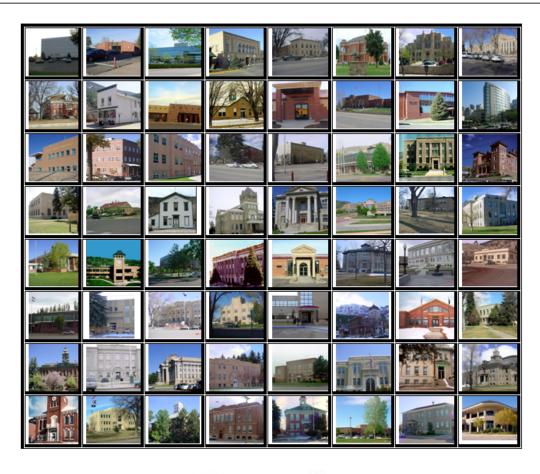


# 2010 ELBERT COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2010

Mr. Mike Mauer Director of Research Colorado Legislative Council Room 029, State Capitol Building Denver, Colorado 80203

RE: Final Report for the 2010 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2010 Colorado Property Assessment Study.

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

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

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

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

Harry J. Fuller Project Manager

Harry J. Zulla

Wildrose Appraisal Inc. – Audit Division



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# INTRODUCTION



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

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

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

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

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

The property assessment audit conducts a 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 subdivision and discounting procedures. Valuation methodology for vacant land, improved properties commercial residential and properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

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

Wildrose Audit has completed the Property Assessment Study for 2010 and is pleased to report its findings for Elbert County in the following report.



# REGIONAL/HISTORICAL SKETCH OF ELBERT COUNTY

# **Regional Information**

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

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





### **Historical Information**

Elbert County has a population of approximately 23,287 people with 10.7 people per square mile, according to the U.S. Census Bureau's 2009 estimated population data.

Elbert County was created on February 2, 1874, from the eastern portions of Douglas County. On February 6, 1874, the county was enlarged to include part of northern Greenwood County upon Greenwood's dissolution, and originally extended south and east of its present boundaries to reach to the Kansas state line. The county was named for Samuel Hitt Elbert, the Governor of the Territory of Colorado when the county was formed. In 1889, Elbert County was reduced to its modern size when its eastern portions

were taken to create Lincoln, Kit Carson, and Cheyenne counties. The county seat is Kiowa, named for the Kiowa Indian tribe of the southern Plains, who called themselves Kaegua.

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



# RATIO ANALYSIS

# Methodology

All significant classes of properties were Sales were collected for each analyzed. property class over the appropriate sale period, which was typically defined as the 18-month period between January 2007 and June 2008. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2008 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and pricerelated 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. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

### **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		
Condominium	Between .95-1.05	Less than 15.99		
Single Family	Between .95-1.05	Less than 15.99		
Vacant Land	Between .95-1.05	Less than 20.99		



The results for Elbert County are:

	Elbert County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis		
Commercial/Industrial	17	0.951	1.040	13.2	Compliant		
Condominium	N/A	N/A	N/A	N/A	N/A		
Single Family	1,385	0.998	1.037	12.9	Compliant		
Vacant Land	65	0.985	1.072	18.2	Compliant		

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

SBOE, DPT, and Colorado State Statute valuation guidelines.

### Recommendations

None

# **Random Deed Analysis**

An additional analysis was performed as part of the Ratio Analysis. Ten randomly selected deeds with documentary fees were obtained from the Clerk and Recorder. These deeds were for sales that occurred from January 1, 2007 through June 30, 2008. These sales were then checked for inclusion on the Assessor's qualified or unqualified database.

