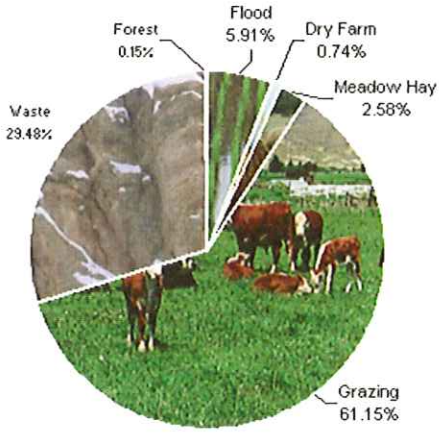
After applying the above described methodologies, it is concluded that Garfield County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

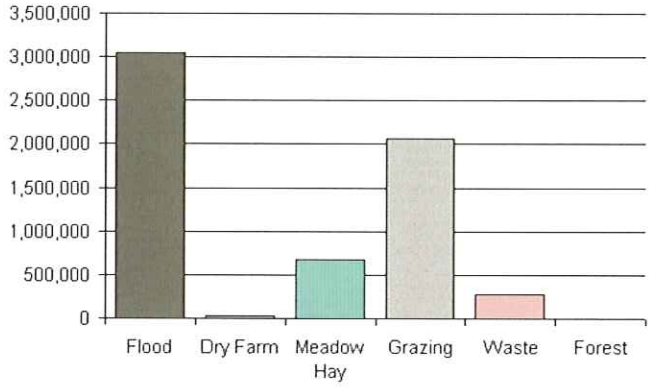
None

AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. County yields compared favorably to those published by Colorado Agricultural Statistics. Expenses used by the county were allowable expenses and were in an acceptable range. Grazing lands carrying capacities were in an acceptable range. The data analyzed resulted in the following ratios:

Garfield County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4117	Flood	34,567	87.98	3,041,281	3,229,714	0.94
4127	Dry Farm	4,325	6.88	29,772	32,828	0.91
4137	Meadow Hay	15,068	44.50	670,547	670,547	1.00
4147	Grazing	357,733	5.77	2,062,499	2,062,499	1.00
4177	Forest	883	1.62	6,409	6,409	1.00
4167	Waste	172,466	1.62	278,546	278,546	1.00
Total/Avg		**585,042**	**10.41**	**6,089,055**	**6,280,544**	**0.97**

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

Garfield County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2010 for Garfield County. This study was conducted by checking selected sales from the master sales list for the Jan 1, 2007 - June 30, 2008 valuation period. Specifically WRA selected 32 sales listed as unqualified.

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

Conclusions

Garfield 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

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Garfield County has submitted a written narrative describing the economic areas that make up the county's market areas. Garfield 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 Garfield County has adequately identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

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

Conclusions

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

Recommendations

None

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:

None

Producing Coal Mines

Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Section 6, Valuation of Producing Coal Leaseholds and Lands, the income approach is the primary method applied to find value for the valuation of coalmines. This methodology estimates annual economic royalty income based on previous year's production, then capitalizes that income to value using a Hoskold factor to estimate the present worth of the permitted acres. The operator provides production data and the life of the leases.

Conclusions

County has applied the correct formulas and state guidelines to coal mine valuation.

Recommendations

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2010 in Garfield 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

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

Recommendations

None

POSSESSORY INTEREST PROPERTIES

Possessory Interest

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of Chapter 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been granted under lease, permit, license, concession, contract, or other agreement.

Garfield County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural, commercial and ski area possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

Conclusions

Garfield County has implemented a discovery process to place possessory interest properties on the roll. They have also correctly and consistently applied the correct procedures and valuation methods in the valuation of possessory interest properties.

Recommendations

None

PERSONAL PROPERTY AUDIT

Garfield County was studied for its procedural compliance with the personal property assessment outlined in the Assessor's Reference Library (ARL) Volume 5, and in the State Board of Equalization (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, classification, documentation procedures, current economic lives table, cost factor tables, depreciation table, and level of value adjustment factor table.

The personal property audit standards narrative must be in place and current. A listing of businesses that have been audited by the assessor within the twelve-month period reflected in the plan is given to the auditor. The audited businesses must be in conformity with those described in the plan.

Aggregate ratio will be determined solely from the personal property accounts that have been physically inspected. The minimum assessment sample is one percent or ten schedules, whichever is greater, and the maximum assessment audit sample is 100 schedules.

For the counties having over 100,000 population, WRA selected a sample of all personal property schedules to determine whether the assessor is correctly applying the provisions of law and manuals of the Property Tax Administrator in arriving at the assessment levels of such property. This sample was selected from the personal property schedules audited by the assessor. In no event was the sample selected by the contractor less than 30 schedules. The counties to be included in this study are Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

Garfield 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
- 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
- All Accounts on rotation
- Anything under $4,000
- Dec Schedules

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.

Garfield County submitted their personal property written audit plan and was current for the 2010 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 $4,000 actual value exemption status
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement
- Businesses on scheduled rotation

Conclusions

Garfield County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their personal property assessment and is in statistical compliance with SBOE requirements.

