



2021  
EL PASO COUNTY  
PROPERTY ASSESSMENT  
STUDY

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**WILDROSE**  
APPRAISAL, INCORPORATED  
Audit Division



September 15, 2021

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

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

Dear Ms. Mullis:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2021 Colorado Property Assessment Study.

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

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

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

Wildrose Appraisal Inc. – Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

A handwritten signature in black ink that reads "Harry J. Fuller". The signature is written in a cursive style.

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

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# INTRODUCTION

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## 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.

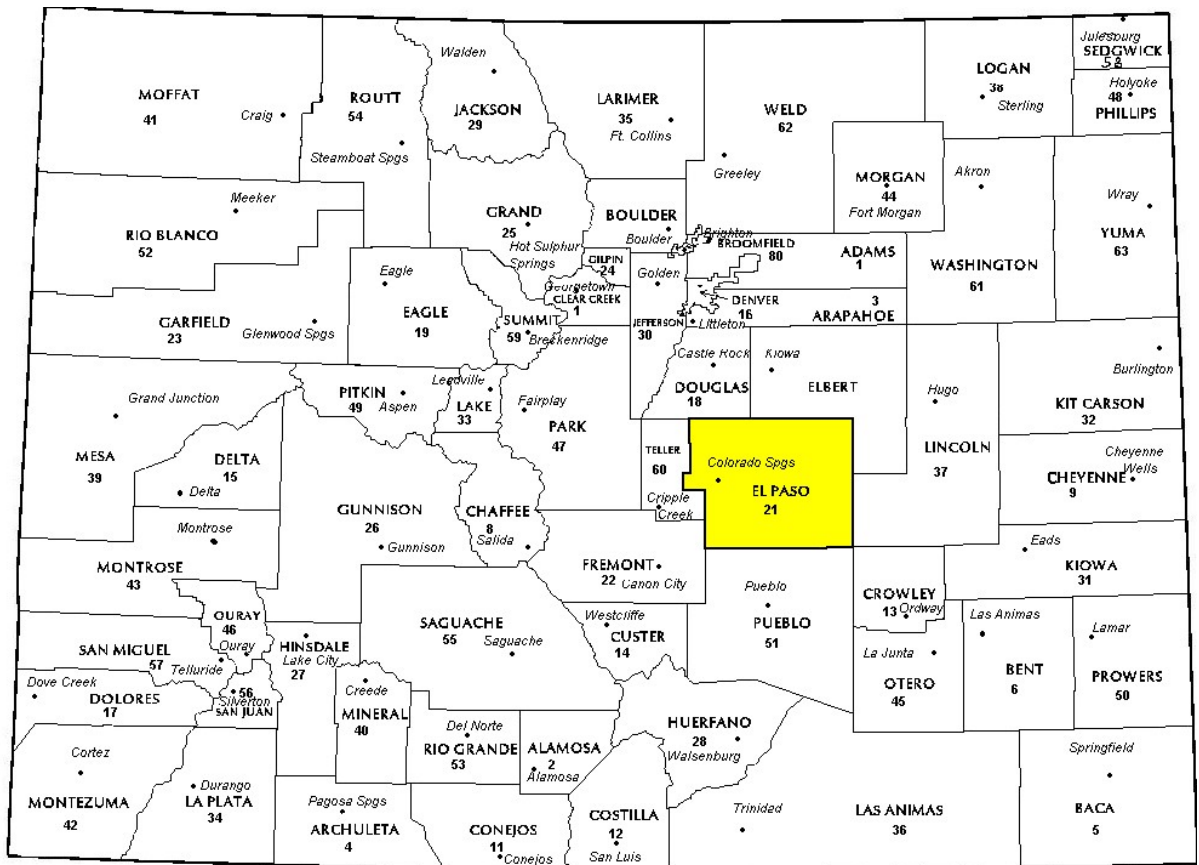
Wildrose Audit has completed the Property Assessment Study for 2021 and is pleased to report its findings for El Paso County in the following report.

# REGIONAL/HISTORICAL SKETCH OF EL PASO COUNTY

## Regional Information

El Paso County is located in the Front Range region of Colorado. The Colorado Front Range is a colloquial geographic term for the populated areas of the State that are just east of the foothills of the Front Range. It includes

Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties.



## Historical Information

El Paso County has approximately 2,126.8 square miles and an estimated population of approximately 720,403 people with 292.6 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.

In July 1858, gold was discovered along the South Platte River in Arapahoe County, Kansas Territory. This discovery precipitated the Pike's Peak Gold Rush. Many residents of the mining region felt disconnected from the remote territorial governments of Kansas and Nebraska, so they voted to form their own Territory of Jefferson on Oct 24, 1859. The following month, the Jefferson Territorial Legislature organized 12 counties for the new territory including El Paso County. El Paso County was named for the Spanish language name for Ute Pass north of Pikes Peak. Colorado City served as the county seat of El Paso County.

The Jefferson Territory never received federal sanction, but on Feb. 2, 1861, U.S. President James Buchanan signed an act organizing the

Territory of Colorado. El Paso County was one of the original 17 counties created by the Colorado legislature on November 1, 1861. Part of its western territory was broken off to create Teller County in 1899. Originally based in Old Colorado City (now part of Colorado Springs, not today's Colorado City between Pueblo and Walsenburg), El Paso County's county seat was moved to Colorado Springs in 1873.

Colorado Springs was founded in August 1871 by General William Palmer, with the intention of creating a high quality resort community, and was soon nicknamed "Little London" because of the many English tourists who came. Nearby Pikes Peak and the Garden of the Gods made the city's location a natural choice. Colorado Springs covers 194.7 square miles, making it the most extensive municipality in Colorado. Colorado Springs was selected as the No. 1 Best Big City in "Best Places to Live" by Money magazine in 2006 and placed number one in Outside's 2009 list of America's Best Cities. The United States Air Force Academy is located in Colorado Springs.

*(Wikipedia.org)*

# RATIO ANALYSIS

## Methodology

All significant classes of property were analyzed. Sales were collected for each property class over the eighteen month period from January 1, 2019 through June 30th, 2020. Property classes with less than thirty sales had the sales period extended in six month increments up to an additional forty-two months. If this extended sales period did not produce the minimum thirty qualified sales, the Audit performed supplemental appraisals to reach the minimum.

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

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

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

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

## Conclusions

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

ALLOWABLE 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 El Paso County are:

<b>El Paso County Ratio Grid</b>					
<b>Property Class</b>	<b>Number of Qualified Sales</b>	<b>Unweighted Median Ratio</b>	<b>Price Related Differential</b>	<b>Coefficient of Dispersion</b>	<b>Time Trend Analysis</b>
Commercial/Industrial	325	0.973	1.029	12.6	Compliant
Residential	34,488	0.973	1.006	5.9	Compliant
Vacant Land	1,184	0.978	1.016	10.1	Compliant

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

El Paso 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.

