

# 2021 WELD COUNTY PROPERTY ASSESSMENT STUDY





WILDROSE APPRAISAL, INCORPORATED Audit Division



September 15, 2021

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

#### RE: Final Report for the 2021 Colorado Property Assessment Study

Dear Ms. Mullis:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2021 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. Hullon

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



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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 twopart 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 subdivision and discounting procedures. Valuation methodology for vacant land, improved residential properties commercial and 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.

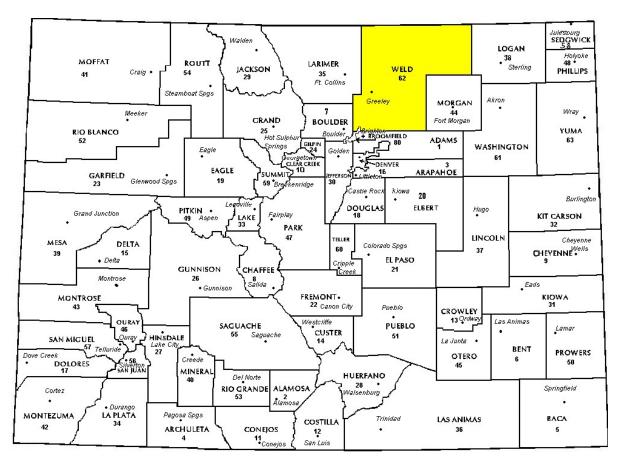
Wildrose Audit has completed the Property Assessment Study for 2021 and is pleased to report its findings for Weld County in the following report.



# 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 3,987.2 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, 2019 through June 30th, 2020. 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	ALLOWABLE STANDARDS RATIO GRID				
Property Class	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					
Number of Unweighted Price Coefficient Qualified Median Related of Property Class Sales Ratio Differential Dispersion					
Commercial/Industrial	222	0.993	1.011	6.2	Compliant
Residential	11,527	0.971	1.004	4.9	Compliant
Vacant Land	222	1.000	1.009	10.4	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



# 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



# 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 median is the primary the analysis. 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 nonparametric 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 Re	esults
Property Class	Results
Commercial/Industrial	Compliant
Residential	Compliant
Vacant Land	Compliant

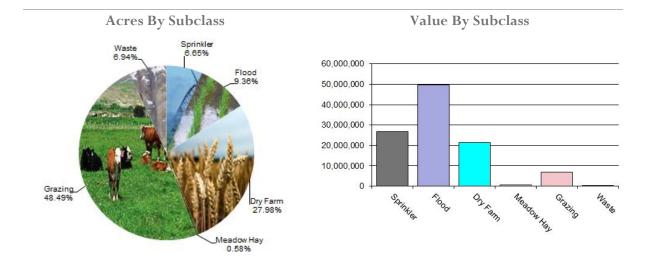
### Conclusions

## Recommendations

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



# AGRICULTURAL LAND STUDY



# 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	1 10	Number Of	County Value	County Assessed	WRA Total	D. (1
Code	Land Class	Acres		Total Value	Value	Ratio
4107	Sprinkler	132,328	201.58	26,674,616	26,543,007	1.00
4117	Flood	186,455	265.97	49,591,296	50,369,711	0.98
4127	Dry Farm	557,083	38.65	21,528,966	21,165,240	1.02
4137	Meadow Hay	11,595	45.24	524,610	524,610	1.00
4147	Grazing	965,509	7.20	6,950,334	6,950,334	1.00
4167	Waste	138,088	2.42	333,918	333,918	1.00
Total/Avg		1,991,058	53.04	105,603,741	105,886,820	1.00

#### **Recommendations**

None

# Agricultural Outbuildings

## Methodology

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

#### Conclusions

Weld County has substantially complied with the procedures provided by the Division of

Property Taxation for the valuation of agricultural outbuildings. **Recommendations** 



# **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



# 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)(1) 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 2021 for Weld County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 59 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 the contractor has reviewed 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 indepth subclass analysis.

#### Conclusions

Weld County appears to be doing an adequate 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



# 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** 



# 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



# VACANT LAND

#### **Subdivision Discounting**

Subdivisions were reviewed in 2021 in Weld County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was developed using the summation method. Subdivision land with structures was appraised at full market value.

#### Conclusions

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

#### Recommendations



# **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 C.R.S. Chapter 39-1-103 (17)(a)(II) 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 under granted 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** 



# 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 This sample was levels of such property. 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 2021 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 \$7,900 actual value exemption status
- Accounts protested with substantial disagreement

Weld County's median ratio is 1.02. 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



# WILDROSE AUDITOR STAFF

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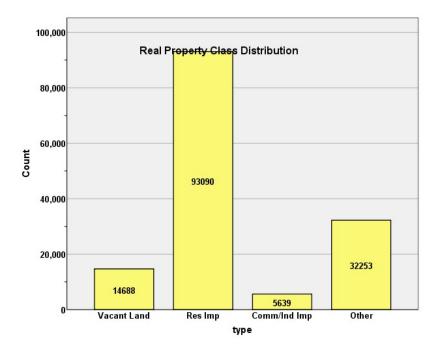
# STATISTICAL APPENDIX



#### STATISTICAL COMPLIANCE REPORT FOR WELD COUNTY 2021

#### I. OVERVIEW

Weld County is an urban county located along Colorado's Front Range. The county has a total of 145,670 real property parcels, according to data submitted by the county assessor's office in 2021. 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 84.9% of all vacant land parcels.

For residential improved properties, single family properties accounted for 93.2% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.9% of all such properties in this county.

#### II. DATA FILES

The following sales analyses were based on the requirements of the 2021 Colorado Property Assessment Study. Information was provided by the Weld Assessor's Office in April 2021. The data included all 5 property record files as specified by the Auditor.



