

2021 ELBERT COUNTY PROPERTY ASSESSMENT STUDY







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. Fuller Project Manager

Harry J. Dulla

Wildrose Appraisal Inc. - Audit Division



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INTRODUCTION



The State Board of Equalization (SBOE) reviews assessments for conformance to the Constitution. The SBOE will order revaluations for counties whose valuations do not reflect the proper valuation period level of value.

The statutory basis for the audit is found in C.R.S. 39-1-104 (16)(a)(b) and (c).

The legislative council sets forth two criteria that are the focus of the audit group:

To determine whether each county assessor is applying correctly the constitutional and statutory provisions, compliance requirements of the State Board of Equalization, and the manuals published by the State Property Tax Administrator to arrive at the actual value of each class of property.

To determine if each assessor is applying correctly the provisions of law to the actual values when arriving at valuations for assessment of all locally valued properties subject to the property tax.

The property assessment audit conducts a 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 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 Elbert County in the following report.

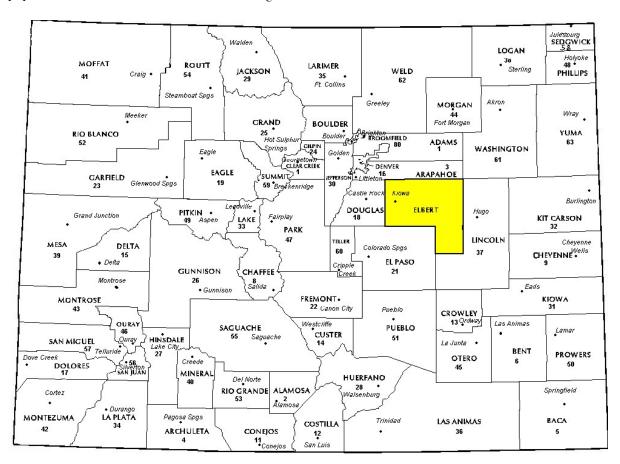


REGIONAL/HISTORICAL SKETCH OF ELBERT COUNTY

Regional Information

Elbert County is located in the Eastern Plains region of Colorado. The Eastern Plains of Colorado refer to the region on the east side of the Rocky Mountain. It is east of the population centers of the Front Range,

including Baca, Bent, Cheyenne, Crowley, Elbert, Kiowa, Kit Carson, Lincoln, Logan, Morgan, Otero, Phillips, Prowers, Sedgwick, Washington, and Yuma counties.





Historical Information

Elbert County has approximately 1,850.9 square miles and an estimated population of approximately 26,729 people with 12.5 people per square mile, according to the U.S. Census Bureau's 2020 estimated census data. This represents a 15.8 percent change from April 1, 2010 to July 1, 2019.

Elbert County was created on February 2, 1874, from the eastern portions of Douglas County. On February 6, 1874, the county was enlarged to include part of northern Greenwood County upon Greenwood's dissolution, and originally extended south and east of its present boundaries to reach to the Kansas state line. The county was named for Samuel Hitt Elbert, the Governor of the Territory of Colorado when the county was formed. In 1889, Elbert County was reduced to its modern size when its eastern portions were taken to create Lincoln, Kit Carson, and Cheyenne counties. The county seat is Kiowa, named for the Kiowa Indian tribe of the southern Plains, who called themselves Kaegua.

Elbert County is bordered on the west by Douglas, the north by Arapahoe and the south by El Paso County. During the 1990's Elbert was the second fastest growing county in Colorado (after Douglas) and it continues to grow at a rapid pace. It currently has over 20,000 residents, mostly living on two to 60-acre lots on the western side. Most residents commute to Denver or Colorado Springs for work. The eastern side of the county continues to be sparsely populated ranchland. (Wikipedia.org & centennialmhc.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 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 Elbert County are:

Elbert County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
*Commercial/Industrial	27	0.996	1.003	9.3	Compliant
Residential	1,069	0.983	1.007	7.8	Compliant
Vacant Land	48	0.965	1.096	18.8	Compliant

^{*}County Sales File augmented by three supplemental appraisals

After applying the above described methodologies, it is concluded from the sales ratios that Elbert 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 Elbert County has complied with the statutory requirements to analyze the effects of time on value in their county. Elbert 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