### **Conclusions**

After comparing the list of randomly selected deeds with the Assessor's database, Elbert County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

### Recommendations



# TIME TRENDING VERIFICATION

# Methodology

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

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

### Conclusions

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

#### Recommendations



# SOLD/UNSOLD ANALYSIS

# Methodology

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

All qualified residential and commercial class properties were examined using the unit value method, where the actual value per square foot was compared between sold and unsold properties. A class was considered qualified if it met the criteria for the ratio analysis. The median value per square foot for both groups was compared from an appraisal and statistical perspective. If no significant difference was indicated, then we concluded that no further testing was warranted and that the county was in compliance in terms of sold/unsold consistency.

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2009 and 2010 actual values for each qualified class of property. All qualified vacant land classes were tested using this method. The sale property ratios were arrayed using a range of 0.8 to 1.5, which theoretically excluded changes between years that were due to other unrelated changes in the property. These ratios were also stratified at the appropriate level of analysis. percent change was determined for each appropriate class and sub-class, the next step was to select the unsold sample. This sample

was at least 1% of the total population of unsold properties and excluded any sale properties. The unsold sample was filtered based on the attributes of the sold dataset to closely correlate both groups. The ratio analysis was then performed on the unsold properties and stratified. The median and mean ratio distribution was then compared between the sold and unsold group. A nonparametric test such as the Mann-Whitney test for differences between independent samples was undertaken to determine whether any observed differential was significant. If this test determined that the unsold properties were treated in a manner similar to the sold properties, it was concluded that no further testing was warranted and that the county was in compliance.

If a class or sub-class of property was determined to be significantly different by this method, the final step was to perform a multivariate mass appraisal model that developed ratio statistics from the sold properties that were then applied to the unsold sample. This test compared the measures of central tendency and confidence intervals for the sold properties with the unsold property sample. If this comparison was also determined to be significantly different, then the conclusion was that the county had treated the unsold properties in a different manner than sold properties.

These tests were supported by both tabular and chart presentations, along with saved sold and unsold sample files.



Sold/Unsold R	esults
Property Class	Results
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

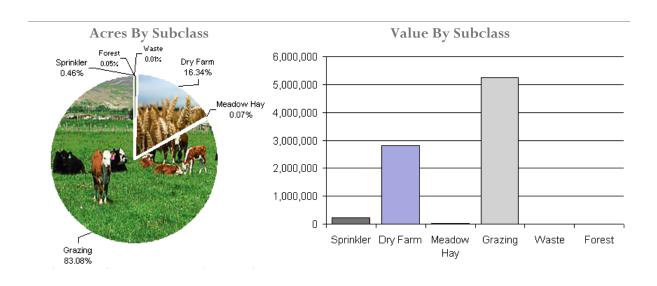
# Conclusions

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

## Recommendations



# AGRICULTURAL LAND STUDY



# **Agricultural Land**

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

(See Assessor Reference Library Volume 3 Chapter 5.)

### **Conclusions**

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



	Elbert County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value	County Assessed Total Value	WRA Total Value	Ratio	
		4,604	48.00	221,307	227,557	0.97	
4107	Sprinkler	· ·		,	,		
4127	Dry Farm	163,674	17.00	2,800,428	2,740,510	1.02	
4137	Meadow Hay	652	25.00	16,435	16,435	1.00	
4147	Grazing	832,270	6.00	5,235,608	5,235,608	1.00	
4177	Forest	456	6.00	2,744	2,744	1.00	
4167	Waste	113	2.00	183	183	1.00	
Total/Avg		1,001,769	8.00	8,276,705	8,223,037	1.01	

# Recommendations



# **Agricultural Outbuildings**

# Methodology

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

### **Conclusions**

Elbert County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of agricultural outbuildings.

# Recommendations



# 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 2010 for Elbert County. This study was conducted by checking selected sales from the master sales list for the Jan 1, 2007 - June 30, 2008 valuation period. Specifically WRA selected 30 sales listed as unqualified.

All but three of the sales selected in the sample gave reasons that were clear and supportable. Three sales had insufficient documentation.

### Conclusions

Elbert County appears to be doing an adequate job of verifying their sales. There are no recommendations.