<b>Sold/Unsold Results</b>	
<b>Property Class</b>	<b>Results</b>
Commercial/Industrial	Compliant
Residential	Compliant
Vacant Land	Compliant

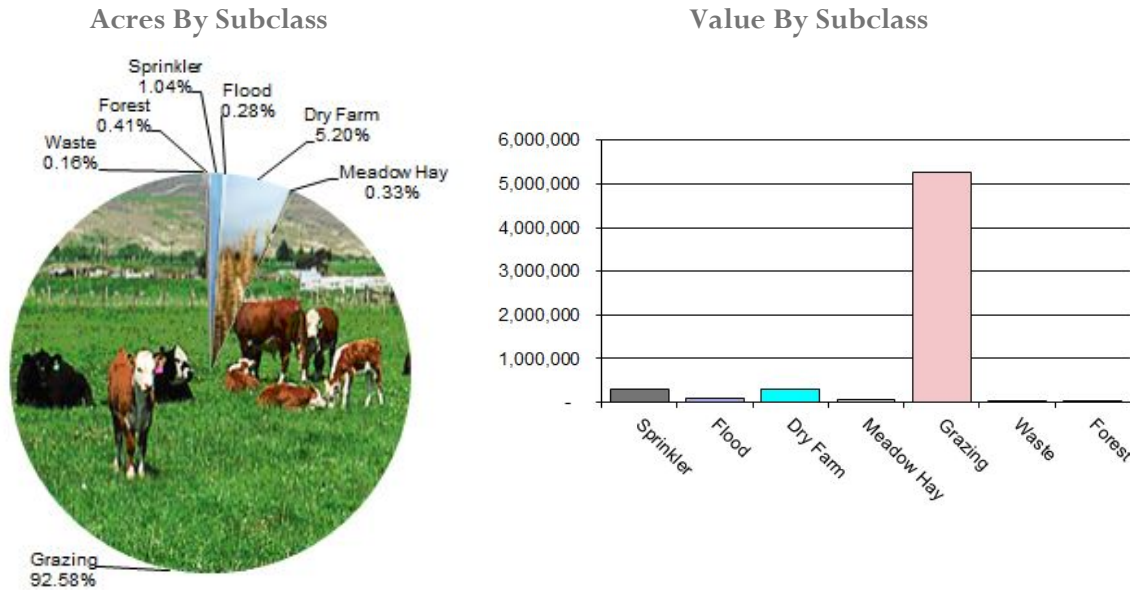
**Conclusions**

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

**Recommendations**

None

# AGRICULTURAL LAND STUDY



## Agricultural Land

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

checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

### Conclusions

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

<b>El Paso County Agricultural Land Ratio Grid</b>						
<b>Abstract Code</b>	<b>Land Class</b>	<b>Number Of Acres</b>	<b>County Value Per Acre</b>	<b>County Assessed Total Value</b>	<b>WRA Total Value</b>	<b>Ratio</b>
4107	Sprinkler	5,700	54.10	308,405	314,443	0.98
4117	Flood	1,522	55.83	84,948	86,145	0.99
4127	Dry Farm	28,461	11.04	314,074	320,095	0.98
4137	Meadow Hay	1,823	31.90	58,154	58,154	1.00
4147	Grazing	506,551	10.42	5,275,798	5,275,798	1.00
4177	Forest	2,224	13.11	29,148	29,148	1.00
4167	Waste	887	2.42	2,145	2,145	1.00
<b>Total/Avg</b>		<b>547,168</b>	<b>11.10</b>	<b>6,072,672</b>	<b>6,085,928</b>	<b>1.00</b>

### Recommendations

None

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## Agricultural Outbuildings

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### 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

El Paso County has substantially complied with the procedures provided by the Division of



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## Agricultural Land Under Improvements

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### 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

El Paso 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.:

- Aerial Photography/Pictometry

El Paso 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.:

- Aerial Photography/Pictometry

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

### Recommendations

None

## SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2021 for El Paso County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 70 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.

El Paso County did not qualify for in-depth subclass analysis.

### **Conclusions**

El Paso 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**

None



# ECONOMIC AREA REVIEW AND EVALUATION

## **Methodology**

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

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## Earth and Stone Products

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### **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

### **Subdivision Discounting**

Subdivisions were reviewed in 2021 in El Paso 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**

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

### **Recommendations**

None

# POSSESSORY INTEREST PROPERTIES

## Possessory Interest

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

El Paso 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

El Paso 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

El Paso 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.

El Paso County is compliant with the guidelines set forth in ARL Volume 5 regarding discovery procedures, using the following methods to discover personal property accounts in the county:

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor

The county uses the Division of Property Taxation (DPT) recommended classification and documentation procedures. The DPT's recommended cost factor tables, depreciation tables and level of value adjustment factor tables are also used.

El Paso County submitted their personal property written audit plan and was current for the 2021 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

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



- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts close to the \$7,900 actual value exemption status
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement

El Paso County's median ratio is 1.01. This is

in compliance with the State Board of Equalization (SBOE) compliance requirements which range from .90 to 1.10 with no COD requirements.

### **Conclusions**

El Paso 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

## WILDROSE 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*

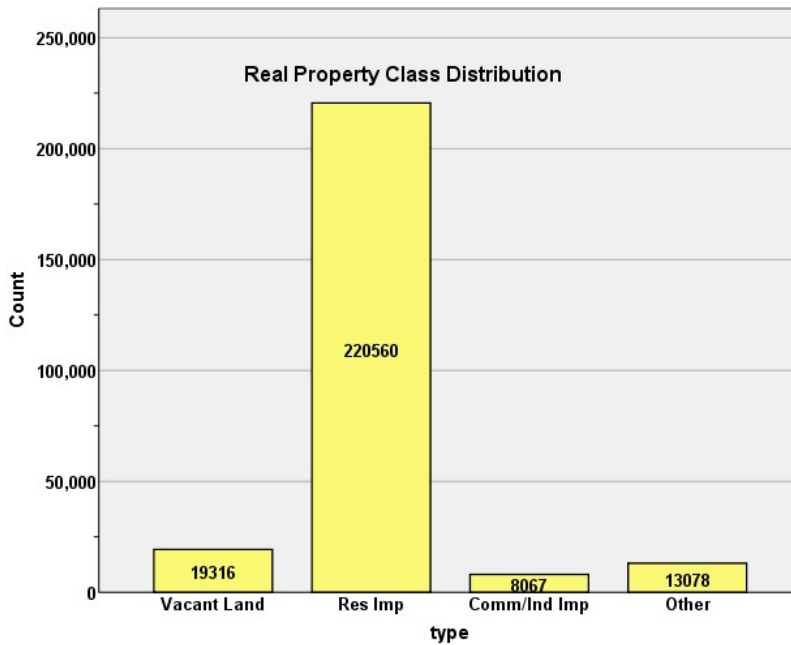
# STATISTICAL APPENDIX



## STATISTICAL COMPLIANCE REPORT FOR EL PASO COUNTY 2021

### I. OVERVIEW

El Paso County is an urban county located along Colorado’s Front Range. The county has a total of 261,021 real property parcels, according to data submitted by the county assessor’s office in 2021. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 76.0% of all vacant land parcels.

For residential improved properties, single family properties accounted for 94.2% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.1% 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 El Paso 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 34,488 qualified residential sales over the 24 month period ending on June 30, 2020. The sales ratio analysis results were as follows:

Median	<b>0.973</b>
Price Related Differential	<b>1.006</b>
Coefficient of Dispersion	<b>5.9</b>

We next stratified the sale ratio analysis by economic area and neighborhood. The minimum count for the neighborhood stratification is 30 sales. The following are the results of this stratification analysis:

#### Economic Area Case Processing Summary

		Count	Percent
ECONAREA	1.00	6046	17.5%
	2.00	1047	3.0%
	3.00	538	1.6%
	4.00	2744	8.0%
	5.00	1474	4.3%
	6.00	579	1.7%
	7.00	1182	3.4%
	8.00	770	2.2%
	9.00	729	2.1%
	10.00	702	2.0%
	11.00	1584	4.6%
	12.00	3851	11.2%
	13.00	1802	5.2%
	14.00	3731	10.8%
	15.00	1996	5.8%
	16.00	539	1.6%
	17.00	991	2.9%
	18.00	740	2.1%
	19.00	196	0.6%
	20.00	3238	9.4%
Overall		34479	100.0%
Excluded		9	
Total		34488	

#### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	.970	1.005	.053
2.00	.976	1.007	.080
3.00	.962	1.005	.102
4.00	.970	1.014	.049
5.00	.969	1.005	.096
6.00	.986	1.011	.098
7.00	.973	1.007	.072
8.00	.972	1.020	.056
9.00	.976	1.003	.059

