DOUGLAS COUNTY

2012
DOUGLAS COUNTY PROPERTY ASSESSMENT STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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APPRAISAL, INCORPORATED
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September 15, 2012

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

RE: Final Report for the 2012 Colorado Property Assessment Study

Dear Mr. Mauer:

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

These reports are the result of two analyses: A procedural audit and a statistical audit.

The procedural audit examines all classes of property. It specifically looks at how the assessor develops economic areas, confirms and qualifies sales, develops time adjustments and performs periodic physical property inspections. The audit reviews the procedures for determining subdivision absorption and subdivision discounting. Valuation methodology is examined for residential properties and commercial properties. Procedures are reviewed for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims.

Statistical audits are performed on vacant land, residential properties, commercial/industrial properties and agricultural land. A statistical analysis is performed for personal property compliance on the eleven largest counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. The remaining counties receive a personal property procedural study.

Wildrose Appraisal Inc. – Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

Harry J. Fuller
Project Manager
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 2012 and is pleased to report its findings for Douglas County in the following report.

REGIONAL/HISTORICAL SKETCH OF DOUGLAS COUNTY

Regional Information

Douglas County is located in the Front Range region of Colorado. The Colorado Front Range is a colloquial geographic term for the populated areas of the State that are just east of the foothills of the Front Range. It includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties.

Historical Information

Douglas County has a population of approximately 285,465 people with 339.84 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 62.41 percent change from the 2000 Census.

Douglas County was one of the original 17 counties created in the Colorado Territory by the Colorado Territorial Legislature on November 1, 1861. The county was named in honor of U.S. Senator Stephen A. Douglas of Illinois, who died five months before the county was created. The county seat was originally Franktown, but was moved to California Ranch in 1863, and then to Castle Rock in 1874. Although the county's boundaries originally extended eastward to the Kansas state border, in 1874 most of the eastern portion of the county became part of Elbert County.

Douglas County is the eighth most populous of the 64 counties of the State of Colorado. The county, sometimes nicknamed Dougco, is located midway between Colorado's two largest cities: Denver and Colorado Springs. The United States Census Bureau estimates that the county population was 280,621 in 2008, a 59.7% increase since U.S. Census 2000, making Douglas County one of the fastest growing counties in the United States. The county seat is Castle Rock, named after a small butte just north of the town.

Douglas County is lightly wooded, mostly with ponderosa pine, with broken terrain characterized by mesas and small streams. Cherry Creek and Plum Creek rise in Douglas County and flow north toward Denver and into the South Platte River. Both were subject to flash flooding in the past, Plum Creek being partially responsible for the Denver flood of 1965. Cherry Creek is now dammed. *(Wikipedia.org)*

RATIO ANALYSIS

Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 2009 and June 2010. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2010 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and 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 Douglas County are:

Douglas County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	65	0.975	1.027	9.8	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	10,683	0.985	1.010	7.6	Compliant
Vacant Land	152	0.971	1.161	19.4	Compliant

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.992	1.010	.075
2	.984	1.011	.063
3	.976	1.006	.089
4	.981	1.010	.081
5	1.001	1.012	.151
6	.995	1.012	.139
7	.947	1.123	.244
Overall	.985	1.010	.076

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

Recommendations

None

Random Deed Analysis

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

Conclusions

After comparing the list of randomly selected deeds with the Assessor's database, Douglas 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 Douglas County has complied with the statutory requirements to analyze the effects of time on value in their county. Douglas 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

Douglas County was tested for the equal treatment of sold and unsold properties to ensure that "sales chasing" has not occurred. The auditors employed a multi-step process to determine if sold and unsold properties were valued in a consistent manner.

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

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

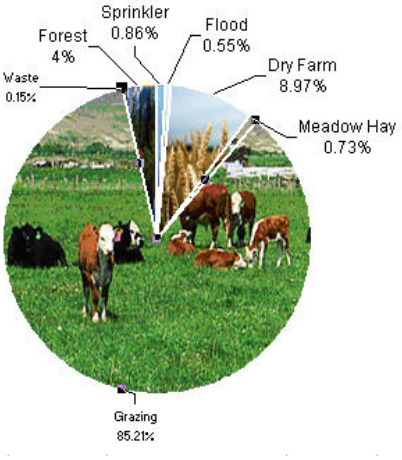
After applying the above described methodologies, it is concluded that Douglas County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

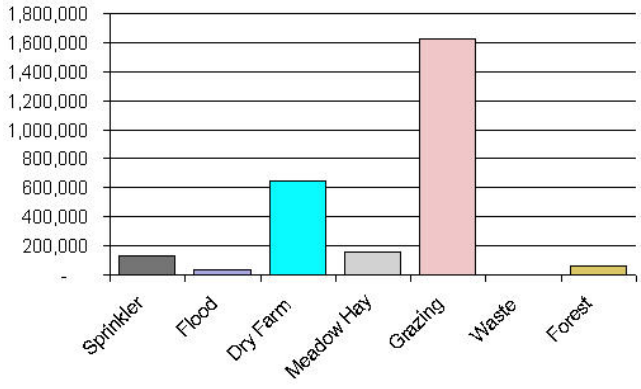
None

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:

Douglas 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	1,713	76.00	130,565	127,338	1.03
4117	Flood	1,095	33.00	36,663	34,732	1.06
4127	Dry Farm	17,777	36.00	645,655	645,655	1.00
4137	Meadow Hay	1,447	108.00	156,240	156,240	1.00
4147	Grazing	168,910	10.00	1,628,336	1,628,336	1.00
4177	Forest	6,983	9.00	65,363	65,363	1.00
4167	Waste	292	2.00	471	471	1.00
Total/Avg		**198,217**	**13.00**	**2,663,294**	**2,658,135**	**1.00**

Recommendations

None

Agricultural Outbuildings

Methodology

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

Conclusions

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

Recommendations

None

Agricultural Land Under Improvements

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.19 and 5.20 were being followed.