Elbert 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. 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. 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 Results				
Property Class	Results			
Commercial/Industrial	Compliant			
Residential	Compliant			
Vacant Land	Compliant			

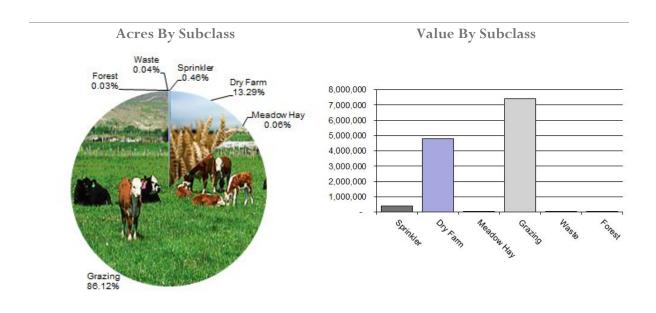
Conclusions

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

Recommendations



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 In addition, county records were reviewed in order to determine if: 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 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:



	Elbert County Agricultural Land Ratio Grid					
Abstract	Number County County WRA Abstract Of Value Assessed Total					
Code	Land Class	Acres	Per Acre	Total Value	Value	Ratio
4107	Sprinkler	4,441	92.64	411,419	414,502	0.99
4127	Dry Farm	127,670	37.56	4,795,481	4,804,947	1.00
4137	Meadow Hay	532	33.95	18,060	18,060	1.00
4147	Grazing	827,270	8.94	7,398,822	7,398,822	1.00
4177	Forest	311	8.56	2,666	2,666	1.00
4167	Waste	422	2.42	1,020	1,020	1.00
Total/Avg		960,647	13.14	12,627,469	12,640,019	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

Elbert 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

Elbert 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
- Aerial Photography/Pictometry

Elbert 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.:

- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Aerial Photography/Pictometry

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

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

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

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

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

WRA reviewed the sales verification procedures in 2021 for Elbert County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 29 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 inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, 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 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.

Elbert County did not qualify for indepth subclass analysis.

Conclusions

Elbert 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

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

Elbert 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 lease, permit, concession, contract, or other agreement.

Elbert County has been reviewed for their procedures and adherence to guidelines when

assessing and valuing agricultural 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

Elbert 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

Elbert 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.

Elbert 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
- Internet
- Location Inspections and area canvassing

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.

Elbert 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
- 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
- Date of PP items w/ no changes

Conclusions

Elbert 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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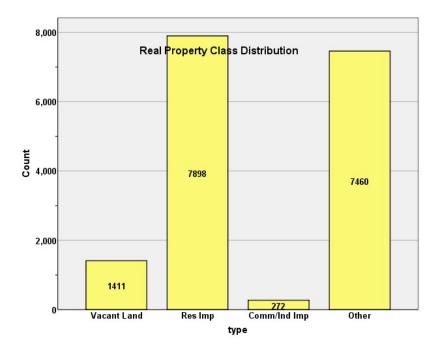
STATISTICAL APPENDIX



STATISTICAL COMPLIANCE REPORT FOR ELBERT COUNTY 2021

I. OVERVIEW

Elbert County is located in eastern Colorado. The county has a total of 17,041 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 and PUD land. Residential lots (coded 100, 400 and 1112) accounted for 73.1% of all vacant land parcels.

For residential improved properties, single family properties accounted for 98.8% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 1.6% 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 Elbert Assessor's Office in May 2021. The data included all 5 property record files as specified by the Auditor.



III. RESIDENTIAL SALES RESULTS

There were 1,069 qualified residential sales for the 24-month sale period ending June 30, 2020 in Elbert County. The sales ratio analysis results were as follows:

Median	0.983
Price Related Differential	1.007
Coefficient of Dispersion	7.8

We next stratified the sale ratio analysis by economic area and neighborhood. The minimum count for the neighborhood stratification is 15 sales. The following are the results of this stratification analysis:

Economic Area Case Processing Summary

		Count	Percent
ECONAREA	1.00	54	5.1%
	2.00	1005	94.9%
Overall		1059	100.0%
Excluded		10	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.964	1.038	.148
2.00	.983	1.006	.074
Overall	.983	1.008	.078

