



2023

OTERO COUNTY PROPERTY ASSESSMENT STUDY





September 15, 2023

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

RE: Final Report for the 2023 Colorado Property Assessment Study

Dear Ms. Castle:

East West Econometrics - Audit Division is pleased to submit the Final Reports for the 2023 Colorado Property Assessment Study.

These reports are the result of two analyses: A procedural audit and a statistical audit.

The procedural audit examines all classes of locally assessed property. It specifically looks at how the assessor develops economic areas, confirms and qualifies sales, develops time adjustments and performs periodic physical property inspections. The audit reviews the procedures for determining subdivision absorption and subdivision discounting. Valuation methodology is examined for residential properties and commercial properties. Procedures are reviewed for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims.

Statistical audits are performed on vacant land, residential properties, commercial/industrial properties and agricultural land. A statistical analysis is performed for personal property compliance on the eleven largest counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. The remaining counties receive a personal property procedural study.

East West Econometrics – Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

A handwritten signature in black ink that reads "Harry J. Fuller".

Harry J. Fuller
Project Manager
East West Econometrics – Audit Division

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INTRODUCTION



Colorado

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

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

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

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

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

The property assessment audit conducts a two-part analysis: A procedural analysis and a statistical analysis.

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for vacant land, improved residential properties and commercial properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax Administrator.

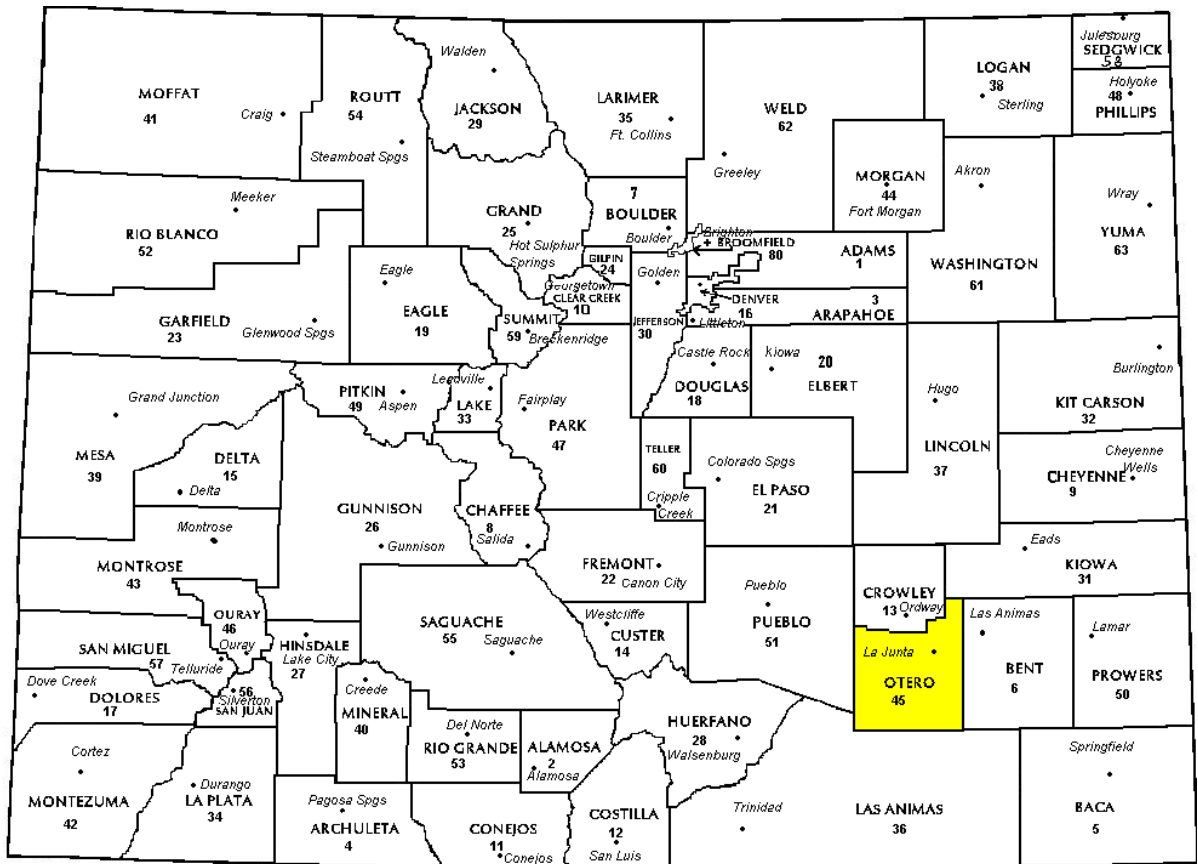
East West Econometrics Audit has completed the Property Assessment Study for 2023 and is pleased to report its findings for Otero County in the following report.