### Recommendations



# ECONOMIC AREA REVIEW AND EVALUATION

# Methodology

Elbert County has submitted a written narrative describing the economic areas that make up the county's market areas. Elbert County has also submitted a map illustrating these areas. Each of these narratives have been read and analyzed for logic and appraisal sensibility. The maps were also compared to the narrative for consistency between the written description and the map.

### **Conclusions**

After review and analysis, it has been determined that Elbert County has adequately

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

### Recommendations



# NATURAL RESOURCES

### **Earth and Stone Products**

# Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

### **Conclusions**

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

### Recommendations

None

# Producing Oil and Gas Procedures

# Methodology

Assessors Reference Library (ARL) Volume 3, Chapter 6: Valuation of Natural Resources

#### STATUTORY REFERENCES

Section § 39-1-103, C.R.S., specifies that producing oil or gas leaseholds and lands are valued according to article 7 of title 39, C.R.S.

Actual value determined - when.

(2) The valuation for assessment of leaseholds and lands producing oil or gas shall be determined as provided in article 7 of this title. § 39-1-103, C.R.S.

Article 7 covers the listing, valuation, and assessment of producing oil and gas leaseholds and lands.

### Valuation:

### Valuation for assessment.

- (1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:
- (a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;
- (b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.

### **Conclusions**

§ 39-7-102, C.R.S.

The county applied approved appraisal procedures in the valuation of oil and gas.

### Recommendations



# VACANT LAND

# **Subdivision Discounting**

Subdivisions were reviewed in 2010 in Elbert County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14) and by applying the recommended methodology in ARL Vol 3, Chap 4. Subdivision Discounting in the intervening year was accomplished by reducing the absorption period by one year. In instances where the number of sales within an approved plat was less than the absorption rate

per year calculated for the plat, the absorption period was left unchanged.

### **Conclusions**

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

### Recommendations



# POSSESSORY INTEREST PROPERTIES

# **Possessory Interest**

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

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

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

### Recommendations



# PERSONAL PROPERTY AUDIT

Elbert County was studied for its procedural compliance with the personal property assessment outlined in the Assessor's Reference Library (ARL) Volume 5, and in the State Board of Equalization (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, classification, documentation procedures, current economic lives table, cost factor tables, depreciation table, and level of value adjustment factor table.

The personal property audit standards narrative must be in place and current. A listing of businesses that have been audited by the assessor within the twelve-month period reflected in the plan is given to the auditor. The audited businesses must be in conformity with those described in the plan.

Aggregate ratio will be determined solely from the personal property accounts that have been physically inspected. The minimum assessment sample is one percent or ten schedules, whichever is greater, and the maximum assessment audit sample is 100 schedules.

For the counties having over 100,000 population, WRA selected a sample of all personal property schedules to determine whether the assessor is correctly applying the provisions of law and manuals of the Property Tax Administrator in arriving at the assessment levels of such property. This sample was selected from the personal property schedules audited by the assessor. In no event was the sample selected by the contractor less than 30 schedules. The counties to be included in this study are Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

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

- Public Record Documents
- 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.

Elbert County submitted their personal property written audit plan and was current for the 2010 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 \$4,000 actual value exemption status
- Accounts protested with substantial disagreement

# **Conclusions**

Elbert County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their personal property assessment and is in statistical compliance with SBOE requirements.

