2023
WELD COUNTY
PROPERTY ASSESSMENT
STUDY

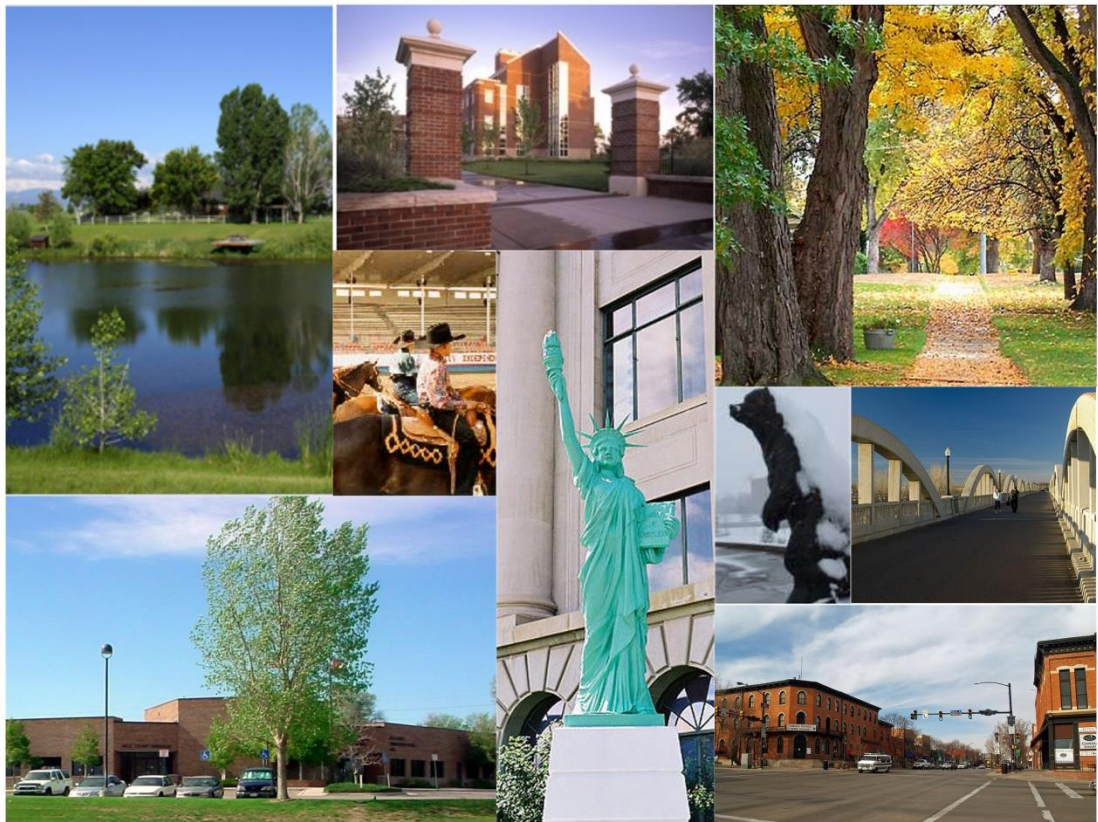**EastWest** ECONOMETRICS

September 15, 2023

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

RE: Final Report for the 2023 Colorado Property Assessment Study

Dear Ms. Castle:

East West Econometrics - Audit Division is pleased to submit the Final Reports for the 2023 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 locally assessed 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.

East West Econometrics – 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
East West Econometrics – 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.

East West Econometrics Audit has completed the Property Assessment Study for 2023 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.
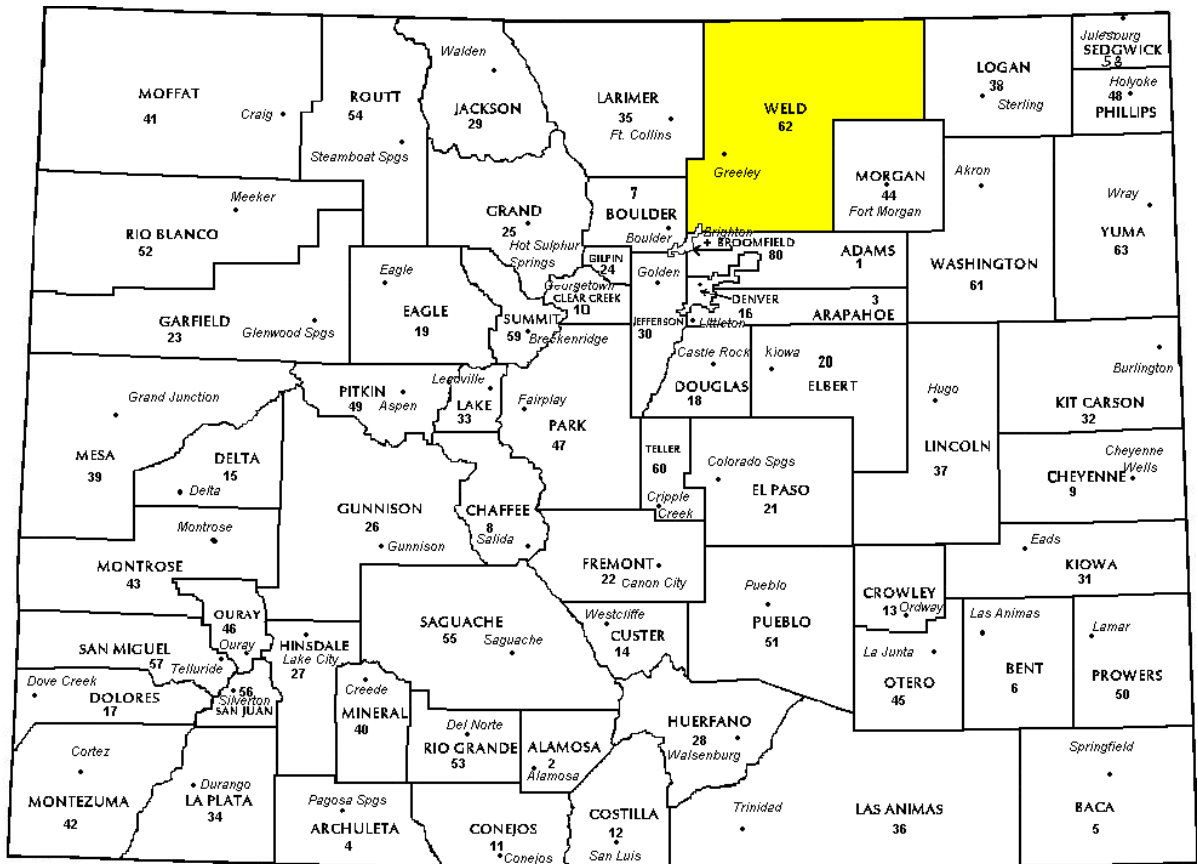
Historical Information

Weld County has approximately 3,987.19 square miles and an estimated population of approximately 324,492 people with 63.4 people per square mile, according to the U.S. Census Bureau's 2020 estimated census data. This represents a 28.3 percent change from April 1, 2010 to July 1, 2019.

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 property were analyzed. Sales were collected for each property class over the eighteen month period from January 1, 2021 through June 30th, 2022. Property classes with less than thirty sales had the sales period extended in six month increments up to an additional forty-two months. If this extended sales period did not produce the minimum thirty qualified sales, the Audit performed supplemental appraisals to reach the minimum.

Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming.