REGIONAL/HISTORICAL SKETCH OF OTERO COUNTY

Regional Information

Otero 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

Otero County has approximately 1,262 square miles and an estimated population of approximately 18,278 people with 14.9 people per square mile, according to the U.S. Census Bureau's 2020 estimated census data. This represents a -2.9 percent change from April 1, 2010 to July 1, 2019.

Otero County, formed from Bent County, was established in 1889 and has an area of 1,254 square miles. The county was named for Miguel Antonio Otero, lawyer, congressional delegate, entrepreneur and one of the founders of the town of La Junta.

La Junta, the county seat, is located in southeast Colorado on the Arkansas River east of Pueblo. La Junta, which roughly translates to "the meeting place" in Spanish, is aptly named. Half a dozen national and state highways meet at this historic crossroads, along the Santa Fe Trail and the shores of the Arkansas River. A pleasant small town, La Junta offers services for travelers and frequent cultural events such as the traditional Koshare Indian dances.

La Junta is home to two well-known museums: Bent's Old Fort National Historic Site, an important trading post in the Old West, and the Koshare Indian Museum, housed at Otero Junior College which is regarded as one of the

finest collections of Native American artifacts in the world. The Koshare Indian museum hosts a unique Boy Scout/Explorer program which trains the Scouts in both Indian dance and costumes. The Scouts give dance performances during the summer and also host many other Scout troops passing through the area.

Other pioneer and Native American structures can be seen in the Comanche National Grassland to the south, which is also home to a large section of preserved dinosaur tracks. To the north is a series of lakes and reservoirs, popular with boaters and anglers as well as animal watchers.

La Junta is also home of the Picketwire Center for Performing Arts, home of the local theater company. In 1979, the first episodes of the CBS western miniseries *The Chisholms*, starring Robert Preston, was filmed near La Junta.

During World War II, La Junta had an Army Air Force Training Base outside town. The airport, located 5 miles north of La Junta, has 77 acres of tarmac and two runways which are still in use.

(www.Wikipedia.org, www.go-colorado.com, William Bright, Colorado Place Names, 3rd Edition, Johnson Books, 2004, p. 130 and 100)

RATIO ANALYSIS

Methodology

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

Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either “Q” or “C.” The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In

every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were “lost” because of trimming.

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

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

Conclusions

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

ALLOWABLE STANDARDS RATIO GRID		
Property Class	Unweighted Median Ratio	Coefficient of Dispersion
Commercial/Industrial	Between .95-1.05	Less than 20.99
Residential Condominium	Between .95-1.05	Less than 15.99
Residential	Between .95-1.05	Less than 15.99
Vacant Land	Between .95-1.05	Less than 20.99

The results for Otero County are:

Otero County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis	
Commercial/Industrial	48	0.964	1.015	11.6	Compliant	
Residential	322	0.991	1.021	7.8	Compliant	
Vacant Land	N/A	N/A	N/A	N/A	N/A	

After applying the above described methodologies, it is concluded from the sales ratios that Otero County is in compliance with

SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations

None

TIME TRENDING VERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market

trending adequately, and a further examination is warranted. This validation method also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

After verification and analysis, it has been determined that Otero County has complied with the statutory requirements to analyze the effects of time on value in their county. Otero County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD / UNSOLD ANALYSIS

Methodology

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

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

or if there are other explanations for the observed difference.

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

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

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

Sold/Unsold Results	
Property Class	Results
Commercial/Industrial	Compliant
Residential	Compliant
Vacant Land	N/A

Conclusions

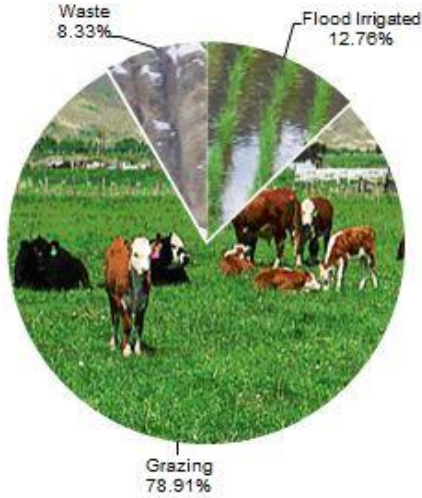
After applying the above described methodologies, it is concluded that Otero County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

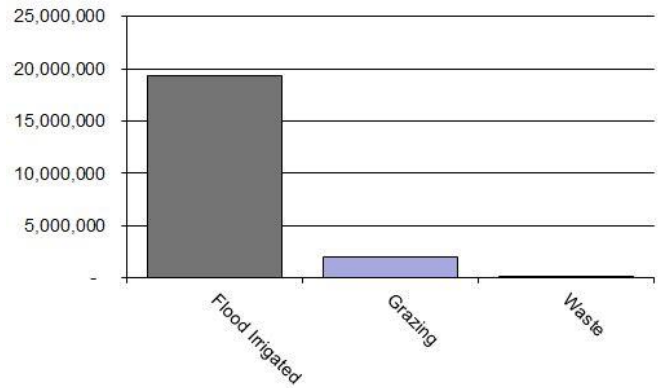
None

AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax

Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. County yields compared favorably to those published by Colorado Agricultural Statistics. Expenses used by the county were allowable expenses and were in an acceptable range. Grazing lands carrying capacities were in an acceptable range. The data analyzed resulted in the following ratios:

Otero County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4117	Flood	62,323	310.24	19,335,266	19,239,430	1.00
4147	Grazing	385,306	5.35	2,060,776	2,060,776	1.00
4167	Waste	40,670	2.19	88,992	88,992	1.00
Total/Avg		488,299	44.00	21,485,034	21,389,199	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.

Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

Conclusions

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

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

Otero 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
- In-Person Interviews with Owners/Tenants
- Personal Knowledge of Occupants at Assessment Date

Otero 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
- Personal Knowledge of Occupants at Assessment Date

Otero County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of land under residential improvements that may or may not be integral to an agricultural operation.

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

A representative body of sales is required when considering the market approach to appraisal.

(8) In any case in which sales prices of comparable properties within any class or subclass are utilized when considering the market approach to appraisal in the determination of actual value of any taxable property, the following limitations and conditions shall apply:

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

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

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

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

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

EWE reviewed the sales verification procedures in 2023 for Otero County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically EWE selected 49 sales listed as unqualified.

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

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

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

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

inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code. If there appears to be any inconsistency in the coding, the contractor has conducted further analysis to determine if the sales included in that code have been assigned appropriately.

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

The following subclasses were analyzed for Otero County:

0100 Residential Lots
2212 Merchandising
2235 Warehouse/Storage
3020 Industrial - Possessory Interest

Conclusions

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

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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

identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two

variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

Conclusions

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

Recommendations

None

VACANT LAND

**Otero County is exempt from the Vacant Land Subdivision
Discount Study.**

POSSESSORY INTEREST PROPERTIES

Possessory Interest

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of Chapter 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been granted under lease, permit, license, concession, contract, or other agreement.

Otero 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

Otero County has implemented a discovery process to place possessory interest properties on the roll. They have also correctly and consistently applied the correct procedures and valuation methods in the valuation of possessory interest properties.

Recommendations

None

PERSONAL PROPERTY AUDIT

Otero 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.

Otero 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
- 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.

Otero County submitted their personal property written audit plan and was current for the 2023 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Businesses in a selected area
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Same business type or use
- Non-filing Accounts - Best Information Available
- Accounts close to the \$52,000 actual value exemption status

Conclusions

Otero County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their

personal property assessment and is in statistical compliance with SBOE requirements.

Recommendations

None

EAST WEST ECONOMETRICS AUDITOR STAFF

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician*

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

J. Andrew Rodriguez, *Field Analyst*

STATISTICAL APPENDIX

**STATISTICAL COMPLIANCE REPORT
FOR OTERO COUNTY
2023**

I. OVERVIEW

Otero County is a major agricultural county located in southeastern Colorado. The county has a total of 12,798 real property parcels, according to data submitted by the county assessor’s office in 2023. The following provides a breakdown of property classes for this county:



Based on the number of vacant land parcels in Otero County, we were not required to analyze this class of property for audit compliance.

For residential improved properties, single family properties accounted for 96.5% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 7.9% of all such properties in this county.

Based on the Audit questionnaire filled out by the assessor, we performed the residential sales ratio stratification using economic area and neighborhood.

II. DATA FILES

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

III. RESIDENTIAL SALES RESULTS

There were 322 qualified residential sales in the 18-month sale period ending June 30, 2022. The sales ratio analysis was analyzed as follows:

Median	0.991
Price Related Differential	1.021
Coefficient of Dispersion	7.8

We next stratified the sale ratio analysis by economic and neighborhood. The following are the results of this stratification analysis:

Economic Area Case Processing Summary

		Count	Percent
ECONAREA	1.00	163	50.6%
	2.00	77	23.9%
	3.00	10	3.1%
	4.00	48	14.9%
	5.00	24	7.5%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.985	1.027	.103
2.00	.995	1.015	.063
3.00	1.002	1.015	.044
4.00	.990	1.005	.036
5.00	.991	1.007	.061
Overall	.991	1.021	.078