Recommendations

None

WILDROSE AUDITOR STAFF

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician / Field Analyst*

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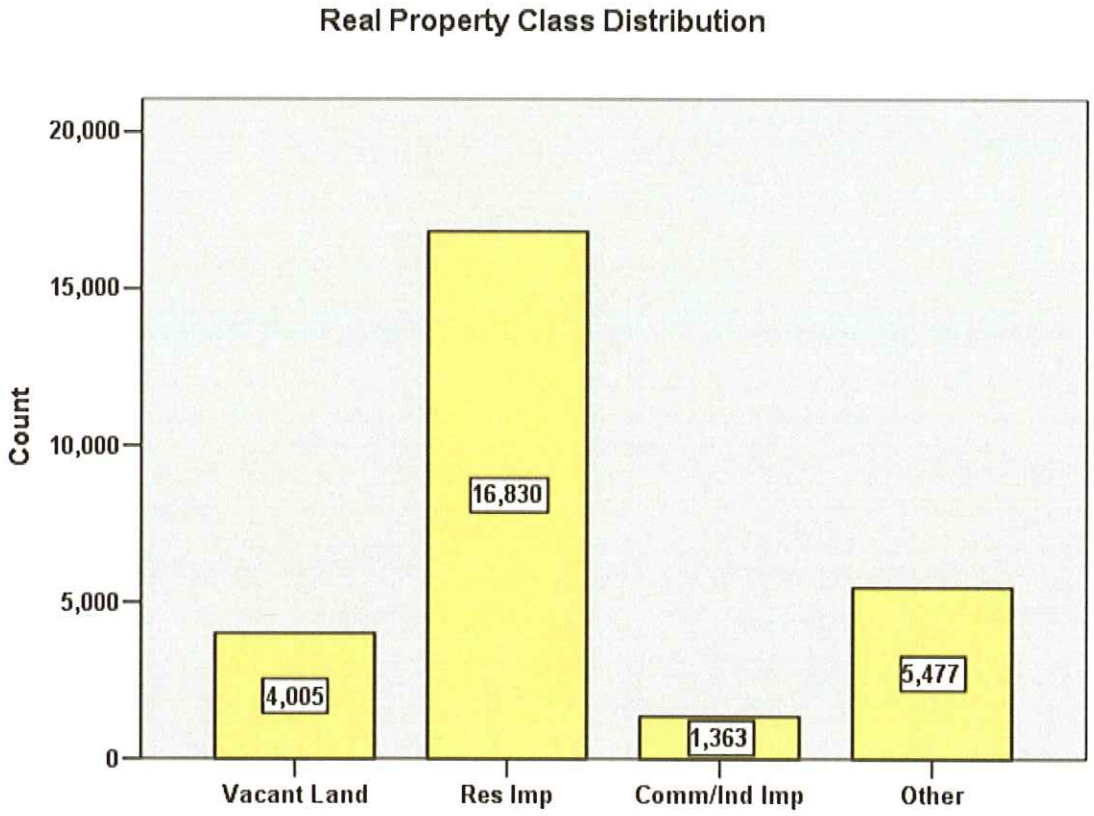
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL RESULTS
FOR GARFIELD COUNTY
2010

I. OVERVIEW

Garfield County is a mountain resort county located in west central Colorado. The county has a total of 27,675 real property parcels, according to data submitted by the county assessor's office in 2010. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 62% of all vacant land parcels.

For residential improved properties, single family properties accounted for 85% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 5% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2010 Colorado Property Assessment Study. Information was provided by the Garfield Assessor's Office on April 22, 2010. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

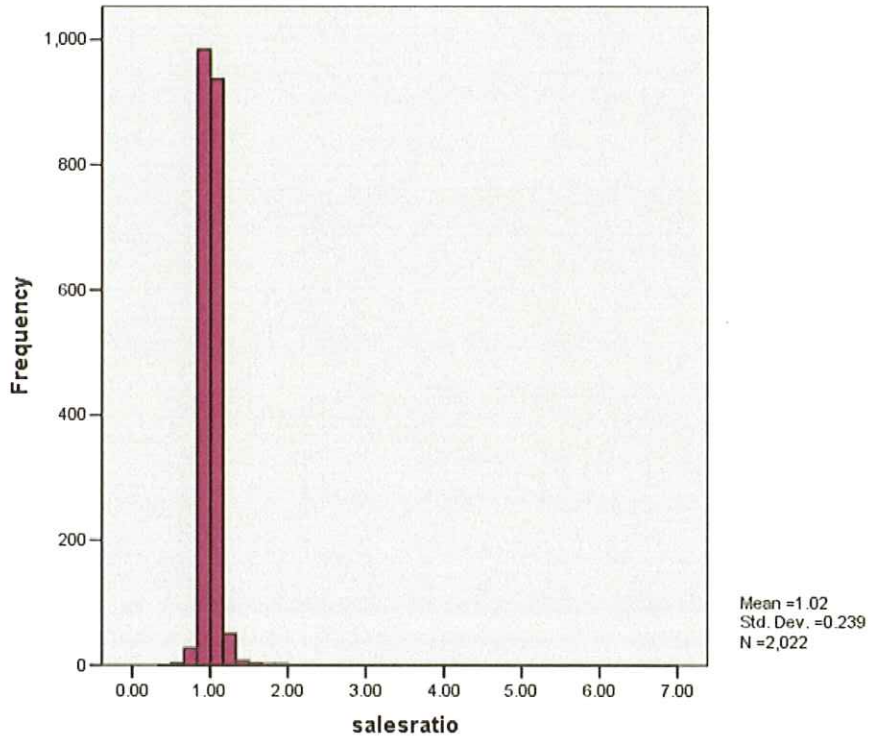
The following steps were taken to analyze the residential sales:

1. Select improved sales	2,354
2. Select residential sales only	2,022
3. Sales between January 1, 2007 and June 30, 2008	2,022

The sales ratio analysis was analyzed as follows:

Median	**1.000**
Price Related Differential	**1.010**
Coefficient of Dispersion	**.064**

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



The above graphs indicate that the distribution of the sale ratios was within state mandated limits. No sales were trimmed.

