2012
JEFFERSON COUNTY PROPERTY ASSESSMENT STUDY

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Audit Division

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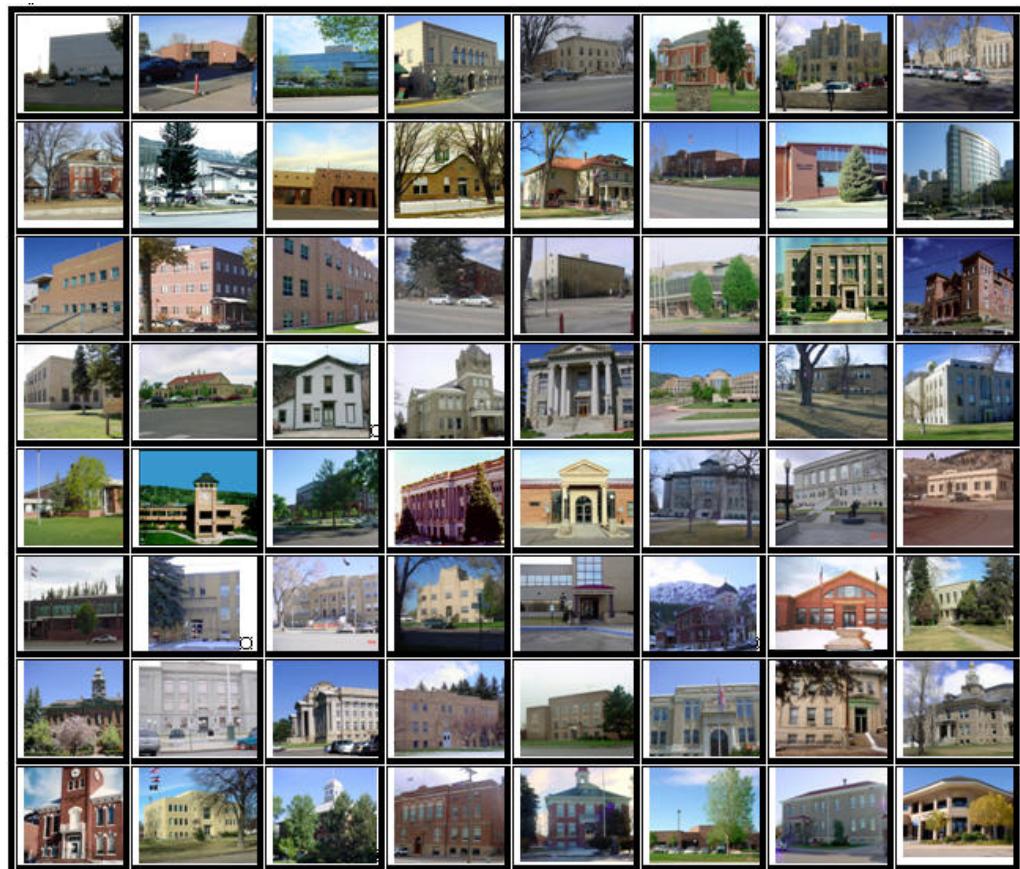
September 15, 2012

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

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 Jefferson County in the following report.

REGIONAL/HISTORICAL SKETCH OF JEFFERSON COUNTY

Regional Information

Jefferson 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

Jefferson County has a population of approximately 534,543 people with 692.41 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 1.42 percent change from the 2000 Census.

Jefferson County is one of the seventeen original territorial counties. On August 25, 1855, the Kansas Territorial Legislature created Arapahoe County to govern the entire western portion of the territory. The county was named for the Arapaho Nation of Native Americans that lived in the region.

In July 1858, gold was discovered along the South Platte River in Arapahoe County (in present day Englewood). This discovery precipitated the Pike's Peak Gold Rush. Many residents of the mining region felt disconnected from the remote territorial governments of Kansas and Nebraska, so they voted to form their own Territory of Jefferson on October 24, 1959. The following month, the Jefferson Territorial Legislature organized 12 counties for the new territory, including Jefferson County. Jefferson County was named for the namesake of the Jefferson Territory, Thomas Jefferson, the principal author of the Declaration of Independence and the nation's third president. Golden City served as the county seat of Jefferson County. Robert Williamson Steele, Governor of the Provisional Government of the Territory of Jefferson from 1859 to 1861, built his home in the county at Mount Vernon and later at Apex.

The Jefferson Territory never received federal sanction, but during his last week in office, President James Buchanan signed an act which organized the Territory of Colorado on February 28, 1861. That November 1, the new Colorado General Assembly organized the 17 original counties of Colorado, including a new Jefferson County. In 1908, the southern tip of Jefferson County was transferred to Park County, reducing Jefferson County to its present length of 54 miles. Several annexations by the City & County of Denver and the 2001 consolidation of the City & County of Broomfield removed eastern portions of the county.