Conclusions

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

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2012 for Douglas County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 50 sales listed as unqualified.

All but three of the sales selected in the sample gave reasons that were clear and supportable. Three sales had insufficient documentation.

Conclusions

Douglas County appears to be doing a good job of verifying their sales. There are no recommendations.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

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

Conclusions

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

Recommendations

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2012 in Douglas 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

Douglas 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.

Douglas 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

Douglas 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

Douglas 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.

Douglas 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.

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

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

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

Douglas County's median ratio is 1.00. This is in compliance with the State Board of Equalization (SBOE) compliance requirements which range from .90 to 1.10 with no COD requirements.

Conclusions

Douglas 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*

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Steve Kane, *Audit Statistician*

Carl W. Ross, *Agricultural/Natural Resource Analyst*

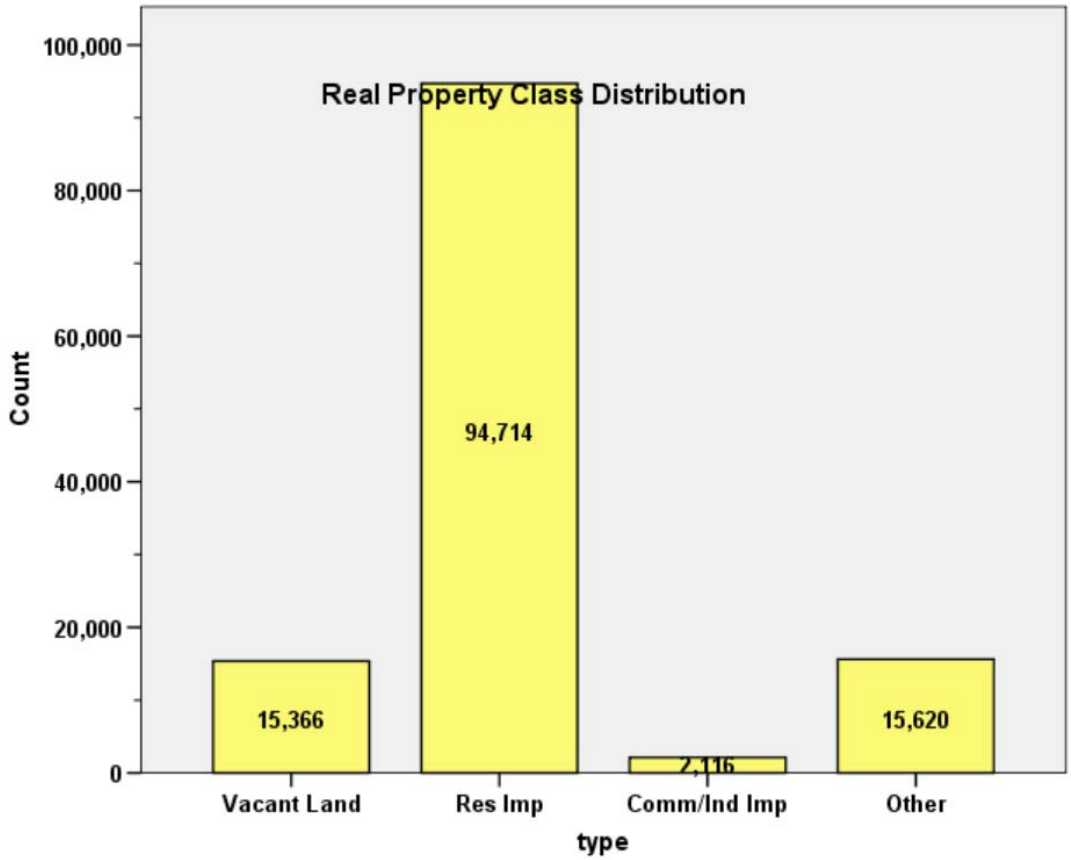
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE RESULTS
FOR DOUGLAS COUNTY
2012

I. OVERVIEW

Douglas County is an urban county located along Colorado's Front Range urban corridor. The county has a total of 127,816 real property parcels, according to data submitted by the county assessor's office in 2012. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for over 90.5% of all vacant land parcels.

For residential improved properties, single family properties accounted for 93% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 1.7% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2012 Colorado Property Assessment Study. Information was provided by the Douglas Assessor's Office in May 2012. 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. All sales	20,358
2. Qualified sales	11,181
3. Improved sales	10,824
3. Select residential sales only	10,683

The sales ratio analysis was analyzed as follows:

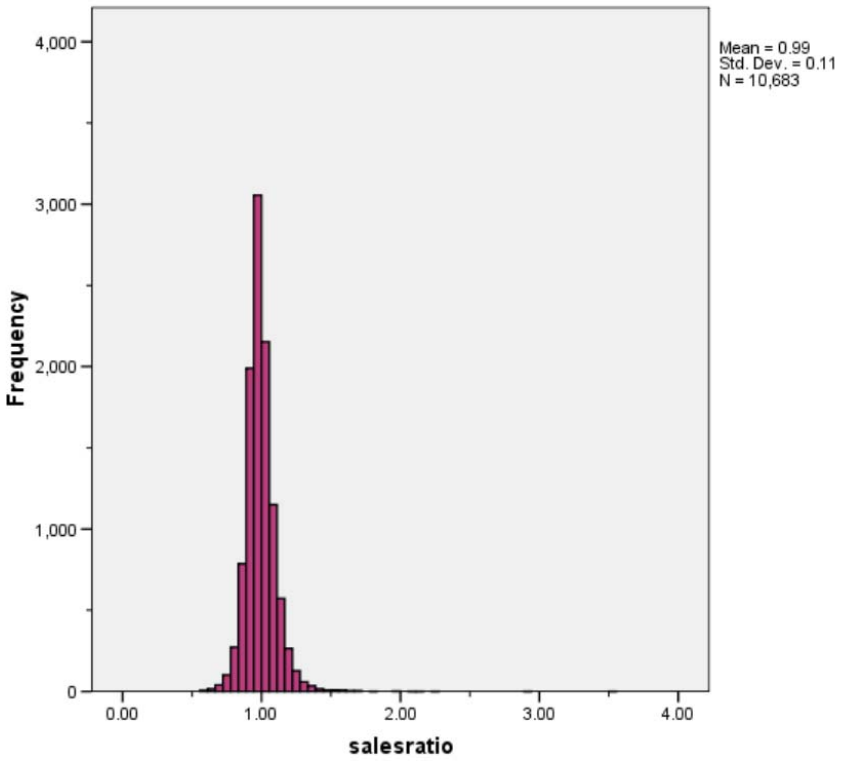
Case Processing Summary

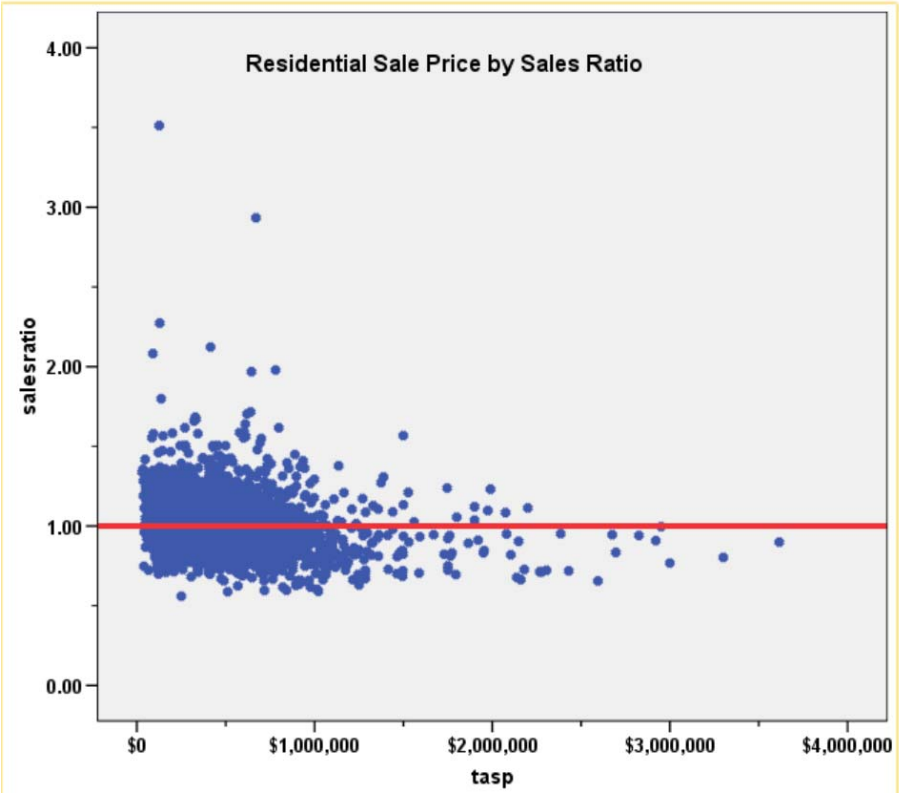
		Count	Percent
econarea	1	3218	30.1%
	2	3865	36.2%
	3	771	7.2%
	4	2492	23.3%
	5	120	1.1%
	6	190	1.8%
	7	26	.2%
Overall		10682	100.0%
Excluded		1	
Total		10683	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.992	1.010	.075
2	.984	1.011	.063
3	.976	1.006	.089
4	.981	1.010	.081
5	1.001	1.012	.151
6	.995	1.012	.139
7	.947	1.123	.244
Overall	.985	1.010	.076

The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for residential sales; please note that Economic Area 7 had only 26 sales, so its ratio analysis results were not valid. 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.