#### **III. RESIDENTIAL SALES RESULTS**

There were 11,527 qualified residential sales that occurred in the 18-month sale period ending June 30, 2020. The sales ratio analysis results were as follows:

Median	0.971
Price Related Differential	1.004
Coefficient of Dispersion	4.9

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:

	0	· · · ,	
		Count	Percent
ECONAREA	.00	914	8.0%
	2.00	4209	36.6%
	3.00	2920	25.4%
	4.00	809	7.0%
	5.00	115	1.0%
	6.00	1610	14.0%
	7.00	34	0.3%
	8.00	70	0.6%
	9.00	384	3.3%
	99.00	421	3.7%
Overall		11486	100.0%
Excluded		41	
Total		11527	

#### Economic Area Case Processing Summary

#### **Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion
.00	.974	1.003	.041
2.00	.969	1.003	.044
3.00	.970	1.005	.049
4.00	.979	1.005	.047
5.00	.969	1.014	.074
6.00	.972	1.004	.064
7.00	.959	1.021	.131
8.00	.972	1.008	.083
9.00	.969	1.001	.050
99.00	.971	1.002	.036
Overall	.971	1.004	.049

NOTE: Econ Area 99 = Condominiums



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

Ratio Statistics for CURRTOT / TASP				
-		Price Related	Coefficient of	
Group	Median	Differential	Dispersion	
71	.972	1.008	.053	
72	.971	1.000	.032	
78	.964	1.000	.031	
79	.974	1.000	.035	
81	.964	1.001	.042	
83	.960	.999	.036	
171	.971	1.000	.037	
174	.978	1.002	.030	
674	.991	1.000	.014	
2002	.963	1.002	.044	
2005	.961	1.000	.044	
2006	.970	1.004	.048	
2007	.976	1.022	.102	
2011	.972	1.008	.062	
2013	.968	1.005	.048	
2016	.975	1.001	.028	
2018	.968	1.002	.049	
2010	.966	1.002	.039	
2013	.978	1.004	.035	
2020	.969	1.003	.038	
2060	.963	.999	.075	
2061	.965	1.001		
2100	.967	.978	.051	
2101	.967	1.001	.033	
2102	.967	1.001	.034	
2103	.972	1.000	.050	
2105	.983	1.003	.071	
2106	.965	1.002	.036	
2107	.972	1.001	.042	
2108	.971	.999	.037	
2110	.968	1.004	.055	
2111	.959	1.002	.053	
2112	.964	1.005	.068	
2115	.968	1.001	.030	
2117	.990	1.001	.027	
2118	.970	1.000	.032	
2120	.967	1.009	.045	
2121	.975	.999	.049	
2122	.974	1.002	.030	
2151	.969	1.001	.034	
2152	.964	1.001	.027	
2155	.965	1.010	.037	
2252	.979	1.010	.081	
2657	.970	1.007	.051	
2690	.968	1.002	.022	
3000	.977	1.003	.042	
3003	.967	.999	.035	
3004	.972	1.001	.000	
3004	.979	1.010	.059	
3012	.961	1.001	.040	
3012	.958	1.006	.068	
3013	.900	1.000	.000	



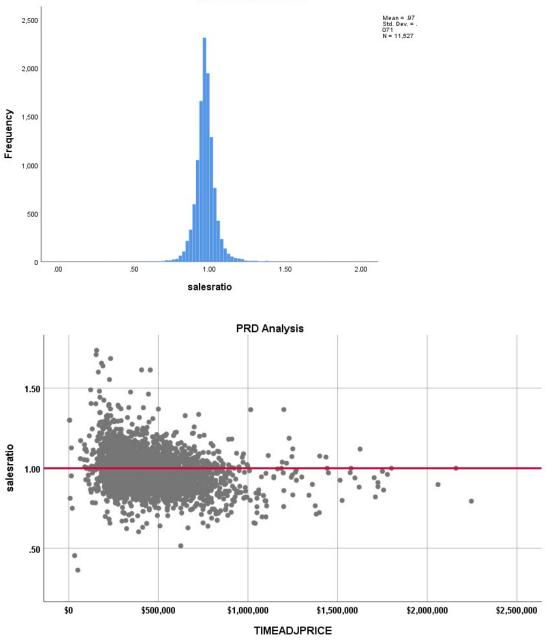
3017	.974	1.017	.061
3024	.968	1.000	.022
3025	.968	1.001	.039
3026	.947	1.002	.047
3027	.972	1.000	.029
3030	.980	1.001	.037
3031	.964	1.000	.052
3032	.970	1.002	.032
3034	.975	1.004	.049
3037	.969	1.001	.044
3038	.970	1.001	.045
3055	.970	.998	.049
3122	.961	1.006	.040
4000	.984	1.001	.034
4002	.986	1.001	.028
4004	.986	1.002	.025
4102	.968	1.001	.040
4103	.966	1.005	.063
4105	.971	1.008	.096
4123	.975	1.003	.033
4220	.953	1.005	.088
5001	.961	1.017	.077
6003	.965	1.002	.055
6021	.956	1.003	.051
6023	.962	.997	.086
6025	.964	1.004	.058
6027	.968	1.003	.040
6029	.969	1.000	.045
6030	.965	.998	.087
6031	.967	1.002	.056
6033	.987	1.029	.109
6034	.966	1.005	.070
6035	.972	1.001	.036
6037	.982	1.003	.085
6038	.969	1.003	.058
6045	.979	1.023	.103
6050	.965	1.004	.055
6062	.984	1.001	.041
6207	.972	1.003	.120
9009	.958	1.002	.072
9010	.951	1.003	.049
9014	.977	1.007	.050
9040	.976	1.003	.036
Overall	.971	1.004	.047
		= Condominiu	

NOTE: NBHD 9999 = 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:



Sales Ratio Distribution



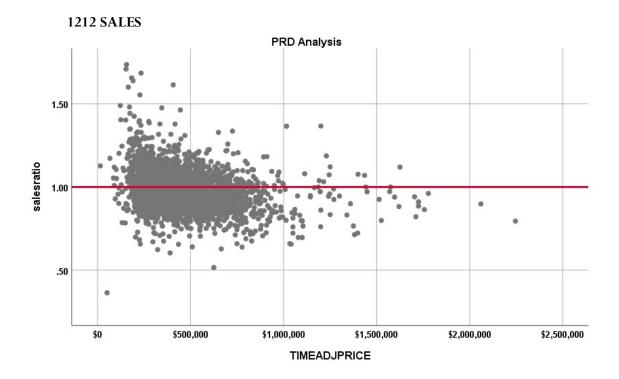
NOTE: Sales over \$2,500,000 excluded for graphic clarity

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 1112 using the state abstract code system (Weld County used the predominant use land code 1112 for 1212 properties). These include single family residences, town homes and purged manufactured homes. The following indicates the distribution of sales ratios across the sale price spectrum:





The Price-Related Differential (PRD) for 1212 sales is 1.005, 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**<sup>a</sup>

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.969	.002		447.618	.000
	CURRTOT	.00000012	.000	.021	2.183	.029
-	1 1 1 1 1 1 1					

a. Dependent Variable: salesratio

The slope of the line at 0.000000012 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:

		Count	Percent
SPRec	LT \$300K	1708	15.6%
	\$300K to \$350K	2509	22.9%
	\$350K to \$400K	2618	23.9%
	\$400K to \$450K	1551	14.1%
	\$450K to \$500K	855	7.8%
	\$500K to \$600K	977	8.9%
	\$600K to \$750K	517	4.7%
	\$750K to \$1000K	172	1.6%



Over \$1000K	63	0.6%
Overall	10970	100.0%
Excluded	0	
Total	10970	

## Ratio Statistics for CURRTOT / TASP

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$300K	.976	1.003	.068	10.6%
\$300K to \$350K	.977	1.000	.038	5.3%
\$350K to \$400K	.972	1.000	.037	5.1%
\$400K to \$450K	.969	1.000	.044	6.4%
\$450K to \$500K	.964	1.000	.050	6.8%
\$500K to \$600K	.961	1.000	.057	7.5%
\$600K to \$750K	.948	1.000	.068	9.1%
\$750K to \$1000K	.915	1.000	.093	11.7%
Over \$1000K	.911	.998	.124	16.1%
Overall	.971	1.005	.049	7.3%

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**<sup>a</sup>

ECONAREA	Model		Unstandardize B	ed Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
	1	(Constant)	.974	.015		66.601	.000
		SalePeriod	.001	.002	.099	.620	.539
.00	1	(Constant)	.971	.004		273.316	.000
		SalePeriod	.000	.000	.039	1.164	.245
2.00	1	(Constant)	.968	.002		515.373	.000
		SalePeriod	.000	.000	.028	1.826	.068
3.00	1	(Constant)	.971	.002		420.166	.000
		SalePeriod	-7.769E-5	.000	006	316	.752
4.00	1	(Constant)	.978	.006		171.358	.000
		SalePeriod	.000	.001	.023	.646	.518
5.00	1	(Constant)	.978	.017		57.778	.000
		SalePeriod	001	.002	043	463	.645
6.00	1	(Constant)	.979	.005		214.446	.000
		SalePeriod	.000	.000	.018	.708	.479
7.00	1	(Constant)	.847	.058		14.719	.000
		SalePeriod	.010	.006	.309	1.837	.076
8.00	1	(Constant)	.929	.031		30.005	.000
		SalePeriod	.003	.003	.136	1.133	.261
9.00	1	(Constant)	.969	.008		125.162	.000
		SalePeriod	.000	.001	.011	.206	.837



99.00	1	(Constant)	.964	.006		165.486	.000
		SalePeriod	.001	.001	.078	1.595	.111

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for any of the economic areas; we therefore concluded that the assessor has adequately addressed market trending in the valuation of residential properties.

#### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2021 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

<b>Report</b> VALSF				
sold	Ν	Median	Mean	
UNSOLD	80792	\$215	\$215	
SOLD	11527	\$213	\$217	
<b>Report</b> VALSF				
ECONAREA	sold	N	Median	Mean
.00	UNSOLD	6416	\$228	\$226
	SOLD	914	\$226	\$224
2.00	UNSOLD	23304	\$217	\$218
	SOLD	4209	\$211	\$216
3.00	UNSOLD	17793	\$211	\$219
	SOLD	2920	\$210	\$218
4.00	UNSOLD	6446	\$200	\$204
	SOLD	809	\$202	\$208
5.00	UNSOLD	1443	\$189	\$187
	SOLD	115	\$206	\$204
6.00	UNSOLD	17251	\$229	\$223
	SOLD	1612	\$234	\$230
7.00	UNSOLD	814	\$117	\$127
	SOLD	34	\$141	\$164
8.00	UNSOLD	701	\$177	\$179
	SOLD	70	\$203	\$195
9.00	UNSOLD	2678	\$219	\$211
	SOLD	384	\$225	\$220
99.00	UNSOLD	3678	\$182	\$171
	SOLD	419	\$185	\$189

NOTE: Econ Area 99 = Condominiums

Please note that economic areas with significant differences 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 30 sales, as follows:



# Report

VALSF				
NBHD	sold	Ν	Median	Mean
71	UNSOLD	653	\$245	\$241
	SOLD	87	\$244	\$243
72	UNSOLD	318	\$224	\$225
	SOLD	61	\$214	\$220
78	UNSOLD	241	\$205	\$209
10	SOLD	39	\$219	\$219
79	UNSOLD	335	\$181	\$189
15	SOLD	38	\$189	\$195
81	UNSOLD	334	\$221	\$217
01	SOLD	48	\$214	\$217
00	UNSOLD	659	\$172	\$178
83				
474	SOLD	67	\$176	\$180
171	UNSOLD	814	\$251	\$246
171	SOLD	132	\$232	\$233
174	UNSOLD	788	\$229	\$225
	SOLD	225	\$227	\$224
674	UNSOLD	28	\$197	\$195
	SOLD	32	\$197	\$191
2002	UNSOLD	610	\$231	\$232
	SOLD	44	\$237	\$230
2005	UNSOLD	829	\$254	\$249
	SOLD	81	\$262	\$255
2006	UNSOLD	373	\$225	\$227
	SOLD	47	\$223	\$233
2007	UNSOLD	652	\$262	\$261
	SOLD	58	\$270	\$262
2011	UNSOLD	566	\$220	\$231
	SOLD	133	\$238	\$250
2013	UNSOLD	741	\$216	\$220
	SOLD	175	\$232	\$227
2016	UNSOLD	515	\$182	\$181
	SOLD	180	\$173	\$181
2018	UNSOLD	155	\$227	\$224
2010	SOLD	35	\$233	\$222
2019	UNSOLD	398	\$225	\$229
2013	SOLD	246	\$240	\$239
2020	UNSOLD	671	\$201	\$203
2020	SOLD	449	\$196	\$203 \$198
2024				
2021	UNSOLD SOLD	288	\$195 ¢102	\$201
2000		410	\$193	\$203
2060	UNSOLD	523	\$229	\$225
	SOLD	52	\$227	\$226
2061	UNSOLD	347	\$227	\$218
- /	SOLD	48	\$211	\$213
2100	UNSOLD	712	\$216	\$214
	SOLD	54	\$219	\$217
2101	UNSOLD	392	\$219	\$218
	SOLD	38	\$228	\$227
2102	UNSOLD	557	\$233	\$230
	SOLD	55	\$229	\$231
2103	UNSOLD	510	\$197	\$205
	SOLD	55	\$194	\$206
2105	UNSOLD	507	\$198	\$201
	SOLD	44	\$200	\$209
			-	-



2106	UNSOLD	242	\$213	\$214
	SOLD	68	\$226	\$221
2107	UNSOLD	704	\$209	\$211
	SOLD	100	\$217	\$219
2108	UNSOLD	301	\$199	\$211
	SOLD	45	\$239	\$229
2110	UNSOLD	1024	\$221	\$221
	SOLD	99	\$228	\$227
2111	UNSOLD	2346	\$223	\$223
	SOLD	198	\$210	\$217
2112	UNSOLD	904	\$193	\$194
	SOLD	82	\$192	\$195
	Total	986	\$192	\$194
2115	UNSOLD	212	\$227	\$226
	SOLD	36	\$214	\$213
2117	UNSOLD	180	\$196	\$199
	SOLD	67	\$198	\$207
2118	UNSOLD	467	\$221	\$220
	SOLD	59	\$238	\$230
2120	UNSOLD	512	\$218	\$214
2120	SOLD	70	\$221	\$217
2121	UNSOLD	331	\$247	\$248
2121	SOLD	62	\$270	\$265
2122	UNSOLD	190	\$197	\$203
2122	SOLD	236	\$190	\$199
2151	UNSOLD	591	\$232	\$229
2151				
	SOLD	93	\$227	\$227
0450	Total	684	\$232	\$229
2152	UNSOLD	296	\$208	\$210
0455	SOLD	124	\$204	\$214
2155	UNSOLD	99	\$157	\$174
0050	SOLD	97	\$155	\$173
2252	UNSOLD	312	\$270	\$267
0057	SOLD	43	\$293	\$288
2657	UNSOLD	204	\$207	\$208
	SOLD	40	\$205	\$207
2690	UNSOLD	40	\$189	\$181
	SOLD	47	\$189	\$190
3000	UNSOLD	318	\$187	\$191
	SOLD	41	\$209	\$201
3003	UNSOLD	324	\$198	\$202
	SOLD	56	\$205	\$199
3004	UNSOLD	124	\$210	\$211
	SOLD	122	\$198	\$199
3008	UNSOLD	666	\$204	\$213
	SOLD	450	\$207	\$219
3012	UNSOLD	559	\$205	\$212
	SOLD	80	\$208	\$213
3013	UNSOLD	1309	\$218	\$229
	SOLD	142	\$221	\$240
3017	UNSOLD	325	\$220	\$221
	SOLD	163	\$224	\$225
3024	UNSOLD	322	\$209	\$213
	SOLD	83	\$208	\$218
3025	UNSOLD	754	\$227	\$233
	SOLD	230	\$200	\$199
3026	UNSOLD	1357	\$212	\$214
3020	CHOOLD		Ψ <u></u> ι <u>ζ</u>	Ψ