Neighborhoods Case Processing Summary

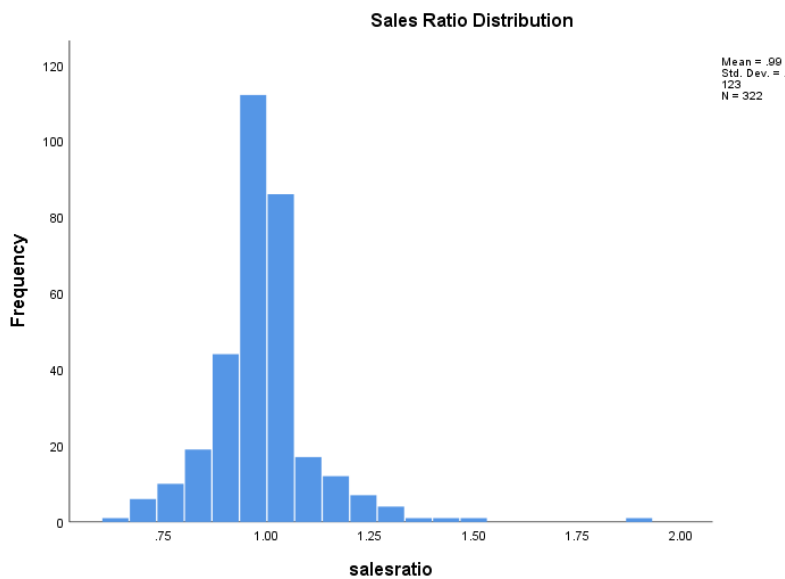
		Count	Percent
NBHD	101	63	19.6%
	102	43	13.4%
	103	16	5.0%
	104	23	7.1%
	105	7	2.2%
	201	42	13.0%
	202	4	1.2%
	203	13	4.0%
	204	10	3.1%
	301	10	3.1%
	401	4	1.2%
	402	40	12.4%
	403	4	1.2%

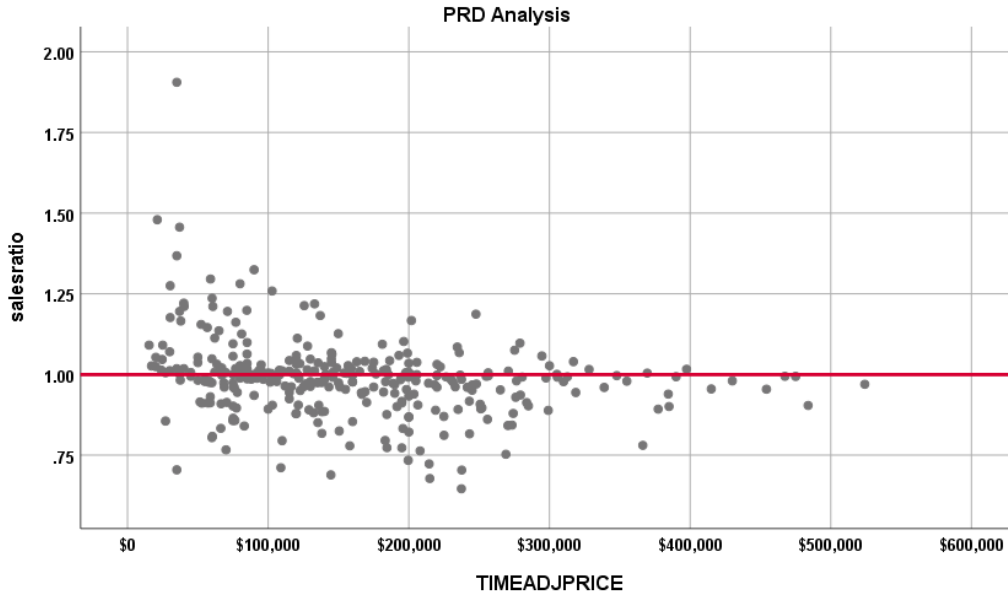
	502	23	7.1%
	9999	18	5.6%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
101	.980	1.056	.132
102	.992	1.014	.107
103	1.008	1.003	.073
104	.985	1.003	.051
105	.970	1.000	.029
201	.996	1.024	.077
202	1.004	.981	.042
203	.975	1.007	.033
204	.970	1.000	.050
301	1.002	1.015	.044
401	1.021	1.011	.054
402	.982	1.004	.033
403	1.019	1.003	.029
502	.988	1.007	.063
9999	1.000	1.027	.058
Overall	.991	1.021	.078

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 neighborhoods all had sales ratios in compliance, except for Neighborhood 106, which had only 2 sales. The following graphs describe further the sales ratio distribution for all of these properties:

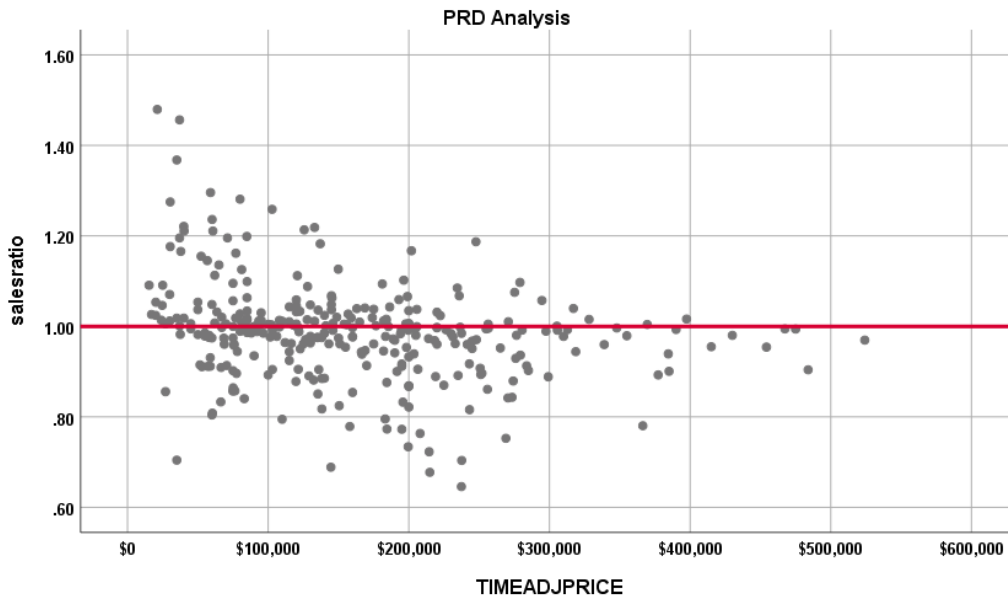




ALL SALES

Subclass 1212 PRD Analysis

We next analyzed residential properties identified as 1212 using the state abstract code system (Otero County uses the land code 1112 for sold residential single family 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 1.019, which is within IAAO standards for the PRD. We also performed a regression analysis between the sales ratio and the assessor’s current value to further test for regressivity or progressivity in the residential sales valuation, as follows:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.011	.012		84.462	.000
	CURRTOT	-.000000162	.000	-.135	-2.413	.016

a. Dependent Variable: salesratio

The above regression results indicate that the slope of the line is not statistically significant, meaning there is virtually no slope in the regression line and that the sale ratio distribution is similar across the entire sale price array. We also stratified the sales ratio analysis by the sale price range, as follows:

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	8	2.5%
	\$25K to \$50K	22	7.0%
	\$50K to \$100K	73	23.2%
	\$100K to \$150K	67	21.3%
	\$150K to \$200K	58	18.5%
	\$200K to \$300K	62	19.7%
	Over \$300K	24	7.6%
Overall		314	100.0%
Excluded		0	
Total		314	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.050	1.000	.072	15.7%
\$25K to \$50K	1.028	1.001	.117	17.1%
\$50K to \$100K	.999	1.000	.074	10.5%
\$100K to \$150K	.992	1.000	.063	9.3%
\$150K to \$200K	.977	1.001	.066	9.0%
\$200K to \$300K	.968	1.000	.078	11.2%
Over \$300K	.980	1.001	.037	5.7%
Overall	.991	1.019	.074	11.1%

The above indicates that the sales ratio distribution was more or less consistent across the sale price range for Otero County.

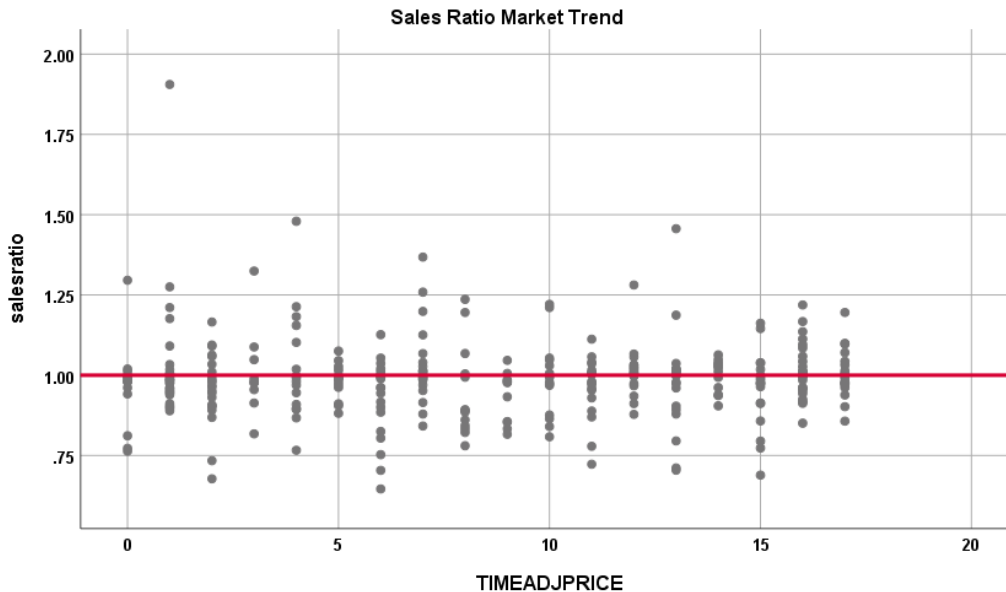
Residential Market Trend Analysis

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

Coefficients^a

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	
		B	Std. Error	Beta		
1	(Constant)	.986	.013		76.427	.000
	SalePeriod	.000	.001	.006	.116	.908

a. Dependent Variable: salesratio



The above analysis indicated that no market trend was present in the sale ratio data. We concur with the assessor that no market trend adjustments were warranted.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median and mean value per square foot between residential sold and unsold groups, with the following results:

Report

VALSF				
	N	Median	Mean	
UNSOLD	5901	\$65	\$73	
SOLD	322	\$97	\$103	

Given the gap observed between sold and unsold residential properties in Otero County, we next used the second test of comparison, which compares the median change in value from taxable years 2020 to 2022 for sold and unsold residential properties. The following are the results from this test:

Report

DIFF				
	N	Median	Mean	
UNSOLD	5865	1.56	1.55	
SOLD	287	1.80	1.85	

We also stratified this comparison analysis by economic area, as follows:

Report				
DIFF				
ECONAREA	sold	N	Median	Mean
1.00	UNSOLD	3089	1.59	1.59
	SOLD	146	1.81	1.85
2.00	UNSOLD	1545	1.62	1.58
	SOLD	72	1.89	1.88
3.00	UNSOLD	226	1.30	1.46
	SOLD	8	1.67	1.83
4.00	UNSOLD	484	1.48	1.47
	SOLD	38	1.78	1.89
5.00	UNSOLD	518	1.35	1.37
	SOLD	23	1.67	1.67

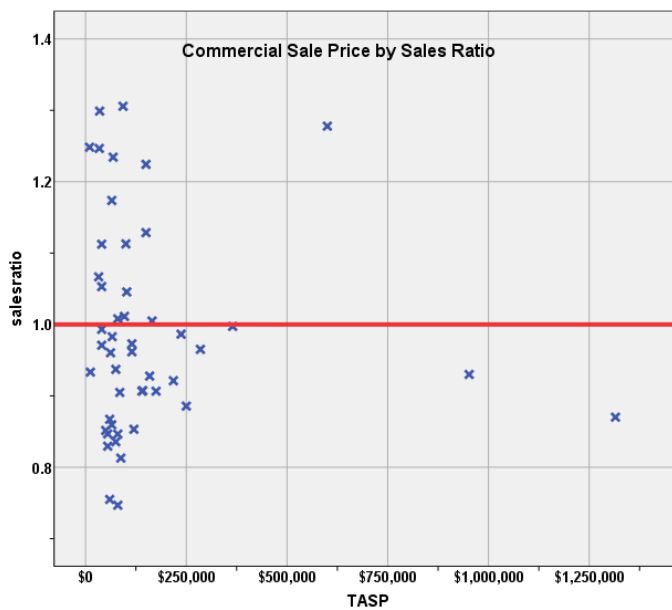
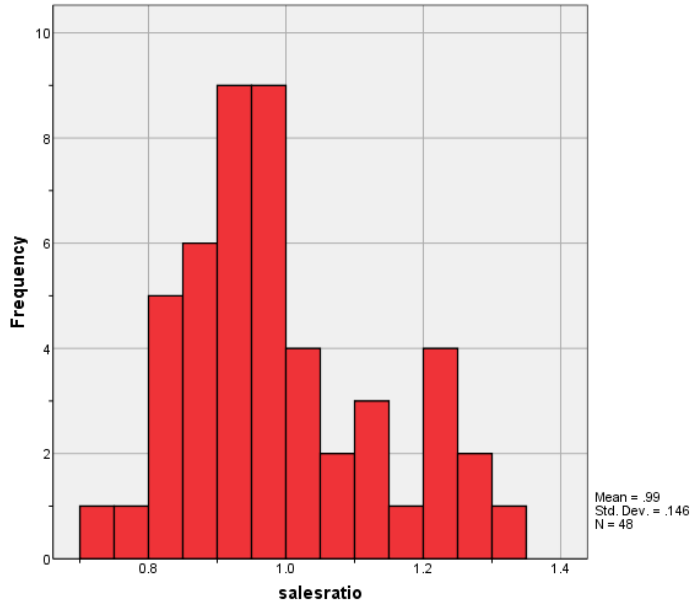
We analyzed the difference between the sold properties, which tended to have higher median values per square foot and higher median changes in value when compared to unsold properties. This was true for the residential class overall, as well as by economic area. Overall, sold properties were of higher quality, newer and were in superior condition as compared to unsold properties, which likely explains the differences observed between sold and unsold residential properties.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 48 qualified commercial/industrial sales in the 24 month sale period ending June 30, 2022. The sales ratio analysis results are as follows:

Median	0.964
Price Related Differential	1.015
Coefficient of Dispersion	11.6

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



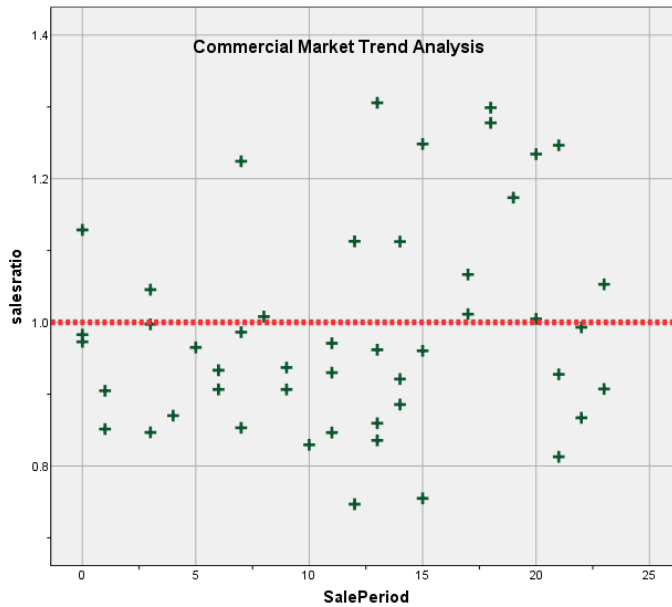
Commercial Market Trend Analysis

The commercial sales were analyzed, examining the sale ratios across the 24-month sale period with the following results:

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.935	.042		22.509	.000
	SalePeriod	.005	.003	.216	1.499	.141

a. Dependent Variable: salesratio



Based on the above results, we concluded that the assessor has adequately dealt with market trending in the commercial/industrial sale data.

Sold/Unsold Analysis

We compared the median actual value per square foot between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. While this is a challenge to prove in this county, given the small number of sales and the overall small number and diversity of commercial/industrial properties in general, the following results indicate that based on the median actual value, both groups were valued in a consistent manner:

Report

VALSF			
sold	N	Median	Mean
UNSOLD	967	\$23	\$76
SOLD	48	\$29	\$42

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	.038	Retain the null hypothesis.

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

We also stratified this analysis by subclass, as follows:

Report

VALSF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	140	\$20	\$36
	SOLD	13	\$25	\$34
2215.00	UNSOLD	5	\$34	\$41
	SOLD	2	\$47	\$47
2220.00	UNSOLD	43	\$34	\$46
	SOLD	6	\$46	\$50
2230.00	UNSOLD	126	\$28	\$42
	SOLD	11	\$30	\$46
2235.00	UNSOLD	170	\$9	\$11
	SOLD	6	\$19	\$19

Report

DIFF

ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	140	1.06	1.05
	SOLD	13	1.15	1.20
2220.00	UNSOLD	43	1.11	1.09
	SOLD	5	1.23	1.31
2230.00	UNSOLD	125	1.10	1.09
	SOLD	11	1.13	1.18
2235.00	UNSOLD	169	1.07	1.06
	SOLD	5	1.30	1.35

For Subclasses 2212 and 2230 (which had at least 6 sales), the sold properties tended to be newer and of superior quality than unsold properties in those subclasses; we therefore concluded that the above results indicated that sold and unsold commercial properties were valued consistently.

V. CONCLUSIONS

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

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP												
Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.987	.974	1.001	.991	.980	.997	96.1%	.968	.956	.979	1.021	.078	12.5%

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.

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP												
Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.989	.947	1.032	.964	.907	1.005	97.1%	.975	.908	1.041	1.015	.116	14.8%

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

Residential Median Ratio Stratification

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	306	95.0%
	1215.00	7	2.2%
	1220.00	1	0.3%
	1225.00	1	0.3%
	2746.00	3	0.9%
	3257.33	4	1.2%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	.991	1.019	.075	11.2%
1215.00	.950	1.080	.286	46.2%
1220.00	.811	1.000	.000	.
1225.00	.980	1.000	.000	.
2746.00	1.018	1.002	.004	0.8%
3257.33	.987	.999	.027	5.1%
Overall	.991	1.021	.078	12.5%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	117	36.3%
	75 to 100	38	11.8%
	50 to 75	82	25.5%
	25 to 50	47	14.6%
	5 to 25	37	11.5%
	5 or Newer	1	0.3%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.999	1.032	.090	14.5%
75 to 100	.987	1.022	.079	13.6%
50 to 75	.982	1.003	.080	11.5%
25 to 50	.992	1.016	.073	11.7%
5 to 25	.994	1.013	.043	6.2%
5 or Newer	.954	1.000	.000	.
Overall	.991	1.021	.078	12.5%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	0.3%
	500 to 1,000 sf	74	23.0%
	1,000 to 1,500 sf	127	39.4%
	1,500 to 2,000 sf	64	19.9%
	2,000 to 3,000 sf	39	12.1%
	3,000 sf or Higher	17	5.3%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.026	1.000	.000	.
500 to 1,000 sf	.979	1.025	.085	12.5%
1,000 to 1,500 sf	.997	1.029	.086	12.5%
1,500 to 2,000 sf	.978	1.023	.073	14.6%
2,000 to 3,000 sf	.996	1.024	.058	10.2%
3,000 sf or Higher	.991	1.008	.059	8.9%
Overall	.991	1.021	.078	12.5%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	178	55.3%
	Average Plus	62	19.3%
	Fair	46	14.3%
	Fair Plus	9	2.8%
	Good	19	5.9%
	Low	7	2.2%
	Low Plus	1	0.3%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.980	1.013	.076	11.0%
Average Plus	.977	.998	.055	7.3%
Fair	1.019	1.061	.120	20.2%
Fair Plus	1.005	.990	.035	5.7%
Good	1.001	1.018	.049	7.7%
Low	1.046	1.024	.092	15.1%
Low Plus	.704	1.000	.000	.
Overall	.991	1.021	.078	12.5%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	203	63.0%
	Fair	40	12.4%
	Good	68	21.1%
	Storage	1	0.3%
	Worn Out	10	3.1%
Overall		322	100.0%
Excluded		0	
Total		322	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.988	1.012	.075	11.0%
Fair	1.006	1.028	.109	19.7%
Good	.970	1.006	.054	7.4%
Storage	.980	1.000	.000	.
Worn Out	1.050	1.016	.139	21.3%
Overall	.991	1.021	.078	12.5%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	2	4.2%
	\$25K to \$50K	8	16.7%
	\$50K to \$100K	19	39.6%
	\$100K to \$150K	8	16.7%
	\$150K to \$200K	3	6.3%
	\$200K to \$300K	4	8.3%
	\$300K to \$500K	1	2.1%
	\$500K to \$750K	1	2.1%
	\$750K to \$1,000K	1	2.1%
	Over \$1,000K	1	2.1%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.091	1.013	.144	20.4%
\$25K to \$50K	1.060	1.013	.101	13.8%
\$50K to \$100K	.905	.990	.135	18.3%
\$100K to \$150K	.967	.994	.096	13.5%