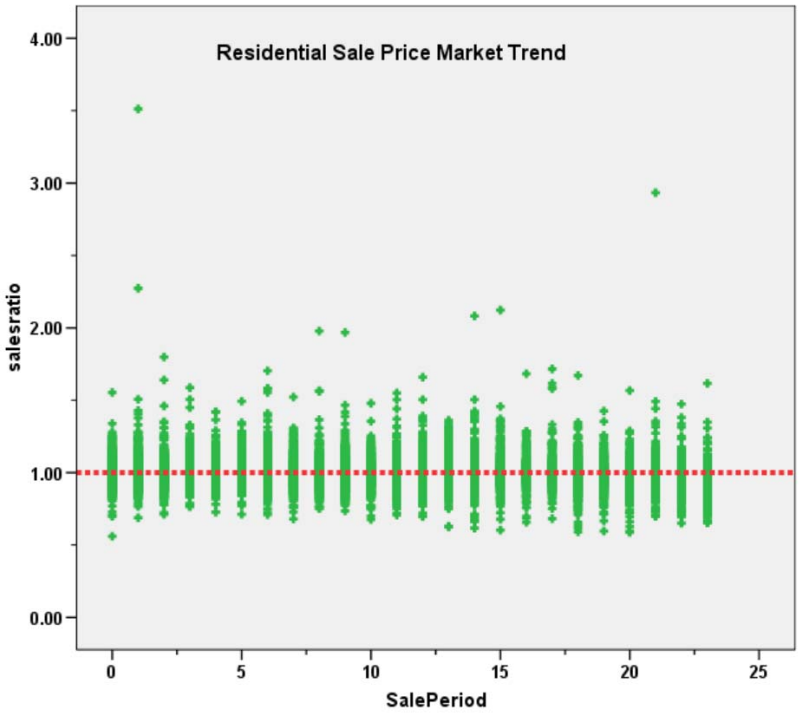
Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending and stratified by economic area, as follows:

Coefficients[a]

econarea	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
1	1	(Constant)	1.021	.003		329.682	.000
		SalePeriod	-.002	.000	-.158	-9.036	.000
2	1	(Constant)	1.007	.002		425.171	.000
		SalePeriod	-.002	.000	-.152	-9.549	.000
3	1	(Constant)	1.007	.007		154.738	.000
		SalePeriod	-.003	.001	-.182	-5.066	.000
4	1	(Constant)	1.026	.003		297.747	.000
		SalePeriod	-.004	.000	-.276	-14.195	.000
5	1	(Constant)	1.021	.021		48.938	.000
		SalePeriod	-.001	.002	-.067	-.681	.498
6	1	(Constant)	1.025	.019		55.048	.000
		SalePeriod	-.004	.001	-.207	-2.756	.006
7	1	(Constant)	.944	.060		15.743	.000
		SalePeriod	.001	.006	.039	.165	.871

a. Dependent Variable: salesratio



The above results indicated that there is no significant residual market trending for residential property sales when broken down by economic area, based on either statistical significance or the magnitude of any residual trending that was significant. We therefore concluded that the assessor has adequately considered market trending in their residential valuations overall.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median and mean actual values per square foot for 2012 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

Group	N	Median	Mean
Unsold	83,835	$135	$142
Sold	10,519	$138	$145

ECONAREA	Group	N	Median	Mean
1	**Unsold**	23,368	$127.91	$133.93
	Sold	3,175	$131.12	$136.38
2	**Unsold**	32,442	$142.57	$147.26
	Sold	3,844	$149.42	$154.74
3	**Unsold**	6,647	$137.74	$153.47
	Sold	752	$139.75	$153.64
4	**Unsold**	15,579	$120.80	$136.34
	Sold	2,452	$122.98	$135.16
5	**Unsold**	1,835	$150.81	$153.87
	Sold	104	$165.52	$164.82
6	**Unsold**	2,968	$158.28	$166.39
	Sold	171	$166.63	$177.70
7	**Unsold**	476	$130.85	$138.94
	Sold	20	$154.34	$168.08

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

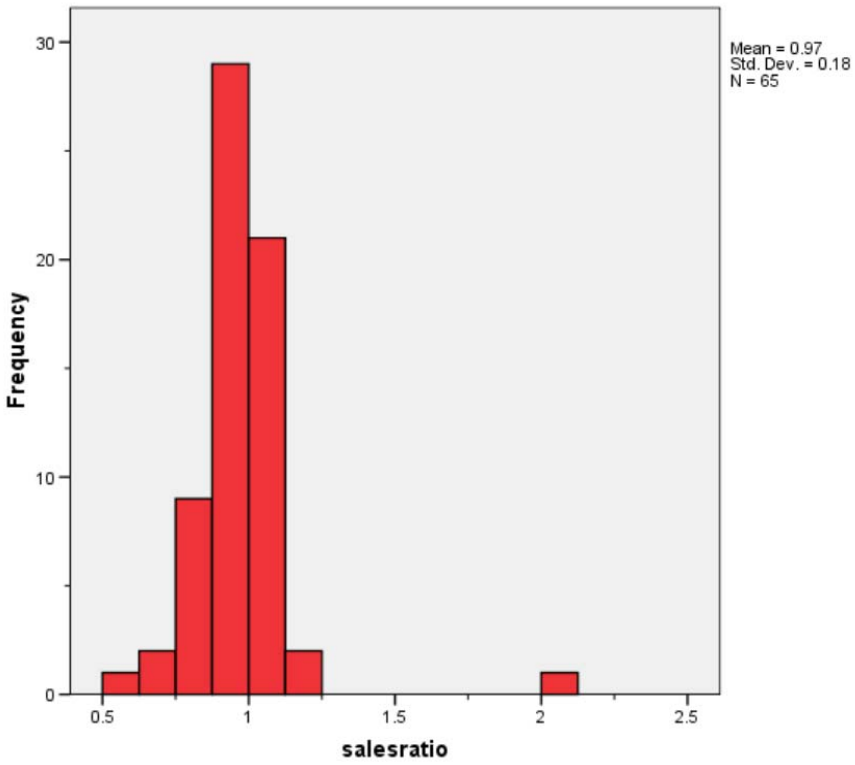
IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