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

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

Conclusions

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

ALLOWABLE STANDARDS RATIO GRID		
Property Class	**Unweighted Median Ratio**	**Coefficient of Dispersion**
Commercial/Industrial	Between .95-1.05	Less than 20.99
Residential Condominium	Between .95-1.05	Less than 15.99
Residential	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	358	0.991	1.019	7.2	Compliant
Residential	14,101	0.965	1.006	5.4	Compliant
Vacant Land	297	1.000	1.012	9.3	Compliant

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
Residential	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
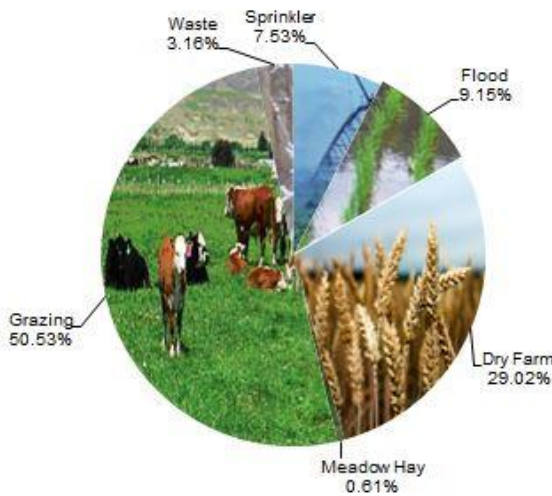
Acres By Subclass	Value By Subclass
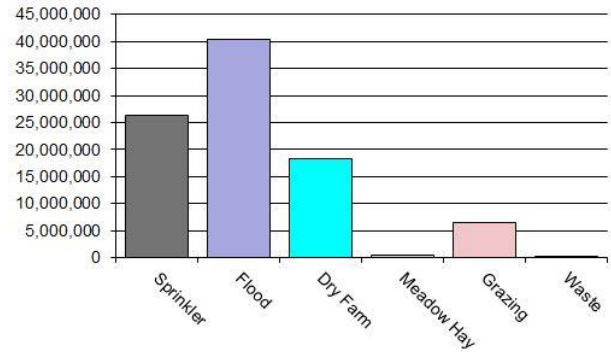
Agricultural Land

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:

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	143,311	183.12	26,243,059	27,083,075	0.97
4117	Flood	174,274	231.88	40,410,903	41,685,379	0.97
4127	Dry Farm	552,655	33.06	18,269,338	18,486,208	0.99
4137	Meadow Hay	11,595	42.13	488,462	488,462	1.00
4147	Grazing	962,248	6.71	6,457,048	6,457,048	1.00
4167	Waste	60,152	2.19	131,622	131,622	1.00
Total/Avg		**1,904,235**	**48.31**	**92,000,432**	**94,331,793**	**0.98**

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.

EWE reviewed the sales verification procedures in 2023 for Weld County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically EWE selected 45 sales listed as unqualified.

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

For residential, commercial, and vacant land sales with considerations over $100,000, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

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

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

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

Weld County did not qualify for in-depth subclass analysis.

Conclusions

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

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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 2023 in Weld County. The review showed that subdivisions were discounted pursuant to 39-1-103 (14) C.R.S. Discounting procedures were applied to all subdivisions where less than 80 percent of vacant land parcels were sold. An absorption rate was estimated for each discounted subdivision. An appropriate discount rate was developed using the Summation Method, following Division of Property Taxation guidelines.

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 2023 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 $52,000 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

EAST WEST ECONOMETRICS AUDITOR STAFF

Harry J. Fuller, *Audit Project Manager*

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STATISTICAL APPENDIX

STATISTICAL COMPLIANCE REPORT
FOR WELD COUNTY
2023

I. OVERVIEW

Weld County is an urban county located along Colorado's Front Range. The county has a total of 153,875 real property parcels, according to data submitted by the county assessor's office in 2023. The following provides a breakdown of property classes for this county:
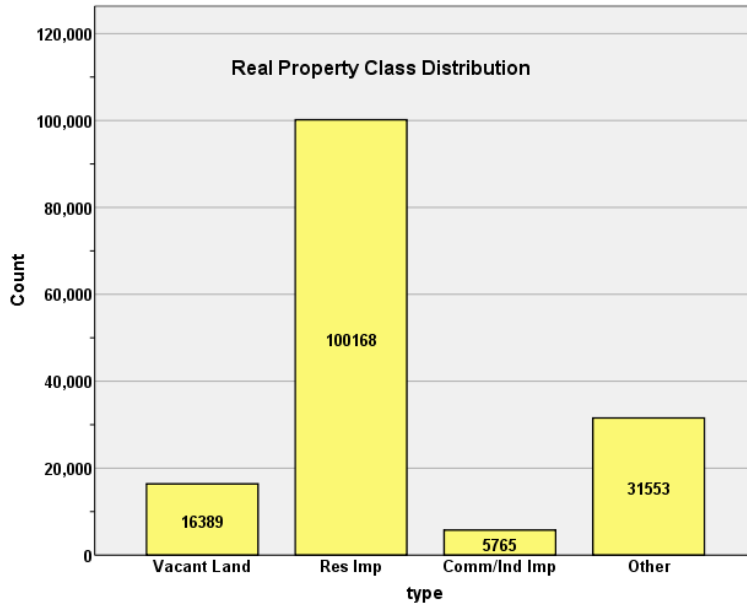
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 86.3% of all vacant land parcels.

For residential improved properties, single family properties accounted for 93.7% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.7% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2023 Colorado Property Assessment Study. Information was provided by the Weld Assessor's Office in April 2023. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 14,101 qualified residential sales that occurred in the 18-month sale period ending June 30, 2022. The sales ratio analysis results were as follows:

Median	0.965
Price Related Differential	1.006
Coefficient of Dispersion	5.4

Based on the Audit questionnaire filled out by the assessor (see below), the following geographic levels were used by the assessor to value residential, commercial and vacant land properties:

Economic Area
Case Processing Summary

		Count	Percent
ECONAREA	.00	1081	7.7%
	2.00	5082	36.2%
	3.00	3668	26.1%
	4.00	882	6.3%
	5.00	383	2.7%
	6.00	1782	12.7%
	7.00	49	0.3%
	8.00	70	0.5%
	9.00	531	3.8%
	99.00	522	3.7%
Overall		14050	100.0%
Excluded		51	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
.00	.963	1.004	.049
2.00	.964	1.004	.051
3.00	.966	1.007	.054
4.00	.964	1.004	.047
5.00	.958	1.004	.040
6.00	.965	1.010	.074
7.00	.950	1.028	.122
8.00	.972	1.019	.106
9.00	.970	1.006	.051
99.00	.964	1.004	.040
Overall	.964	1.006	.054

NOTE: Econ Area 99 = Condominiums

Neighborhoods with at least 30 sales
Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
71	.965	1.010	.060
72	.969	1.002	.055

