2018
WELD COUNTY PROPERTY ASSESSMENT STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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September 15, 2018

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

RE: Final Report for the 2018 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2018 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 2018 and is pleased to report its findings for Weld County in the following report.

REGIONAL/HISTORICAL SKETCH OF WELD COUNTY

Regional Information

Weld 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

Weld County had an estimated population of approximately 294,932 people with 73.9 people per square mile, according to the U.S. Census Bureau's 2016 estimated census data. This represents a 16.6 percent change from April 1, 2010 to July 1, 2016.

Weld County covers an area of 4,004 square miles in north central Colorado. It is bordered on the north by Wyoming and Nebraska and on the south by the Denver metropolitan area. The third largest county in Colorado, Weld County has an area greater than that of Rhode Island, Delaware and the District of Columbia combined.

Major Stephen H. Long made an expedition to the area now known as Weld County in 1821. In 1835 a government expedition came through the general area; the next year a member of that party, Lt. Lancaster Lupton, returned to establish a trading post located just north of the present town of Fort Lupton. In 1837 Colonel Ceran St. Vrain established Fort St. Vrain; Fort Vasquez was built south of Platteville about 1840. The latter was rebuilt in the 1930's by the State Historical Society.

The county seat is Greeley which began as the Union Colony, which was founded in 1869 as an experimental utopian community of "high moral standards" by Nathan C. Meeker, a newspaper reporter from New York City. Meeker purchased a site at the confluence of the Cache la Poudre and South Platte Rivers (that included the area of Latham, an Overland Trail station), halfway between Cheyenne and Denver along the tracks of the Denver Pacific Railroad formerly known as the "Island Grove Ranch." The name Union Colony was later changed to Greeley in honor of Horace Greeley, who was Meeker's editor at the New York Tribune, and popularized the phrase "Go West, young man."

Weld County's cultural assets include Centennial Village, an authentic recreation of pioneer life on the Colorado plains. The Meeker Museum in Greeley is a national historic site. Fort Vasquez in southern Weld County has an exciting history as an early Colorado trading post. The Greeley Philharmonic Orchestra is one of the oldest symphony orchestra west of the Mississippi. The University of Northern Colorado's Little Theatre of the Rockies is one of America's premier college dramatic organizations.
(www.co.weld.co.us, 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 1, 2015 and June 30, 2016. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2016 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 Weld County are:

Weld County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	205	0.980	0.998	8.2	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	10,726	0.972	1.007	6.4	Compliant
Vacant Land	400	1.000	1.023	11.6	Compliant

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
0	.973	1.003	.054
2	.968	1.006	.056
3	.979	1.005	.059
4	.969	1.007	.063
5	.953	1.018	.106
6	.978	1.011	.088
7	.968	1.005	.135
8	.962	1.012	.078
9	.972	1.007	.071
99	.973	1.004	.044
Overall	.972	1.007	.064

NOTE: Econ Area 99 = Condominiums

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

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 method also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

After verification and analysis, it has been determined that Weld County has complied with the statutory requirements to analyze the effects of time on value in their county. Weld 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

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

We test the hypothesis that the assessor has valued unsold properties consistent with what is observed with the sold properties based on several units of comparison and tests. The units of comparison include the actual value per square foot and the change in value from the previous base year period to the current base year. The first test compares the actual value per square foot between sold and unsold properties by class. The median and mean value per square foot is compared and tested for any significant difference. This is tested using non-parametric methods, such as the Mann-Whitney test for differences in the distributions or medians between sold and unsold groups. It is also examined graphically and from an appraisal perspective. Data can be stratified based on location and subclass. The second test compares the difference in the median change in value from the previous base year to the current base year between sold and unsold properties by class. The same combination of non-parametric and appraisal testing is used as with the first test. A third test employing a valuation model testing a sold/unsold binary variable while controlling for property attributes such as location, size, age and other attributes. The model determines if the sold/unsold variable is statistically and empirically significant. If all three tests indicate a significant difference between sold and unsold properties for a given class, the Auditor may meet with the county to determine if sale chasing is actually occurring,

or if there are other explanations for the observed difference.

If the unsold properties have a higher median value per square foot than the sold properties, or if the median change in value is greater for the unsold properties than the sold properties, the analysis is stopped and the county is concluded to be in compliance with sold and unsold guidelines. All sold and unsold properties in a given class are first tested, although properties with extreme unit values or percent changes can be trimmed to stabilize the analysis. The median is the primary comparison metric, although the mean can also be used as a comparison metric if the distribution supports that type of measure of central tendency.

The first test (unit value method) is applied to both residential and commercial/industrial sold and unsold properties. The second test is applied to sold and unsold vacant land properties. The second test (change in value method) is also applied to residential or commercial sold and unsold properties if the first test results in a significant difference observed and/or tested between sold and unsold properties. The third test (valuation modeling) is used in instances where the results from the first two tests indicate a significant difference between sold and unsold properties. It can also be used when the number of sold and unsold properties is so large that the non-parametric testing is indicating a false rejection of the hypothesis that there is no difference between the sold and unsold property values.

These tests were supported by both tabular and graphics presentations, along with written documentation explaining the methodology used.

Sold/Unsold 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 Weld County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

None

AGRICULTURAL LAND STUDY
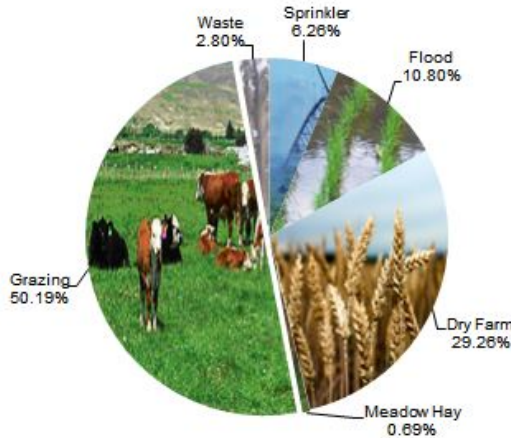
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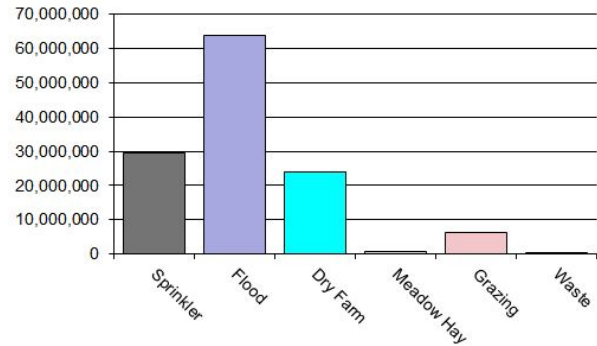
Agricultural Land