A major employer in Jefferson County is the large Coors Brewing Company in Golden. Also, the state-supported Colorado School of Mines is located in Jefferson County, offering programs in mining and engineering. The county seat is Golden and the most populous city is Lakewood. *(www.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 Jefferson County are:

Jefferson County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	215	0.967	1.106	16.5	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	10,963	0.981	1.020	8.8	Compliant
Vacant Land	205	0.995	1.175	17.9	Compliant

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.980	.998	.086
2	.972	1.016	.097
3	.983	1.025	.090
4	.985	1.035	.076
5	.985	1.009	.074
6	.978	1.010	.092
7	.988	1.023	.129
8	.980	1.020	.104
9	.997	1.014	.110
Overall	.981	1.020	.088

After applying the above described methodologies, it is concluded from the sales ratios that Jefferson 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, Jefferson County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

Recommendations

None

T I M E   T R E N D I N G   V E R I F I C A T I O N

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 Jefferson County has complied with the statutory requirements to analyze the effects of time on value in their county. Jefferson 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

Jefferson 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 Jefferson County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

None

AGRICULTURAL LAND STUDY

Acres By Subclass

Value By Subclass
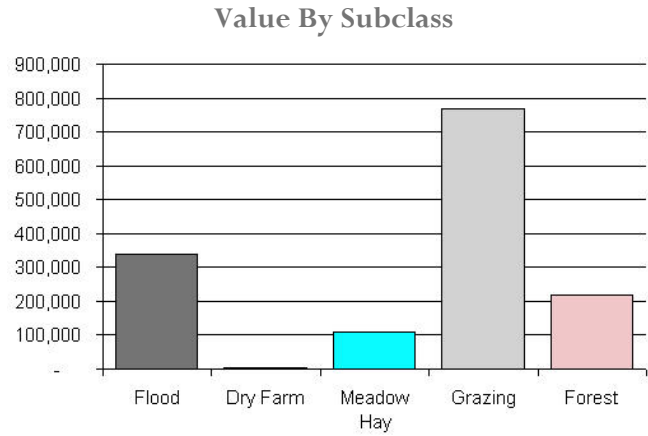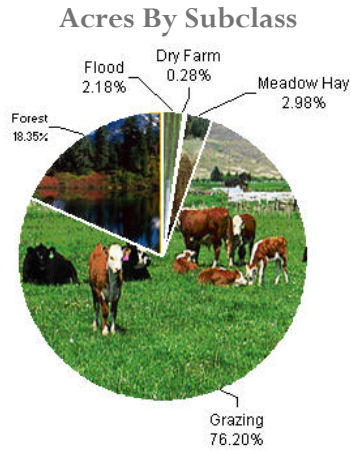
Agricultural Land

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:

Jefferson 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	1,678	202.00	339,101	336,619	1.01
4127	Dry Farm	218	19.00	4,226	4,179	1.01
4137	Meadow Hay	2,286	48.00	109,833	109,833	1.00
4147	Grazing	58,522	13.00	766,748	766,748	1.00
4177	Forest	14,093	16.00	219,250	219,250	1.00
Total/Avg		**76,797**	**19.00**	**1,439,157**	**1,436,629**	**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

Jefferson 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

Jefferson 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 Jefferson County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 47 sales listed as unqualified.

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

Conclusions

Jefferson County appears to be doing an adequate job of verifying their sales. There are no recommendations.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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

Jefferson 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.

Jefferson 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

Jefferson 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

Jefferson 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.

Jefferson 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:

- Personal Observation, Physical Canvassing or Word of Mouth

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.

Jefferson 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
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available