Neighborhoods with 15 or more sales Case Processing Summary

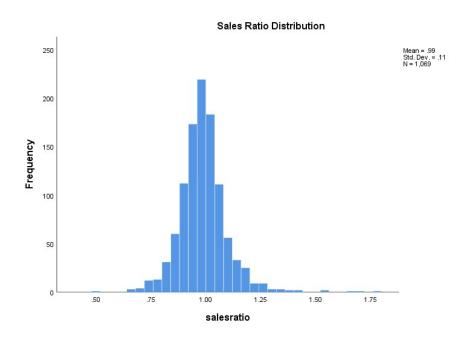
		Count	Percent
NBHD	0	23	5.9%
	640	15	3.9%
	985	33	8.5%
	1960	21	5.4%
	3090	16	4.1%
	3135	118	30.3%
	3510	24	6.2%
	3514	65	16.7%
	3516	28	7.2%
	3880	19	4.9%
	3938	27	6.9%
Overall		389	100.0%
Excluded		0	
Total		389	



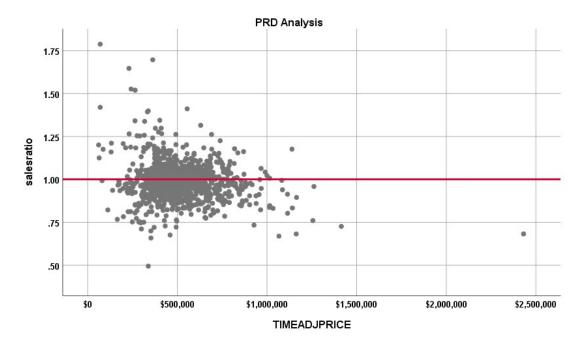
Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
0	.974	1.066	.144
640	.998	1.003	.047
985	.978	1.013	.094
1960	.964	.998	.109
3090	.982	1.004	.062
3135	.984	1.001	.068
3510	.983	1.004	.062
3514	.998	1.003	.045
3516	.986	.999	.078
3880	.983	.999	.068
3938	.976	1.002	.056
Overall	.984	1.010	.072

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:



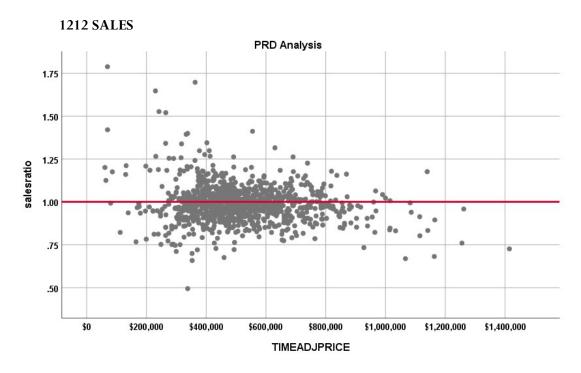




The above graphs indicate that the distribution of the sale ratios was within state mandated limits. No sales were trimmed.

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:





The Price-Related Differential (PRD) for 1212 sales is 1.013, 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

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.949	.011		88.308	.000
	CURRTOT	.00000078	.000	.118	3.850	.000

a. Dependent Variable: salesratio

The slope of the line at 0.000000078 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 \$400K	260	24.6%
	\$400K to \$600K	516	48.8%
	\$600K to \$800K	218	20.6%
	\$800K to \$1000K	47	4.4%
	\$1000K to \$3000K	16	1.5%
Overall		1057	100.0%
Excluded		0	
Total		1057	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$400K	.986	1.005	.106	16.1%
\$400K to \$600K	.988	1.001	.066	8.8%
\$600K to \$800K	.982	1.000	.068	8.8%
\$800K to \$1000K	.960	1.001	.064	9.0%
\$1000K to \$3000K	.842	1.003	.118	16.0%
Overall	.983	1.006	.078	11.2%