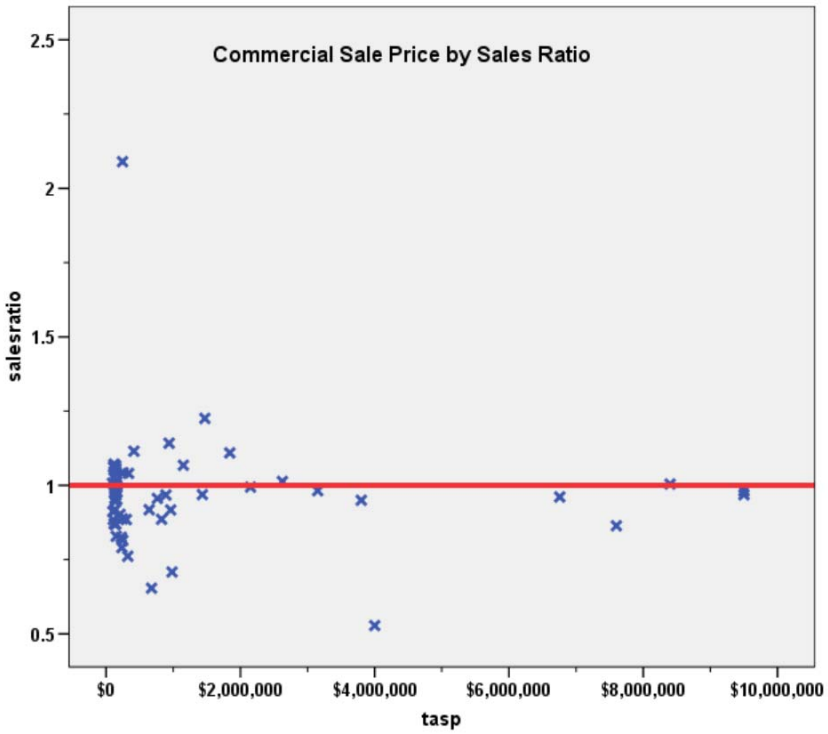
1. All sales	20,358
2. Qualified sales	11,181
3. Improved sales	10,824
4. Select commercial/industrial sales only	100
5. Select sales between January 2009 and June 2010	65

The sales ratio analysis was analyzed as follows:

Median	**0.975**
Price Related Differential	**1.027**
Coefficient of Dispersion	**.098**

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





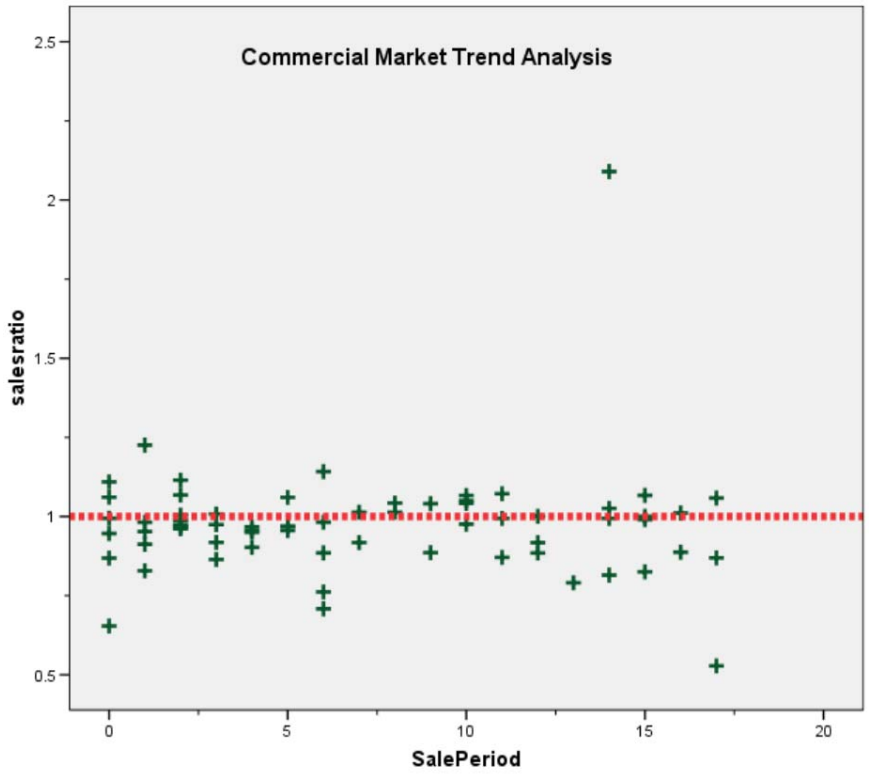
Commercial/Industrial Market Trend Analysis

The 65 commercial/industrial sales were next 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)	.966	.037		25.754	.000
	SalePeriod	.001	.004	.036	.288	.775

a. Dependent Variable: salesratio



There was no residual market trending present in the commercial/industrial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the commercial/industrial valuation.

Sold/Unsold Analysis

We compared the median and mean values per square foot between sold and unsold properties, as follows:

Group	N	Median	Mean
Unsold	1,851	$124	$149
Sold	65	$137	$138

The above results indicated that sold and unsold commercial properties were valued consistently.