### Recommendations



# WILDROSE AUDITOR STAFF

Harry J. Fuller, Audit Project Manager

Suzanne Howard, Audit Administrative Manager

Steve Kane, Audit Statistician/Field Analyst

Carl W. Ross, Agricultural/Natural Resource Analyst

J. Andrew Rodriguez, Field Analyst



# APPENDICES

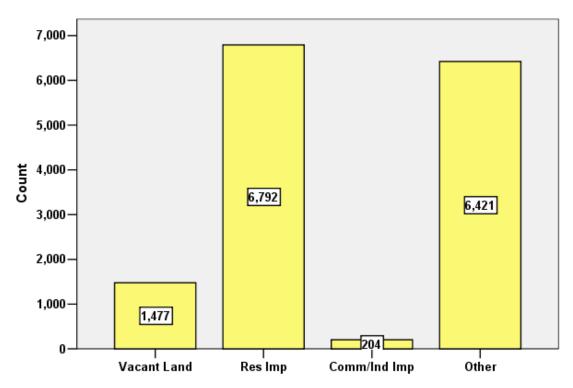


# STATISTICAL COMPLIANCE REPORT FOR ELBERT COUNTY 2010

### I. OVERVIEW

Elbert County is located in eastern Colorado. The county has a total of 14,894 real property parcels, according to data submitted by the county assessor's office in 2010. The following provides a breakdown of property classes for this county:

### Real Property Class Distribution



The vacant land class of properties was dominated by residential and PUD land. Residential lots (coded 100, 400 and 1112) accounted for 77% of all vacant land parcels.

For residential improved properties, single family properties accounted for 98.5% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 1% of all such properties in this county.



### II. DATA FILES

The following sales analyses were based on the requirements of the 2010 Colorado Property Assessment Study. Information was provided by the Elbert Assessor's Office in May 2010. The data included all 5 property record files as specified by the Auditor.

### III. RESIDENTIAL SALES RESULTS

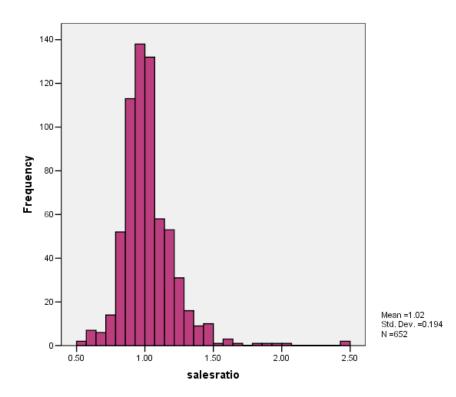
The following steps were taken to analyze the residential sales:

1. Total sales	1,385
2. Selected qualified sales	727
3. Res sales between January 1, 2007 and June 30, 2008	652

The sales ratio analysis results were as follows:

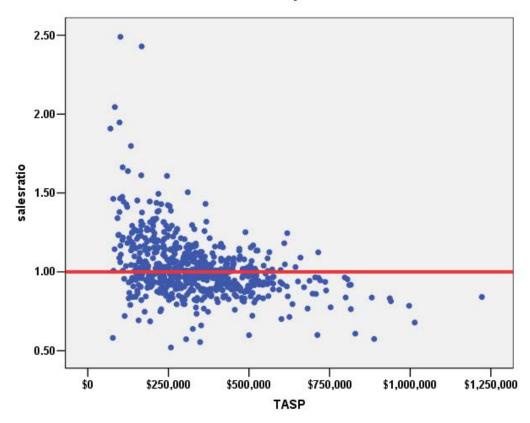
Median	0.998
Price Related Differential	1.037
Coefficient of Dispersion	.129

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









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

## **Residential Market Trend Analysis**

We next analyzed the residential dataset using the 18-month sale period for any residual market trending, with the following results:

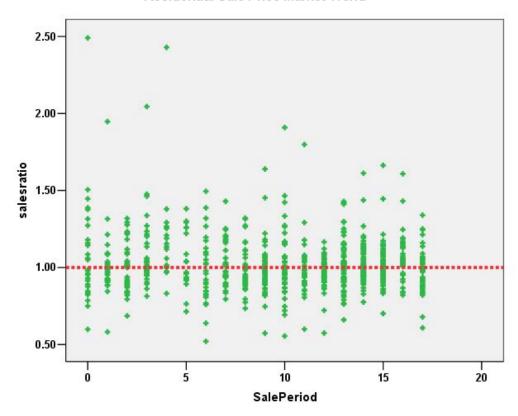
Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.051	.016		64.241	.000
	SalePeriod	003	.002	076	-1.945	.052

a. Dependent Variable: salesratio



### Residential Sale Price Market Trend



The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties.