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:

Weld 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	120,545	245.53	29,597,347	27,564,881	1.07
4117	Flood	207,981	307.46	63,946,370	62,417,203	1.02
4127	Dry Farm	563,463	42.24	23,799,788	23,071,426	1.03
4137	Meadow Hay	13,194	46.74	616,750	616,750	1.00
4147	Grazing	966,333	6.60	6,377,596	6,377,596	1.00
4167	Waste	53,982	2.22	119,940	119,940	1.00
Total/Avg		1,925,498	64.64	124,457,791	120,167,796	1.04

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

Weld 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

Weld County has used the following methods to discover land under a residential improvement on a farm or ranch that is determined to be not integral under 39-1-102, C.R.S.:

- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Personal Knowledge of Occupants at Assessment Date

Weld County has used the following methods to discover the land area under a residential improvement that is determined to be not integral under 39-1-102, C.R.S.:

- Property Record Card Analysis
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Weld 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 2018 for Weld County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 54 sales listed as unqualified.

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

For residential, commercial, and vacant land sales with considerations over $500, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

> The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.

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

conducted further analysis to determine if the sales included in that code have been assigned appropriately.

Conclusions

Weld County appears to be doing a good job of verifying their sales. WRA agreed with the county's reason for disqualifying each of the sales selected in the sample. There are no recommendations or suggestions.

Recommendations

None

E CONOMIC A REA R EVIEW AND E VALUATION

Methodology

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

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

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

Conclusions

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

Recommendations

None

Producing Oil and Gas

Methodology

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

STATUTORY REFERENCES

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

Actual value determined – when.

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

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

Valuation:
Valuation for assessment.

(1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:

(a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;

(b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.
§ 39-7-102, C.R.S.

Conclusions

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

Recommendations

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2018 in Weld 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 can be 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

Weld 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.

Weld 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

Weld 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

Weld 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.

Weld 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.

Weld County submitted their personal property written audit plan and was current for the 2018 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

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

- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts close to the $7,400 actual value exemption status
- Accounts protested with substantial disagreement

Weld 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

Weld 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

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician*

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

J. Andrew Rodriguez, *Field Analyst*

A PPENDICES

STATISTICAL COMPLIANCE REPORT
FOR WELD COUNTY
2018

I. OVERVIEW

Weld County is an urban county located along Colorado's Front Range. The county has a total of 132,706 real property parcels, according to data submitted by the county assessor's office in 2018. The following provides a breakdown of property classes for this county:
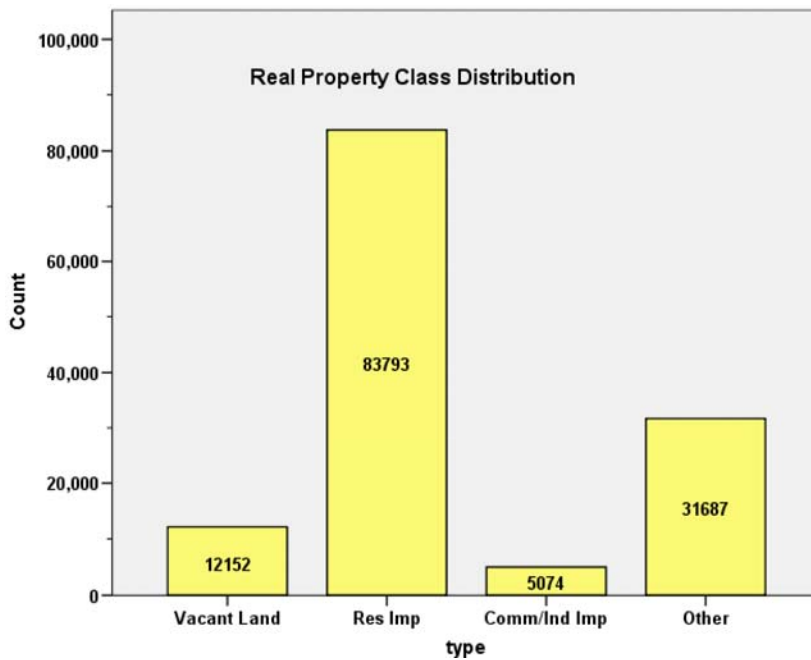
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 80.3% of all vacant land parcels.

For residential improved properties, single family properties accounted for 92.5% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.8% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2018 Colorado Property Assessment Study. Information was provided by the Weld Assessor's Office in April 2018. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 10,726 qualified residential sales that occurred in the 18-month sale period between January 1, 2015 and June 30, 2016. The sales ratio analysis results were as follows:

Median	0.972
Price Related Differential	1.007
Coefficient of Dispersion	6.4

Case Processing Summary

		Count	Percent
ECONAREA	0	933	8.7%
	2	3106	29.1%
	3	2786	26.1%
	4	711	6.7%
	5	98	0.9%
	6	1934	18.1%
	7	45	0.4%
	8	121	1.1%
	9	348	3.3%
	99	598	5.6%
Overall		10680	100.0%
Excluded		46	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
0	.973	1.003	.054
2	.968	1.006	.056
3	.979	1.005	.059
4	.969	1.007	.063
5	.953	1.018	.106
6	.978	1.011	.088
7	.968	1.005	.135
8	.962	1.012	.078
9	.972	1.007	.071
99	.973	1.004	.044
Overall	.972	1.007	.064

NOTE: Econ Area 99 = Condominiums

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:

Residential Sale Price by Sales Ratio
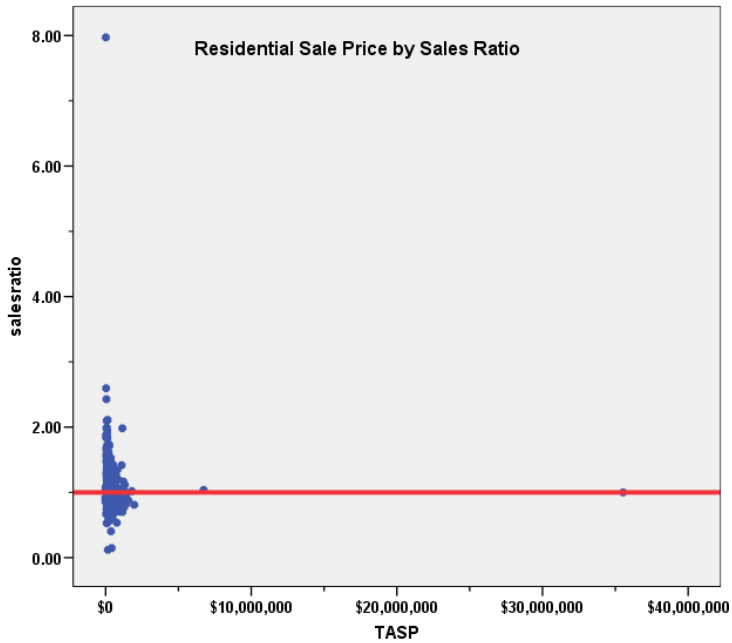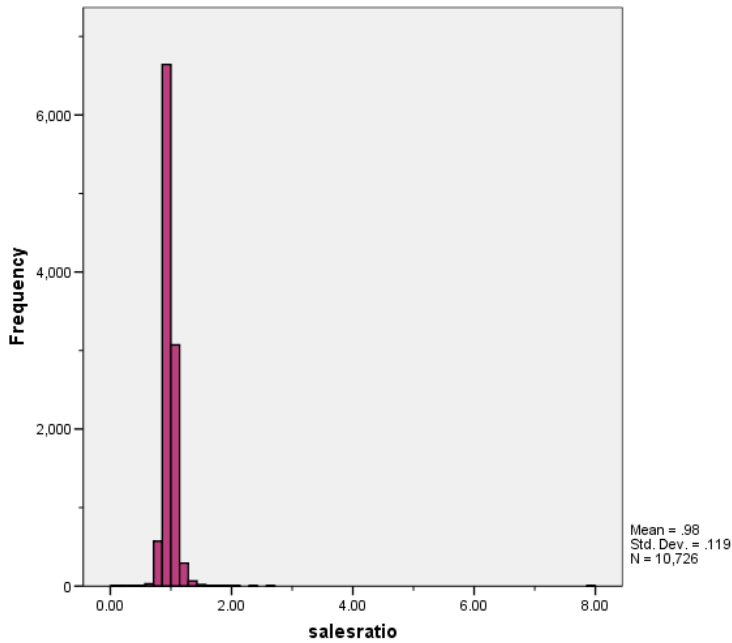
The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

Residential Market Trend Analysis

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

Coefficients[a]

ECONAREA	Model		Unstandardized Coefficients		Standardized Coefficients		
			B	Std. Error	Beta	t	Sig.
.	1	(Constant)	.971	.017		55.580	.000
		SalePeriod	.000	.002	-.017	-.115	.909
0	1	(Constant)	.979	.005		190.047	.000
		SalePeriod	.000	.001	.008	.232	.817
2	1	(Constant)	.966	.003		379.378	.000
		SalePeriod	.000	.000	.021	1.167	.243
3	1	(Constant)	.979	.003		307.716	.000
		SalePeriod	$9.680E{-5}$	.000	.006	.302	.763
4	1	(Constant)	.984	.007		138.526	.000
		SalePeriod	.000	.001	-.024	-.635	.525
5	1	(Constant)	.996	.031		31.961	.000
		SalePeriod	-.001	.003	-.043	-.421	.675
6	1	(Constant)	1.008	.009		111.447	.000
		SalePeriod	-.001	.001	-.032	-1.411	.158
7	1	(Constant)	1.038	.054		19.325	.000
		SalePeriod	-.007	.005	-.184	-1.230	.225
8	1	(Constant)	1.009	.028		36.626	.000
		SalePeriod	-.005	.003	-.156	-1.722	.088
9	1	(Constant)	.988	.011		91.395	.000
		SalePeriod	-.001	.001	-.059	-1.101	.272
99	1	(Constant)	.984	.005		182.453	.000
		SalePeriod	-.001	.001	-.068	-1.673	.095

a. Dependent Variable: sales ratio

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 2018 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

Report

VALSF

sold	N	Median	Mean
UNSOLD	72,521	$166	$203
SOLD	10,724	$169	$171

Report

VALSF

ECONAREA	sold	N	Median	Mean
0	UNSOLD	5,897	$179	$187
	SOLD	933	$181	$181
2	UNSOLD	19,977	$172	$182
	SOLD	3,106	$172	$176
3	UNSOLD	15,158	$174	$251
	SOLD	2,785	$175	$181
4	UNSOLD	6,007	$151	$187
	SOLD	711	$164	$165
5	UNSOLD	1,269	$128	$129
	SOLD	98	$164	$157
6	UNSOLD	16,799	$157	$215
	SOLD	1,934	$164	$161
7	UNSOLD	808	$77	$357
	SOLD	44	$98	$108
8	UNSOLD	637	$126	$174
	SOLD	121	$147	$149
9	UNSOLD	2,390	$170	$162
	SOLD	348	$184	$178

We also examined the overall median and mean change in actual value for taxable years 2016 and 2018 for residential sold and unsold properties, as follows:

Report

DIFF

sold	N	Median	Mean
UNSOLD	67,126	1.26	1.29
SOLD	9,896	1.27	1.28

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.527	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 205 qualified commercial/industrial sales that occurred in the 18 month sale period between January 1, 2015 and June 30, 2016. The sales ratio analysis results were as follows:

Median	0.980
Price Related Differential	0.998
Coefficient of Dispersion	8.2

The above table indicates that the Weld County commercial/industrial sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:
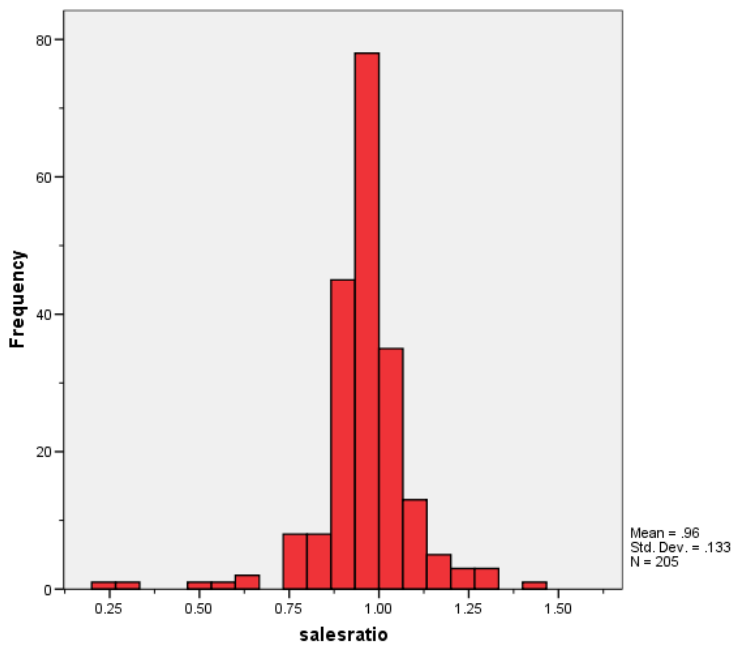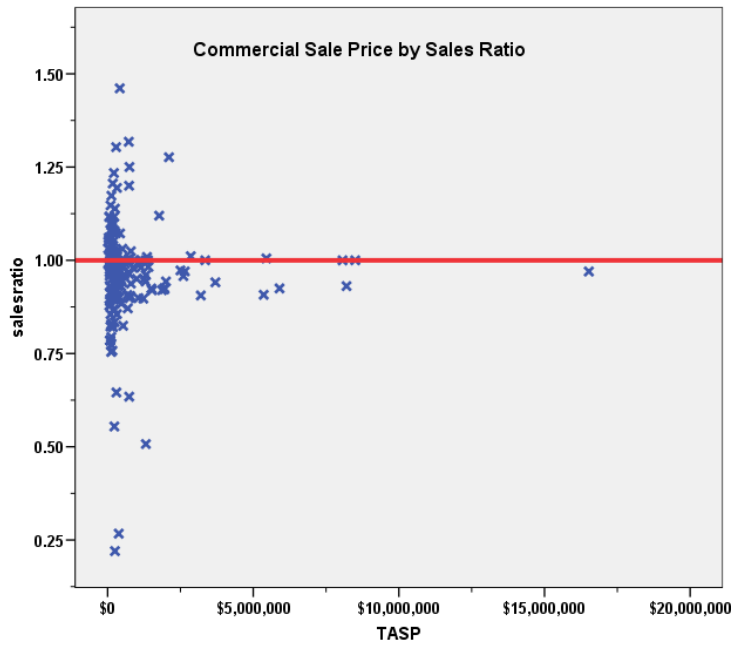
Commercial/Industrial Market Trend Analysis

The 205 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 B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.966	.018		52.287	.000
	SalePeriod	.000	.002	-.007	-.101	.920

a. Dependent Variable: salesratio

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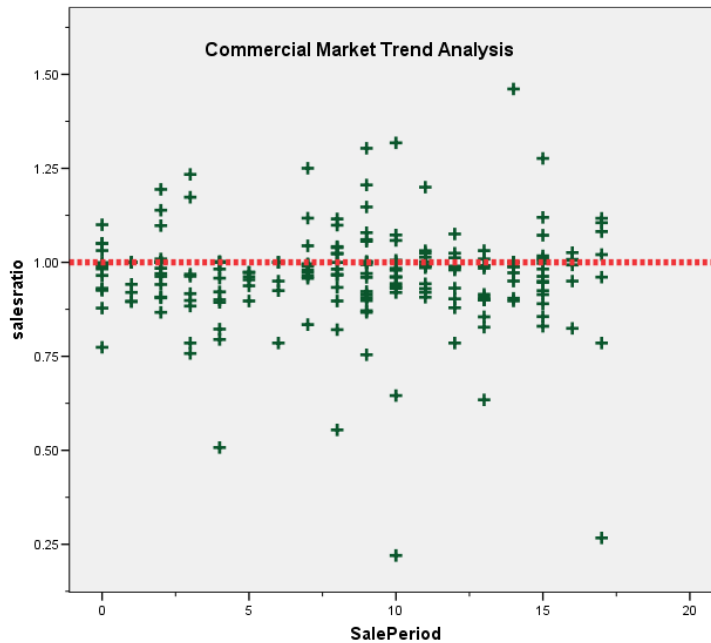
There was no residual market trending present in the commercial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the vacant land valuation.

Sold/Unsold Analysis

We compared the median actual value per square foot for 2018 between sold and unsold groups to determine if sold and unsold properties were valued consistently. Based on the amount of subclasses for commercial and industrial properties, we chose only major subclasses with at least 10 sales for this analysis: i.e. those with improved abstract codes of 2212, 2220, 2230, 2235, 2245, and 3215. The following analysis was then performed:

Report
VALSF

ABSTRIMP	sold	N	Median	Mean
2212	UNSOLD	638	$70	$97
	SOLD	34	$105	$120
2220	UNSOLD	386	$98	$114
	SOLD	16	$120	$124
2230	UNSOLD	791	$78	$115
	SOLD	35	$126	$147
2235	UNSOLD	892	$43	$51
	SOLD	23	$69	$67
2245	UNSOLD	823	$87	$91
	SOLD	61	$89	$97
3215	UNSOLD	237	$55	$57
	SOLD	8	$80	$79

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of VALSF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

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

Given that there was a statistically significant difference using the non-parametric Mann Whitney U test, we next compared the percent change in actual value between taxable years 2016 and 2018 for sold and unsold commercial properties in Weld County, as follows:

Report
DIFF

ABSTRIMP	sold	N	Median	Mean
2212	UNSOLD	617	1.09	1.13
	SOLD	25	1.30	1.33
2220	UNSOLD	349	1.08	1.12
	SOLD	12	1.04	1.19
2230	UNSOLD	744	1.08	1.12
	SOLD	25	1.19	1.26
2235	UNSOLD	743	1.11	1.17
	SOLD	21	1.22	1.24
2245	UNSOLD	800	1.13	1.16
	SOLD	56	1.22	1.26
3215	UNSOLD	222	1.08	1.14
	SOLD	7	1.31	1.54

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Given that both of these comparisons indicated a statistical difference between sold and unsold commercial/industrial properties, we next developed an econometric model that used the assessor's

actual value as the predicted variable. A total of 3,621 commercial/industrial properties were analyzed. Commercial/industrial property subclasses included the following:

ABSTRIMP

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2212	642	17.7	17.7	17.7
	2220	361	10.0	10.0	27.7
	2230	769	21.2	21.2	48.9
	2235	764	21.1	21.1	70.0
	2245	856	23.6	23.6	93.7
	3215	229	6.3	6.3	100.0
	Total	3621	100.0	100.0	

We developed a stepwise regression model to test whether sold and unsold properties were valued differently by the assessor.