75	.981	1.002	.094
77	.979	1.006	.062
78	.959	1.001	.045
79	.965	1.002	.040
81	.964	1.001	.047
83	.952	1.004	.056
85	.957	1.000	.020
171	.962	1.002	.045
174	.964	1.002	.038
177	.961	1.004	.072
674	.959	1.001	.027
2002	.953	1.003	.052
2003	.953	1.005	.069
2005	.963	1.003	.062
2006	.969	1.003	.049
2007	.968	1.013	.105
2011	.958	1.029	.077
2013	.961	1.004	.050
2016	.960	1.001	.041
2018	.946	1.004	.044
2019	.960	1.003	.053
2020	.978	1.004	.043
2021	.973	1.004	.047
2060	.968	1.009	.057
2061	.955	1.003	.043
2100	.958	1.005	.046
2101	.949	1.002	.046
2102	.947	1.002	.050
2103	.965	1.001	.061
2105	.973	1.008	.065
2106	.969	1.001	.033
2107	.955	1.002	.052
2108	.960	1.000	.036
2110	.965	1.003	.043
2111	.960	1.003	.056
2112	.960	1.002	.065
2115	.961	1.003	.056
2117	.958	1.001	.032
2118	.967	1.002	.046
2120	.968	1.002	.047
2121	.972	1.002	.058
2122	.959	1.000	.034
2129	.955	1.002	.041
2130	.967	1.003	.045
2151	.961	1.003	.040
2152	.962	1.001	.043
2155	.972	1.001	.030
2252	.945	1.016	.084
2634	.959	1.001	.030
2657	.966	1.003	.039
2690	.963	1.001	.027
2691	.962	1.002	.026
3000	.948	1.003	.047
3003	.957	1.002	.054
3008	.968	1.014	.071
3009	.949	1.011	.088
3012	.946	1.007	.054

3013	.963	1.010	.064
3017	.997	1.020	.113
3018	.958	1.005	.049
3024	.971	1.001	.033
3025	.981	1.001	.031
3026	.963	1.001	.048
3027	.968	1.003	.051
3030	.974	1.004	.049
3031	.973	1.004	.064
3032	.971	1.003	.043
3033	.965	1.005	.049
3034	.960	1.006	.061
3037	.967	1.002	.044
3038	.970	1.002	.054
3046	.968	1.002	.037
3059	.967	1.001	.043
3061	.965	1.003	.044
3122	.954	1.002	.036
3630	.966	1.001	.025
3665	.971	1.000	.022
4000	.958	1.002	.040
4002	.963	1.002	.036
4004	.961	1.002	.045
4102	.972	1.004	.043
4103	.963	1.002	.044
4105	.946	1.008	.087
4107	.979	1.003	.039
4108	.961	1.000	.024
4123	.967	1.009	.061
5001	.962	1.008	.045
5005	.958	1.001	.025
6003	.972	1.005	.062
6021	.962	1.003	.047
6023	.953	1.008	.066
6025	.963	1.015	.092
6027	.966	.996	.067
6029	.949	1.012	.059
6030	.967	1.005	.084
6031	.958	1.002	.081
6032	.969	1.003	.074
6033	.978	1.072	.109
6034	.957	1.003	.075
6035	.965	1.005	.050
6037	.958	1.015	.091
6038	.962	1.008	.068
6045	.971	1.009	.095
6050	.965	.999	.067
6062	.969	1.001	.041
6207	.968	1.036	.115
7004	.950	1.026	.115
9007	.967	1.010	.054
9009	.967	1.012	.093
9010	.964	1.003	.043
9040	.979	1.004	.045
9610	.977	1.001	.022
9680	.978	1.003	.035
Overall	.965	1.006	.052

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:
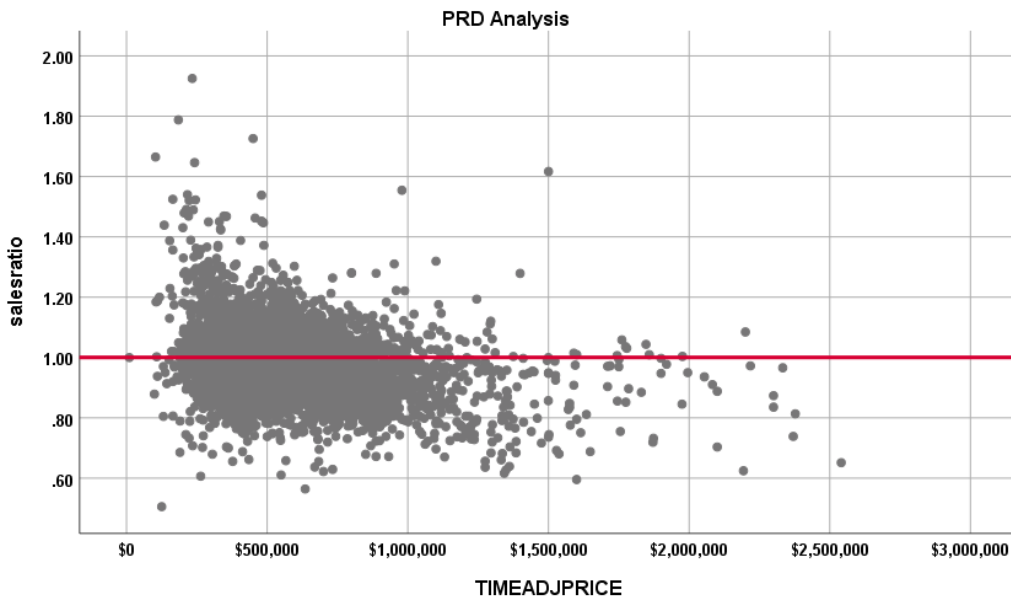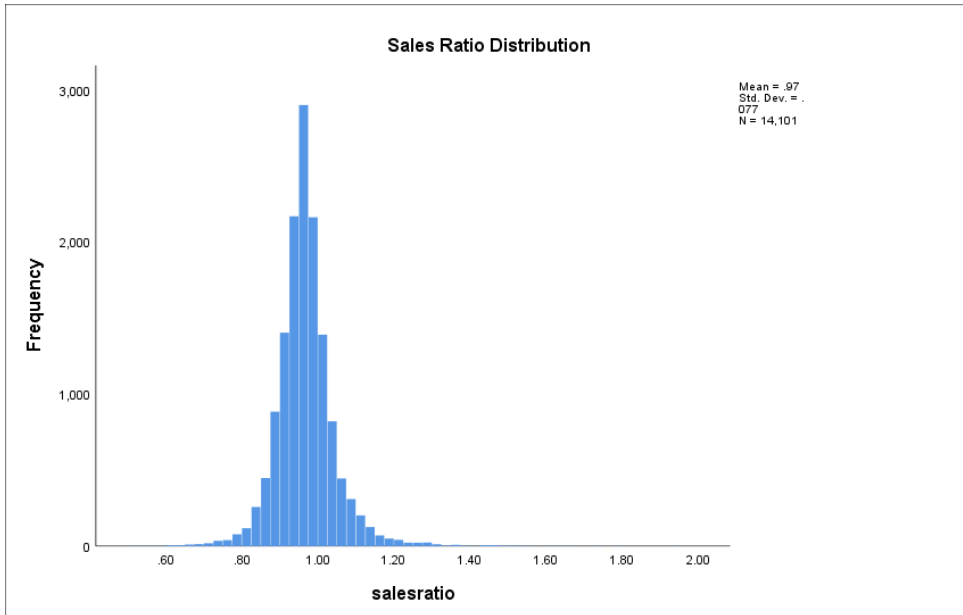
NOTE: Sales over $3,000,000 excluded for graphic clarity