Jefferson 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

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

J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR JEFFERSON COUNTY
2012

I. OVERVIEW

Jefferson County is an urban county located along Colorado's Front Range. The county has a total of 203,730 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:
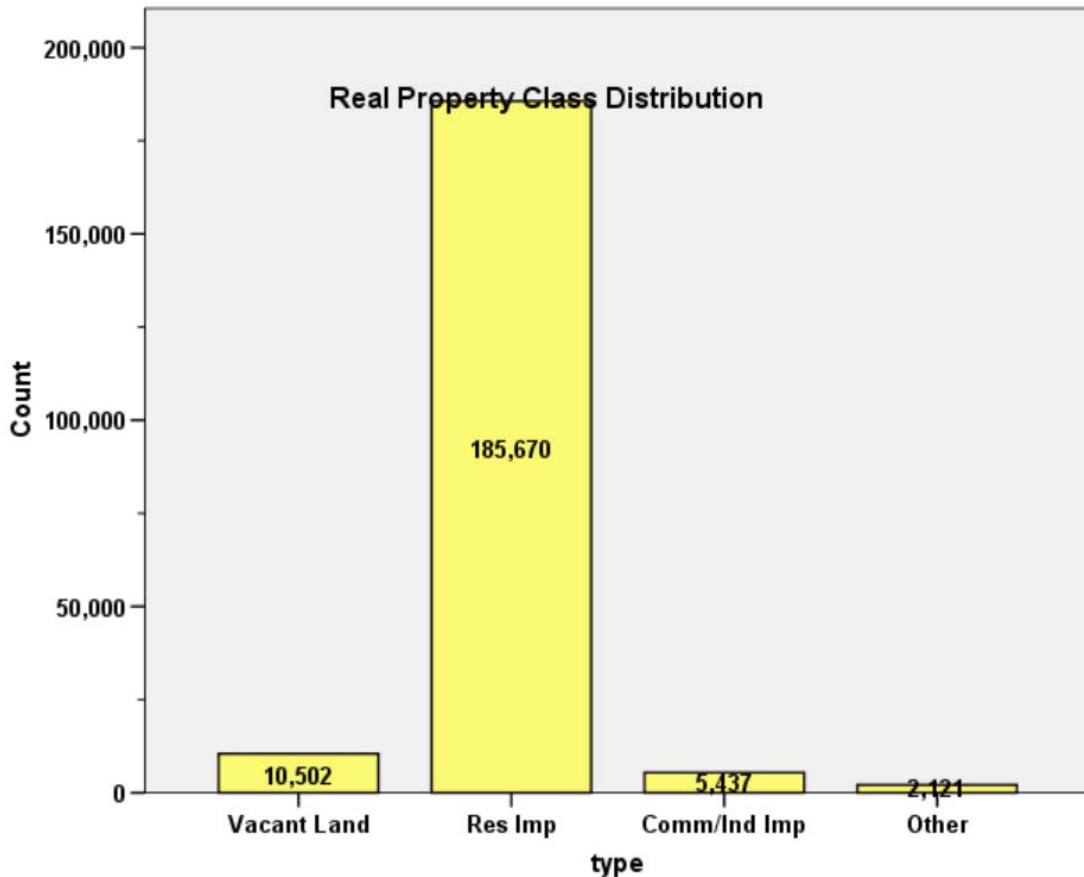
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1100) accounted for 73.7% of all vacant land parcels.

For residential improved properties, single family properties accounted for 90.3% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 2.7% 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 Jefferson 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	18,523
2. Qualified sales	12,951
3. Improved sales	12,561
4. Select residential sales only	10,963

The sales ratio analysis was analyzed as follows:

Case Processing Summary

		Count	Percent
econarea	1	1757	16.0%
	2	2204	20.1%
	3	2283	20.8%
	4	2741	25.0%
	5	492	4.5%
	6	489	4.5%
	7	58	.5%
	8	491	4.5%
	9	447	4.1%
Overall		10962	100.0%
Excluded		1	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.980	.998	.086
2	.972	1.016	.097
3	.983	1.025	.090
4	.985	1.035	.076
5	.985	1.009	.074
6	.978	1.010	.092
7	.988	1.023	.129
8	.980	1.020	.104
9	.997	1.014	.110
Overall	.981	1.020	.088

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:

Mean = 0.99
Std. Dev. = 0.12
N = 10,963
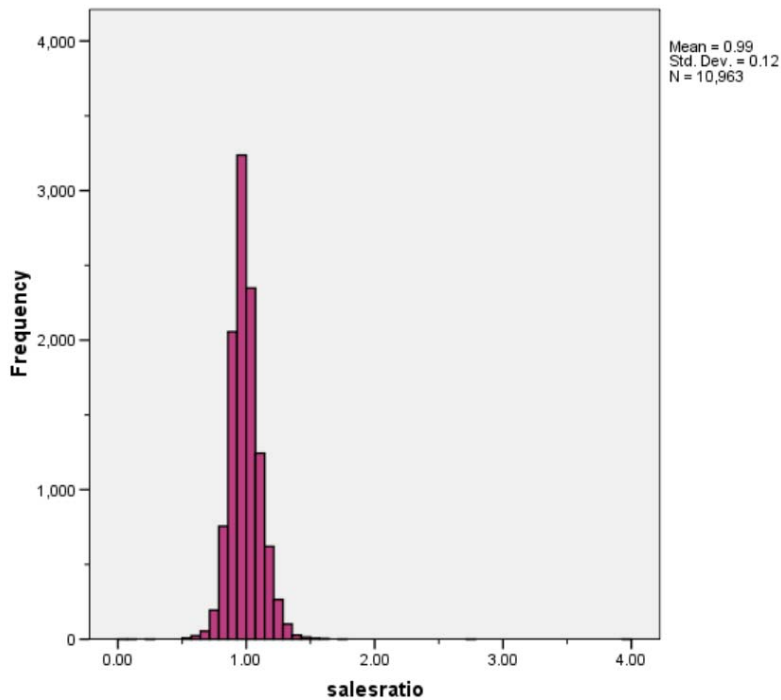
NOTE: Extreme values were trimmed for above graph for descriptive purposes

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 24-month sale period for any residual market trending and broken down by economic area, as follows:

Coefficients^a

econarea	Model		Unstandardized Coefficients		Standardized Coefficients		
			B	Std. Error	Beta	t	Sig.
1	1	(Constant)	.988	.005		179.732	.000
		SalePeriod	.000	.000	.020	.839	.401
2	1	(Constant)	.985	.005		195.096	.000
		SalePeriod	.000	.000	.008	.388	.698
3	1	(Constant)	.989	.004		224.579	.000
		SalePeriod	.001	.000	.033	1.591	.112
4	1	(Constant)	.998	.004		278.591	.000
		SalePeriod	.000	.000	-.010	-.515	.606
5	1	(Constant)	.992	.008		130.470	.000
		SalePeriod	-.001	.001	-.043	-.960	.337
6	1	(Constant)	.991	.010		102.506	.000
		SalePeriod	-.001	.001	-.051	-1.129	.259
7	1	(Constant)	1.027	.045		22.592	.000
		SalePeriod	-.002	.003	-.059	-.445	.658
8	1	(Constant)	.990	.012		83.175	.000
		SalePeriod	-.001	.001	-.047	-1.040	.299
9	1	(Constant)	1.000	.013		79.602	.000
		SalePeriod	.000	.001	-.024	-.516	.606

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for any of the economic areas; we therefore concluded 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 2012 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

Group	N	Median Val/SF	Mean Val/Sf
Unsold	174,702	$146	$152
Sold	10,982	$150	$156

ECONAREA	Group	N	Median Val/ SF	Mean Val/SF
1	Unsold	25,782	$134.02	$139.11
	Sold	1,757	$135.73	$142.20
2	Unsold	38,274	$148.13	$149.12
	Sold	2,204	$151.72	$151.86
3	Unsold	39,353	$141.33	$142.74
	Sold	2,283	$147.02	$149.18
4	Unsold	37,340	$138.91	$145.24
	Sold	2,741	$143.49	$150.03
5	Unsold	5,378	$166.77	$174.08
	Sold	492	$156.01	$164.46
6	Unsold	8,100	$177.78	$184.88
	Sold	489	$187.37	$194.61
7	Unsold	1,138	$173.82	$184.97
	Sold	58	$163.50	$171.36
8	Unsold	8,705	$199.43	$211.73
	Sold	490	$202.75	$210.66
9	Unsold	9,178	$186.30	$192.85
	Sold	447	$192.05	$196.41

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

1. All sales   18,523
2. Qualified sales   12,951
3. Improved sales   12,561
4. Select commercial/industrial sales only   216
5. Remove one extreme ratio   215

The sales ratio analysis was analyzed as follows:

Median	**0.967**
Price Related Differential	**1.106**
Coefficient of Dispersion	**.165**

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

Mean = 0.97
Std. Dev. = 0.279
N = 215

Commercial Sale Price by Sales Ratio
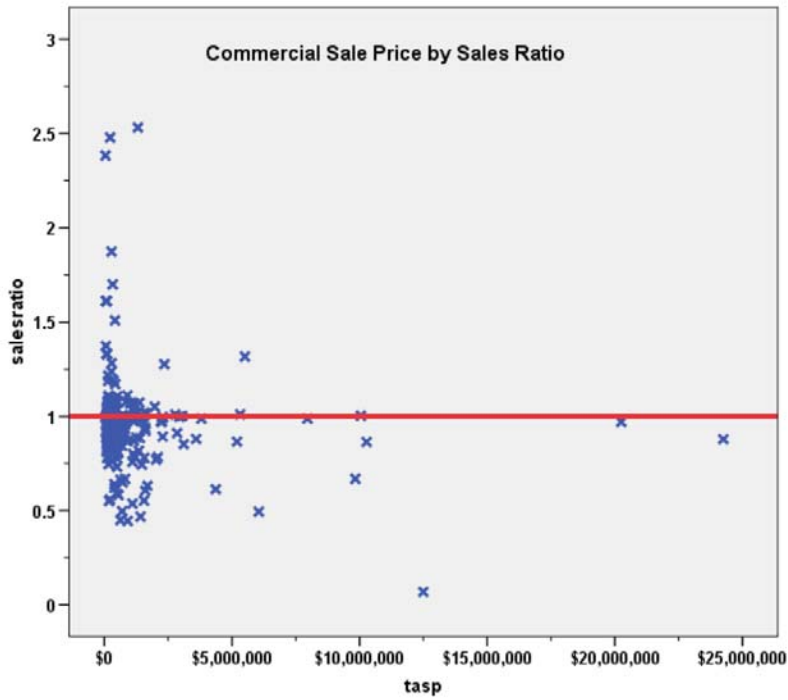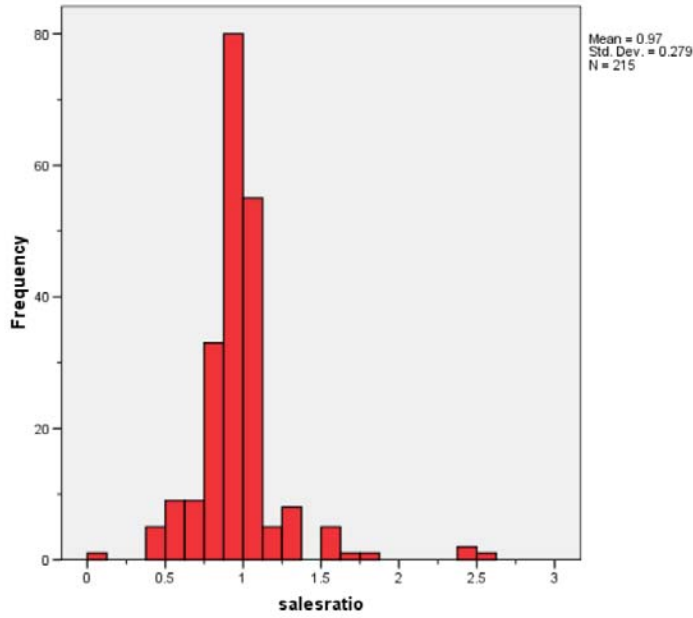
Commercial/Industrial Market Trend Analysis