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

Residential Market Trend Analysis

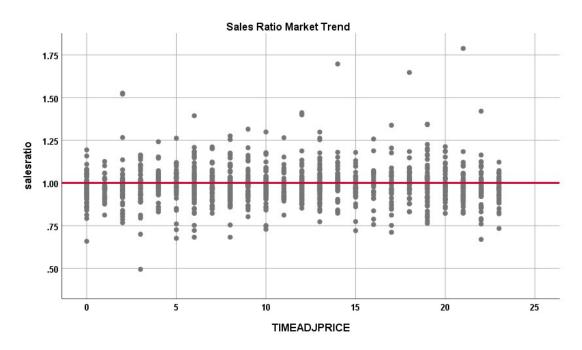
We next analyzed the residential dataset using the 24-month sale period for any residual market trending, with the following results:



Coefficients^a

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.983	.006		152.212	.000
	SalePeriod	.000	.000	.028	.911	.362

a. Dependent Variable: salesratio



The above analysis indicated 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 2021 median actual value per square foot, as follows:

Re	port
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sold	N	Median	Mean	
UNSOLD	6829	\$134	\$132	
SOLD	1069	\$145	\$142	



Hypothesis Test Summary

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

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

Given the difference observed in the above test, we next compared the median change in actual value for valuation year 2018 and valuation year 2020 between each group, as follows:

Report DIFF			
sold	N	Median	Mean
UNSOLD	6574	1.0670	1.0823
SOLD	1024	1.0814	1.1070

We next performed this second test stratified by economic area, as follows:

Report DIFF					
ECONAREA	sold	N	Median	Mean	
1.00	UNSOLD	495	1.0860	1.1075	
	SOLD	53	1.1535	1.1890	
2.00	UNSOLD	6048	1.0656	1.0799	
	SOLD	961	1.0779	1.1020	

Next, we performed this second test stratified by neighborhood (with at least 15 sales), as follows:

Repor	t			
NBHD	sold	N	Median	Mean
0	UNSOLD	234	1.0523	1.0775
	SOLD	23	1.1211	1.1488
640	UNSOLD	38	1.0424	1.0510
	SOLD	15	1.0996	1.0985
985	UNSOLD	184	1.0560	1.0704
	SOLD	33	1.0507	1.0593
1960	UNSOLD	65	1.1398	1.1431
	SOLD	21	1.1781	1.1685
3090	UNSOLD	65	1.0778	1.0774
	SOLD	16	1.0754	1.0767
3135	UNSOLD	5	.9917	1.0178
	SOLD	108	.9522	.9810
3510	UNSOLD	95	1.0836	1.0897
	SOLD	22	1.0886	1.0960
3514	UNSOLD	57	.9792	1.0039
	SOLD	65	.9665	.9870
3880	UNSOLD	112	1.1211	1.1249



	SOLD	19	1.1467	1.1364
3938	UNSOLD	127	1.0306	1.0539
	SOLD	25	1.0496	1.0689

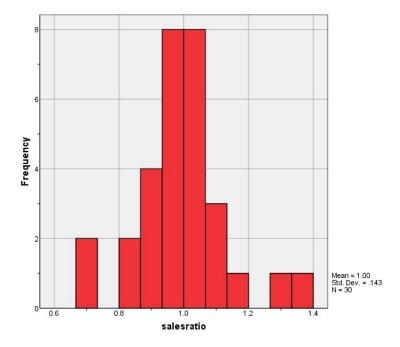
The above results indicate that sold and unsold residential properties were valued in a consistent manner overall.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 27 qualified commercial sales for the 60 month sale period ending June 30, 2020. We augmented the sales with 3 supplemental appraisals of unsold commercial properties. The market trend analysis and sold/unsold analysis will use only the 27 sales, while the sales ratio analysis will use the 30 sales and supplemental appraised properties. The sales ratio analysis results were as follows:

Median	0.996
Price Related Differential	1.003
Coefficient of Dispersion	9.3

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







Commercial Market Trend Analysis

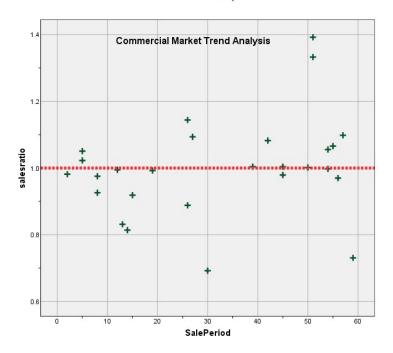
The commercial/industrial sales were next analyzed, examining the sales ratios across the 60-month sale period with the following results:

Coefficients^a

		Unstandardized	Coefficients	Standardized Coefficients			
Model		В	Std. Error	Beta	t	Sig.	
1	(Constant)	.936	.055		17.129	.000	
	SalePeriod	.002	.001	.269	1.398	.174	

a. Dependent Variable: salesratio





The market trend results indicated no statistically significant trend, indicating that the assessor has adequately addressed the issue of market trending for commercial/industrial properties in Elbert County.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold commercial/industrial properties, we compared the change in the median actual value for valuation year 2018 and valuation year 2020 between each group, as follows:

Report

DIFF				
sold	N	Median	Mean	
UNSOLD	238	1.0072	1.1710	
SOLD	30	1.0176	1.2272	

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent- Samples Mann- Whitney U Test	.545	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .00. We also stratified this analysis by subclass, as follows:



Report

DIFF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	26	.9753	1.0295
	SOLD	10	1.0174	1.2420
2220.00	UNSOLD	17	.9887	.9982
	SOLD	3	1.0130	1.2506
2230.00	UNSOLD	68	1.0082	1.2742
	SOLD	8	1.0912	1.2454
3215.00	UNSOLD	10	1.0254	1.0229
	SOLD	2	.9926	.9926

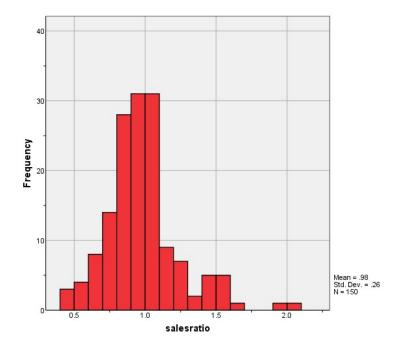
Based on the similar results in the overall analysis, we concluded that the assessor has valued sold and unsold commercial properties in a similar manner.

V. VACANT LAND SALE RESULTS

There were 150 qualified vacant land sales for the 48-month sale period ending June 30, 2020. The sales ratio analysis results were as follows:

Median	0.965
Price Related Differential	1.096
Coefficient of Dispersion	18.8

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







Vacant Land Market Trend Analysis

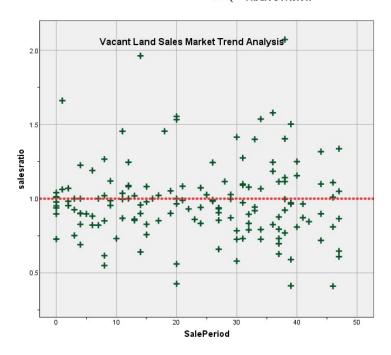
The vacant land sales were analyzed, examining the sale ratios across the 48- month sale period with the following results:

Coefficients^a

		Unstandardized	Coefficients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.986	.040		24.426	.000
	SalePeriod	.000	.001	009	105	.916

a. Dependent Variable: salesratio





The results indicated that there was no significant market trending present in the sales ratios across the sale period. We concluded that the assessor has applied market trending adjustments in an appropriate manner.

Sold/Unsold Analysis

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

Report			
DIFF			
sold	N	Median	Mean
UNSOLD	807	1.2069	1.3208
SOLD	138	1.2069	1.2715

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent- Samples Mann- Whitney U Test	.718	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .00.

We also stratified this analysis by subdivision (with at least 5 sales), as follows:



Report DIFF

SUBDIVNO	sold	N	Median	Mean
31	UNSOLD	20	1.1068	1.1068
	SOLD	5	1.1068	1.1068
32	UNSOLD	18	1.1068	1.1068
	SOLD	7	1.1068	1.1068
162	UNSOLD	14	1.0667	1.0305
	SOLD	6	1.0667	1.0700
248	UNSOLD	7	1.2000	1.2161
	SOLD	6	1.2000	1.2000
356	UNSOLD	10	1.2069	1.2432
	SOLD	18	1.2069	1.2069
	Total	28	1.2069	1.2199
437	UNSOLD	3	1.3333	1.3333
	SOLD	4	1.3333	1.3333
	Total	7	1.3333	1.3333

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

VI. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Elbert County as of the date of this report.