The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

Subclass 1212 PRD Analysis

We next analyzed residential properties identified as 1212 using the state abstract code system. These include single family residences, town homes and purged manufactured homes. The following indicates the distribution of sales ratios across the sale price spectrum:
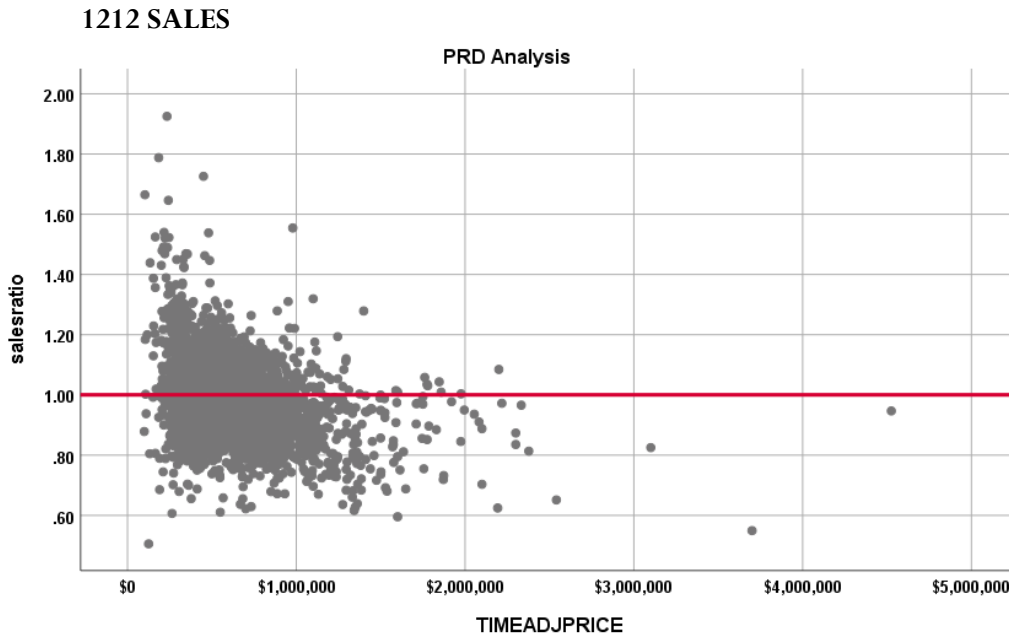
1212 SALES

The Price-Related Differential (PRD) for 1212 sales is 1.006, which is within IAAO standards for the PRD. We also performed a regression analysis between the sales ratio and the assessor's current value to further test for regressivity or progressivity in the residential sales valuation, as follows:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.967	.002		450.406	.000
	CURRTOT	.00000000219	.000	.005	.554	.579

a. Dependent Variable: salesratio

The slope of the line at 0.00000000219 indicates that there is virtually no slope in the regression line, which indicates that sales ratios are similar across the entire sale price array. This indicates no regressivity or progressivity in the residential values assigned by the assessor.

We also stratified the sales ratio analysis by the sale price range, as follows:

Case Processing Summary

		Count	Percent
SPRec	LT $300K	374	2.8%
	$300K to $400K	1860	13.9%
	$400K to $500K	4188	31.2%
	$500K to $600K	3539	26.4%
	$600K to $750K	2383	17.8%
	$750K to $1000K	791	5.9%
	$1000K to $2000K	275	2.0%
	Over $2000K	15	0.1%
Overall		13425	100.0%
Excluded		0	
Total		13425	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $300K	1.020	1.005	.110	16.7%
$300K to $400K	.969	1.001	.057	8.5%
$400K to $500K	.967	1.000	.046	6.5%
$500K to $600K	.965	1.000	.046	6.4%
$600K to $750K	.958	1.000	.053	7.1%
$750K to $1000K	.936	1.000	.070	9.3%
$1000K to $2000K	.903	1.002	.105	13.1%
Over $2000K	.874	1.008	.130	17.5%
Overall	.964	1.006	.054	8.0%

The above table indicates no regressivity in the sales ratios across sale price categories.

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 B	Std. Error	Standardized Coefficients Beta	t	Sig.
1.00	1	(Constant)	.957	.004		229.213	.000
		SalePeriod	.001	.000	.086	2.825	.005
2.00	1	(Constant)	.956	.002		500.788	.000
		SalePeriod	.001	.000	.088	6.308	.000
3.00	1	(Constant)	.956	.002		406.064	.000
		SalePeriod	.001	.000	.084	5.134	.000
4.00	1	(Constant)	.954	.004		230.033	.000
		SalePeriod	.001	.000	.082	2.448	.015
5.00	1	(Constant)	.948	.007		143.908	.000
		SalePeriod	.001	.001	.114	2.245	.025
6.00	1	(Constant)	.976	.005		200.994	.000
		SalePeriod	.000	.001	.006	.272	.785

7.00	1	(Constant)	.940	.042		22.349	.000
		SalePeriod	.002	.005	.066	.453	.652
8.00	1	(Constant)	.959	.031		30.523	.000
		SalePeriod	.002	.004	.081	.666	.508
9.00	1	(Constant)	.965	.006		153.065	.000
		SalePeriod	.001	.001	.048	1.105	.270
99.00	1	(Constant)	.935	.005		204.546	.000
		SalePeriod	.003	.000	.270	6.385	.000

a. Dependent Variable: salesratio

There was no significant residual market trending present in the sale ratio data for any of the economic areas; where there was a statistically significant trend, the magnitude of the trend was not. 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 2023 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	86071	$286	$285
SOLD	14101	$281	$287

Report

VALSF

ECONAREA	sold	N	Median	Mean
2.00	UNSOLD	25252	$287	$290
	SOLD	5082	$278	$287
3.00	UNSOLD	19414	$287	$292
	SOLD	3667	$281	$290
4.00	UNSOLD	6937	$266	$272
	SOLD	882	$278	$282
5.00	UNSOLD	1402	$258	$257
	SOLD	383	$293	$282
6.00	UNSOLD	17161	$306	$298
	SOLD	1782	$315	$307
7.00	UNSOLD	815	$143	$153
	SOLD	49	$205	$208
8.00	UNSOLD	733	$231	$237

	SOLD	70	$280	$273
9.00	UNSOLD	2827	$291	$282
	SOLD	531	$262	$273
99.00	UNSOLD	3696	$231	$216
	SOLD	522	$234	$238

NOTE: Econ Area 99 = Condominiums

Please note that economic areas with significant differences (EA 5, 7, 8) based on the actual value per square foot comparison were also tested using the percent change in value method; in each case, those economic areas showed no significant difference between sold and unsold residential properties using this second method.

We also stratified this analysis by residential neighborhoods with at least 35 sales, as follows:

Report
VALSF

NBHD	sold	N	Median	Mean
71	UNSOLD	656	$318	$315
	SOLD	84	$315	$314
72	UNSOLD	338	$299	$300
	SOLD	41	$289	$303
75	UNSOLD	402	$351	$346
	SOLD	35	$356	$337
77	UNSOLD	317	$327	$317
	SOLD	50	$343	$324
78	UNSOLD	229	$287	$292
	SOLD	51	$288	$283
79	UNSOLD	334	$239	$248
	SOLD	38	$266	$270
81	UNSOLD	344	$289	$287
	SOLD	38	$304	$301
83	UNSOLD	635	$248	$256
	SOLD	91	$250	$261
171	UNSOLD	836	$326	$321
	SOLD	110	$331	$318
174	UNSOLD	839	$301	$295
	SOLD	173	$301	$297
177	UNSOLD	252	$322	$314
	SOLD	35	$330	$324
2002	UNSOLD	711	$316	$315
	SOLD	60	$305	$319
2003	UNSOLD	414	$348	$346
	SOLD	35	$376	$367
2005	UNSOLD	839	$341	$335
	SOLD	71	$355	$345
2007	UNSOLD	657	$352	$348
	SOLD	53	$362	$369
2011	UNSOLD	590	$299	$306
	SOLD	100	$271	$296
2013	UNSOLD	807	$313	$316
	SOLD	112	$312	$318
2016	UNSOLD	617	$252	$255