	SOLD	151	\$203	\$212
3027	UNSOLD	340	\$203	\$230
0021	SOLD	46	\$232	\$230
3030	UNSOLD	579	\$195	\$202
5050	SOLD	138	\$193	\$201
3031	UNSOLD	579	\$269	\$264
5051	SOLD	62	\$260	\$268
2022	UNSOLD	621	\$200	\$209
3032	SOLD	135	\$208	
2024		246		\$206
3034	UNSOLD		\$200 \$200	\$215
2027	SOLD UNSOLD	225		\$216 \$202
3037	SOLD	934	\$197	
		130	\$201	\$209
2020	Total	1064	\$198	\$203
3038	UNSOLD	1155	\$200	\$203
0055	SOLD	140	\$208	\$212
3055	UNSOLD	374	\$218	\$229
	SOLD	30	\$201	\$215
3122	UNSOLD	299	\$212	\$220
	SOLD	52	\$211	\$218
4000	UNSOLD	457	\$191	\$195
	SOLD	154	\$184	\$183
4002	UNSOLD	408	\$204	\$207
	SOLD	93	\$205	\$210
4004	UNSOLD	571	\$179	\$188
	SOLD	202	\$183	\$195
4102	UNSOLD	231	\$195	\$194
	SOLD	85	\$196	\$193
4103	UNSOLD	591	\$254	\$256
	SOLD	62	\$258	\$259
4105	UNSOLD	802	\$247	\$243
	SOLD	39	\$270	\$261
4123	UNSOLD	274	\$235	\$232
	SOLD	31	\$231	\$232
4220	UNSOLD	101	\$245	\$234
	SOLD	32	\$267	\$253
5001	UNSOLD	412	\$206	\$211
	SOLD	46	\$226	\$227
6003	UNSOLD	371	\$232	\$223
	SOLD	46	\$225	\$225
6021	UNSOLD	732	\$250	\$245
	SOLD	66	\$247	\$247
6023	UNSOLD	301	\$203	\$201
0020	SOLD	34	\$209	\$207
6025	UNSOLD	823	\$217	\$216
0020	SOLD	71	\$208	\$214
6027	UNSOLD	379	\$228	\$226
0021	SOLD	74	\$239	\$232
6020	UNSOLD			
6029		987 75	\$238 \$247	\$233
6020	SOLD	75 772	\$247 \$214	\$243
6030	UNSOLD		\$214	\$216
0004	SOLD	75	\$223	\$224
6031	UNSOLD	1738	\$225	\$221
0000	SOLD	132	\$231	\$223
6033	UNSOLD	735	\$229	\$230
	SOLD	74	\$256	\$247
6034	UNSOLD	1416	\$242	\$235



	SOLD	163	\$248	\$240
6035	UNSOLD	1283	\$244	\$234
	SOLD	145	\$231	\$228
6037	UNSOLD	1348	\$223	\$222
	SOLD	110	\$228	\$229
6038	UNSOLD	1266	\$241	\$228
	SOLD	105	\$265	\$252
6045	UNSOLD	795	\$256	\$251
	SOLD	58	\$267	\$258
6050	UNSOLD	592	\$241	\$233
	SOLD	40	\$268	\$269
6062	UNSOLD	935	\$242	\$240
	SOLD	160	\$237	\$240
6207	UNSOLD	619	\$153	\$166
	SOLD	33	\$130	\$149
9009	UNSOLD	403	\$210	\$206
	SOLD	33	\$227	\$219
9010	UNSOLD	578	\$223	\$221
	SOLD	64	\$224	\$220
9014	UNSOLD	113	\$227	\$212
	SOLD	54	\$227	\$212
9040	UNSOLD	76	\$216	\$218
	SOLD	87	\$236	\$227

NOTE: Econ Area 9999 = Condominiums

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

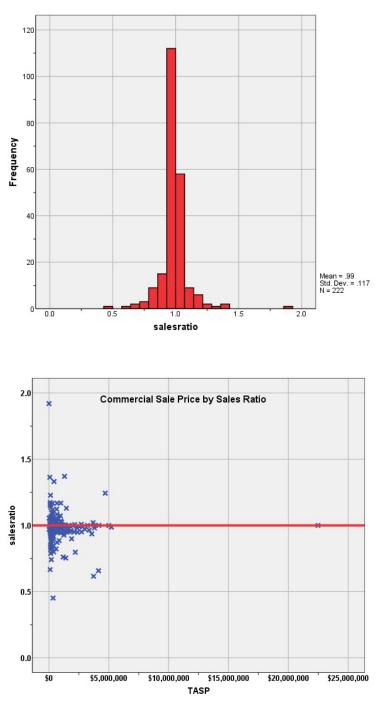
#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 222 qualified commercial/industrial sales that occurred in the 18 month sale period ending June 30, 2020. The sales ratio analysis results were as follows:

Median	0.993
Price Related Differential	1.011
Coefficient of Dispersion	6.2

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/Industrial Market Trend Analysis

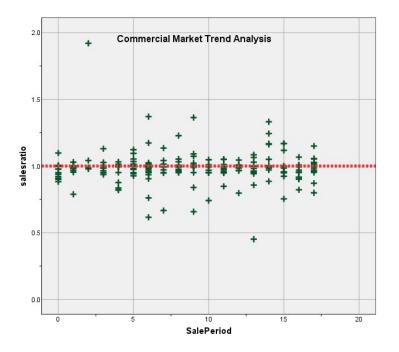
The commercial/industrial sales were next analyzed, examining the sale ratios across the 18-month sale period with the following results:



## **Coefficients**<sup>a</sup>

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.992	.015		65.950	.000
	SalePeriod	.000	.002	020	296	.767

a. Dependent Variable: salesratio



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

#### Sold/Unsold Analysis

We compared the median change in value between valuation year 2018 and valuation year 2020 between sold and unsold groups to determine if sold and unsold properties were valued consistently, as follows:

Report DIFF			
sold	Ν	Median	Mean
UNSOLD	5112	1.0533	1.1041
SOLD	202	1.1547	1.2205

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, 2245, and 3215. The following analysis was then performed:



<b>Report</b> DIFF				
ABSTRIMP	sold	Ν	Median	Mean
2212.00	UNSOLD	691	1.0210	1.0812
	SOLD	31	1.2286	1.2553
2220.00	UNSOLD	364	1.0109	1.0866
	SOLD	21	1.0667	1.1609
2230.00	UNSOLD	970	1.0500	1.1017
	SOLD	34	1.2115	1.2590
2235.00	UNSOLD	1002	1.0782	1.1350
	SOLD	21	1.2286	1.3057
2245.00	UNSOLD	999	1.0550	1.0955
	SOLD	69	1.1719	1.1911

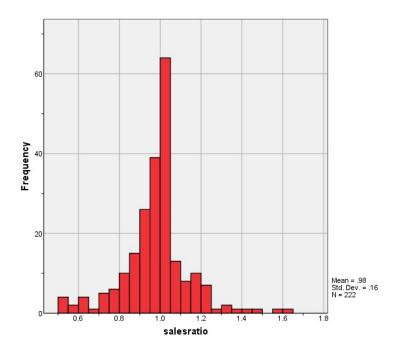
We will consult with the assessor concerning the significant difference observed for several commercial subclasses.