10.00	.976	.997	.052
11.00	.976	1.004	.049
12.00	.973	1.004	.042
13.00	.975	1.000	.049
14.00	.971	1.005	.050
15.00	.976	1.008	.057
16.00	.973	1.008	.092
17.00	.967	1.022	.106
18.00	.980	1.013	.098
19.00	.970	1.000	.132
20.00	.973	1.004	.046
Overall	.973	1.006	.059

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

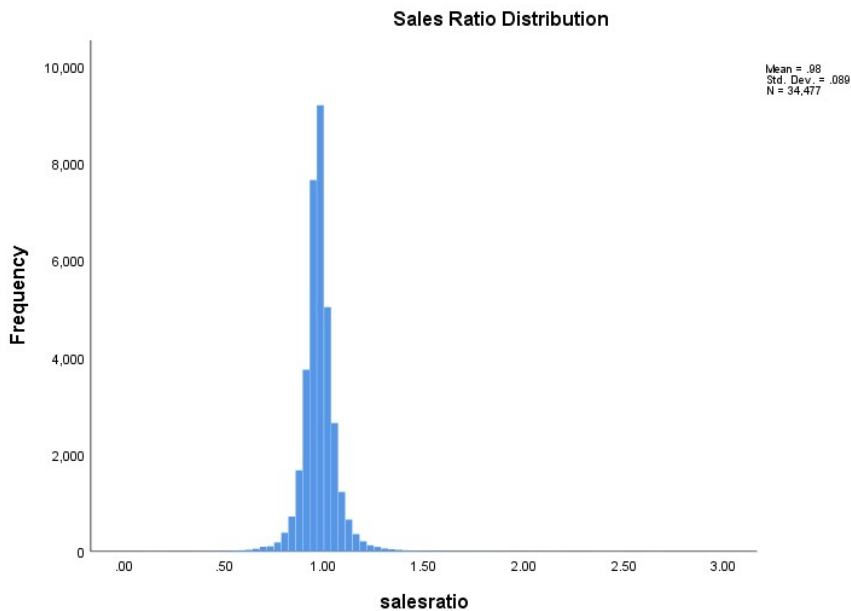
Group	Median	Price Related Differential	Coefficient of Dispersion
1	.969	1.004	.046
5	.972	1.001	.042
10	.967	1.009	.069
15	.966	1.016	.070
16	.952	1.003	.108
17	.966	1.009	.063
18	.958	1.008	.079
23	.977	1.011	.085
24	.987	1.004	.087
26	.971	1.015	.108
28	.973	1.022	.113
30	.970	1.007	.086
32	.961	1.007	.087
35	.970	1.005	.052
38	.967	1.003	.049
40	.965	1.004	.049
41	.965	1.003	.052
42	.967	1.008	.068
43	.971	1.007	.053
44	.958	1.006	.063
45	.960	1.002	.120
48	.970	1.002	.082
49	.969	1.010	.087
50	.972	1.010	.100
51	.980	1.011	.115
54	.987	1.013	.108
56	.985	1.007	.095
57	.976	1.009	.070
58	.944	1.008	.086
59	.975	1.035	.109
60	.985	1.006	.067
61	.972	1.004	.050
62	.970	1.004	.058
63	.973	1.004	.055
64	.971	1.005	.051
66	.974	1.006	.052
67	.974	1.003	.045
68	.979	1.000	.074
69	.972	1.008	.081

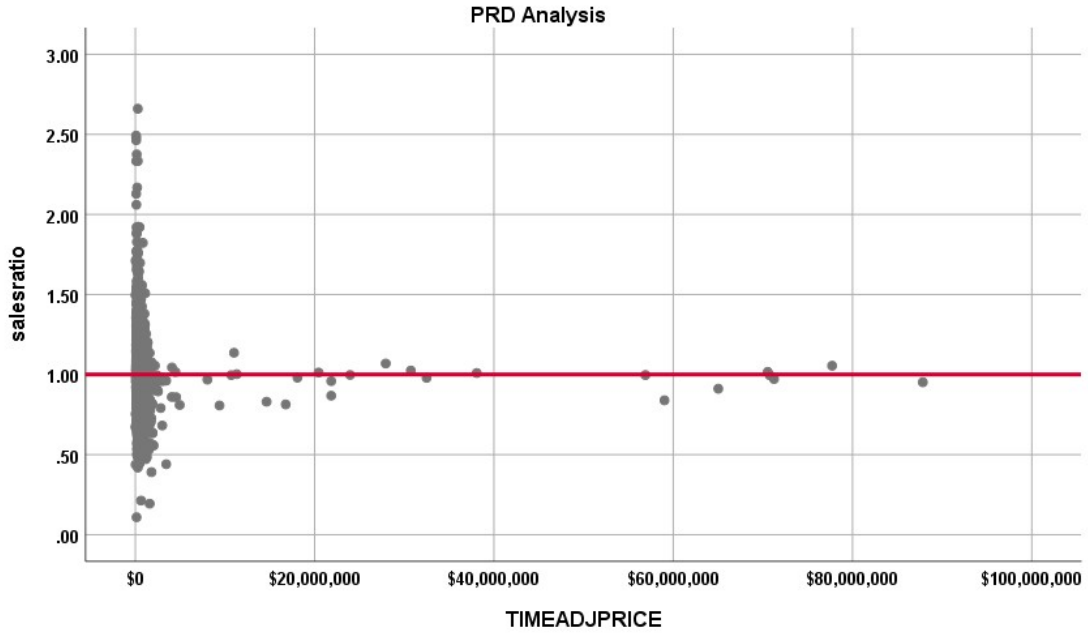
70	.976	1.009	.074
71	.975	1.006	.053
72	.967	1.006	.053
74	.975	1.005	.058
75	.983	1.002	.069
76	.985	1.017	.101
77	.968	1.002	.049
79	.975	1.005	.044
80	.972	.999	.040
81	.980	1.071	.111
82	.975	1.003	.058
83	.979	1.004	.058
84	.978	1.004	.055
85	.987	1.007	.061
86	.973	1.002	.043
87	.915	1.014	.144
88	.963	1.007	.124
89	.977	1.001	.040
90	.977	1.003	.063
91	.974	1.007	.094
92	.971	1.010	.100
93	.975	1.003	.056
94	.969	1.031	.125
95	.981	1.014	.106
96	.988	1.008	.109
97	.988	.999	.041
98	.977	.995	.144
99	.971	1.015	.115
100	.971	1.002	.133
101	.968	1.003	.125
103	.975	1.014	.069
105	.965	1.014	.091
106	.971	1.003	.048
107	.967	1.037	.119
211	.981	1.042	.111
213	.955	1.034	.085
400	.950	1.005	.042
417	.975	1.001	.022
441	.987	1.001	.032
470	.997	1.001	.030
474	.967	1.002	.025
480	.973	1.005	.050
486	.976	1.001	.031
526	.953	1.010	.058
527	.963	1.005	.051
529	.980	1.000	.018
533	.972	1.000	.008
546	.963	1.002	.034
566	.977	1.004	.042
570	.972	1.001	.018
590	.979	1.001	.015
635	.972	1.002	.032
672	.980	1.001	.026
676	.973	1.001	.027
685	.985	1.001	.026
712	.991	1.001	.027
727	.976	1.001	.022

729	.982	1.001	.027
731	.978	1.001	.022
734	.983	1.001	.024
742	.977	1.001	.031
743	.979	1.001	.030
751	.992	1.000	.022
754	.992	1.001	.022
771	.995	1.001	.026
780	.977	1.002	.029
784	.989	1.001	.023
786	.984	1.001	.021
789	.970	1.001	.015
795	.984	1.001	.018
796	.985	1.001	.026
797	.973	1.001	.018
957	.970	1.000	.007
Overall	.972	1.007	.061

Out of all residential neighborhoods with at least 30 sales, there were no neighborhoods with median sales ratios or CODs out of compliance.