STATISTICAL ABSTRACT

Residential

	Ratio Statistics for CURRTOT / TASP											
	95% Confiden Me			95% Con	nfidence Interval fo	or Median		95% Confiden Weighte	ce Interval for d 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	.981	.995	.983	.976	.988	95.7%	.981	.974	.988	1.007	.078	11.2%

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/Industrial

	Ratio Statistics for CURRTOT / TASP											
	95% Confidence Interval for Mean 95% Confidence Interval for Median					95% Confider Weighte	ice Interval for ed 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
.998	.945	1.051	.996	.976	1.023	95.7%	.995	.944	1.047	1.003	.093	14.3%

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

	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
.983	.941	1.025	.965	.926	.997	95.9%	.896	.847	.945	1.096	.188	26.5%

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



Residential Sale Ratio Stratification

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	1058	99.0%
	1215.00	2	0.2%
	1220.00	1	0.1%
	1230.00	8	0.7%
Overall		1069	100.0%
Excluded		0	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	.983	1.007	.078	11.3%
1215.00	.957	1.000	.022	3.2%
1220.00	.757	1.000	.000	
1230.00	.976	1.000	.036	4.7%
Overall	.983	1.007	.078	11.2%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	31	2.9%
	75 to 100	13	1.2%
	50 to 75	15	1.4%
	25 to 50	354	33.1%
	5 to 25	386	36.1%
	5 or Newer	270	25.3%
Overall		1069	100.0%
Excluded		0	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.957	1.014	.129	17.0%
75 to 100	1.034	1.044	.189	25.4%
50 to 75	1.049	1.037	.169	25.9%
25 to 50	.988	1.006	.074	10.1%
5 to 25	.978	1.005	.076	11.3%
5 or Newer	.979	1.008	.066	8.7%
Overall	.983	1.007	.078	11.2%



Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	500 to 1,000 sf	4	0.4%
	1,000 to 1,500 sf	25	2.3%
	1,500 to 2,000 sf	96	9.0%
	2,000 to 3,000 sf	260	24.3%
	3,000 sf or Higher	684	64.0%
Overall		1069	100.0%
Excluded		0	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
500 to 1,000 sf	.792	1.000	.044	5.6%
1,000 to 1,500 sf	.970	1.040	.135	19.3%
1,500 to 2,000 sf	.952	1.011	.070	12.0%
2,000 to 3,000 sf	.979	1.006	.079	11.6%
3,000 sf or Higher	.991	1.010	.074	10.5%
Overall	.983	1.007	.078	11.2%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY		26	2.4%
	1 - LOW	6	0.6%
	2 - FAIR	95	8.9%
	3 - AVERAGE	895	83.7%
	4 - GOOD	47	4.4%
Overall		1069	100.0%
Excluded		0	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.967	1.055	.105	14.5%
1 - LOW	.946	.981	.151	19.7%
2 - FAIR	.975	1.020	.130	19.6%
3 - AVERAGE	.983	1.005	.071	9.9%
4 - GOOD	1.002	1.008	.068	9.3%
Overall	.983	1.007	.078	11.2%



Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION		26	2.4%
	1 - POOR	3	0.3%
	2 - FAIR	24	2.2%
	3 - AVERAGE	741	69.3%
	4 - GOOD	275	25.7%
Overall		1069	100.0%
Excluded		0	
Total		1069	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
	.967	1.055	.105	14.5%
1 - POOR	.967	.940	.132	19.9%
2 - FAIR	1.027	1.029	.194	27.1%
3 - AVERAGE	.984	1.002	.076	10.9%
4 - GOOD	.979	1.011	.067	8.8%
Overall	.983	1.007	.078	11.2%

Commercial Sale Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
ABSTRIMP	1713.50	1	3.3%
	2212.00	10	33.3%
	2220.00	3	10.0%
	2221.00	1	3.3%
	2227.50	2	6.7%
	2230.00	8	26.7%
	2235.00	1	3.3%
	2236.67	1	3.3%
	3215.00	2	6.7%
	3220.00	1	3.3%
Overall		30	100.0%
Excluded		0	
Total		30	



Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1713.50	1.004	1.000	.000	
2212.00	.996	.987	.109	17.0%
2220.00	1.004	1.086	.133	27.4%
2221.00	.831	1.000	.000	
2227.50	1.018	1.023	.047	6.7%
2230.00	.980	1.010	.048	6.8%
2235.00	.731	1.000	.000	
2236.67	1.144	1.000	.000	
3215.00	.997	1.024	.101	14.3%
3220.00	1.001	1.000	.000	
Overall	.996	1.003	.093	14.3%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1713.50	1	3.3%
	2212.00	10	33.3%
	2220.00	3	10.0%
	2221.00	1	3.3%
	2227.50	2	6.7%
	2230.00	8	26.7%
	2235.00	1	3.3%
	2236.67	1	3.3%
	3215.00	2	6.7%
	3220.00	1	3.3%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1713.50	1.004	1.000	.000	
2212.00	.996	.987	.109	17.0%
2220.00	1.004	1.086	.133	27.4%
2221.00	.831	1.000	.000	
2227.50	1.018	1.023	.047	6.7%
2230.00	.980	1.010	.048	6.8%
2235.00	.731	1.000	.000	
2236.67	1.144	1.000	.000	
3215.00	.997	1.024	.101	14.3%
3220.00	1.001	1.000	.000	
Overall	.996	1.003	.093	14.3%



Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	3.3%
	1,000 to 1,500 sf	2	6.7%
	1,500 to 2,000 sf	1	3.3%
	2,000 to 3,000 sf	6	20.0%
	3,000 sf or Higher	20	66.7%
Overall		30	100.0%
Excluded		0	
Total		30	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.995	1.000	.000	
1,000 to 1,500 sf	.853	.968	.144	20.3%
1,500 to 2,000 sf	1.055	1.000	.000	
2,000 to 3,000 sf	.986	1.019	.081	14.3%
3,000 sf or Higher	1.003	1.018	.097	14.5%
Overall	.996	1.003	.093	14.3%

Vacant Land Sales Ratio Stratification

Sale Price

Case Processing Summary

	_	-	
		Count	Percent
SPRec	LT \$25K	11	7.3%
	\$25K to \$50K	12	8.0%
	\$50K to \$100K	29	19.3%
	\$100K to \$150K	43	28.7%
	\$150K to \$200K	26	17.3%
	\$200K to \$300K	18	12.0%
	\$300K to \$500K	7	4.7%
	\$500K to \$750K	4	2.7%
Overall		150	100.0%
Excluded		0	
Total		150	



Ratio Statistics for CURRLND / TASP

		Price Related	Coefficient of	Coefficient of Variation
Group	Median	Differential	Dispersion	Median Centered
LT \$25K	1.019	1.037	.273	41.2%
\$25K to \$50K	.987	.973	.181	23.7%
\$50K to \$100K	1.050	1.011	.176	27.6%
\$100K to \$150K	1.000	1.006	.154	21.2%
\$150K to \$200K	.931	.999	.123	20.1%
\$200K to \$300K	.850	1.007	.147	22.1%
\$300K to \$500K	.822	1.022	.151	19.5%
\$500K to \$750K	.583	.992	.192	27.3%
Overall	.965	1.096	.188	27.0%

Subclass

Case Processing Summary

		Count	Percent
ABSTRLND	100.00	71	47.3%
	200.00	11	7.3%
	300.00	3	2.0%
	400.00	19	12.7%
	510.00	1	0.7%
	530.00	2	1.3%
	540.00	4	2.7%
	550.00	32	21.3%
	560.00	1	0.7%
	1112.00	1	0.7%
	1135.00	4	2.7%
	2135.00	1	0.7%
Overall		150	100.0%
Excluded		0	
Total		150	

Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.973	1.041	.184	25.0%
200.00	.794	1.093	.204	29.2%
300.00	.872	1.002	.013	2.2%
400.00	.955	1.047	.161	25.1%
510.00	1.964	1.000	.000	
530.00	.924	1.020	.029	4.1%
540.00	.992	1.053	.074	12.8%
550.00	.984	1.148	.178	29.1%
560.00	.852	1.000	.000	
1112.00	.410	1.000	.000	
1135.00	1.069	1.051	.127	21.4%
2135.00	.731	1.000	.000	
Overall	.965	1.096	.188	27.0%