The assessor did apply market trend adjustments to the commercial/industrial dataset. The 2012 commercial/industrial sales were analyzed, examining the sale ratios across the 24 month sale period with the following results:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.960	.037		25.628	.000
	SalePeriod	.001	.002	.026	.379	.705

a. Dependent Variable: salesratio

Commercial Market Trend Analysis
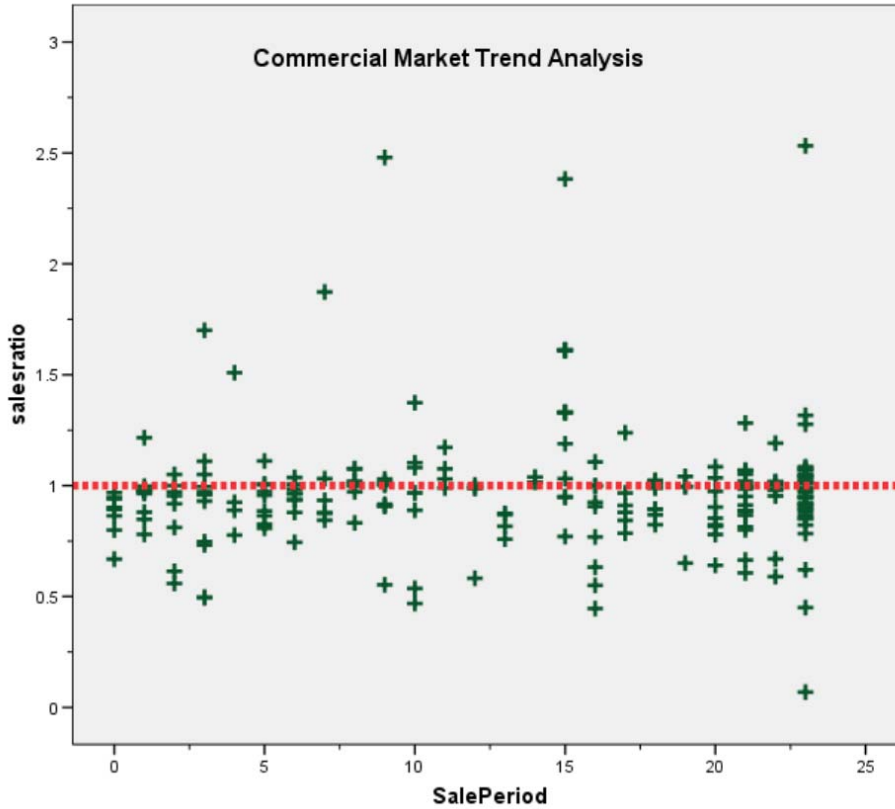
There was no residual market trending present in the commercial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the vacant land valuation.

Sold/Unsold Analysis

We compared the median change in actual value between 2010 and 2012 for commercial and industrial properties to determine if sold and unsold properties were valued consistently, as follows:

Group	No. Props	Median Chg Val	Mean Chg Val
Unsold	5,222	.94	1.00
Sold	215	1.02	1.18

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

V. VACANT LAND SALE RESULTS

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

1. All sales	18,523
2. Qualified sales	12,951
3. Vacant land sales	208
4. Residential & commercial/ind vacant land sales	205
4. Sales between July 2008 and June 2010	205

The sales ratio analysis was analyzed as follows:

Median	0.995
Price Related Differential	1.175
Coefficient of Dispersion	.179

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:

Vacant Land Sale Price by Sales Ratio
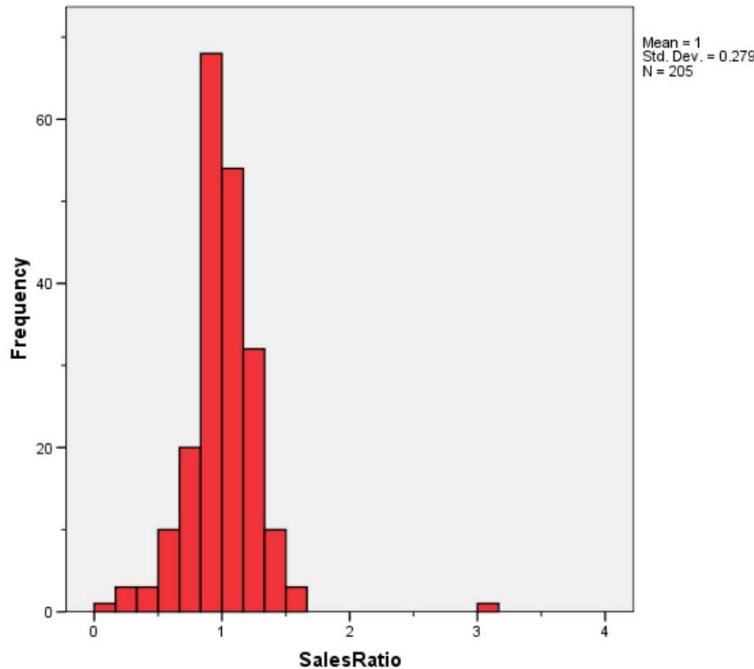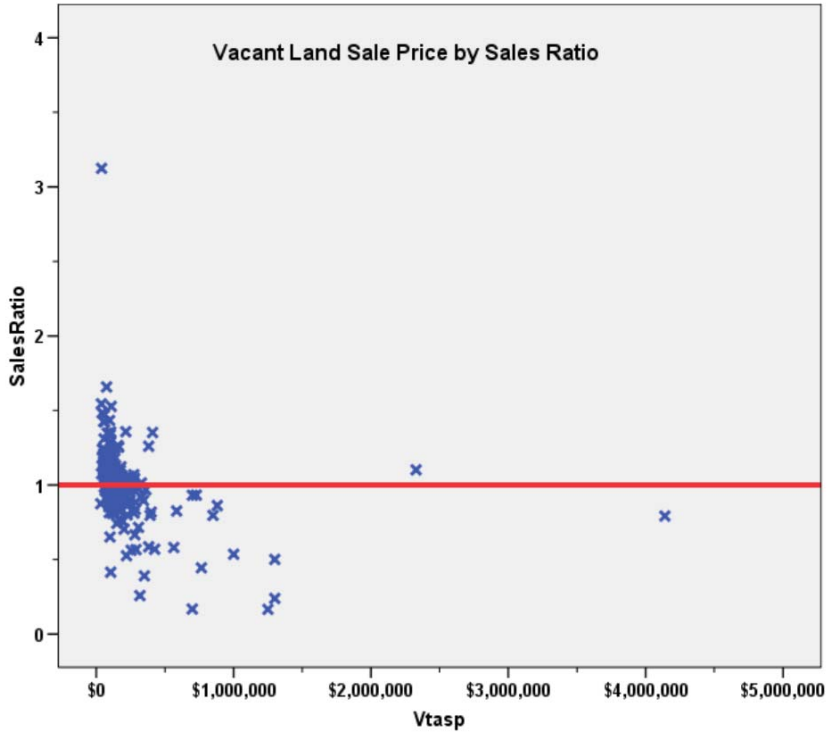
The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

Vacant Land Market Trend Analysis

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

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.045	.017		59.937	.000
	VSalePeriod	-.004	.001	-.222	-3.001	.003

a. Dependent Variable: SalesRatio

Vacant Land Sales Market Trend Analysis
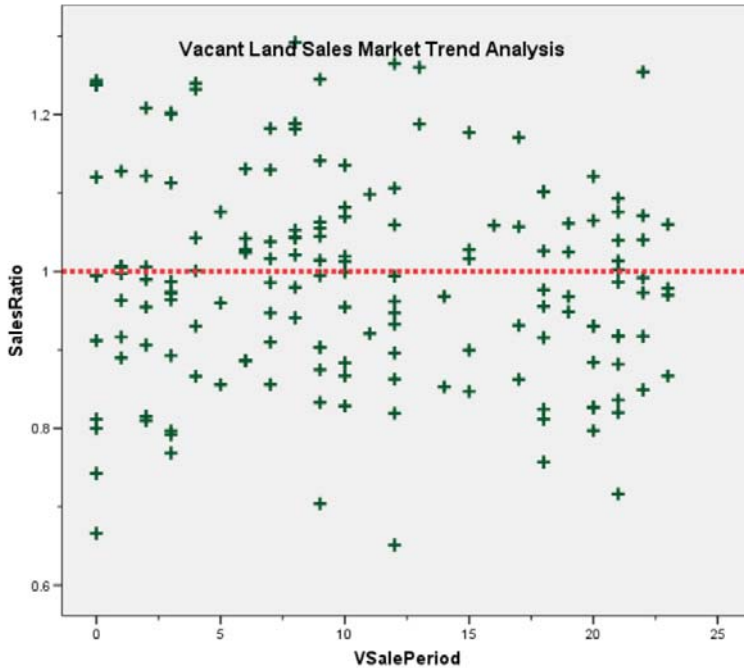
The above analysis indicated that while there is a marginal statistical trend, the magnitude of that trend was not significant (at 0.3% per month). We therefore concluded that the assessor has adequately dealt with market trending for vacant land properties.