	SOLD	78	$248	$251
2019	UNSOLD	536	$304	$315
	SOLD	116	$299	$316
2020	UNSOLD	966	$280	$285
	SOLD	165	$280	$285
2021	UNSOLD	524	$293	$294
	SOLD	197	$274	$283
2060	UNSOLD	512	$309	$306
	SOLD	65	$317	$301
2061	UNSOLD	349	$293	$285
	SOLD	46	$305	$293
2100	UNSOLD	685	$278	$276
	SOLD	81	$271	$275
2101	UNSOLD	377	$303	$299
	SOLD	53	$310	$307
2102	UNSOLD	526	$309	$305
	SOLD	86	$326	$313
2103	UNSOLD	514	$243	$253
	SOLD	44	$237	$248
2105	UNSOLD	527	$260	$263
	SOLD	42	$273	$281
2106	UNSOLD	273	$287	$287
	SOLD	38	$275	$283
2107	UNSOLD	704	$273	$275
	SOLD	98	$282	$281
2110	UNSOLD	1035	$288	$288
	SOLD	86	$295	$289
2111	UNSOLD	2325	$301	$300
	SOLD	218	$310	$306
2112	UNSOLD	901	$251	$254
	SOLD	85	$248	$255
2117	UNSOLD	211	$255	$261
	SOLD	37	$252	$261
2118	UNSOLD	455	$294	$292
	SOLD	71	$304	$296
2120	UNSOLD	534	$283	$279
	SOLD	48	$256	$270
2121	UNSOLD	345	$330	$333
	SOLD	47	$345	$343
2122	UNSOLD	359	$261	$269
	SOLD	67	$265	$267
2151	UNSOLD	598	$316	$310
	SOLD	86	$330	$321
2152	UNSOLD	310	$287	$298
	SOLD	120	$272	$289
2155	UNSOLD	152	$254	$261
	SOLD	45	$221	$235
2657	UNSOLD	187	$267	$267
	SOLD	57	$267	$262
3000	UNSOLD	321	$259	$262
	SOLD	38	$266	$262
3003	UNSOLD	336	$264	$271
	SOLD	44	$279	$278
3008	UNSOLD	1007	$284	$295
	SOLD	109	$294	$305
3012	UNSOLD	589	$296	$304
	SOLD	50	$305	$317

3013	UNSOLD	1292	$308	$320
	SOLD	158	$307	$324
3017	UNSOLD	433	$279	$280
	SOLD	54	$303	$302
3024	UNSOLD	346	$278	$284
	SOLD	59	$266	$279
3025	UNSOLD	869	$310	$319
	SOLD	116	$297	$303
3026	UNSOLD	1389	$300	$302
	SOLD	131	$302	$309
3027	UNSOLD	341	$308	$310
	SOLD	45	$303	$314
3030	UNSOLD	630	$260	$270
	SOLD	94	$271	$275
3031	UNSOLD	595	$352	$344
	SOLD	47	$364	$367
3032	UNSOLD	685	$297	$298
	SOLD	68	$295	$296
3034	UNSOLD	392	$261	$278
	SOLD	81	$258	$277
3037	UNSOLD	971	$264	$271
	SOLD	94	$272	$279
3038	UNSOLD	1145	$273	$275
	SOLD	150	$273	$279
3059	UNSOLD	34	$268	$290
	SOLD	92	$284	$308
3122	UNSOLD	304	$301	$312
	SOLD	47	$300	$310
4000	UNSOLD	518	$266	$269
	SOLD	93	$274	$273
4002	UNSOLD	428	$283	$287
	SOLD	73	$285	$292
4004	UNSOLD	665	$243	$259
	SOLD	108	$258	$263
4102	UNSOLD	280	$273	$270
	SOLD	36	$259	$263
4103	UNSOLD	598	$339	$336
	SOLD	55	$373	$357
4105	UNSOLD	779	$331	$323
	SOLD	58	$347	$355
5001	UNSOLD	417	$282	$285
	SOLD	39	$339	$328
5005	UNSOLD	88	$276	$274
	SOLD	42	$286	$275
6003	UNSOLD	376	$310	$299
	SOLD	38	$323	$311
6021	UNSOLD	732	$341	$335
	SOLD	66	$345	$337
6025	UNSOLD	800	$300	$302
	SOLD	89	$289	$293
6027	UNSOLD	396	$332	$321
	SOLD	57	$328	$328
6029	UNSOLD	953	$331	$323
	SOLD	109	$327	$323
6030	UNSOLD	778	$277	$281
	SOLD	72	$300	$292
6031	UNSOLD	1685	$304	$297

	SOLD	180	$300	$297
6033	UNSOLD	728	$304	$301
	SOLD	81	$309	$306
6034	UNSOLD	1446	$323	$314
	SOLD	132	$321	$313
6035	UNSOLD	1309	$331	$317
	SOLD	118	$340	$331
6037	UNSOLD	1331	$285	$284
	SOLD	127	$287	$290
6038	UNSOLD	1230	$319	$301
	SOLD	138	$324	$314
6045	UNSOLD	764	$329	$322
	SOLD	93	$339	$327
6050	UNSOLD	572	$315	$305
	SOLD	53	$326	$315
6062	UNSOLD	970	$332	$328
	SOLD	125	$350	$345
9009	UNSOLD	392	$289	$283
	SOLD	38	$298	$299
9010	UNSOLD	328	$298	$296
	SOLD	35	$284	$290

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 358 qualified residential sales that occurred in the 18 month sale period ending June 30, 2022. The sales ratio analysis results were as follows:

Median	**0.991**
Price Related Differential	**1.019**
Coefficient of Dispersion	**7.2**

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

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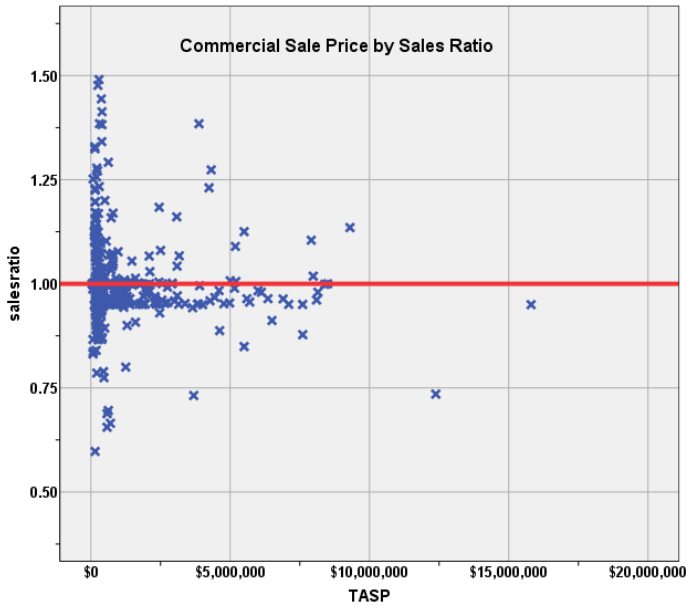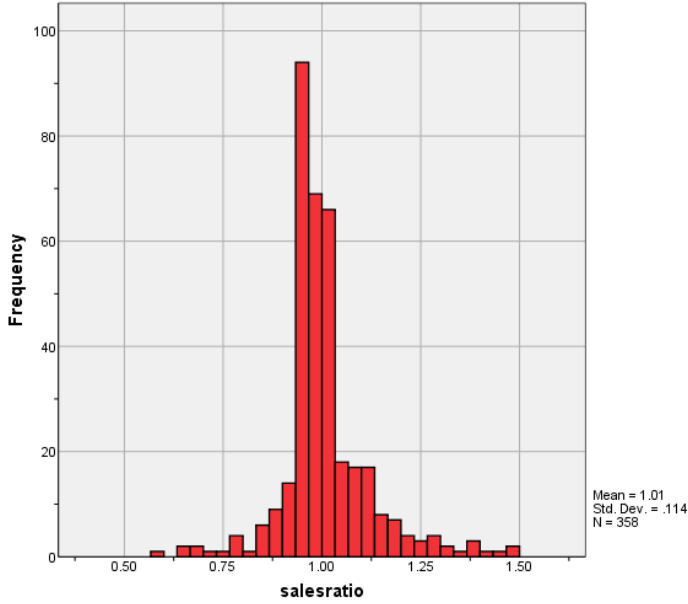
Commercial/Industrial Market Trend Analysis