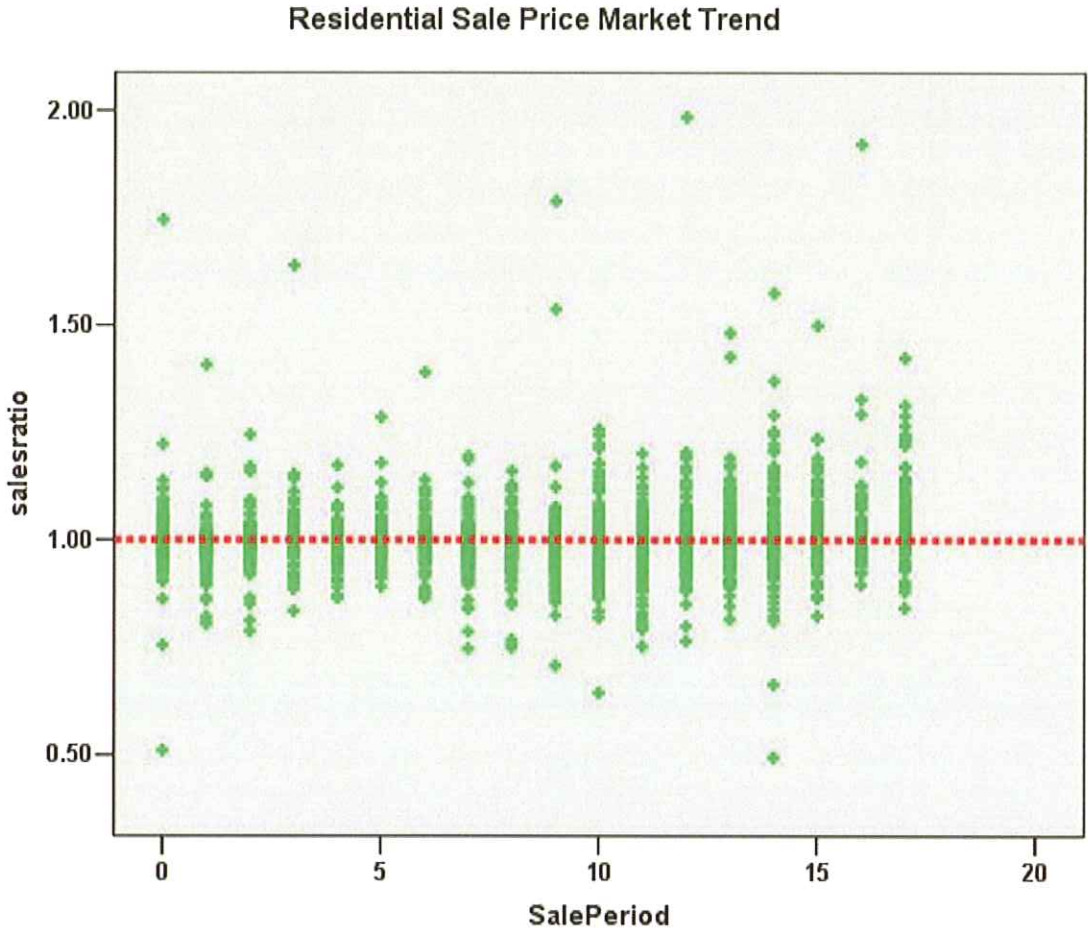
Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending. The following indicates that while there was a statistically significant residual trend based on the sale ratios, the actual magnitude (at 0.2% per month) was not significant.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.986	.004		245.227	.000
	SalePeriod	.002	.000	.118	5.324	.000

a. Dependent Variable: salesratio



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

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2010 between each group, as follows:

Group	N	Median	Mean
Unsold	14,381	$262	$283
Sold	2,021	$236	$256

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

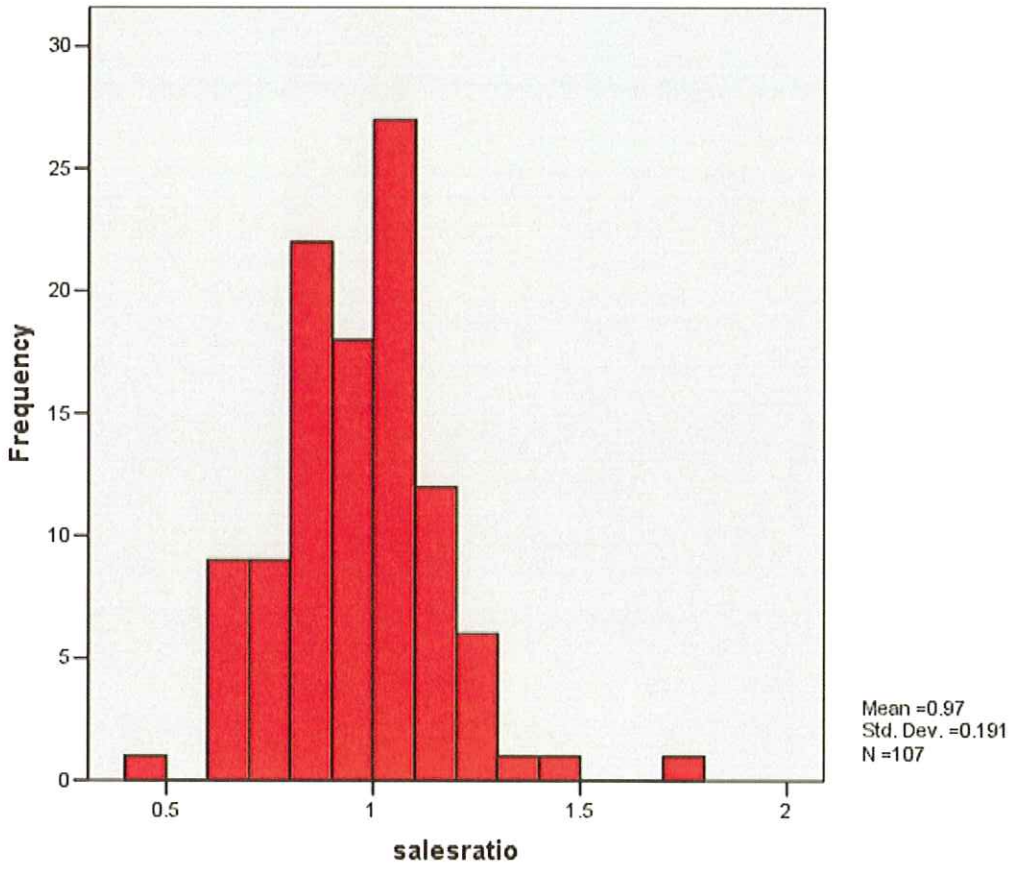
The following steps were taken to analyze the commercial sales:

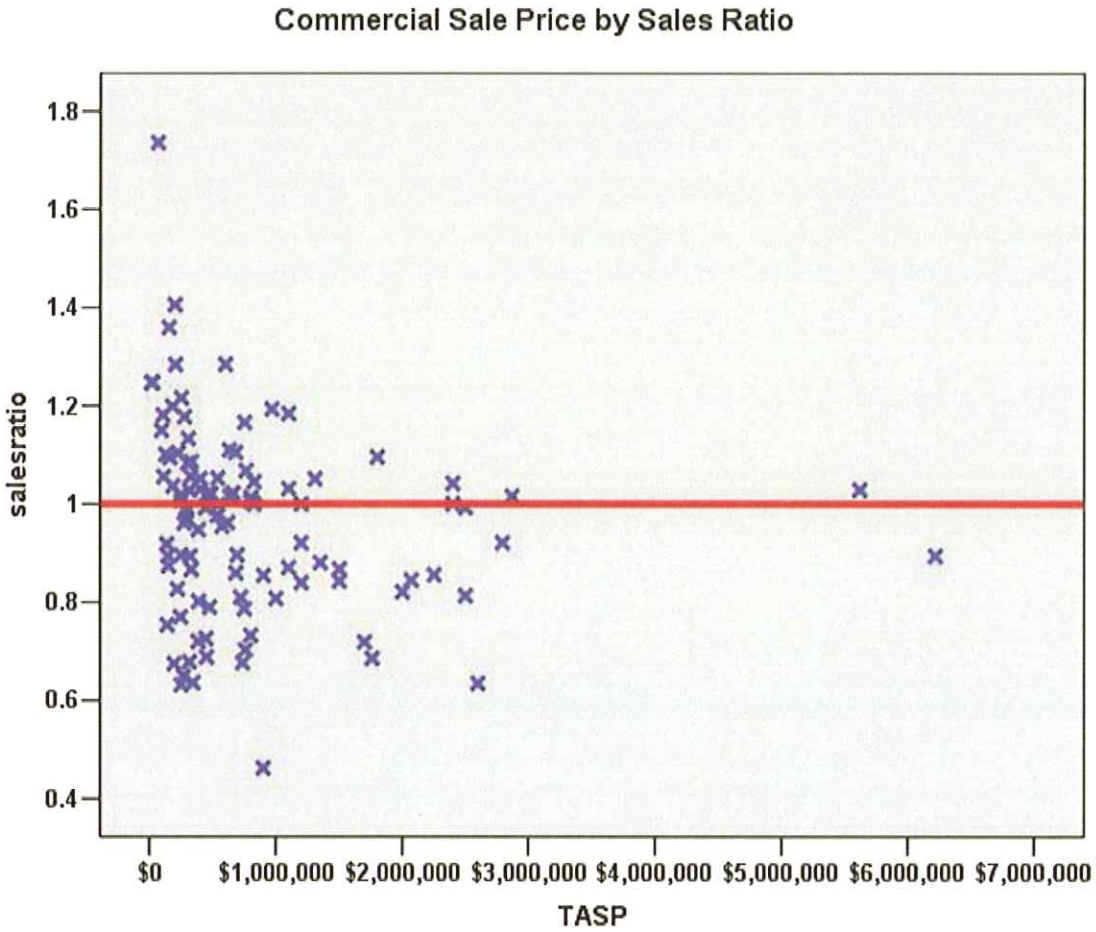
1. Select improved sales	2,717
2. Select commercial sales only	107
3. Sales between January 1, 2007 and June 30, 2008	107

The sales ratio analysis was analyzed as follows:

Median	**0.992**
Price Related Differential	**1.043**
Coefficient of Dispersion	**.146**