Overall and by economic area, 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 and broken down by economic area. The following graphs describe further the sales ratio distribution for these properties:

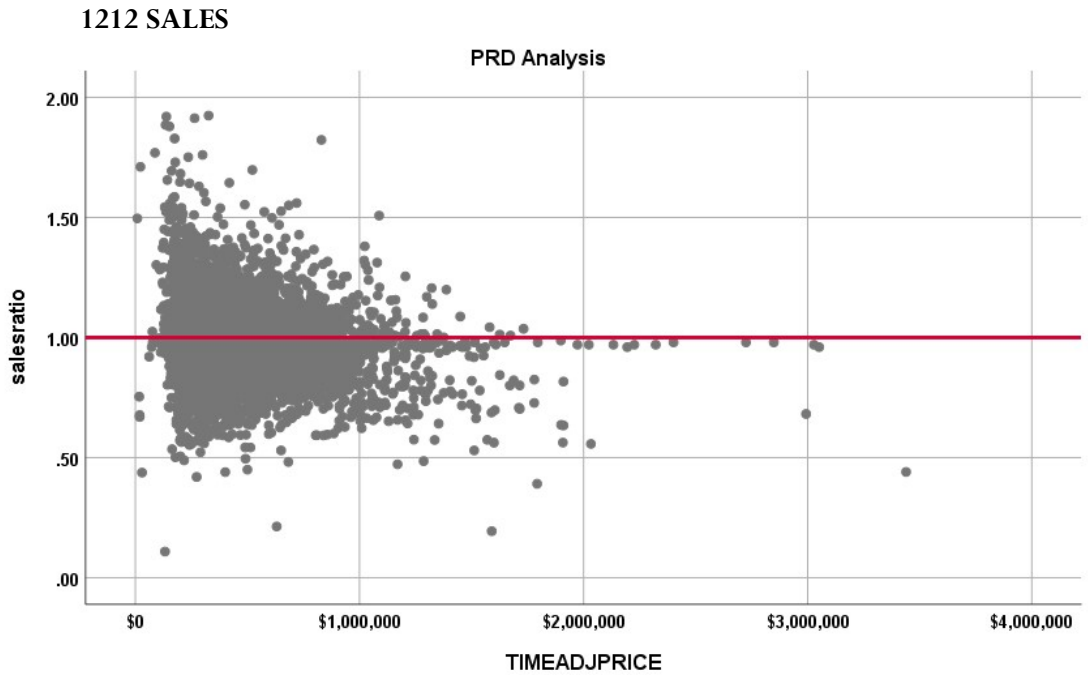




The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

### 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 1.005, which is within IAAO standards for the PRD. We also performed a regression analysis between the sales ratio and the assessor's current value to further test for regressivity or progressivity in the residential sales valuation, as follows:

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

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	.956	.001		752.806	.000
	CURRTOT	.000000057	.000	.100	18.197	.000

a. Dependent Variable: salesratio

The slope of the line at 0.000000057 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.

**Case Processing Summary**

		Count	Percent
SPRec	LT \$200K	750	2.3%
	\$200K to \$300K	8643	26.5%
	\$300K to \$400K	12735	39.0%
	\$400K to \$500K	5578	17.1%
	\$500K to \$600K	2473	7.6%
	\$600K to \$700K	1187	3.6%
	\$700K to \$800K	544	1.7%
	\$800K to \$900K	294	0.9%
	\$900K to \$1,000K	150	0.5%
	Over \$1,000K	260	0.8%
Overall		32614	100.0%
Excluded		0	
Total		32614	

**Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion
LT \$200K	.987	1.003	.103
\$200K to \$300K	.976	1.001	.057
\$300K to \$400K	.973	1.000	.047
\$400K to \$500K	.972	1.000	.057
\$500K to \$600K	.962	1.000	.067
\$600K to \$700K	.964	1.000	.076
\$700K to \$800K	.957	1.000	.078
\$800K to \$900K	.946	1.000	.090
\$900K to \$1,000K	.940	1.000	.103
Over \$1,000K	.946	1.010	.140
Overall	.973	1.005	.057

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 and broken down by economic area, as follows:

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

ECONAREA	Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
.	1	(Constant)	.987	.010		100.547	.000
		SalePeriod	-.019	.011	-.551	-1.749	.124
1.00	1	(Constant)	.961	.005		210.417	.000
		SalePeriod	.001	.000	.056	4.336	.000
2.00	1	(Constant)	.975	.007		136.869	.000
		SalePeriod	.001	.001	.055	1.776	.076
3.00	1	(Constant)	.924	.013		71.670	.000
		SalePeriod	.002	.001	.097	2.253	.025
4.00	1	(Constant)	.966	.003		331.537	.000
		SalePeriod	.001	.000	.088	4.604	.000
5.00	1	(Constant)	.976	.009		111.696	.000
		SalePeriod	5.699E-5	.001	.002	.087	.931
6.00	1	(Constant)	.965	.011		87.548	.000
		SalePeriod	.002	.001	.099	2.385	.017
7.00	1	(Constant)	.970	.006		162.501	.000
		SalePeriod	.001	.000	.081	2.799	.005
8.00	1	(Constant)	.976	.006		154.043	.000
		SalePeriod	.001	.000	.041	1.132	.258
9.00	1	(Constant)	.980	.006		152.998	.000
		SalePeriod	.000	.000	.037	.995	.320
10.00	1	(Constant)	.975	.006		176.385	.000
		SalePeriod	.001	.000	.056	1.494	.136
11.00	1	(Constant)	.970	.003		288.546	.000
		SalePeriod	.001	.000	.132	5.302	.000
12.00	1	(Constant)	.969	.002		529.721	.000
		SalePeriod	.001	.000	.098	6.108	.000
13.00	1	(Constant)	.977	.003		294.828	.000
		SalePeriod	.001	.000	.065	2.763	.006
14.00	1	(Constant)	.966	.003		359.674	.000
		SalePeriod	.001	.000	.077	4.709	.000
15.00	1	(Constant)	.968	.004		274.799	.000
		SalePeriod	.001	.000	.089	3.977	.000
16.00	1	(Constant)	.966	.013		77.165	.000
		SalePeriod	.001	.001	.046	1.077	.282
17.00	1	(Constant)	.943	.012		76.990	.000
		SalePeriod	.003	.001	.101	3.204	.001
18.00	1	(Constant)	.969	.015		62.805	.000
		SalePeriod	.002	.001	.054	1.462	.144
19.00	1	(Constant)	.923	.025		36.819	.000



		SalePeriod	.002	.002	.075	1.048	.296
20.00	1	(Constant)	.957	.003		311.887	.000
		SalePeriod	.001	.000	.112	6.412	.000

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for most of the economic areas; those with statistically trends were not significant in terms of magnitude. We therefore concluded that the assessor has adequately addressed market trending in the valuation of residential properties.

### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2021 between each group. This analysis was first performed for the entire class and by economic area, as follows:

#### Report

VALSF				
sold	N	Median	Mean	
UNSOLD	185804	\$205	\$212	
SOLD	34479	\$202	\$213	

### 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	.062	Retain the null hypothesis.

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

#### Report

VALSF				
ECONAREA	sold	N	Median	Mean
1.00	UNSOLD	24201	\$190	\$194
	SOLD	6043	\$187	\$193
2.00	UNSOLD	8168	\$224	\$243
	SOLD	1047	\$231	\$244
3.00	UNSOLD	4117	\$219	\$219
	SOLD	537	\$235	\$240
4.00	UNSOLD	13898	\$198	\$203
	SOLD	2739	\$187	\$197
5.00	UNSOLD	12160	\$231	\$236
	SOLD	1474	\$235	\$247
6.00	UNSOLD	5001	\$256	\$257
	SOLD	579	\$271	\$273
7.00	UNSOLD	9851	\$225	\$219
	SOLD	1182	\$230	\$226
8.00	UNSOLD	6089	\$218	\$229
	SOLD	770	\$224	\$239