To do this, we included a binary variable for sold/unsold status. For the model, sold properties were coded "1" and unsold properties were coded "0." Other variables tested included improved area, age, economic area, and commercial/industrial subclass. The stepwise regression analysis adds variables to the model based on their contributory strength, as measured by their t or p values (depending on the test). Due to the number of sales, we used a p value of 0.02 and the tolerance threshold. At each step, a variable is added, and variables already in the model are re-evaluated to determine if they should remain in the model. After it is determined that adding additional variables will not improve the model's predicative or explanatory power, the process stops. Variables not included at this point are determined to not be significant. In this analysis, our primary focus was the sold/unsold variable previously described.

After 5 iterations, the following results were generated by the model:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.753[a]	.567	.566	1170217.060
2	.765[b]	.585	.585	1145528.009
3	.771[c]	.594	.593	1133230.443
4	.773[d]	.597	.596	1128988.986
5	.774[e]	.599	.598	1126488.599
6	.774[f]	.599	.599	1125635.523

a. Predictors: (Constant), LIVEAREA
b. Predictors: (Constant), LIVEAREA, EC2
c. Predictors: (Constant), LIVEAREA, EC2, EC3
d. Predictors: (Constant), LIVEAREA, EC2, EC3, V2235
e. Predictors: (Constant), LIVEAREA, EC2, EC3, V2235, AGE
f. Predictors: (Constant), LIVEAREA, EC2, EC3, V2235, AGE, V2245

The following coefficients were included in the model at Step 5:

6	(Constant)	263451.085	36146.947		7.288	.000
	LIVEAREA	39.901	.584	.729	68.286	.000
	EC2	728084.032	61062.935	.133	11.924	.000
	EC3	485480.834	62558.472	.086	7.760	.000
	V2235	-283039.660	48618.679	-.065	-5.822	.000
	AGE	-1624.244	352.772	-.050	-4.604	.000
	V2245	-128056.703	50299.927	-.031	-2.546	.011

a. Dependent Variable: CURRTOT

The model at Step 6 did not include the Sold/Unsold variable, indicating that it did not make a significant difference in the model whether the properties were sold or unsold. Based on this finding, we concluded that the assessor valued sold and unsold commercial properties consistently in 2018.

V. VACANT LAND SALE RESULTS

There were 400 qualified vacant land sales that occurred in the 18-month sale period between January 1, 2015 and June 30, 2016. The sales ratio analysis results were as follows:

Median	1.000
Price Related Differential	1.023
Coefficient of Dispersion	11.6

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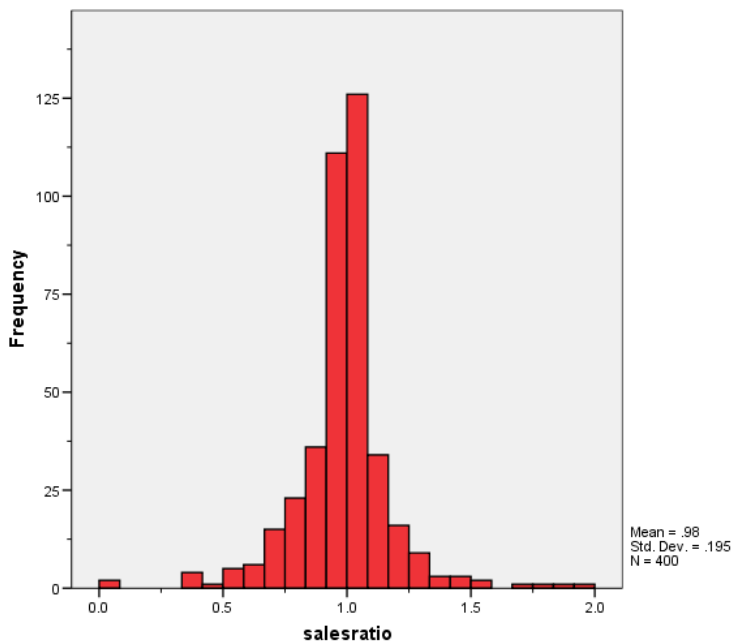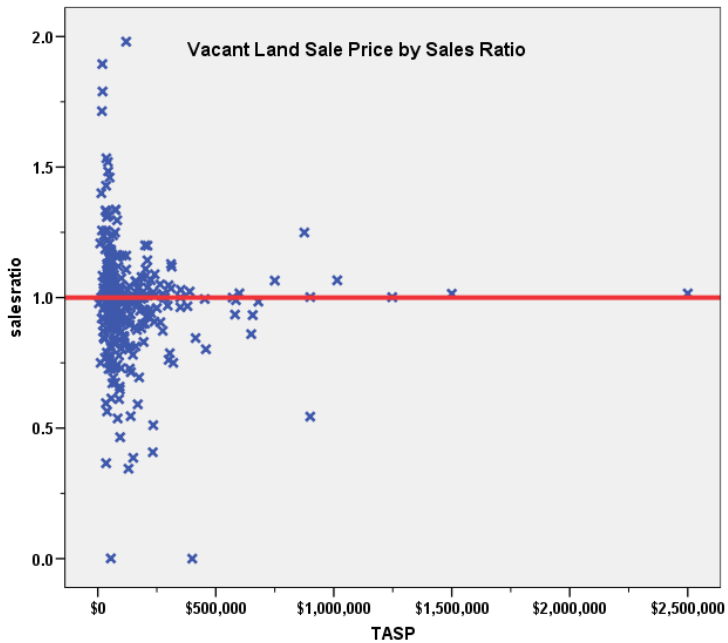
The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