#### V. VACANT LAND SALE RESULTS

There were 222 qualified residential sales that occurred in the 18-month sale period ending June 30, 2020. The sales ratio analysis results were as follows:

Median	1.000
Price Related Differential	1.009
<b>Coefficient of Dispersion</b>	10.4

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







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

#### Vacant Land Market Trend Analysis

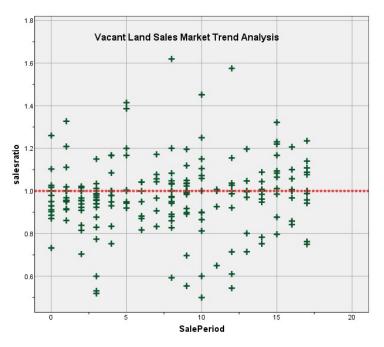
We next analyzed the vacant land dataset using the 18-month sale period, with the following results:

## **Coefficients**<sup>a</sup>

Coencients			Standardized			
	Unstandar	dized Coefficients	Coefficients			
Model	В	Std. Error	Beta	t	Sig.	
1 (Constant	) .961	.019		50.161	.000	
SalePerio	d .002	.002	.078	1.162	.247	

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 valuation year 2018 and valuation year 2020 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	Ν	Median	Mean
UNSOLD	6748	1.1000	1.0937
SOLD	201	1.1232	1.1631

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

<b>Report</b> DIFF				
SUBDIVNO	sold	Ν	Median	Mean
2528	UNSOLD	37	1.1180	1.1280
	SOLD	17	1.1261	1.2839
3372	UNSOLD	3	1.0769	1.0769
	SOLD	9	1.0769	.9333
6903	UNSOLD	16	.4631	.4571
	SOLD	6	.9648	.7976
7039	UNSOLD	23	1.0000	1.0739
	SOLD	10	1.0000	1.0680

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



#### **V. CONCLUSIONS**

Based on this 2021 audit statistical analysis, residential, commercial/industrial and vacant land properties were found to be in compliance with state guidelines.



#### STATISTICAL ABSTRACT

#### **Residential**

						Ratio Statistic	s for CURRT	OT / TASP					
		95% Confiden Me	ice Interval for an		95% Cor	nfidence Interval fo	or Median		95% Confiden Weighte				Coefficient of Variation
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
	.981	.964	.999	.970	.950	.981	97.2%	.977	.961	.993	1.004	.040	5.7%
.00	.974	.971	.978	.974	.971	.976	95.6%	.972	.968	.976	1.003	.041	5.8%
2.00	.971	.969	.973	.969	.968	.971	95.2%	.968	.965	.971	1.003	.044	6.3%
3.00	.970	.968	.973	.970	.968	.971	95.2%	.965	.962	.968	1.005	.049	7.0%
4.00	.981	.976	.987	.979	.976	.984	95.1%	.977	.971	.982	1.005	.047	7.8%
5.00	.972	.952	.992	.969	.955	.985	96.0%	.959	.940	.978	1.014	.074	10.9%
6.00	.982	.978	.987	.972	.969	.975	95.1%	.978	.973	.983	1.004	.064	9.5%
7.00	.940	.880	.999	.959	.883	1.002	97.6%	.920	.852	.989	1.021	.131	18.1%
8.00	.959	.929	.990	.972	.941	.984	95.9%	.952	.927	.977	1.008	.083	13.3%
9.00	.971	.963	.978	.969	.965	.974	95.4%	.969	.962	.977	1.001	.050	7.6%
99.00	.972	.966	.978	.971	.967	.974	95.9%	.970	.965	.974	1.002	.036	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**

	Ratio Statistics for CURRTOT / TASP											
	95% Confiden Me			95% Confidence Interval for Median			95% Confidence Interval for Weighted Mean				Coefficient of Variation	
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
.988	.972	1.003	.993	.986	.998	96.3%	.977	.952	1.002	1.011	.062	11.9%

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

#### Vacant Land

	Ratio Statistics for CURRLND / TASP											
	95% Confidence Interval for Mean 95% Confidence Interval for Median		95% Confidence Interval for Weighted Mean				Coefficient of Variation					
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
.980	.959	1.001	1.000	.979	1.000	96.3%	.971	.947	.995	1.009	.104	16.3%

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.