The commercial/industrial sales were next analyzed, examining the sale ratios across the 18-month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.970	.011		85.918	.000
	SalePeriod	.005	.001	.195	3.751	.000

a. Dependent Variable: salesratio

Commercial Market Trend Analysis
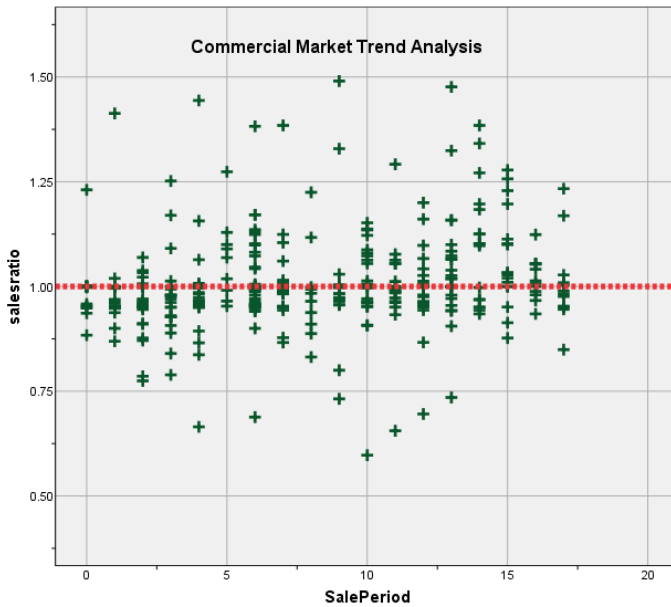
While there was a residual and significant market trend in the sale data, when stratified by subclass, only commercial properties coded as 2245 had a significant marginal trend. We will advise the county assessor of this. Overall, we concluded that the assessor has adequately considered market trending adjustments as part of the commercial/industrial valuation.

Sold/Unsold Analysis

We compared the median change in value between valuation year 2020 and valuation year 2022 between sold and unsold groups to determine if sold and unsold properties were valued consistently, as follows:

Report
DIFF

sold	N	Median	Mean
UNSOLD	5032	1.27	1.32
SOLD	287	1.39	1.46

Based on the number 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, and 2245. The following analysis was then performed:

Report
DIFF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	686	1.25	1.33
	SOLD	34	1.36	1.41
2220.00	UNSOLD	350	1.25	1.30
	SOLD	30	1.33	1.44
2230.00	UNSOLD	955	1.23	1.29

	SOLD	34	1.33	1.34
2235.00	UNSOLD	1001	1.32	1.35
	SOLD	46	1.42	1.45
2245.00	UNSOLD	1065	1.27	1.34
	SOLD	105	1.39	1.49

We will consult with the assessor concerning the significant difference observed for several commercial subclasses.

V. VACANT LAND SALE RESULTS

There were 297 qualified residential sales that occurred in the 18-month sale period ending June 30, 2022. The sales ratio analysis results were as follows:

Median	1.000
Price Related Differential	1.012
Coefficient of Dispersion	9.3

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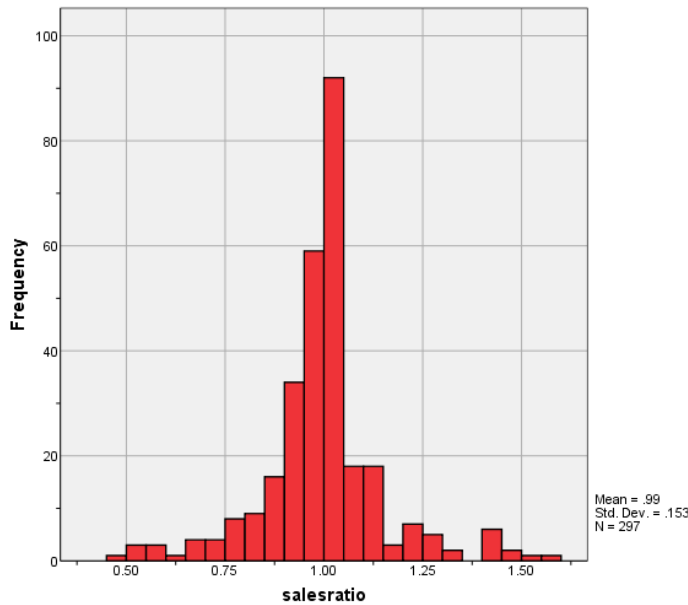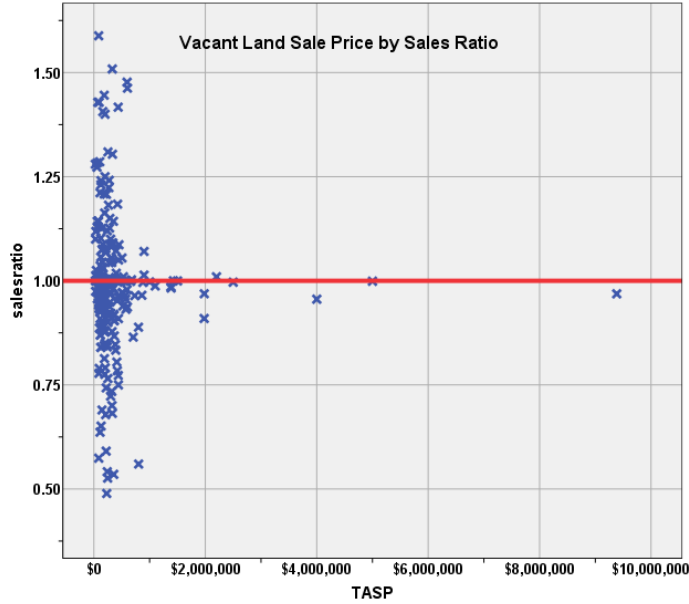
The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

Vacant Land Market Trend Analysis

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

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.954	.018		54.008	.000
	SalePeriod	.005	.002	.148	2.566	.011