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





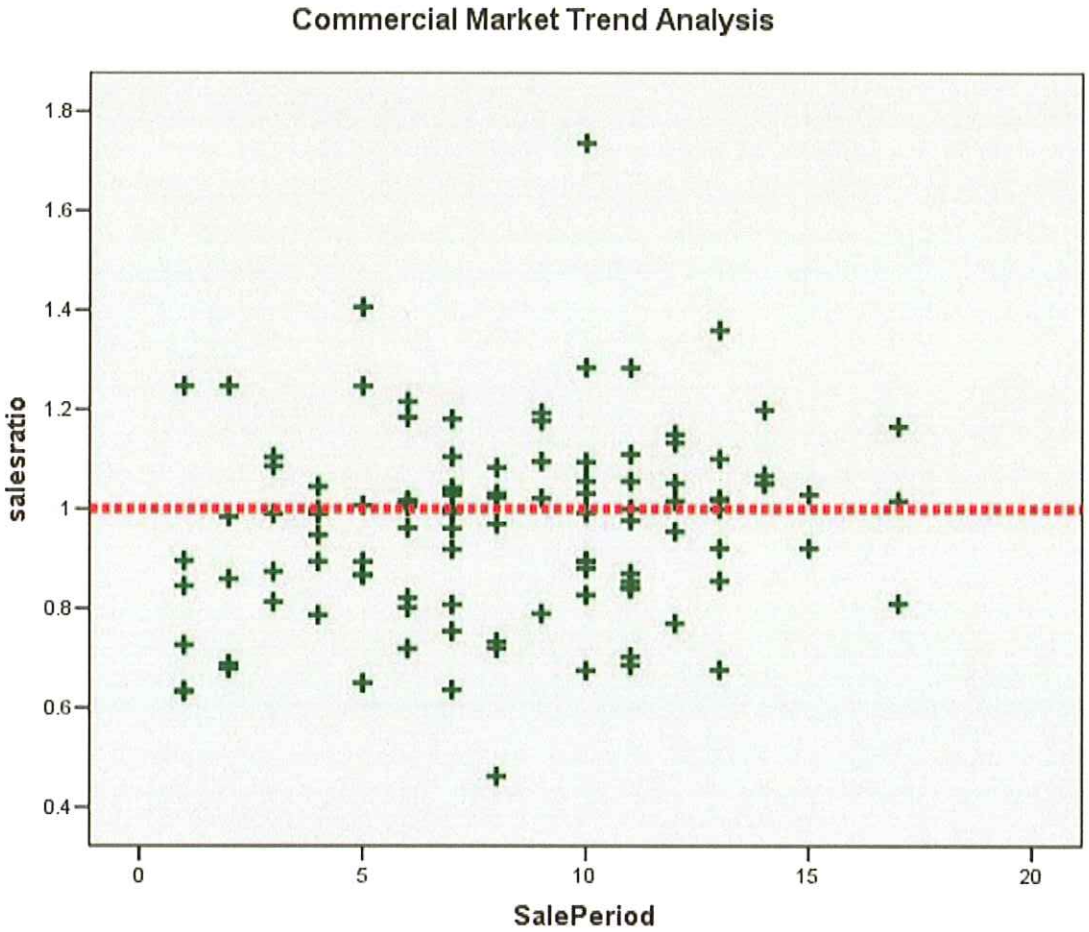
Commercial Market Trend Analysis

The assessor did not apply any market trend adjustment to the commercial dataset. The commercial sales were analyzed, examining the sale ratios across the 18 month sale period with the following results and stratifying the results by commercial subclass:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.896	.041		21.682	.000
	SalePeriod	.009	.005	.180	1.875	.064

a. Dependent Variable: salesratio



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

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. The following results indicate that based on the mean actual value, both groups were valued overall in a consistent manner:

Group	No, Props	Median Val / SF	Mean Val / SF
Unsold	1,185	$164	$187
Sold	106	$192	$194

V. VACANT LAND SALE RESULTS

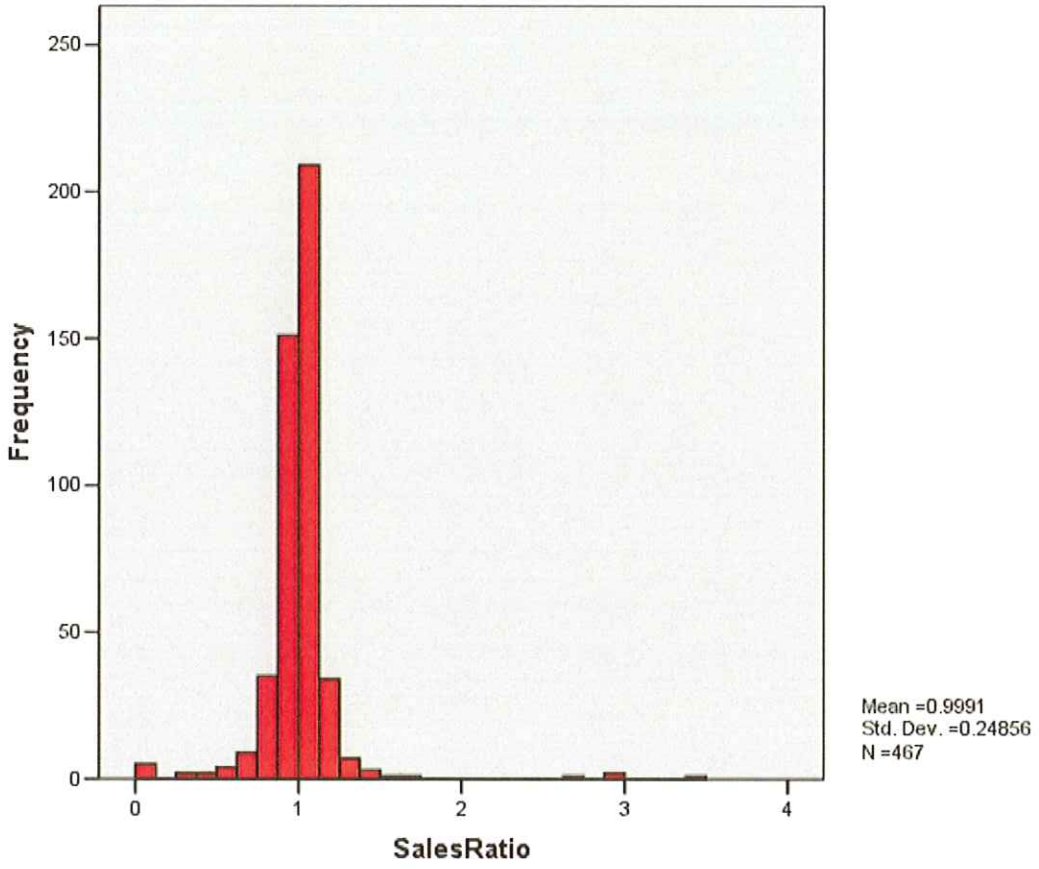
The following steps were taken to analyze vacant land sales:

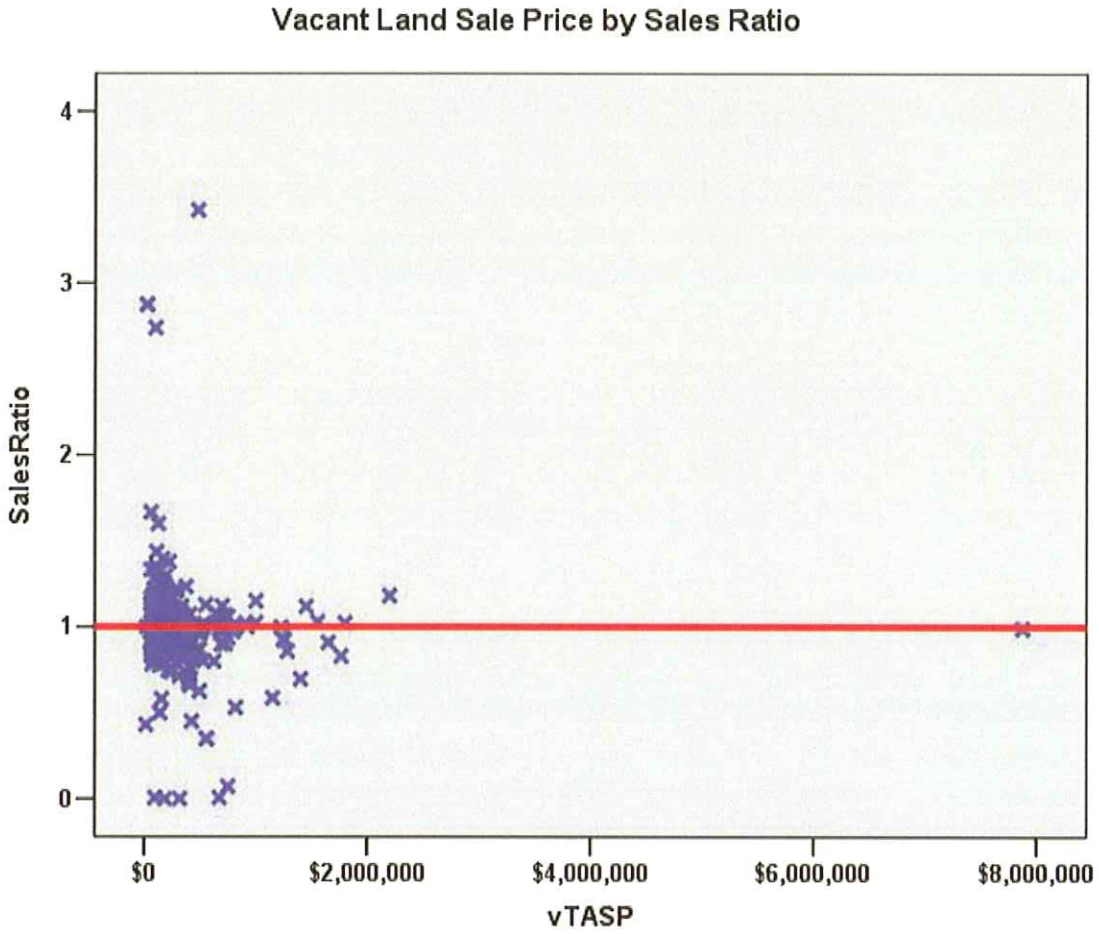
1. Selected qualified sales	2,717
2. Select vacant land sales	467
3. Sales between January 1, 2007 and June 30, 2008	467

The sales ratio analysis was analyzed as follows:

Median	**1.000**
Price Related Differential	**1.030**
Coefficient of Dispersion	**.105**