**Residential Median Ratio Stratification** 

Subclass

## Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	10970	95.2%
	1213.50	3	0.0%
	1214.00	2	0.0%
	1215.00	97	0.8%
	1220.00	25	0.2%
	1224.29	1	0.0%
	1225.00	6	0.1%
	1230.00	419	3.6%
	1466.50	1	0.0%
	2235.00	1	0.0%
	9240.00	1	0.0%
	9250.00	1	0.0%
Overall		11527	100.0%
Excluded		0	
Total		11527	

## Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered						
1212.00	.971	1.005	.049	7.3%						
1213.50	.745	1.012	.134	20.7%						
1214.00	1.116	1.009	.104	14.7%						
1215.00	.970	.996	.072	12.9%						
1220.00	.980	1.004	.055	8.8%						
1224.29	.959	1.000	.000							
1225.00	1.000	.996	.019	2.9%						
1230.00	.970	1.002	.035	6.1%						
1466.50	.740	1.000	.000							
2235.00	1.060	1.000	.000							
9240.00	.921	1.000	.000							
9250.00	.934	1.000	.000							
Overall	.971	1.004	.049	7.3%						

## Age

_		Count	Percent
AgeRec	Over 100	296	2.6%
	75 to 100	189	1.6%
	50 to 75	609	5.3%
	25 to 50	1286	11.2%
	5 to 25	4334	37.6%
	5 or Newer	4813	41.8%
Overall		11527	100.0%
Excluded		0	
Total		11527	



_		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
Over 100	.985	1.016	.106	15.5%
75 to 100	.946	1.006	.097	14.2%
50 to 75	.969	1.009	.075	11.0%
25 to 50	.968	.999	.061	8.9%
5 to 25	.969	1.003	.045	6.5%
5 or Newer	.975	1.005	.040	5.6%
Overall	.971	1.004	.049	7.3%

## Improved Area

## **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	12	0.1%
	500 to 1,000 sf	641	5.6%
	1,000 to 1,500 sf	3343	29.0%
	1,500 to 2,000 sf	3924	34.0%
	2,000 to 3,000 sf	2955	25.6%
	3,000 sf or Higher	652	5.7%
Overall		11527	100.0%
Excluded		0	
Total		11527	

## **Ratio Statistics for CURRTOT / TASP**

0	N. 11	Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
LE 500 sf	.963	1.031	.189	26.0%
500 to 1,000 sf	.951	1.008	.067	10.0%
1,000 to 1,500 sf	.972	1.003	.044	7.0%
1,500 to 2,000 sf	.971	1.003	.043	6.2%
2,000 to 3,000 sf	.974	1.004	.049	7.1%
3,000 sf or Higher	.964	1.001	.082	11.5%
Overall	.971	1.004	.049	7.3%

## Improvement Quality

		Count	Percent
QUALITY		2	0.0%
	1	115	1.0%
	2	1993	17.3%
	3	8889	77.1%
	4	458	4.0%
	5	63	0.5%
	6	7	0.1%
Overall		11527	100.0%
Excluded		0	
Total		11527	



i tatio e				
Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.923	.999	.008	1.1%
1	.967	1.013	.109	14.6%
2	.968	1.004	.066	10.3%
3	.971	1.004	.043	6.1%
4	.972	1.010	.074	9.8%
5	.988	1.014	.089	12.6%
6	.941	1.030	.109	19.8%
Overall	.971	1.004	.049	7.3%

### Improvement Condition

### **Case Processing Summary**

		Count	Percent
CONDITION	1	5	0.0%
	2	30	0.3%
	3	11483	99.6%
	4	9	0.1%
Overall		11527	100.0%
Excluded		0	
Total		11527	

# Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1	1.054	.974	.163	33.1%
2	.929	1.055	.165	21.4%
3	.971	1.004	.048	7.2%
4	1.004	1.002	.040	5.3%
Overall	.971	1.004	.049	7.3%

### **Commercial Median Ratio Stratification**

Sale Price

	-	-	
		Count	Percent
SPRec	LT \$25K	3	1.4%
	\$50K to \$100K	8	3.6%
	\$100K to \$150K	23	10.4%
	\$150K to \$200K	25	11.3%
	\$200K to \$300K	27	12.2%
	\$300K to \$500K	43	19.4%
	\$500K to \$750K	22	9.9%
	\$750K to \$1,000K	16	7.2%
	Over \$1,000K	55	24.8%
Overall		222	100.0%
Excluded		0	
Total		222	



Croup	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Group				
LT \$25K	1.056	1.128	.300	58.1%
\$50K to \$100K	1.005	1.011	.115	19.4%
\$100K to \$150K	.986	1.002	.065	10.1%
\$150K to \$200K	.985	1.000	.055	8.6%
\$200K to \$300K	1.014	.998	.052	7.0%
\$300K to \$500K	.991	.998	.051	11.2%
\$500K to \$750K	1.000	1.000	.052	7.5%
\$750K to \$1,000K	.999	.999	.038	6.2%
Over \$1,000K	.981	.998	.060	11.2%
Overall	.993	1.011	.062	11.8%

# Subclass

		Count	Percent
BSTRIMP	1212.00	1	0.5%
	1220.00	1	0.5%
	1712.00	1	0.5%
	1716.00	1	0.5%
	2183.85	1	0.5%
	2212.00	31	14.0%
	2215.00	1	0.5%
	2220.00	23	10.4%
	2223.50	1	0.5%
	2223.75	1	0.5%
	2227.50	1	0.5%
	2230.00	38	17.1%
	2232.00	1	0.5%
	2232.50	1	0.5%
	2233.00	1	0.5%
	2235.00	25	11.3%
	2245.00	75	33.8%
	2556.67	1	0.5%
	2725.00	1	0.5%
	2779.44	1	0.5%
	2917.40	1	0.5%
	3212.00	2	0.9%
	3215.00	8	3.6%
	3225.00	1	0.5%
	9239.00	1	0.5%
	9249.00	1	0.5%
	9259.00	1	0.5%
verall		222	100.0%
xcluded		0	
otal		222	