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:

Subdivno	Group	No.	Median	Mean
TOTAL	**Unsold**	10,087	0.9444	0.9215
	Sold	168	0.8165	0.9088

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 and vacant land properties were found to be in compliance with state guidelines.

STATISTICAL ABSTRACT
Residential

Ratio Statistics for currtot / tasp

| Mean | 95% Confidence Interval for Mean | | Median | 95% Confidence Interval for Median | | | Weighted Mean | 95% Confidence Interval for Weighted Mean | | Price Related Differential | Coefficient of Dispersion | Coefficient of Variation |
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.991	.989	.994	.981	.980	.984	95.1%	.972	.959	.985	1.020	.088	12.1%

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

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
.972	.935	1.010	.967	.943	.986	95.9%	.879	.791	.967	1.106	.165	28.7%

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 | 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
1.001	.963	1.039	.995	.970	1.021	96.4%	.852	.779	.925	1.175	.179	27.9%

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	LT $25K	2	.0%
	$25K to $50K	33	.3%
	$50K to $100K	147	1.3%
	$100K to $150K	910	8.3%
	$150K to $200K	2372	21.6%
	$200K to $300K	4274	39.0%
	$300K to $500K	2405	21.9%
	$500K to $750K	621	5.7%
	$750K to $1,000K	124	1.1%
	Over $1,000K	75	.7%
Overall		10963	100.0%
Excluded		0	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.051	.998	.053	7.4%
$25K to $50K	1.078	1.020	.166	31.3%
$50K to $100K	1.030	.997	.107	13.5%
$100K to $150K	1.030	1.002	.104	15.9%
$150K to $200K	1.014	1.001	.088	11.3%
$200K to $300K	.970	1.000	.079	10.5%
$300K to $500K	.969	1.000	.083	11.3%
$500K to $750K	.964	1.000	.092	12.1%
$750K to $1,000K	.927	1.001	.096	12.4%
Over $1,000K	.892	1.044	.169	23.2%
Overall	.981	1.020	.088	12.3%

Subclass

Case Processing Summary

		Count	Percent
abstrimp	0	1	.0%
	1212	10842	98.9%
	1215	72	.7%
	1220	29	.3%
	1225	17	.2%
	2235	2	.0%
Overall		10963	100.0%
Excluded		0	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.123	1.000	.000	.%
1212	.982	1.014	.088	12.2%
1215	.964	1.014	.103	14.5%
1220	1.020	1.011	.076	11.1%
1225	.896	1.088	.164	26.0%
2235	.965	1.002	.010	1.5%
Overall	.981	1.020	.088	12.3%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	0	1	.0%
	Over 100	46	.4%
	75 to 100	137	1.2%
	50 to 75	1740	15.9%
	25 to 50	5463	49.8%
	5 to 25	2826	25.8%
	5 or Newer	750	6.8%
Overall		10963	100.0%
Excluded		0	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.123	1.000	.000	.%
Over 100	.880	1.037	.159	20.3%
75 to 100	.889	1.031	.152	19.6%
50 to 75	.969	1.020	.109	14.8%
25 to 50	.985	1.011	.087	11.5%
5 to 25	.982	1.021	.075	10.1%
5 or Newer	.989	1.037	.085	15.6%
Overall	.981	1.020	.088	12.3%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	1	.0%
	LE 500 sf	9	.1%
	500 to 1,000 sf	1067	9.7%
	1,000 to 1,500 sf	3728	34.0%
	1,500 to 2,000 sf	3106	28.3%
	2,000 to 3,000 sf	2412	22.0%
	3,000 sf or Higher	640	5.8%
Overall		10963	100.0%
Excluded		0	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.123	1.000	.000	.%
LE 500 sf	1.025	1.468	.206	38.7%
500 to 1,000 sf	.969	1.019	.104	14.6%
1,000 to 1,500 sf	.978	1.012	.088	11.7%
1,500 to 2,000 sf	.985	1.013	.085	12.5%
2,000 to 3,000 sf	.984	1.013	.084	11.2%
3,000 sf or Higher	.992	1.051	.093	12.8%
Overall	.981	1.020	.088	12.3%