9.00	UNSOLD	5245	\$203	\$212
	SOLD	729	\$201	\$210
10.00	UNSOLD	4948	\$207	\$210
	SOLD	702	\$188	\$194
11.00	UNSOLD	11172	\$200	\$207
	SOLD	1584	\$196	\$204
12.00	UNSOLD	17741	\$196	\$201
	SOLD	3851	\$194	\$201
13.00	UNSOLD	12565	\$206	\$213
	SOLD	1802	\$205	\$213
14.00	UNSOLD	15716	\$205	\$215
	SOLD	3731	\$209	\$222
15.00	UNSOLD	9975	\$214	\$230
	SOLD	1996	\$224	\$240
16.00	UNSOLD	2861	\$235	\$246
	SOLD	539	\$251	\$257
17.00	UNSOLD	7540	\$229	\$237
	SOLD	991	\$256	\$256
18.00	UNSOLD	5830	\$140	\$151
	SOLD	740	\$150	\$162
19.00	UNSOLD	1228	\$110	\$127
	SOLD	196	\$139	\$145
20.00	UNSOLD	7460	\$184	\$189
	SOLD	3238	\$189	\$200

We next stratified this analysis by neighborhoods with at least 30 sales, using the second comparison test, which compares the median change in value between valuation year 2018 and valuation year 2020 for sold and unsold residential properties. Out of 112 neighborhoods with at least 30 sales, only 1 neighborhood had a difference of more than 10 percent between sold and unsold properties using this method.

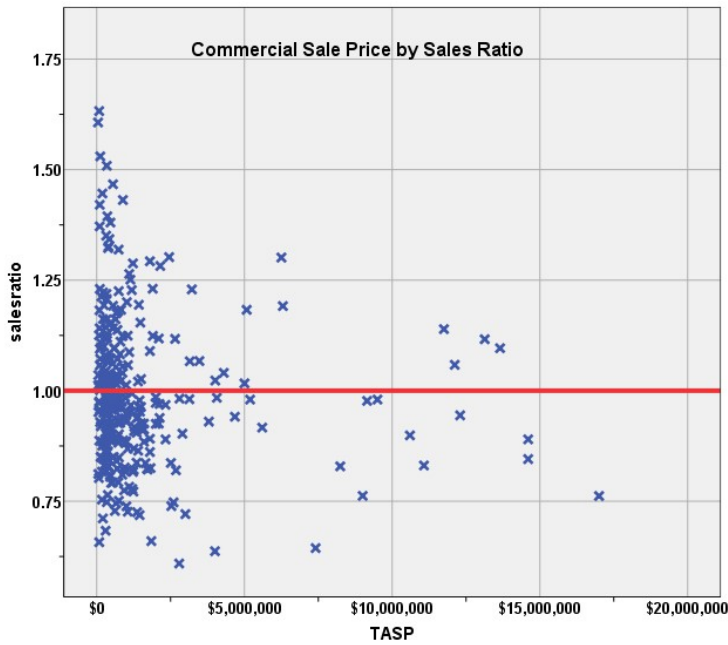
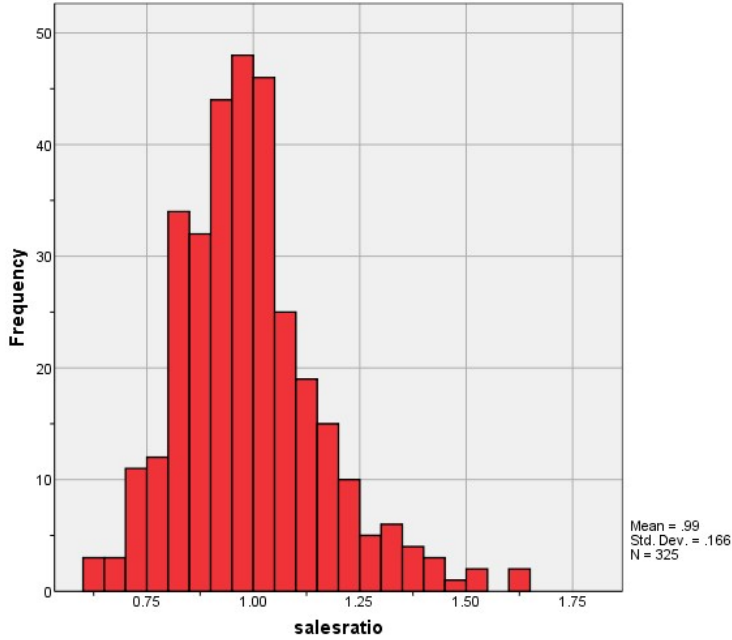
The above results by class and by economic area indicate that sold and unsold residential properties were valued in a consistent manner overall.

#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 325 qualified commercial/industrial sales over the 24 month period ending June 30, 2020. The sales ratio analysis results were as follows:

Median	<b>0.973</b>
Price Related Differential	<b>1.029</b>
Coefficient of Dispersion	<b>12.6</b>

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



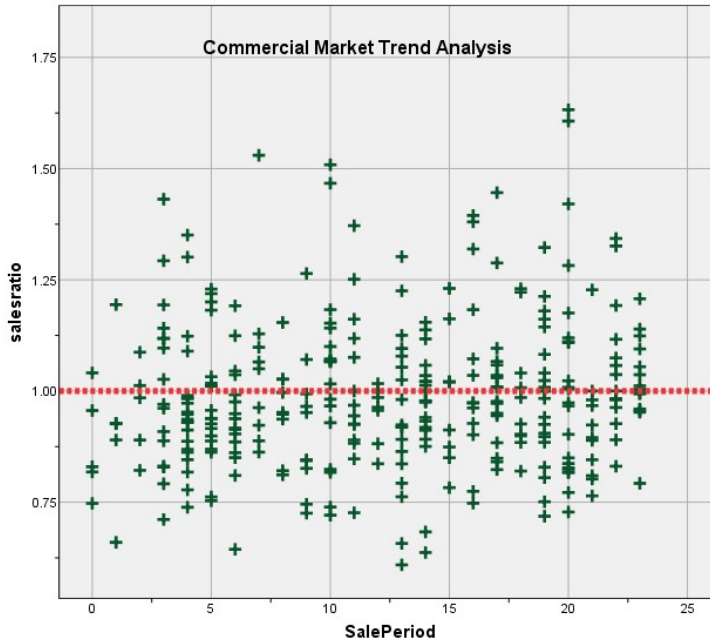
### Commercial/Industrial Market Trend Analysis

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

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

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.959	.020		48.992	.000
	SalePeriod	.002	.001	.098	1.774	.077

a. Dependent Variable: salesratio



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

**Sold/Unsold Analysis**

We compared the 2021 actual value per square foot between sold and unsold commercial/industrial properties to determine if sold and unsold properties were valued consistently.

**Report**

VALSF				
	sold	N	Median	Mean
UNSOLD		7744	\$98	\$131
SOLD		325	\$129	\$138

**Report**

VALSF				
ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD	1279	\$115	\$146
	SOLD	38	\$154	\$171
2215.00	UNSOLD	118	\$65	\$80

	SOLD	3	\$127	\$148
2220.00	UNSOLD	785	\$117	\$131
	SOLD	85	\$124	\$131
2225.00	UNSOLD	117	\$86	\$196
	SOLD	5	\$113	\$117
2230.00	UNSOLD	1638	\$133	\$174
	SOLD	59	\$143	\$166
2232.50	UNSOLD	45	\$88	\$101
	SOLD	2	\$98	\$98
2235.00	UNSOLD	1752	\$82	\$115
	SOLD	70	\$105	\$108
2245.00	UNSOLD	816	\$98	\$113
	SOLD	43	\$131	\$136

Based on the differences observed for several of the subclasses between sold and unsold properties, we next used the second test, as follows:

### Report

DIFF	ABSTRIMP	sold	N	Median	Mean
2212.00	UNSOLD		1240	1.1172	1.1214
	SOLD		33	1.2120	1.3482
2220.00	UNSOLD		765	1.2511	1.2555
	SOLD		74	1.2511	1.3551
2230.00	UNSOLD		1590	1.1000	1.1049
	SOLD		48	1.2360	1.2330
2235.00	UNSOLD		1709	1.2101	1.1841
	SOLD		62	1.2240	1.3219
2245.00	UNSOLD		768	1.1742	1.1243
	SOLD		42	1.1742	1.2266

The above results indicated that sold and unsold commercial/industrial properties were valued consistently overall.