Vacant Land Market Trend Analysis

We next analyzed the 400 vacant land dataset using the 18-month sale period, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.004	.016		61.762	.000
	SalePeriod	-.003	.002	-.086	-1.718	.086

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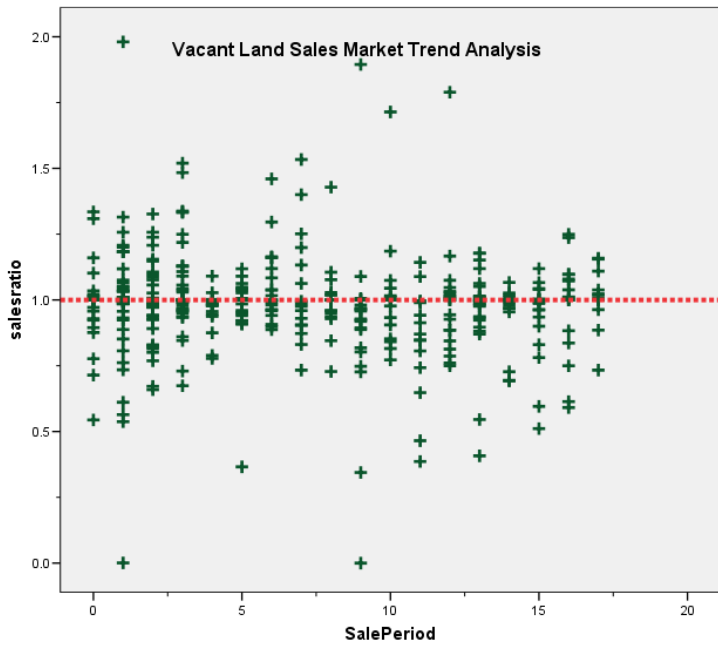
The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in actual value for taxable years 2016 and 2018 between each group. We stratified the vacant land properties by subdivision and found overall consistency. The following results present the overall comparison results:

Report
DIFF

sold	N	Median	Mean
UNSOLD	6,140	1.08	1.04
SOLD	354	1.28	1.30

We also compared sold and unsold changes in value by subdivision with at least 6 sales, as follows:

Report

DIFF

SUBNO	sold	N	Median	Mean
2925	UNSOLD	59	1.80	1.79
	SOLD	6	1.80	1.80
3124	UNSOLD	3	1.88	1.88
	SOLD	6	1.88	1.88
3390	UNSOLD	3	1.00	.76
	SOLD	7	1.28	1.28
3605	UNSOLD	2	1.06	1.06
	SOLD	8	1.06	1.06
4017	UNSOLD	6	1.50	1.50
	SOLD	6	1.50	1.50
4035	UNSOLD	5	1.94	1.78
	SOLD	6	1.94	1.67
4203	UNSOLD	6	1.37	1.37
	SOLD	21	1.37	1.37
4396	UNSOLD	19	1.03	1.07
	SOLD	14	1.20	1.18
4584	UNSOLD	15	1.29	1.25
	SOLD	6	1.29	1.27
4765	UNSOLD	6	1.65	1.65
	SOLD	6	1.65	1.61
4815	UNSOLD	1	1.22	1.22
	SOLD	9	1.22	1.22
4919	UNSOLD	1	1.52	1.52
	SOLD	7	1.52	1.52
6045	UNSOLD	5	1.04	1.04
	SOLD	21	1.04	1.04
Total	SOLD	142	1.29	1.33
	Total	1441	1.00	.73

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

VI. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the 2018 median improved value per square foot for this group and compared it to the 2018 median improved value per square foot for residential single family improvements in Weld County.

The following indicates that both groups were valued in essentially a similar manner:

Report

IMPVALSF

ABSTRIMP	N	Median	Mean
1212	76,986	$138.85	$142.11
4277	1,190	$126.24	$133.47
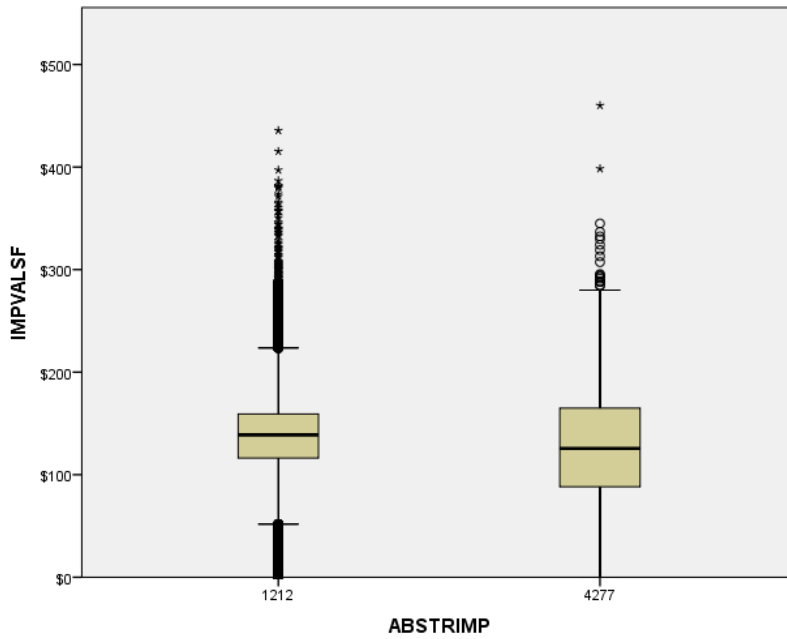
VII. CONCLUSIONS

Based on this 2018 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		Actual Coverage	Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	C
		Lower Bound	Upper Bound		Lower Bound	Upper Bound			Lower Bound	Upper Bound			
.	.970	.951	.988	.962	.950	.990	97.4%	.965	.946	.984	1.005	.049	
0	.980	.975	.985	.973	.970	.977	95.1%	.978	.973	.983	1.003	.054	
2	.969	.966	.971	.968	.966	.970	95.4%	.963	.959	.967	1.006	.056	
3	.980	.976	.983	.979	.976	.981	95.3%	.975	.971	.978	1.005	.059	
4	.980	.972	.988	.969	.965	.974	95.7%	.973	.967	.980	1.007	.063	
5	.984	.954	1.014	.953	.932	.997	96.7%	.967	.939	.995	1.018	.106	
6	.997	.987	1.006	.978	.973	.983	95.2%	.986	.978	.993	1.011	.088	
7	.983	.922	1.044	.968	.945	1.020	96.4%	.978	.927	1.029	1.005	.135	
8	.965	.943	.987	.962	.949	.974	95.5%	.953	.933	.974	1.012	.078	
9	.978	.967	.989	.972	.963	.979	95.3%	.971	.961	.982	1.007	.071	
99	.977	.971	.982	.973	.971	.977	95.5%	.973	.968	.978	1.004	.044	

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 N distribution for the ratios.