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





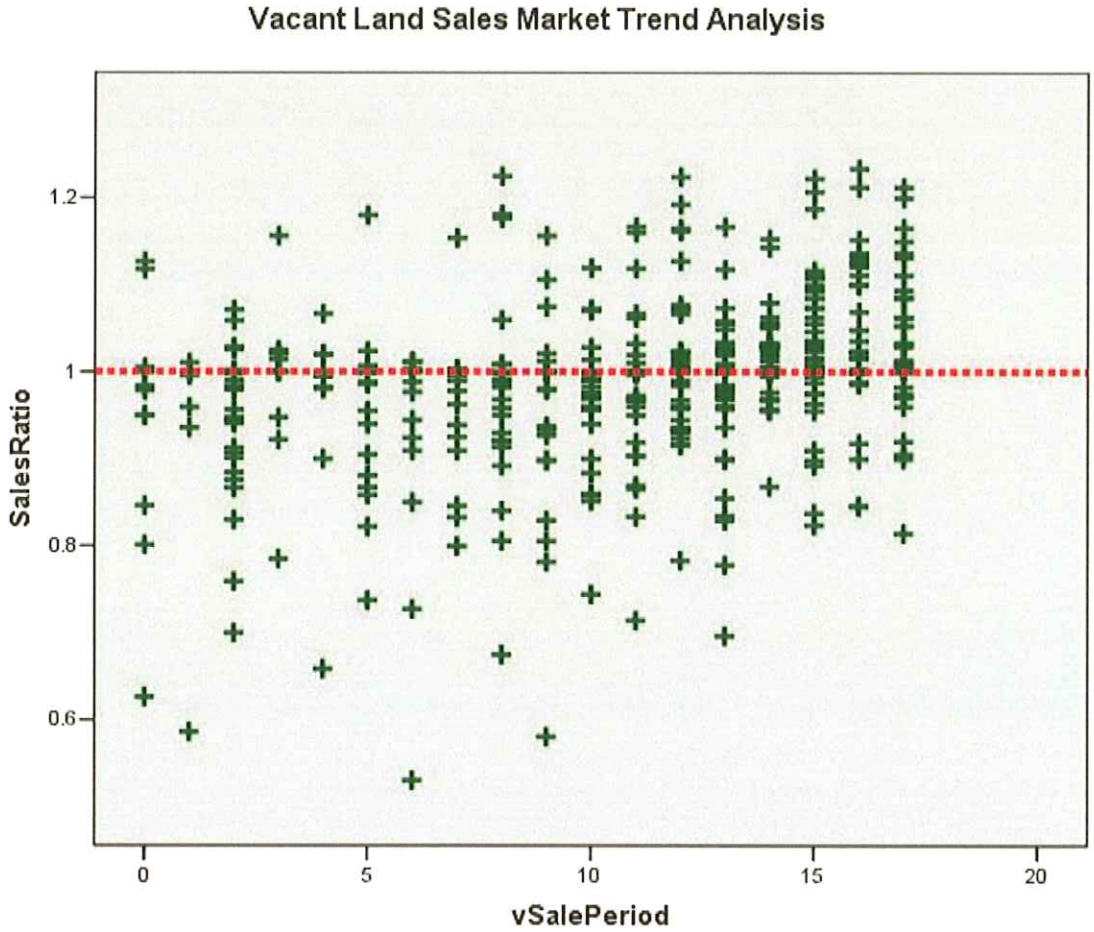
Vacant Land Market Trend Analysis

The assessor did apply market trend adjustments to the vacant land dataset. The 469 vacant land sales were analyzed, examining the sale ratios across the 18 month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.921	.011		83.856	.000
	vSalePeriod	.006	.001	.308	6.781	.000

a. Dependent Variable: SalesRatio



While there was a statistically significant market trend in the sale ratio for vacant land, the magnitude was marginal at best. We concluded that the assessor has applied market trending adjustments in an appropriate manner.

Sold/Unsold Analysis

We compared the median change in actual value between 2008 and 2010 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	No. Props	Median	Mean
Unsold	2,573	1.24	1.28
Sold	393	1.37	1.40

The above results when stratified by neighborhood indicated that sold and unsold vacant land properties were valued consistently.

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 Garfield County.

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

Descriptives

	abstrimp			Statistic	Std. Error
ImpValSF	1212	Mean		$108.08	$2.538
		95% Confidence Interval for Mean	Lower Bound	$103.08	
			Upper Bound	$113.09	
		5% Trimmed Mean		$107.39	
		Median		$113.03	
		Variance		1314.160	
		Std. Deviation		$36.251	
		Minimum		$1	
		Maximum		$281	
		Range		$280	
		Interquartile Range		$52	
		Skewness		.356	.170
		Kurtosis		2.011	.339
	4277	Mean		$124.93	$6.338
		95% Confidence Interval for Mean	Lower Bound	$112.43	
			Upper Bound	$137.43	
		5% Trimmed Mean		$114.87	
		Median		$101.72	
		Variance		8115.110	
		Std. Deviation		$90.084	
		Minimum		$10	
		Maximum		$520	
		Range		$511	
		Interquartile Range		$95	
		Skewness		1.957	.171
		Kurtosis		4.871	.341

VI. Conclusions

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

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

Mean		1.015
95% Confidence Interval for Mean	Lower Bound	1.005
	Upper Bound	1.026
Median		1.000
95% Confidence Interval for Median	Lower Bound	.998
	Upper Bound	1.002
	Actual Coverage	95.2%
Weighted Mean		.997
95% Confidence Interval for Weighted Mean	Lower Bound	.990
	Upper Bound	1.005
Price Related Differential		1.018
Coefficient of Dispersion		.064
Coefficient of Variation	Mean Centered	23.5%

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

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

Mean		.966
95% Confidence Interval for Mean	Lower Bound	.929
	Upper Bound	1.002
Median		.992
95% Confidence Interval for Median	Lower Bound	.921
	Upper Bound	1.017
	Actual Coverage	96.7%
Weighted Mean		.926
95% Confidence Interval for Weighted Mean	Lower Bound	.890
	Upper Bound	.962
Price Related Differential		1.043
Coefficient of Dispersion		.146
Coefficient of Variation	Mean Centered	19.8%

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

Vacant Land

Ratio Statistics for CURRLND / vTASP

Mean		.999
95% Confidence Interval for Mean	Lower Bound	.976
	Upper Bound	1.022
Median		1.000
95% Confidence Interval for Median	Lower Bound	1.000
	Upper Bound	1.000
	Actual Coverage	95.8%
Weighted Mean		.970
95% Confidence Interval for Weighted Mean	Lower Bound	.942
	Upper Bound	.999
Price Related Differential		1.030
Coefficient of Dispersion		.105
Coefficient of Variation	Mean Centered	24.9%