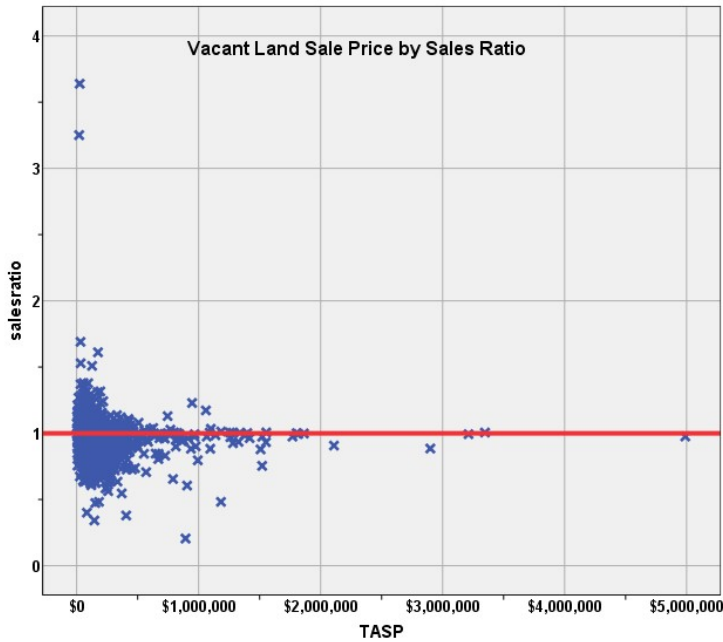
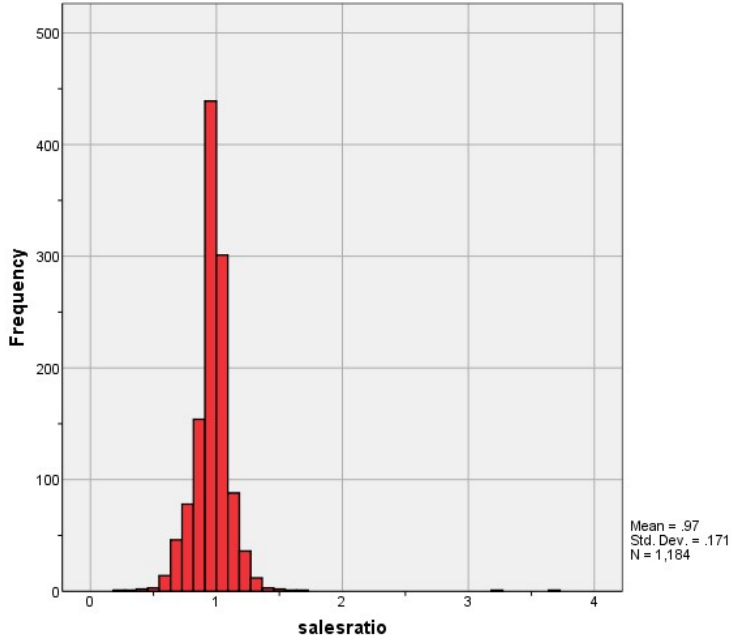
## V. VACANT LAND SALE RESULTS

There were 1,184 qualified vacant land sales over the 24 month period ending June 30, 2020. The sales ratio analysis was analyzed as follows:

### Ratio Statistics for currInd / Vtasp

<b>Median</b>	<b>0.978</b>
<b>Price Related Differential</b>	<b>1.016</b>
<b>Coefficient of Dispersion</b>	<b>10.1</b>

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



The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits, while the above scatter plot indicated that there was no price related differential issues. No sales were trimmed.

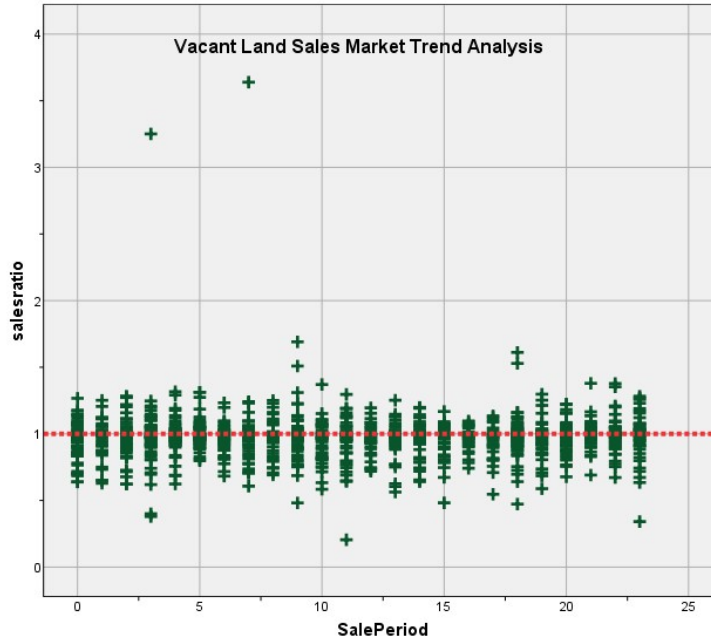
### Vacant Land Market Trend Analysis

We next analyzed the vacant land dataset using the 24-month sale period, with the following results:

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

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.971	.009		109.276	.000
	SalePeriod	-9.540E-5	.001	-.004	-.137	.891

a. Dependent Variable: salesratio



There was no significant trend. We therefore concluded that the assessor has adequately dealt with market trending for vacant land properties.

**Sold/Unsold Analysis**

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median and mean change in actual value for valuation year 2018 and valuation year 2020 for each group. The following results present the comparison results for sold and unsold properties:

<b>Report</b>			
DIFF			
sold	N	Median	Mean
UNSOLD	10812	1.1444	1.1476
SOLD	983	1.1507	1.1972

Given the difference in the overall comparison analysis, we next examined sold and unsold properties by subdivision with at least 10 sales, as follows:

**Report**

DIFF

SUBDIVNO	sold	N	Median	Mean
0	UNSOLD	1923	1.1333	1.1297
	SOLD	95	1.1492	1.2344
12541	UNSOLD	8	1.1188	1.1196
	SOLD	12	1.1188	1.1188
12603	UNSOLD	8	1.1538	1.1760
	SOLD	13	1.1538	1.1739
14016	UNSOLD	13	1.1906	1.0896
	SOLD	16	1.1244	1.1476
14170	UNSOLD	9	.9729	.9729
	SOLD	23	1.0701	1.0884
14209	UNSOLD	124	1.3805	1.3772
	SOLD	16	1.3805	1.3805
14220	UNSOLD	25	1.1038	1.1038
	SOLD	15	1.1038	1.1038
14232	SOLD	10	1.1516	1.1516
14238	UNSOLD	17	1.2002	1.1838
	SOLD	59	1.1107	1.1020
14249	UNSOLD	1	1.1200	1.1200
	SOLD	16	1.1203	1.0677
14300	UNSOLD	10	.0000	.3451
	SOLD	16	1.1504	1.1504
14330	UNSOLD	6	1.1516	1.1516
	SOLD	13	1.1516	1.1516
14364	UNSOLD	1	1.1516	1.1516
	SOLD	11	1.1516	1.1516
14460	UNSOLD	6	1.1511	1.1593
	SOLD	11	1.1511	1.1511

Overall, while we concluded that the county assessor valued sold and unsold vacant land properties consistently, we are going to meet with the assessor to address the subdivision in the above table with significant differences in the median change in value between sold and unsold vacant land properties.