V. VACANT LAND SALE RESULTS

The following steps were taken to analyze the vacant land sales:

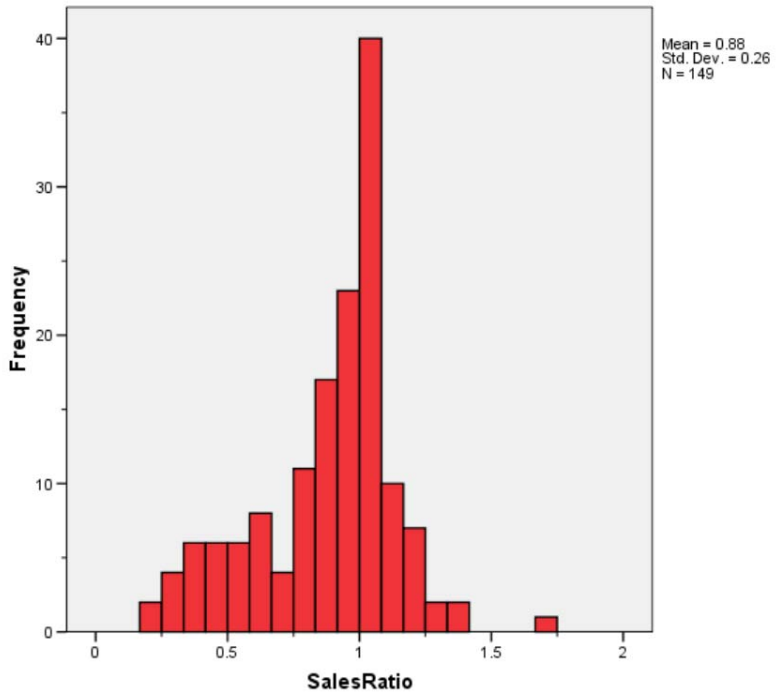
1. All sales	20,358
2. Qualified sales	11,181
3. Vacant land sales	173
4. Residential & commercial/ind vacant land sales	152
4. Sales between January 1, 2009 and June 30, 2010	152

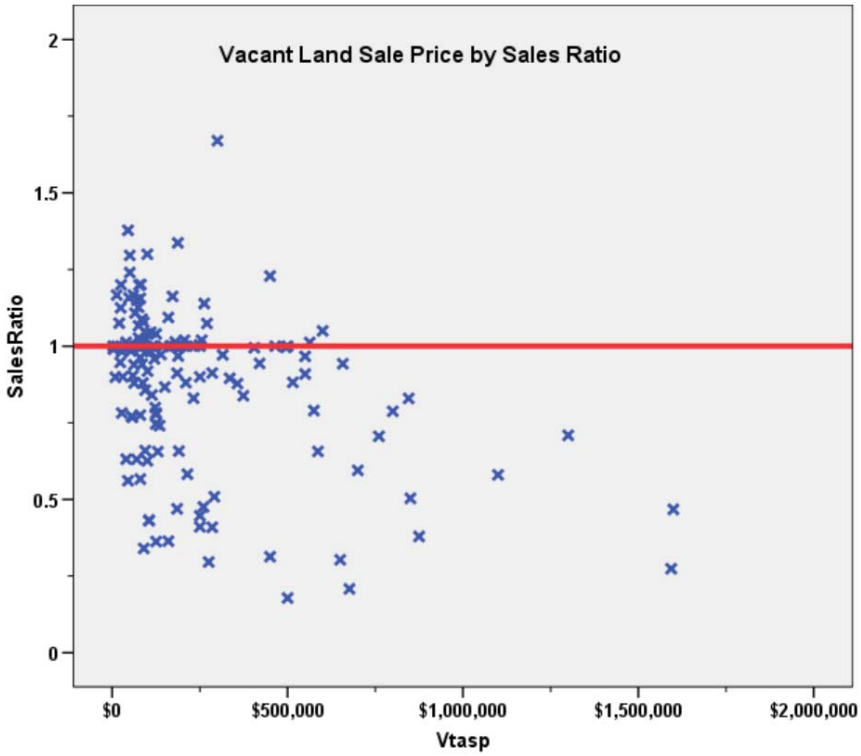
The sales ratio analysis was analyzed as follows:

Ratio Statistics for currInd / Vtasp

Median	**0.971**
Price Related Differential	**1.161**
Coefficient of Dispersion	**.194**