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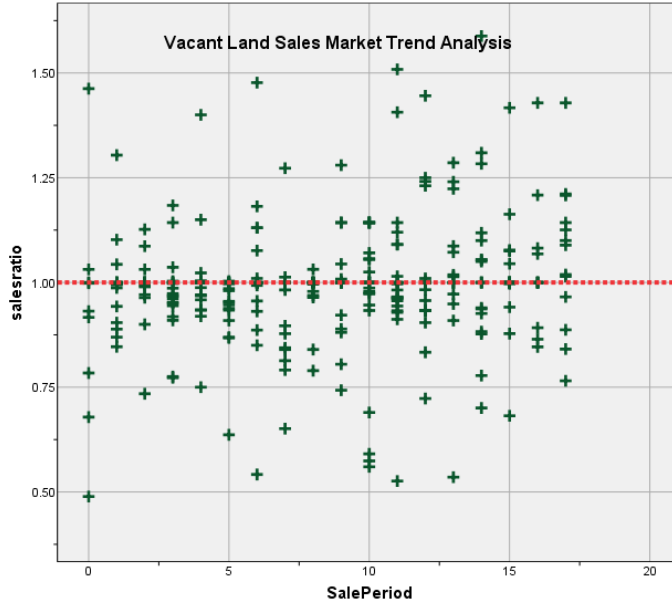
The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

We compared the median change in value between valuation year 2020 and valuation year 2022 between sold and unsold groups to determine if sold and unsold properties were valued consistently, as follows:

Report

DIFF

sold	N	Median	Mean
UNSOLD	5507	1.16	1.17
SOLD	197	1.29	1.29

We also compared sold and unsold changes in value by subdivision with at least 5 sales, as follows:

Report
DIFF

SUBDIVNO	sold	N	Median	Mean
	UNSOLD	527	1.22	1.23
	SOLD	9	1.22	1.27
2528	UNSOLD	15	1.50	1.52
	SOLD	9	1.50	1.63
5192	UNSOLD	5	1.00	1.00
	SOLD	6	1.17	1.17
7061	UNSOLD	2	.80	.80
	SOLD	5	.80	.80
7085	UNSOLD	16	.93	1.08
	SOLD	7	.87	1.15
7236	UNSOLD	62	1.12	1.05
	SOLD	13	1.29	1.29
7457	UNSOLD	16	1.33	1.31
	SOLD	18	1.33	1.33

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

V. CONCLUSIONS

Based on this 2023 audit statistical analysis, residential, commercial/industrial and vacant land properties were found to be in compliance with state guidelines. We will consult with the assessor concerning market trending and sold/unsold differences for several commercial subclasses.

STATISTICAL ABSTRACT
Residential

		95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Ratio Statistics for CURRTOT / TASP													
ECONAREA	Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.	.994	.976	1.011	.996	.967	1.013	95.1%	.990	.973	1.007	1.004	.049	6.3%
.00	.967	.963	.971	.963	.959	.966	95.5%	.963	.958	.967	1.004	.049	7.6%
2.00	.967	.965	.969	.964	.962	.965	95.2%	.963	.960	.966	1.004	.051	7.3%
3.00	.966	.964	.969	.966	.964	.968	95.1%	.960	.957	.963	1.007	.054	7.6%
4.00	.963	.959	.967	.964	.959	.967	95.3%	.959	.954	.963	1.004	.047	6.8%
5.00	.961	.955	.967	.958	.954	.963	95.9%	.957	.951	.963	1.004	.040	6.4%
6.00	.977	.972	.982	.965	.961	.968	95.1%	.967	.960	.974	1.010	.074	11.1%
7.00	.956	.910	1.002	.950	.897	.990	95.6%	.930	.885	.974	1.028	.122	16.8%
8.00	.976	.940	1.013	.972	.937	.989	95.9%	.958	.922	.994	1.019	.106	15.6%
9.00	.971	.965	.977	.970	.967	.976	95.4%	.965	.958	.972	1.006	.051	7.3%
99.00	.959	.954	.964	.964	.961	.966	95.1%	.956	.951	.961	1.004	.040	6.2%

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 Land

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Ratio Statistics for CURRTOT / TASP												
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.006	.994	1.018	.991	.980	.998	96.1%	.987	.967	1.007	1.019	.072	11.3%

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

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Ratio Statistics for CURRLND / TASP												
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.993	.976	1.011	1.000	.998	1.000	95.2%	.982	.965	.999	1.012	.093	15.4%

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

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	700.00	1	0.0%
	1212.00	13417	95.1%
	1213.50	2	0.0%
	1215.00	92	0.7%
	1220.00	47	0.3%
	1225.00	11	0.1%
	1230.00	522	3.7%
	1551.33	1	0.0%
	1723.50	2	0.0%
	1725.00	1	0.0%
	1879.67	1	0.0%
	2212.00	2	0.0%
	2227.50	1	0.0%
	9250.00	1	0.0%
Overall		14101	100.0%
Excluded		0	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
700.00	1.020	1.000	.000	.
1212.00	.964	1.006	.054	8.0%
1213.50	.988	.980	.059	8.4%
1215.00	.967	1.013	.087	12.6%
1220.00	.980	.996	.097	16.2%
1225.00	.950	.944	.100	15.0%
1230.00	.964	1.004	.040	6.2%
1551.33	.849	1.000	.000	.
1723.50	.916	.998	.194	27.4%
1725.00	1.254	1.000	.000	.
1879.67	.979	1.000	.000	.
2212.00	1.087	1.001	.061	8.6%
2227.50	1.030	1.000	.000	.
9250.00	.505	1.000	.000	.
Overall	.965	1.006	.054	8.0%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	374	2.7%
	75 to 100	221	1.6%
	50 to 75	748	5.3%
	25 to 50	1429	10.1%
	5 to 25	4393	31.2%
	5 or Newer	6936	49.2%
Overall		14101	100.0%
Excluded		0	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.973	1.018	.104	14.8%
75 to 100	.956	1.015	.101	14.2%
50 to 75	.961	1.012	.080	12.1%
25 to 50	.960	1.007	.067	9.9%
5 to 25	.962	1.005	.054	7.7%
5 or Newer	.967	1.004	.045	6.3%
Overall	.965	1.006	.054	8.0%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	7	0.0%
	500 to 1,000 sf	770	5.5%
	1,000 to 1,500 sf	4029	28.6%
	1,500 to 2,000 sf	4660	33.0%
	2,000 to 3,000 sf	3874	27.5%
	3,000 sf or Higher	761	5.4%
Overall		14101	100.0%
Excluded		0	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.865	1.037	.162	28.9%
500 to 1,000 sf	.943	1.010	.079	12.0%
1,000 to 1,500 sf	.966	1.004	.051	7.8%
1,500 to 2,000 sf	.965	1.003	.048	6.7%
2,000 to 3,000 sf	.966	1.005	.053	7.6%
3,000 sf or Higher	.949	1.007	.089	12.4%
Overall	.965	1.006	.054	8.0%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY		1	0.0%
	1	123	0.9%
	2	2236	15.9%
	3	11182	79.3%
	4	469	3.3%
	5	79	0.6%
	6	10	0.1%
	NONE	1	0.0%
Overall		14101	100.0%
Excluded		0	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.751	1.000	.000	.
1	.939	1.032	.130	18.8%
2	.961	1.008	.072	10.8%
3	.965	1.005	.049	6.9%
4	.964	1.009	.077	10.4%
5	.974	1.024	.103	15.2%
6	.969	1.009	.060	8.1%
NONE	.805	1.000	.000	.
Overall	.965	1.006	.054	8.0%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	1	7	0.0%
	2	31	0.2%
	3	14050	99.6%
	4	12	0.1%
Overall		14100	100.0%
Excluded		1	
Total		14101	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	.978	1.052	.205	33.7%
2	.900	1.032	.170	22.5%
3	.965	1.006	.054	7.9%
4	.976	1.016	.065	9.6%
Overall	.965	1.006	.054	8.0%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	1	0.3%
	$50K to $100K	9	2.5%
	$100K to $150K	13	3.6%
	$150K to $200K	59	16.5%
	$200K to $300K	62	17.3%
	$300K to $500K	57	15.9%
	$500K to $750K	21	5.9%
	$750K to $1,000K	25	7.0%
	Over $1,000K	111	31.0%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$25K to $50K	1.000	1.000	.000	.
$50K to $100K	.996	.999	.081	13.0%
$100K to $150K	1.102	.999	.112	17.1%
$150K to $200K	1.002	1.003	.076	9.7%
$200K to $300K	.996	.998	.078	12.8%
$300K to $500K	.988	1.003	.083	14.1%
$500K to $750K	.958	.998	.106	16.7%
$750K to $1,000K	.998	1.002	.037	5.3%
Over $1,000K	.975	1.003	.049	8.5%
Overall	.991	1.019	.072	11.6%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1220.00	1	0.3%
	1716.00	1	0.3%
	1723.50	1	0.3%
	2212.00	38	10.6%
	2215.00	7	2.0%
	2220.00	31	8.7%
	2221.00	4	1.1%
	2223.33	1	0.3%
	2225.00	2	0.6%
	2227.33	1	0.3%
	2227.50	2	0.6%
	2230.00	43	12.0%
	2231.67	1	0.3%
	2232.50	1	0.3%
	2235.00	63	17.6%
	2245.00	144	40.2%