Commercial Land

Ratio Statistics for CURRTOT / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median		Actual Coverage	Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound			Lower Bound	Upper Bound			
.964	.946	.983	.980	.963	.990	96.4%	.966	.949	.983	.998	.082	13.8%

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

Vacant Land

Ratio Statistics for CURRLND / 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
.982	.963	1.001	1.000	.989	1.000	96.0%	.960	.931	.989	1.023	.116	19.8%

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

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	9	0.1%
	$25K to $50K	5	0.0%
	$50K to $100K	54	0.5%
	$100K to $150K	425	4.0%
	$150K to $200K	1301	12.1%
	$200K to $300K	4394	41.0%
	$300K to $500K	3963	36.9%
	$500K to $750K	491	4.6%
	$750K to $1,000K	54	0.5%
	Over $1,000K	30	0.3%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	.919	.675	.900	271.5%
$25K to $50K	1.845	1.032	.294	43.0%
$50K to $100K	1.234	1.013	.255	32.6%
$100K to $150K	1.015	1.002	.102	16.0%
$150K to $200K	.977	1.001	.071	10.8%
$200K to $300K	.973	1.000	.055	7.9%
$300K to $500K	.970	1.001	.055	7.8%
$500K to $750K	.951	1.002	.082	10.9%
$750K to $1,000K	.920	1.000	.099	13.7%
Over $1,000K	.964	.990	.134	24.2%
Overall	.972	1.007	.064	12.3%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	0	2	0.0%
	1212	9965	92.9%
	1214	2	0.0%
	1214	2	0.0%
	1215	115	1.1%
	1217	1	0.0%
	1220	25	0.2%
	1222	2	0.0%
	1222	1	0.0%
	1224	1	0.0%
	1225	5	0.0%
	1230	598	5.6%
	1712	2	0.0%
	1721	2	0.0%
	1724	1	0.0%
	2212	1	0.0%
	2220	1	0.0%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.133	.960	.094	13.3%
1212	.972	1.008	.064	12.3%
1214	.925	.999	.050	7.0%
1214	.992	1.000	.011	1.6%
1215	.984	1.010	.091	13.1%
1217	1.169	1.000	.000	.
1220	1.011	1.044	.139	27.0%
1222	1.026	1.002	.087	12.3%
1222	1.270	1.000	.000	.
1224	1.041	1.000	.000	.
1225	1.038	1.181	.196	45.6%
1230	.973	1.004	.044	6.9%
1712	1.064	1.006	.103	14.6%
1721	1.063	.995	.060	8.4%
1724	.937	1.000	.000	.
2212	.930	1.000	.000	.
2220	.730	1.000	.000	.
Overall	.972	1.007	.064	12.3%