				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
1212.00	1.118	1.000	.000	
1220.00	.754	1.000	.000	
1712.00	1.064	1.000	.000	
1716.00	.999	1.000	.000	
2183.85	1.000	1.000	.000	
2212.00	.994	1.002	.050	9.6%
2215.00	.616	1.000	.000	
2220.00	.999	1.038	.069	20.3%
2223.50	.982	1.000	.000	
2223.75	.968	1.000	.000	
2227.50	.950	1.000	.000	
2230.00	.998	.997	.066	10.9%
2232.00	.984	1.000	.000	
2232.50	.975	1.000	.000	
2233.00	.993	1.000	.000	
2235.00	.993	1.082	.060	11.5%
2245.00	.986	1.014	.057	8.3%
2556.67	1.067	1.000	.000	
2725.00	1.000	1.000	.000	
2779.44	1.000	1.000	.000	
2917.40	.987	1.000	.000	
3212.00	.991	1.000	.000	0.0%
3215.00	.990	1.009	.035	4.7%
3225.00	.452	1.000	.000	
9239.00	1.243	1.000	.000	
9249.00	1.000	1.000	.000	
9259.00	.963	1.000	.000	
Overall	.993	1.011	.062	11.8%

## Age

		Count	Percent
AgeRec	Over 100	15	6.8%
	75 to 100	8	3.6%
	50 to 75	19	8.6%
	25 to 50	40	18.0%
	5 to 25	97	43.7%
	5 or Newer	43	19.4%
Overall		222	100.0%
Excluded		0	
Total		222	



		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
Over 100	.984	1.006	.032	4.6%
75 to 100	.961	.996	.054	9.8%
50 to 75	1.004	1.101	.134	25.9%
25 to 50	.993	.999	.037	5.9%
5 to 25	.995	.996	.061	11.0%
5 or Newer	.981	1.026	.063	9.8%
Overall	.993	1.011	.062	11.8%

## Improved Area

## **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	7	3.2%
	500 to 1,000 sf	19	8.6%
	1,000 to 1,500 sf	38	17.1%
	1,500 to 2,000 sf	19	8.6%
	2,000 to 3,000 sf	34	15.3%
	3,000 sf or Higher	105	47.3%
Overall		222	100.0%
Excluded		0	
Total		222	

## **Ratio Statistics for CURRTOT / TASP**

0	N.A. 11	Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
LE 500 sf	.986	1.020	.162	26.5%
500 to 1,000 sf	.986	1.055	.111	24.1%
1,000 to 1,500 sf	.989	1.020	.054	7.8%
1,500 to 2,000 sf	.968	1.011	.048	7.8%
2,000 to 3,000 sf	.998	1.007	.040	6.7%
3,000 sf or Higher	.997	1.014	.057	10.5%
Overall	.993	1.011	.062	11.8%

## Improvement Quality

		Count	Percent
QUALITY	1	5	2.3%
	2	15	6.8%
	3	165	74.3%
	4	37	16.7%
Overall		222	100.0%
Excluded		0	
Total		222	



raliu c						
Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered		
1	.998	1.171	.205	46.3%		
2	.987	1.003	.033	4.2%		
3	.994	1.015	.060	10.5%		
4	.985	.983	.058	10.1%		
Overall	.993	1.011	.062	11.8%		

### Improvement Condition

## **Case Processing Summary**

		Count	Percent
CONDITION	2	6	2.7%
	3	215	96.8%
	4	1	0.5%
Overall		222	100.0%
Excluded		0	
Total		222	

#### **Ratio Statistics for CURRTOT / TASP**

				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
2	.989	.991	.015	2.1%
3	.993	1.013	.062	11.8%
4	.667	1.000	.000	
Overall	.993	1.011	.062	11.8%

### Vacant Land Median Ratio Stratification

Sale Price

		Count	Percent
SPRec	LT \$25K	7	3.2%
	\$25K to \$50K	16	7.2%
	\$50K to \$100K	74	33.3%
	\$100K to \$150K	50	22.5%
	\$150K to \$200K	21	9.5%
	\$200K to \$300K	17	7.7%
	\$300K to \$500K	20	9.0%
	\$500K to \$750K	10	4.5%
	\$750K to \$1,000K	3	1.4%
	Over \$1,000K	4	1.8%
Overall		222	100.0%
Excluded		0	
Total		222	



				Coefficient of
		Price Related	Coefficient of	Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$25K	1.083	.987	.070	8.7%
\$25K to \$50K	1.003	.990	.176	26.1%
\$50K to \$100K	1.000	1.004	.069	12.0%
\$100K to \$150K	.942	1.002	.097	13.8%
\$150K to \$200K	.987	.996	.153	22.4%
\$200K to \$300K	1.000	1.005	.108	14.7%
\$300K to \$500K	.953	1.008	.149	23.8%
\$500K to \$750K	.962	.996	.090	12.9%
\$750K to \$1,000K	1.000	1.002	.027	5.6%
Over \$1,000K	.998	1.001	.016	2.5%
Overall	1.000	1.009	.104	16.1%

## Subclass

## Case Processing Summary

00361100	essing ou	i i i i i i i i i i i i i i i i i i i	
		Count	Percent
ABSTRLND	100.00	70	31.5%
	200.00	28	12.6%
	300.00	4	1.8%
	520.00	1	0.5%
	540.00	1	0.5%
	550.00	1	0.5%
	1112.00	98	44.1%
	1125.00	1	0.5%
	2112.00	3	1.4%
	2115.00	1	0.5%
	2120.00	2	0.9%
	2130.00	6	2.7%
	2135.00	6	2.7%
Overall		222	100.0%
Excluded		0	
Total		222	

## Ratio Statistics for CURRLND / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
100.00	.993	1.022	.134	18.7%
200.00	.979	.975	.181	25.5%
300.00	.984	1.010	.137	21.1%
520.00	1.036	1.000	.000	
540.00	.984	1.000	.000	
550.00	.950	1.000	.000	
1112.00	1.000	1.007	.068	11.4%
1125.00	.966	1.000	.000	
2112.00	1.049	.997	.057	11.1%
2115.00	.921	1.000	.000	
2120.00	.945	.972	.058	8.2%
2130.00	.956	1.005	.118	17.0%
2135.00	1.002	1.014	.053	7.8%
Overall	1.000	1.009	.104	16.1%