\$150K to \$200K	.928	1.001	.035	6.1%
\$200K to \$300K	.943	.999	.038	4.8%
\$300K to \$500K	.997	1.000	.000	.
\$500K to \$750K	1.278	1.000	.000	.
\$750K to \$1,000K	.930	1.000	.000	.
Over \$1,000K	.870	1.000	.000	.
Overall	.964	1.015	.116	15.4%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212.00	3	6.3%
	1721.00	1	2.1%
	2212.00	13	27.1%
	2213.00	1	2.1%
	2215.00	2	4.2%
	2215.83	1	2.1%
	2220.00	6	12.5%
	2223.50	1	2.1%
	2228.00	1	2.1%
	2230.00	11	22.9%
	2230.45	1	2.1%
	2235.00	6	12.5%
	2509.91	1	2.1%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	1.008	1.020	.090	16.2%
1721.00	.960	1.000	.000	.
2212.00	.928	1.011	.094	13.2%
2213.00	1.278	1.000	.000	.
2215.00	.900	1.005	.033	4.7%
2215.83	.747	1.000	.000	.
2220.00	1.021	1.035	.104	14.8%
2223.50	1.053	1.000	.000	.
2228.00	1.224	1.000	.000	.
2230.00	.907	1.023	.119	18.1%
2230.45	1.067	1.000	.000	.
2235.00	.953	1.006	.130	18.4%
2509.91	.986	1.000	.000	.
Overall	.964	1.015	.116	15.4%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	13	27.1%
	75 to 100	7	14.6%
	50 to 75	15	31.3%
	25 to 50	10	20.8%
	5 to 25	3	6.3%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.928	1.001	.122	17.9%
75 to 100	.965	1.028	.095	16.4%
50 to 75	.986	1.021	.088	12.0%
25 to 50	.907	1.081	.125	19.3%
5 to 25	1.174	.912	.087	13.7%
Overall	.964	1.015	.116	15.4%

Improved Area

Case Processing Summary

		Count	Percent
ImpSfRec	LE 500 sf	1	2.1%
	500 to 1,000 sf	2	4.2%
	1,000 to 1,500 sf	5	10.4%
	1,500 to 2,000 sf	6	12.5%
	2,000 to 3,000 sf	14	29.2%
	3,000 sf or Higher	20	41.7%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	1.248	1.000	.000	.
500 to 1,000 sf	.987	1.002	.025	3.5%
1,000 to 1,500 sf	1.053	1.069	.093	12.7%
1,500 to 2,000 sf	.919	1.018	.110	17.5%
2,000 to 3,000 sf	.944	1.018	.124	16.4%
3,000 sf or Higher	.951	.999	.111	15.9%
Overall	.964	1.015	.116	15.4%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	45	93.8%
	Average Plus	1	2.1%
	Fair	2	4.2%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.962	1.010	.115	15.5%
Average Plus	.886	1.000	.000	.
Fair	1.120	.984	.048	6.8%
Overall	.964	1.015	.116	15.4%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	42	87.5%
	Fair	5	10.4%
	Good	1	2.1%
Overall		48	100.0%
Excluded		0	
Total		48	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.964	1.013	.111	14.9%
Fair	.993	1.050	.151	21.1%
Good	.886	1.000	.000	.
Overall	.964	1.015	.116	15.4%