Age

Case Processing Summary

		Count	Percent
AgeRec	0	2	0.0%
	Over 100	272	2.5%
	75 to 100	280	2.6%
	50 to 75	680	6.3%
	25 to 50	1337	12.5%
	5 to 25	4887	45.6%
	5 or Newer	3268	30.5%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.133	.960	.094	13.3%
Over 100	.985	1.069	.178	50.5%
75 to 100	.968	1.024	.119	18.0%
50 to 75	.967	1.013	.092	13.6%
25 to 50	.964	1.001	.082	12.2%
5 to 25	.972	1.005	.053	8.0%
5 or Newer	.977	1.006	.052	7.1%
Overall	.972	1.007	.064	12.3%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	2	0.0%
	LE 500 sf	13	0.1%
	500 to 1,000 sf	836	7.8%
	1,000 to 1,500 sf	3566	33.2%
	1,500 to 2,000 sf	3342	31.2%
	2,000 to 3,000 sf	2372	22.1%
	3,000 sf or Higher	595	5.5%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	.133	.960	.094	13.3%
LE 500 sf	.909	.990	.168	36.2%
500 to 1,000 sf	.952	1.031	.109	30.7%
1,000 to 1,500 sf	.972	1.007	.059	9.3%
1,500 to 2,000 sf	.973	1.006	.054	8.2%
2,000 to 3,000 sf	.977	1.007	.060	8.5%
3,000 sf or Higher	.976	1.004	.096	14.2%
Overall	.972	1.007	.064	12.3%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY		2	0.0%
	1	89	0.8%
	2	2510	23.4%
	3	7394	68.9%
	4	665	6.2%
	5	53	0.5%
	6	13	0.1%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.133	.960	.094	13.3%
1	.943	1.126	.283	85.5%
2	.968	1.012	.083	13.4%
3	.974	1.004	.054	8.1%
4	.978	1.009	.069	9.3%
5	.966	1.006	.080	11.9%
6	.947	1.007	.059	7.8%
Overall	.972	1.007	.064	12.3%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION		2	0.0%
	1	6	0.1%
	2	25	0.2%
	3	10670	99.5%
	4	23	0.2%
Overall		10726	100.0%
Excluded		0	
Total		10726	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.133	.960	.094	13.3%
1	1.068	1.257	.638	81.0%
2	1.017	1.042	.193	25.9%
3	.972	1.007	.063	12.0%
4	.966	1.037	.086	11.2%
Overall	.972	1.007	.064	12.3%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	3	1.5%
	$25K to $50K	3	1.5%
	$50K to $100K	24	11.7%
	$100K to $150K	24	11.7%
	$150K to $200K	24	11.7%
	$200K to $300K	39	19.0%
	$300K to $500K	28	13.7%
	$500K to $750K	19	9.3%
	$750K to $1,000K	6	2.9%
	Over $1,000K	35	17.1%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.031	.998	.019	3.1%
$25K to $50K	1.056	1.000	.021	4.2%
$50K to $100K	.963	1.003	.093	11.6%
$100K to $150K	.979	.998	.079	10.7%
$150K to $200K	.993	1.000	.068	10.0%
$200K to $300K	.984	1.002	.101	18.1%
$300K to $500K	.954	.998	.094	18.6%
$500K to $750K	.991	.997	.094	15.2%
$750K to $1,000K	.965	.999	.037	4.6%
Over $1,000K	.960	.994	.058	10.9%
Overall	.980	.998	.082	13.7%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1215	1	0.5%
	1721	1	0.5%
	1981	1	0.5%
	2212	34	16.6%
	2215	3	1.5%
	2220	16	7.8%
	2221	2	1.0%
	2225	3	1.5%
	2228	3	1.5%
	2229	1	0.5%
	2230	38	18.5%
	2235	23	11.2%
	2245	61	29.8%
	2723	2	1.0%
	3212	2	1.0%
	3215	8	3.9%
	9229	1	0.5%
	9239	2	1.0%
	9249	1	0.5%
	9259	1	0.5%
	9279	1	0.5%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1215	1.206	1.000	.000	.
1721	1.234	1.000	.000	.
1981	.960	1.000	.000	.
2212	.976	1.025	.058	9.0%
2215	.925	1.014	.032	5.7%
2220	.995	.991	.063	10.7%
2221	.813	1.132	.220	31.0%
2225	1.117	.965	.055	8.4%
2228	.985	.998	.049	9.3%
2229	.970	1.000	.000	.
2230	.971	.987	.069	11.4%
2235	.950	.985	.103	15.7%
2245	.988	.999	.069	9.0%
2723	.795	.878	.187	26.5%
3212	.998	1.043	.074	10.5%
3215	.967	.988	.031	3.5%
9229	1.250	1.000	.000	.
9239	.244	.981	.096	13.6%
9249	.554	1.000	.000	.
9259	1.009	1.000	.000	.
9279	.962	1.000	.000	.
Overall	.980	.998	.082	13.7%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	12	5.9%
	75 to 100	13	6.3%
	50 to 75	24	11.7%
	25 to 50	53	25.9%
	5 to 25	89	43.4%
	5 or Newer	14	6.8%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.987	1.008	.041	7.8%
75 to 100	.991	.999	.060	8.6%
50 to 75	.980	1.034	.074	11.0%
25 to 50	.988	1.024	.083	13.6%
5 to 25	.980	.995	.074	11.1%
5 or Newer	.866	.860	.184	29.9%
Overall	.980	.998	.082	13.7%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	8	3.9%
	500 to 1,000 sf	27	13.2%
	1,000 to 1,500 sf	24	11.7%
	1,500 to 2,000 sf	16	7.8%
	2,000 to 3,000 sf	41	20.0%
	3,000 sf or Higher	89	43.4%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.986	1.232	.222	40.6%
500 to 1,000 sf	.928	1.012	.092	11.2%
1,000 to 1,500 sf	.987	1.006	.061	8.3%
1,500 to 2,000 sf	.962	1.013	.072	9.7%
2,000 to 3,000 sf	.973	1.050	.075	11.5%
3,000 sf or Higher	.986	1.014	.075	12.8%
Overall	.980	.998	.082	13.7%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	11	5.4%
	2	12	5.9%
	3	150	73.2%
	4	31	15.1%
	5	1	0.5%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	.994	1.006	.074	14.0%
2	1.000	1.043	.059	8.4%
3	.965	.992	.086	14.3%
4	1.000	1.000	.071	12.8%
5	.980	1.000	.000	.
Overall	.980	.998	.082	13.7%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	2	5	2.4%
	3	199	97.1%
	4	1	0.5%
Overall		205	100.0%
Excluded		0	
Total		205	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2	1.000	1.017	.095	14.4%
3	.979	.996	.082	13.7%
4	.991	1.000	.000	.
Overall	.980	.998	.082	13.7%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	22	5.5%
	$25K to $50K	100	25.0%
	$50K to $100K	158	39.5%
	$100K to $150K	34	8.5%
	$150K to $200K	30	7.5%
	$200K to $300K	27	6.8%
	$300K to $500K	14	3.5%
	$500K to $750K	8	2.0%
	$750K to $1,000K	3	0.8%
	Over $1,000K	4	1.0%
Overall		400	100.0%
Excluded		0	
Total		400	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.000	1.003	.184	33.2%
$25K to $50K	1.000	1.000	.115	18.5%
$50K to $100K	.988	1.005	.103	16.4%
$100K to $150K	.925	1.009	.172	28.4%
$150K to $200K	.995	.999	.079	12.4%
$200K to $300K	1.000	1.003	.102	17.4%
$300K to $500K	.981	1.012	.161	30.4%
$500K to $750K	.987	.999	.045	6.5%
$750K to $1,000K	1.002	1.003	.235	36.7%
Over $1,000K	1.015	1.004	.016	3.0%
Overall	1.000	1.023	.116	19.6%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100	71	17.8%
	200	18	4.5%
	300	5	1.3%
	400	1	0.3%
	520	1	0.3%
	540	1	0.3%
	550	1	0.3%
	1112	270	67.5%
	1115	1	0.3%
	1125	1	0.3%
	2112	4	1.0%
	2115	1	0.3%
	2120	1	0.3%
	2130	11	2.8%
	2135	8	2.0%
	3112	1	0.3%
	3125	1	0.3%
	4147	1	0.3%
	8299	1	0.3%
	9169	1	0.3%
Overall		400	100.0%
Excluded		0	
Total		400	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	.963	1.031	.148	23.3%
200	1.007	1.025	.061	10.5%
300	1.001	.997	.033	5.2%
400	.992	1.000	.000	.
520	.386	1.000	.000	.
540	.694	1.000	.000	.
550	.544	1.000	.000	.
1112	1.000	1.034	.102	16.4%
1115	.748	1.000	.000	.
1125	.546	1.000	.000	.
2112	1.026	.987	.030	5.0%
2115	1.000	1.000	.000	.
2120	1.980	1.000	.000	.
2130	.988	.984	.052	8.3%
2135	.991	.964	.102	14.9%
3112	1.079	1.000	.000	.
3125	.935	1.000	.000	.
4147	.001	1.000	.000	.
8299	.000	.	.	.
9169	1.249	1.000	.000	.
Overall	1.000	1.023	.116	19.6%