Improvement Quality

Case Processing Summary

		Count	Percent
quality		1	.0%
	0	4	.0%
	1	50	.5%
	2	1786	16.3%
	3	7086	64.6%
	4	1830	16.7%
	5	201	1.8%
	6	5	.0%
Overall		10963	100.0%
Excluded		0	
Total		10963	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.123	1.000	.000	.%
0	1.080	.992	.027	4.7%
1	.956	1.031	.134	17.6%
2	.976	1.012	.097	13.5%
3	.980	1.009	.087	11.5%
4	.988	1.043	.084	13.4%
5	.980	1.026	.102	14.1%
6	1.037	1.002	.041	6.3%
Overall	.981	1.020	.088	12.3%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	2	.9%
	$50K to $100K	20	9.3%
	$100K to $150K	17	7.9%
	$150K to $200K	12	5.6%
	$200K to $300K	35	16.3%
	$300K to $500K	31	14.4%
	$500K to $750K	24	11.2%
	$750K to $1,000K	12	5.6%
	Over $1,000K	62	28.8%
Overall		215	100.0%
Excluded		0	
Total		215	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$25K to $50K	1.689	.932	.411	58.1%
$50K to $100K	1.023	1.008	.247	32.1%
$100K to $150K	1.018	.995	.099	13.1%
$150K to $200K	.920	1.003	.137	17.9%
$200K to $300K	.980	.998	.155	33.1%
$300K to $500K	.954	1.011	.153	23.5%
$500K to $750K	.932	1.006	.138	20.3%
$750K to $1,000K	.961	1.001	.115	19.9%
Over $1,000K	.971	1.062	.164	30.1%
Overall	.967	1.106	.165	28.9%

Subclass

Case Processing Summary

		Count	Percent
abstrimp	2212	41	19.1%
	2215	5	2.3%
	2220	35	16.3%
	2230	26	12.1%
	2235	30	14.0%
	2245	24	11.2%
	3215	1	.5%
	3230	53	24.7%
Overall		215	100.0%
Excluded		0	
Total		215	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212	.889	1.152	.236	40.3%
2215	.894	.892	.174	26.4%
2220	.994	1.109	.145	32.5%
2230	.921	1.058	.181	27.6%
2235	.969	.966	.101	14.6%
2245	.958	1.009	.073	11.3%
3215	.973	1.000	.000	.%
3230	1.002	1.090	.180	29.7%
Overall	.967	1.106	.165	28.9%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	7	3.3%
	75 to 100	8	3.7%
	50 to 75	25	11.6%
	25 to 50	61	28.4%
	5 to 25	77	35.8%
	5 or Newer	37	17.2%
Overall		215	100.0%
Excluded		0	
Total		215	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.925	1.217	.347	71.1%
75 to 100	1.038	1.029	.168	26.5%
50 to 75	.989	1.007	.151	24.6%
25 to 50	.968	.994	.115	18.0%
5 to 25	.950	1.216	.218	37.9%
5 or Newer	.981	1.128	.106	15.0%
Overall	.967	1.106	.165	28.9%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	2	.9%
	500 to 1,000 sf	36	16.7%
	1,000 to 1,500 sf	22	10.2%
	1,500 to 2,000 sf	22	10.2%
	2,000 to 3,000 sf	24	11.2%
	3,000 sf or Higher	109	50.7%
Overall		215	100.0%
Excluded		0	
Total		215	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.903	1.055	.102	14.4%
500 to 1,000 sf	.993	1.066	.213	35.2%
1,000 to 1,500 sf	1.005	1.007	.070	9.5%
1,500 to 2,000 sf	.905	1.052	.204	31.5%
2,000 to 3,000 sf	.965	2.198	.221	42.0%
3,000 sf or Higher	.967	1.020	.146	25.5%
Overall	.967	1.106	.165	28.9%

Improvement Quality

Case Processing Summary

		Count	Percent
quality	2	5	2.3%
	3	182	84.7%
	4	27	12.6%
	5	1	.5%
Overall		215	100.0%
Excluded		0	
Total		215	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	.882	1.017	.089	13.5%
3	.971	1.112	.170	30.5%
4	.943	1.057	.123	15.7%
5	.614	1.000	.000	.%
Overall	.967	1.106	.165	28.9%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
abstrlnd	100	79	38.5%
	200	5	2.4%
	300	3	1.5%
	520	2	1.0%
	540	2	1.0%
	550	3	1.5%
	600	1	.5%
	1112	99	48.3%
	2112	2	1.0%
	2115	1	.5%
	2130	8	3.9%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for currlnd / Vtasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	1.016	1.066	.130	17.1%
200	.581	1.489	.356	52.4%
300	.918	.925	.147	30.2%
520	.951	.966	.080	11.4%
540	1.080	.993	.038	5.3%
550	.862	1.038	.081	14.7%
600	1.171	1.000	.000	.%
1112	.995	1.097	.189	32.1%
2112	.805	1.014	.017	2.4%
2115	1.102	1.000	.000	.%
2130	.518	1.151	.442	59.0%
Overall	.995	1.175	.179	28.0%