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





The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

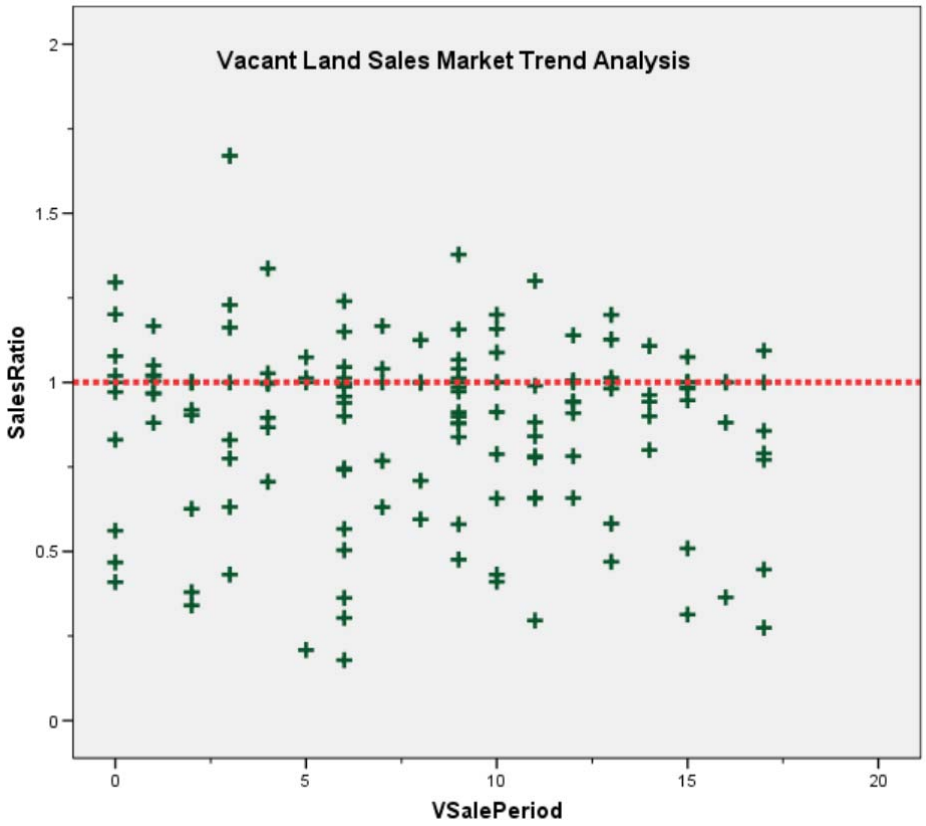
Vacant Land Market Trend Analysis

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

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.912	.041		22.360	.000
	VSalePeriod	-.004	.004	-.074	-.903	.368

a. Dependent Variable: SalesRatio



The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in value for 2010 and 2012 between each group, as follows:

Group	No. Sales	Median	Mean
Unsold	10,571	0.999	0.926
Sold	146	0.809	0.920

Overall, we concluded that the county assessor valued sold and unsold vacant properties consistently.

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

Based on the parameters of the state audit analysis, this county was exempt from this analysis for 2012.

VI. CONCLUSIONS

Based on this 2012 audit statistical analysis, residential, commercial/industrial and vacant land properties were found to be in compliance with state guidelines.

STATISTICAL ABSTRACT
Residential

Ratio Statistics for currtot / tasp

econarea	Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
		Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
1	.997	.994	1.000	.991	.987	.994	95.3%	.988	.983	.992	1.009	.071	9.3%
2	.988	.985	.990	.983	.981	.985	95.3%	.978	.974	.982	1.010	.061	8.0%
3	.980	.973	.987	.975	.966	.981	95.5%	.970	.960	.980	1.010	.078	10.2%
4	.985	.981	.989	.980	.975	.985	95.4%	.976	.970	.982	1.009	.076	9.7%
5	1.009	.985	1.033	.996	.966	1.010	96.1%	1.006	.982	1.031	1.002	.095	12.1%
6	.982	.961	1.002	.995	.972	1.007	95.4%	.975	.952	.999	1.007	.107	13.8%
7	.952	.881	1.023	.912	.836	1.087	95.9%	.933	.858	1.009	1.020	.141	15.9%

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

Ratio Statistics for currtot / tasp

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.974	.930	1.019	.975	.956	.994	95.4%	.948	.895	1.001	1.027	.098	18.5%

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.

Vacant Land

Ratio Statistics for currInd / Vtasp

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.881	.839	.923	.971	.912	.999	95.1%	.759	.683	.835	1.161	.194	29.5%

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.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	11	.1%
	$50K to $100K	115	1.1%
	$100K to $150K	410	3.9%
	$150K to $200K	1085	10.3%
	$200K to $300K	4053	38.5%
	$300K to $500K	3584	34.1%
	$500K to $750K	856	8.1%
	$750K to $1,000K	255	2.4%
	Over $1,000K	150	1.4%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
$25K to $50K	1.050	1.000	.131	16.3%
$50K to $100K	1.054	1.006	.088	10.6%
$100K to $150K	1.003	1.000	.071	9.3%
$150K to $200K	.998	1.000	.072	9.4%
$200K to $300K	.989	.999	.060	7.9%
$300K to $500K	.979	1.001	.068	9.0%
$500K to $750K	.965	1.000	.090	11.5%
$750K to $1,000K	.944	1.000	.101	12.9%
Over $1,000K	.894	1.001	.119	14.7%
Overall	.984	1.010	.070	9.2%

Subclass

Case Processing Summary

		Count	Percent
abstrimp	1212	9554	90.8%
	1215	1	.0%
	1225	1	.0%
	1230	962	9.1%
	2230	1	.0%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
1212	.985	1.010	.070	9.2%
1215	1.061	1.000	.000	.%
1225	.925	1.000	.000	.%
1230	.983	1.010	.070	9.3%
2230	1.005	1.000	.000	.%
Overall	.984	1.010	.070	9.2%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	6	.1%
	75 to 100	5	.0%
	50 to 75	19	.2%
	25 to 50	967	9.2%
	5 to 25	7402	70.4%
	5 or Newer	2120	20.2%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Over 100	1.030	1.001	.098	14.3%
75 to 100	.944	1.028	.102	14.1%
50 to 75	.999	1.000	.111	14.9%
25 to 50	.982	1.007	.079	10.4%
5 to 25	.985	1.008	.068	9.0%
5 or Newer	.985	1.013	.072	9.3%
Overall	.984	1.010	.070	9.2%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	.0%
	500 to 1,000 sf	225	2.1%
	1,000 to 1,500 sf	1933	18.4%
	1,500 to 2,000 sf	2661	25.3%
	2,000 to 3,000 sf	3774	35.9%
	3,000 sf or Higher	1925	18.3%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LE 500 sf	1.000	1.000	.000	.%
500 to 1,000 sf	.993	1.020	.091	11.5%
1,000 to 1,500 sf	.978	1.005	.063	8.4%
1,500 to 2,000 sf	.984	1.006	.061	8.1%
2,000 to 3,000 sf	.987	1.009	.070	9.1%
3,000 sf or Higher	.987	1.015	.088	11.2%
Overall	.984	1.010	.070	9.2%