	2723.50	1	0.3%
	2884.67	1	0.3%
	3212.00	4	1.1%
	3213.50	1	0.3%
	3215.00	8	2.2%
	9249.00	1	0.3%
	9279.00	1	0.3%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1220.00	1.292	1.000	.000	.
1716.00	1.271	1.000	.000	.
1723.50	1.038	1.000	.000	.
2212.00	.996	.999	.039	6.6%
2215.00	.971	1.016	.109	18.7%
2220.00	.982	1.023	.068	12.9%
2221.00	1.001	.995	.016	2.9%
2223.33	.970	1.000	.000	.
2225.00	1.037	1.002	.035	5.0%
2227.33	.967	1.000	.000	.
2227.50	.976	1.004	.025	3.6%
2230.00	.975	1.027	.066	11.5%
2231.67	.967	1.000	.000	.
2232.50	1.006	1.000	.000	.
2235.00	.983	1.014	.057	9.6%
2245.00	.997	1.018	.080	11.7%
2723.50	1.382	1.000	.000	.
2884.67	1.077	1.000	.000	.
3212.00	.841	.919	.195	24.6%
3213.50	.958	1.000	.000	.
3215.00	.956	1.009	.057	10.5%
9249.00	1.135	1.000	.000	.
9279.00	1.476	1.000	.000	.
Overall	.991	1.019	.072	11.6%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	19	5.3%
	75 to 100	13	3.6%
	50 to 75	24	6.7%
	25 to 50	54	15.1%
	5 to 25	125	34.9%
	5 or Newer	123	34.4%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.976	.991	.068	13.2%
75 to 100	.999	1.005	.047	8.8%
50 to 75	.965	1.008	.065	11.1%
25 to 50	.997	1.007	.079	13.7%
5 to 25	.975	1.012	.067	11.1%
5 or Newer	1.000	1.029	.076	11.3%
Overall	.991	1.019	.072	11.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	10	2.8%
	500 to 1,000 sf	47	13.1%
	1,000 to 1,500 sf	74	20.7%
	1,500 to 2,000 sf	25	7.0%
	2,000 to 3,000 sf	39	10.9%
	3,000 sf or Higher	163	45.5%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.000	.978	.067	14.5%
500 to 1,000 sf	1.055	1.012	.099	12.7%
1,000 to 1,500 sf	.979	1.004	.066	9.2%
1,500 to 2,000 sf	.985	1.016	.044	7.0%
2,000 to 3,000 sf	1.000	1.044	.123	18.7%
3,000 sf or Higher	.984	1.014	.056	9.9%
Overall	.991	1.019	.072	11.6%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	9	2.5%
	2	17	4.7%
	3	247	69.0%
	4	80	22.3%
	5	3	0.8%
	6	2	0.6%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	1.000	1.004	.038	5.8%
2	1.007	1.005	.117	18.9%
3	.985	1.013	.065	11.2%
4	1.000	1.033	.088	11.5%
5	.995	1.044	.041	6.4%
6	.952	1.000	.000	0.1%
Overall	.991	1.019	.072	11.6%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	1	3	0.8%
	2	6	1.7%
	3	346	96.6%
	4	3	0.8%
Overall		358	100.0%
Excluded		0	
Total		358	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	.965	1.010	.033	5.1%
2	.975	.989	.038	5.1%
3	.992	1.019	.073	11.7%
4	.950	1.004	.030	4.5%
Overall	.991	1.019	.072	11.6%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	1	0.3%
	$25K to $50K	9	3.0%
	$50K to $100K	85	28.6%
	$100K to $150K	39	13.1%
	$150K to $200K	37	12.5%
	$200K to $300K	39	13.1%
	$300K to $500K	50	16.8%
	$500K to $750K	18	6.1%
	$750K to $1,000K	7	2.4%
	Over $1,000K	12	4.0%
Overall		297	100.0%
Excluded		0	
Total		297	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.280	1.000	.000	.
$25K to $50K	1.000	1.000	.031	5.6%
$50K to $100K	1.000	1.006	.059	12.9%
$100K to $150K	.986	1.001	.102	14.4%
$150K to $200K	.982	1.001	.106	16.3%
$200K to $300K	.978	.992	.152	20.8%
$300K to $500K	.998	1.001	.116	17.2%
$500K to $750K	.975	1.001	.085	17.9%
$750K to $1,000K	.996	.992	.096	18.7%
Over $1,000K	.986	1.003	.019	2.8%
Overall	1.000	1.012	.093	15.4%

Subclass

Case Processing Summary

ABSTRLND	100.00	101	34.0%
	200.00	41	13.8%
	300.00	4	1.3%
	400.00	1	0.3%
	520.00	1	0.3%
	1112.00	123	41.4%
	1125.00	3	1.0%
	1140.00	1	0.3%
	2112.00	9	3.0%
	2120.00	4	1.3%
	2125.00	1	0.3%
	2130.00	2	0.7%
	2135.00	6	2.0%
Overall		297	100.0%
Excluded		0	
Total		297	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.968	1.023	.123	17.6%
200.00	.997	1.013	.074	13.8%
300.00	.996	1.015	.070	13.8%
400.00	.975	1.000	.000	.
520.00	1.045	1.000	.000	.
1112.00	1.000	1.023	.083	15.0%
1125.00	.956	.987	.021	3.4%
1140.00	.910	1.000	.000	.
2112.00	1.000	1.018	.043	6.1%
2120.00	.954	1.004	.210	36.0%
2125.00	1.010	1.000	.000	.
2130.00	.922	1.005	.062	8.7%
2135.00	.966	.992	.018	2.5%
Overall	1.000	1.012	.093	15.4%