**V. CONCLUSIONS**

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



**STATISTICAL ABSTRACT**  
**Residential**

Ratio Statistics for CURRTOT / TASP													
ECONAREA	Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			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			
.	.976	.957	.996	.978	.950	.998	96.1%	.975	.955	.995	1.001	.020	2.6%
1.00	.978	.974	.983	.970	.969	.972	95.1%	.973	.971	.975	1.005	.053	18.6%
2.00	.986	.979	.993	.976	.971	.980	95.2%	.979	.971	.986	1.007	.080	12.2%
3.00	.949	.935	.962	.962	.956	.969	95.7%	.944	.932	.956	1.005	.102	16.6%
4.00	.978	.975	.981	.970	.969	.972	95.1%	.964	.946	.982	1.014	.049	8.1%
5.00	.976	.967	.985	.969	.966	.974	95.5%	.972	.960	.983	1.005	.096	17.7%
6.00	.988	.976	.999	.986	.971	.994	95.4%	.977	.961	.992	1.011	.098	14.0%
7.00	.984	.978	.990	.973	.970	.978	95.5%	.978	.971	.984	1.007	.072	10.8%
8.00	.982	.975	.988	.972	.970	.976	95.3%	.963	.945	.980	1.020	.056	9.4%
9.00	.985	.979	.992	.976	.970	.981	95.5%	.982	.974	.990	1.003	.059	8.6%
10.00	.982	.976	.988	.976	.971	.979	95.5%	.985	.974	.997	.997	.052	7.7%
11.00	.986	.982	.989	.976	.974	.979	95.3%	.982	.978	.986	1.004	.049	7.2%
12.00	.978	.977	.980	.973	.972	.975	95.1%	.975	.971	.978	1.004	.042	5.9%
13.00	.984	.981	.988	.975	.973	.978	95.5%	.984	.968	1.000	1.000	.049	7.3%
14.00	.976	.974	.979	.971	.969	.973	95.1%	.972	.969	.974	1.005	.050	8.7%
15.00	.980	.976	.983	.976	.973	.978	95.4%	.972	.967	.976	1.008	.057	8.0%
16.00	.978	.966	.990	.973	.965	.981	95.3%	.970	.958	.982	1.008	.092	14.8%
17.00	.976	.964	.989	.967	.963	.972	95.1%	.955	.944	.966	1.022	.106	21.0%
18.00	.988	.973	1.004	.980	.978	.987	95.7%	.975	.965	.985	1.013	.098	21.9%
19.00	.946	.922	.969	.970	.954	.999	96.2%	.946	.918	.973	1.000	.132	17.8%
20.00	.974	.971	.978	.973	.971	.976	95.3%	.971	.969	.973	1.004	.046	9.2%

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

## Commercial Land

Ratio Statistics for CURRTOT / TASP												
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			
.990	.972	1.008	.973	.956	.985	95.4%	.962	.929	.995	1.029	.126	16.8%

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

## Vacant Land

Ratio Statistics for CURRLND / TASP												
Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Mean Centered
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.970	.960	.979	.978	.973	.982	95.5%	.954	.943	.966	1.016	.101	17.6%

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	32600	94.5%
	1213.00	1	0.0%
	1213.33	1	0.0%
	1213.50	12	0.0%
	1214.00	2	0.0%
	1215.00	175	0.5%
	1215.40	1	0.0%
	1215.50	2	0.0%
	1216.00	1	0.0%
	1217.25	1	0.0%
	1217.50	1	0.0%
	1218.50	1	0.0%
	1220.00	190	0.6%
	1221.00	1	0.0%
	1221.67	1	0.0%
	1222.50	1	0.0%
	1225.00	46	0.1%
	1226.00	1	0.0%
	1230.00	1422	4.1%
	1466.50	1	0.0%
	1548.00	2	0.0%
	1550.67	1	0.0%
	1712.00	2	0.0%
	1713.50	2	0.0%
	1721.00	1	0.0%
	1978.75	1	0.0%
	1980.75	1	0.0%
	2028.40	1	0.0%
	2234.33	2	0.0%
	2745.50	8	0.0%
	3052.20	1	0.0%
	3256.67	3	0.0%
	3261.00	1	0.0%
	3665.60	1	0.0%
Overall		34488	100.0%
Excluded		0	
Total		34488	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1212.00	.973	1.006	.059	12.7%
1213.00	.980	1.000	.000	.
1213.33	1.254	1.000	.000	.
1213.50	.927	1.111	.306	45.0%
1214.00	.921	1.007	.042	6.0%
1215.00	.949	1.021	.120	16.5%
1215.40	.693	1.000	.000	.
1215.50	.751	.998	.118	16.6%
1216.00	.662	1.000	.000	.
1217.25	1.760	1.000	.000	.
1217.50	1.141	1.000	.000	.
1218.50	1.325	1.000	.000	.
1220.00	.957	1.009	.080	11.2%
1221.00	.932	1.000	.000	.
1221.67	.912	1.000	.000	.
1222.50	1.070	1.000	.000	.
1225.00	.976	.981	.071	9.3%
1226.00	.194	1.000	.000	.
1230.00	.973	1.002	.037	5.7%
1466.50	.963	1.000	.000	.
1548.00	1.872	1.008	.026	3.7%
1550.67	1.538	1.000	.000	.
1712.00	1.225	.998	.118	16.6%
1713.50	.776	1.023	.106	15.0%
1721.00	1.469	1.000	.000	.
1978.75	.858	1.000	.000	.
1980.75	1.498	1.000	.000	.
2028.40	1.468	1.000	.000	.
2234.33	.988	.997	.016	2.2%
2745.50	.971	.999	.064	9.9%
3052.20	1.031	1.000	.000	.
3256.67	1.014	.996	.025	4.0%
3261.00	2.492	1.000	.000	.
3665.60	1.301	1.000	.000	.
Overall	.973	1.006	.059	12.6%

### Age

#### Case Processing Summary

AgeRec	Count	Percent
Over 100	744	2.2%
75 to 100	372	1.1%
50 to 75	4154	12.0%
25 to 50	9148	26.5%
5 to 25	12258	35.5%
5 or Newer	7812	22.7%
Overall	34488	100.0%
Excluded	0	
Total	34488	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.970	1.009	.123	17.5%
75 to 100	.964	1.014	.121	21.0%
50 to 75	.969	1.011	.078	12.7%
25 to 50	.970	1.009	.062	16.5%
5 to 25	.974	1.001	.049	8.2%
5 or Newer	.975	1.010	.051	12.2%
Overall	.973	1.006	.059	12.6%

### Improved Area

#### Case Processing Summary

	Count	Percent
ImpSFRec		
LE 500 sf	29	0.1%
500 to 1,000 sf	3094	9.0%
1,000 to 1,500 sf	9699	28.1%
1,500 to 2,000 sf	11184	32.4%
2,000 to 3,000 sf	8353	24.2%
3,000 sf or Higher	2129	6.2%
Overall	34488	100.0%
Excluded	0	
Total	34488	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.946	1.031	.209	32.0%
500 to 1,000 sf	.962	1.008	.071	12.0%
1,000 to 1,500 sf	.970	1.005	.052	11.8%
1,500 to 2,000 sf	.974	1.005	.052	12.9%
2,000 to 3,000 sf	.978	1.008	.061	11.8%
3,000 sf or Higher	.978	1.015	.093	17.0%
Overall	.973	1.006	.059	12.6%

### Improvement Quality

#### Case Processing Summary

	Count	Percent
QUALITY		
.00	2	0.0%
1.00	246	0.7%
2.00	25575	74.2%
3.00	8076	23.4%
4.00	532	1.5%
5.00	57	0.2%
Overall	34488	100.0%
Excluded	0	
Total	34488	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
.00	1.004	1.000	.007	1.1%
1.00	.935	.954	.140	19.4%
2.00	.972	1.006	.055	12.5%
3.00	.977	1.009	.065	11.7%
4.00	.986	1.029	.109	22.1%
5.00	.970	1.007	.027	7.0%
Overall	.973	1.006	.059	12.6%