Improvement Quality

Case Processing Summary

		Count	Percent
quality	Average	7106	67.6%
	Excellen	111	1.1%
	Fair	18	.2%
	Good	2582	24.5%
	Low	2	.0%
	Very Goo	700	6.7%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
Average	.983	1.006	.065	8.5%
Excellen	.987	1.032	.125	15.2%
Fair	.968	1.035	.117	15.5%
Good	.987	1.010	.075	9.7%
Low	1.079	1.017	.078	11.0%
Very Goo	.987	1.018	.099	12.5%
Overall	.984	1.010	.070	9.2%

Improvement Condition

Case Processing Summary

		Count	Percent
condition	Average	1237	11.8%
	Badly Wo	3	.0%
	Good	9277	88.2%
	Very Goo	1	.0%
	Worn Out	1	.0%
Overall		10519	100.0%
Excluded		0	
Total		10519	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Average	.983	1.006	.078	10.3%
Badly Wo	.953	.958	.145	21.7%
Good	.985	1.010	.069	9.1%
Very Goo	1.259	1.000	.000	.%
Worn Out	.995	1.000	.000	.%
Overall	.984	1.010	.070	9.2%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$50K to $100K	2	3.1%
	$100K to $150K	22	33.8%
	$150K to $200K	8	12.3%
	$200K to $300K	8	12.3%
	$300K to $500K	3	4.6%
	$500K to $750K	2	3.1%
	$750K to $1,000K	6	9.2%
	Over $1,000K	14	21.5%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
$50K to $100K	.960	1.001	.050	7.0%
$100K to $150K	.981	1.001	.066	8.0%
$150K to $200K	.997	1.000	.014	2.1%
$200K to $300K	.886	.999	.227	52.1%
$300K to $500K	1.041	.987	.113	19.6%
$500K to $750K	.786	1.004	.168	23.8%
$750K to $1,000K	.937	1.002	.099	15.0%
Over $1,000K	.982	1.026	.085	15.6%
Overall	.975	1.027	.098	18.5%

Subclass

Case Processing Summary

		Count	Percent
abstrimp	2212	9	13.8%
	2215	1	1.5%
	2220	5	7.7%
	2230	7	10.8%
	2235	3	4.6%
	2245	2	3.1%
	3212	3	4.6%
	3230	35	53.8%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
2212	.969	1.043	.248	44.6%
2215	.528	1.000	.000	.%
2220	.982	.996	.025	3.6%
2230	1.008	1.025	.078	11.2%
2235	1.068	.991	.032	5.2%
2245	.850	.996	.041	5.8%
3212	.950	1.008	.034	6.4%
3230	.976	1.008	.063	8.0%
Overall	.975	1.027	.098	18.5%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	50 to 75	3	4.6%
	25 to 50	5	7.7%
	5 to 25	21	32.3%
	5 or Newer	36	55.4%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
50 to 75	1.008	1.038	.093	17.5%
25 to 50	.961	1.177	.337	61.6%
5 to 25	.969	1.008	.101	15.1%
5 or Newer	.975	1.028	.063	8.2%
Overall	.975	1.027	.098	18.5%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	500 to 1,000 sf	14	21.5%
	1,000 to 1,500 sf	19	29.2%
	1,500 to 2,000 sf	6	9.2%
	2,000 to 3,000 sf	2	3.1%
	3,000 sf or Higher	24	36.9%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
500 to 1,000 sf	.951	1.011	.069	8.7%
1,000 to 1,500 sf	1.000	1.006	.044	6.2%
1,500 to 2,000 sf	.910	1.005	.082	10.8%
2,000 to 3,000 sf	.824	1.011	.076	10.8%
3,000 sf or Higher	.975	1.058	.147	28.6%
Overall	.975	1.027	.098	18.5%

Improvement Quality

Case Processing Summary

		Count	Percent
quality	Average	25	38.5%
	Good	40	61.5%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Average	.969	1.062	.150	28.2%
Good	.975	.996	.066	9.0%
Overall	.975	1.027	.098	18.5%

Improvement Condition

Case Processing Summary

		Count	Percent
condition	Average	6	9.2%
	Good	59	90.8%
Overall		65	100.0%
Excluded		0	
Total		65	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
Average	.959	1.136	.272	54.8%
Good	.976	1.016	.080	11.5%
Overall	.975	1.027	.098	18.5%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
abstrInd	100	75	50.3%
	200	6	4.0%
	300	3	2.0%
	520	2	1.3%
	530	1	.7%
	540	3	2.0%
	550	2	1.3%
	1112	46	30.9%
	1624	1	.7%
	2112	2	1.3%
	2120	1	.7%
	2130	6	4.0%
	3125	1	.7%
Overall		149	100.0%
Excluded		0	
Total		149	

Ratio Statistics for currInd / Vtasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
100	.987	1.127	.213	31.6%
200	.826	1.159	.305	40.3%
300	.509	.928	.458	75.0%
520	.917	.984	.192	27.2%
530	.626	1.000	.000	.%
540	.771	.983	.148	23.4%
550	1.012	1.000	.027	3.9%
1112	.999	1.031	.104	15.7%
1624	.996	1.000	.000	.%
2112	.626	1.004	.050	7.0%
2120	.379	1.000	.000	.%
2130	.643	1.063	.240	29.7%
3125	.830	1.000	.000	.%
Overall	.971	1.161	.194	28.3%