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.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$50K to $100K	3	.1%
	$100K to $150K	39	1.9%
	$150K to $200K	145	7.2%
	$200K to $300K	515	25.5%
	$300K to $500K	859	42.5%
	$500K to $750K	292	14.4%
	$750K to $1,000K	85	4.2%
	Over $1,000K	84	4.2%
Overall		2022	100.0%
Excluded		0	
Total		2022	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$50K to $100K	1.159	.993	.085	16.3%
$100K to $150K	1.082	1.005	.231	82.0%
$150K to $200K	1.014	1.005	.145	64.2%
$200K to $300K	1.003	1.001	.057	15.9%
$300K to $500K	.998	1.000	.049	8.4%
$500K to $750K	.993	1.000	.051	8.4%
$750K to $1,000K	1.000	1.000	.042	5.8%
Over $1,000K	.985	1.013	.072	10.7%
Overall	1.000	1.018	.064	23.9%

Subclass

Case Processing Summary

		Count	Percent
PredUse	1212	1705	84.3%
	1215	48	2.4%
	1220	12	.6%
	1225	6	.3%
	1230	250	12.4%
	1240	1	.0%
Overall		2022	100.0%
Excluded		0	
Total		2022	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212	.998	1.017	.062	25.5%
1215	.987	1.001	.043	5.3%
1220	.906	1.001	.103	12.7%
1225	1.108	1.120	.190	36.2%
1230	1.023	1.010	.067	10.6%
1240	.494	1.000	.000	.
Overall	1.000	1.018	.064	23.9%

Age

Case Processing Summary

		Count	Percent
AgeRec	0	1	.0%
	Over 100	7	.3%
	75 to 100	6	.3%
	50 to 75	60	3.0%
	25 to 50	410	20.3%
	5 to 25	835	41.3%
	5 or Newer	703	34.8%
Overall		2022	100.0%
Excluded		0	
Total		2022	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	1.142	1.000	.000	.
Over 100	.964	1.345	.121	20.8%
75 to 100	1.019	1.028	.108	18.1%
50 to 75	.993	1.016	.068	10.5%
25 to 50	1.002	1.013	.064	11.9%
5 to 25	.999	1.006	.051	8.4%
5 or Newer	1.001	1.029	.076	38.2%
Overall	1.000	1.018	.064	23.9%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	20	1.0%
	500 to 1,000 sf	170	8.4%
	1,000 to 1,500 sf	803	39.7%
	1,500 to 2,000 sf	583	28.8%
	2,000 to 3,000 sf	347	17.2%
	3,000 sf or Higher	99	4.9%
Overall		2022	100.0%
Excluded		0	
Total		2022	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.043	1.079	.112	17.3%
500 to 1,000 sf	1.001	1.015	.066	11.0%
1,000 to 1,500 sf	.999	1.009	.052	8.6%
1,500 to 2,000 sf	1.001	1.015	.060	26.4%
2,000 to 3,000 sf	1.000	1.017	.064	23.6%
3,000 sf or Higher	1.000	1.106	.164	69.4%
Overall	1.000	1.018	.064	23.9%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	3	2.8%
	$50K to $100K	2	1.9%
	$100K to $150K	7	6.5%
	$150K to $200K	6	5.6%
	$200K to $300K	17	15.9%
	$300K to $500K	20	18.7%
	$500K to $750K	16	15.0%
	$750K to $1,000K	11	10.3%
	Over $1,000K	25	23.4%
Overall		107	100.0%
Excluded		0	
Total		107	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.247	1.000	.000	.0%
$50K to $100K	1.443	1.036	.203	28.7%
$100K to $150K	.919	1.015	.127	17.2%
$150K to $200K	1.147	1.006	.168	23.2%
$200K to $300K	.990	1.001	.130	18.3%
$300K to $500K	.970	1.002	.139	17.4%
$500K to $750K	.987	1.007	.116	15.5%
$750K to $1,000K	1.000	1.001	.160	23.5%
Over $1,000K	.894	.999	.117	14.8%
Overall	.992	1.043	.146	19.5%

Subclass

Case Processing Summary

		Count	Percent
PredUse	2212	19	17.8%
	2215	3	2.8%
	2220	17	15.9%
	2230	15	14.0%
	2235	18	16.8%
	2245	35	32.7%
Overall		107	100.0%
Excluded		0	
Total		107	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212	.921	.976	.189	23.3%
2215	.921	1.015	.044	7.6%
2220	.976	1.043	.134	18.2%
2230	1.005	1.017	.094	15.3%
2235	.875	1.007	.143	17.3%
2245	1.056	1.049	.145	19.2%
Overall	.992	1.043	.146	19.5%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
vPredUse	100	234	50.3%
	200	18	3.9%
	510	1	.2%
	520	22	4.7%
	530	11	2.4%
	540	6	1.3%
	550	16	3.4%
	600	3	.6%
	1112	7	1.5%
	1212	138	29.7%
	1215	2	.4%
	2112	1	.2%
	2130	1	.2%
	2230	1	.2%
	2235	2	.4%
	4117	1	.2%
	4147	1	.2%
Overall		465	100.0%
Excluded		2	
Total		467	

Ratio Statistics for CURRLND / vTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	1.000	1.027	.091	21.8%
200	1.000	1.031	.088	15.7%
510	.936	1.000	.000	.
520	1.000	1.083	.065	12.7%
530	1.006	1.126	.217	55.2%
540	1.014	1.061	.102	13.9%
550	1.003	1.000	.062	8.2%
600	1.165	1.015	.078	15.5%
1112	1.000	.994	.125	25.5%
1212	1.000	1.016	.104	25.2%
1215	1.001	1.000	.001	.1%
2112	1.000	1.000	.000	.
2130	.531	1.000	.000	.
2230	.450	1.000	.000	.
2235	.991	1.004	.009	1.2%
4117	.007	1.000	.000	.
4147	.006	1.000	.000	.
Overall	1.000	1.030	.101	24.0%