### Commercial Median Ratio Stratification

#### Sale Price

#### Case Processing Summary

		Count	Percent
SPRec	\$25K to \$50K	2	0.6%
	\$50K to \$100K	16	4.9%
	\$100K to \$150K	14	4.3%
	\$150K to \$200K	8	2.5%
	\$200K to \$300K	27	8.3%
	\$300K to \$500K	80	24.6%
	\$500K to \$750K	47	14.5%
	\$750K to \$1,000K	26	8.0%
	Over \$1,000K	105	32.3%
Overall		325	100.0%
Excluded		0	
Total		325	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
\$25K to \$50K	1.309	1.012	.227	32.1%
\$50K to \$100K	1.009	.987	.151	23.0%
\$100K to \$150K	1.042	1.009	.136	19.5%
\$150K to \$200K	.967	1.000	.191	24.6%
\$200K to \$300K	1.000	1.002	.103	13.5%
\$300K to \$500K	.993	1.000	.114	15.7%
\$500K to \$750K	.974	1.002	.113	15.5%
\$750K to \$1,000K	.969	1.004	.098	14.1%
Over \$1,000K	.941	1.004	.134	17.3%
Overall	.973	1.029	.126	17.2%

**Subclass**

**Case Processing Summary**

		Count	Percent
ABSTRIMP	1716.00	2	0.6%
	2132.00	1	0.3%
	2212.00	38	11.7%
	2214.67	1	0.3%
	2215.00	3	0.9%
	2219.20	1	0.3%
	2220.00	85	26.2%
	2225.00	5	1.5%
	2228.75	1	0.3%
	2230.00	59	18.2%
	2231.67	1	0.3%
	2232.50	2	0.6%
	2235.00	70	21.5%
	2245.00	43	13.2%
	2916.33	1	0.3%
	3215.00	2	0.6%
	3230.00	9	2.8%
5759.50	1	0.3%	
Overall		325	100.0%
Excluded		0	
Total		325	

**Ratio Statistics for CURRTOT / TASP**

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1716.00	1.023	1.039	.052	7.3%
2132.00	.982	1.000	.000	.
2212.00	.940	.982	.125	17.3%
2214.67	.762	1.000	.000	.
2215.00	.980	1.001	.114	24.2%
2219.20	1.117	1.000	.000	.
2220.00	.990	.994	.144	17.3%
2225.00	1.096	1.035	.112	16.3%
2228.75	.891	1.000	.000	.
2230.00	.962	1.039	.123	16.8%
2231.67	1.026	1.000	.000	.
2232.50	.994	1.094	.132	18.7%
2235.00	.966	1.029	.105	15.5%
2245.00	1.001	1.046	.142	21.2%
2916.33	.747	1.000	.000	.
3215.00	.805	1.052	.054	7.6%
3230.00	1.000	1.002	.013	3.5%
5759.50	.884	1.000	.000	.
Overall	.973	1.029	.126	17.2%

## Age

### Case Processing Summary

		Count	Percent
AgeRec	Over 100	18	5.5%
	75 to 100	11	3.4%
	50 to 75	53	16.3%
	25 to 50	140	43.1%
	5 to 25	86	26.5%
	5 or Newer	17	5.2%
Overall		325	100.0%
Excluded		0	
Total		325	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.950	1.035	.107	15.5%
75 to 100	1.035	1.022	.099	13.9%
50 to 75	.963	1.013	.128	16.5%
25 to 50	.983	1.031	.141	18.8%
5 to 25	.957	1.025	.119	17.1%
5 or Newer	1.000	1.076	.056	9.0%
Overall	.973	1.029	.126	17.2%

## Improved Area

### Case Processing Summary

		Count	Percent
ImpSFRec	500 to 1,000 sf	17	5.2%
	1,000 to 1,500 sf	31	9.5%
	1,500 to 2,000 sf	28	8.6%
	2,000 to 3,000 sf	37	11.4%
	3,000 sf or Higher	212	65.2%
Overall		325	100.0%
Excluded		0	
Total		325	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
500 to 1,000 sf	.929	1.032	.103	12.3%
1,000 to 1,500 sf	.963	1.042	.144	21.3%
1,500 to 2,000 sf	.914	1.039	.137	23.2%
2,000 to 3,000 sf	1.000	1.031	.091	14.2%
3,000 sf or Higher	.973	1.027	.128	16.8%
Overall	.973	1.029	.126	17.2%



## Improvement Quality

### Case Processing Summary

		Count	Percent
QUALITY	1.00	49	15.1%
	2.00	270	83.1%
	3.00	6	1.8%
Overall		325	100.0%
Excluded		0	
Total		325	

### Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1.00	.930	1.036	.127	16.5%
2.00	.980	1.033	.127	17.4%
3.00	.897	1.002	.021	3.2%
Overall	.973	1.029	.126	17.2%

## Vacant Land Median Ratio Stratification

### Sale Price

### Case Processing Summary

		Count	Percent
SPRec	LT \$25K	65	5.5%
	\$25K to \$50K	74	6.3%
	\$50K to \$100K	228	19.3%
	\$100K to \$150K	238	20.1%
	\$150K to \$200K	186	15.7%
	\$200K to \$300K	188	15.9%
	\$300K to \$500K	116	9.8%
	\$500K to \$750K	32	2.7%
	\$750K to \$1,000K	22	1.9%
	Over \$1,000K	35	3.0%
Overall		1184	100.0%
Excluded		0	
Total		1184	

### Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT \$25K	1.000	.952	.141	44.3%
\$25K to \$50K	1.024	.996	.104	15.2%
\$50K to \$100K	.995	1.000	.115	15.5%
\$100K to \$150K	.979	1.000	.090	13.5%
\$150K to \$200K	.969	.999	.096	14.1%
\$200K to \$300K	.952	1.004	.097	13.0%
\$300K to \$500K	.948	1.000	.087	12.2%
\$500K to \$750K	.976	1.000	.057	8.9%
\$750K to \$1,000K	.963	1.001	.113	21.8%
Over \$1,000K	.985	.987	.054	11.0%
Overall	.978	1.016	.101	17.5%

### Subclass

### Case Processing Summary

	Count	Percent	
ABSTRLND	100.00	444	37.5%
	200.00	80	6.8%
	300.00	10	0.8%
	510.00	3	0.3%
	520.00	16	1.4%
	530.00	12	1.0%
	540.00	12	1.0%
	550.00	72	6.1%
	560.00	2	0.2%
	1112.00	468	39.5%
	1125.00	2	0.2%
	1126.00	1	0.1%
	1135.00	18	1.5%
	2112.00	5	0.4%
	2120.00	3	0.3%
	2130.00	28	2.4%
	2135.00	8	0.7%
Overall	1184	100.0%	
Excluded	0		
Total	1184		

### Ratio Statistics for CURRLND / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100.00	.974	1.021	.099	13.8%
200.00	.982	1.003	.069	11.9%
300.00	.964	.975	.072	10.8%
510.00	.939	1.041	.068	14.2%
520.00	.972	1.099	.059	10.4%
530.00	.957	1.030	.094	17.6%
540.00	.933	.990	.189	29.3%
550.00	.963	.989	.118	15.8%
560.00	.868	.962	.045	6.3%
1112.00	.983	1.027	.110	21.9%
1125.00	1.003	1.001	.002	0.3%
1126.00	.981	1.000	.000	.
1135.00	.986	1.030	.088	11.1%
2112.00	.976	1.002	.039	5.4%
2120.00	.975	.974	.041	8.1%
2130.00	.975	.990	.048	8.8%
2135.00	.989	.964	.079	13.3%
Overall	.978	1.016	.101	17.5%