## **Sold/Unsold Analysis**

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2010 between each group, as follows:

Group	No.	Median	Mean
Unsold	6,138	\$98	\$98
Sold	651	\$102	\$101

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



### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

The following steps were taken to analyze the commercial sales:

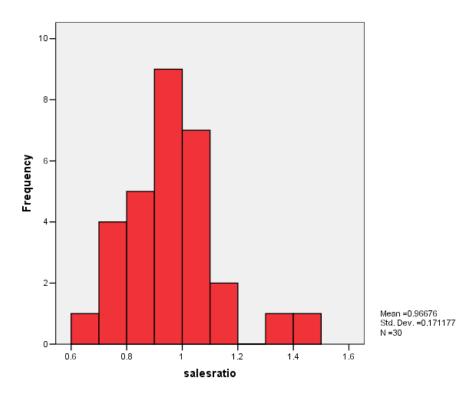
1. Total sales	1,385
2. Selected qualified sales	727
3. Select commercial/industrial sales only	18
4. Exclude one extreme sale ratio	17

Since there were fewer than 30 sales, we augmented the commercial sale dataset with 12 supplemental appraisals. Please note that these supplements appraised values will be used with the sales to calculate the median sales ratio and the COD analysis. The 17 sales were used to analyze the residual market trending and the sold/unsold comparison.

The sales ratio analysis results were as follows:

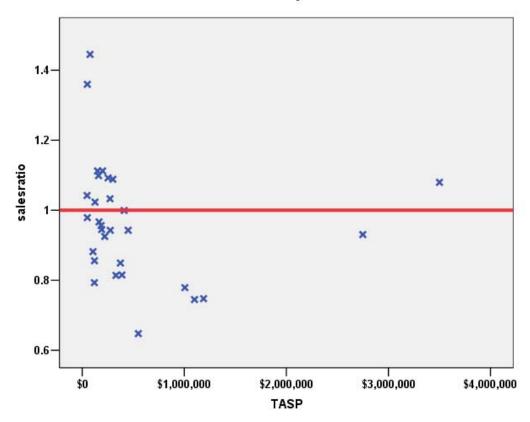
Median	0.951
Price Related Differential	1.040
Coefficient of Dispersion	.132

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





## Commercial Sale Price by Sales Ratio



# **Commercial Market Trend Analysis**

The 17 commercial/industrial sales were next analyzed, examining the sales ratios across the 60-month sale period with the following results:

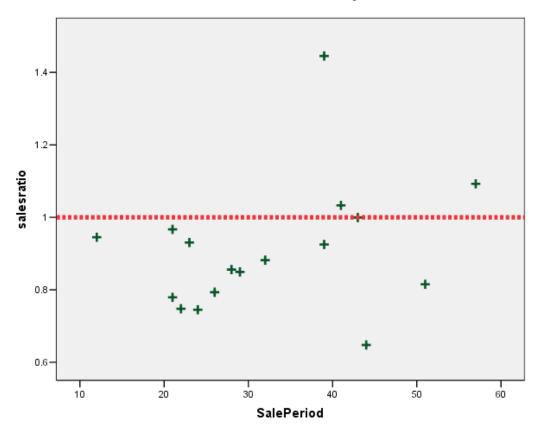
Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.778	.127		6.142	.000
	SalePeriod	.004	.004	.272	1.095	.291

a. Dependent Variable: salesratio



### Commercial Market Trend Analysis



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

## **Sold/Unsold Analysis**

We compared the median change in value between 2008 and 2010 for sold and unsold commercial properties to determine if the assessor was valuing each group consistently, as follows:

Group	N	Median	Mean
Unsold	188	0.91	1.07
Sold	17	0.91	0.92

Based on these results, we concluded that the assessor was valuing sold and unsold commercial properties consistently in Elbert County.



## V. VACANT LAND SALE RESULTS

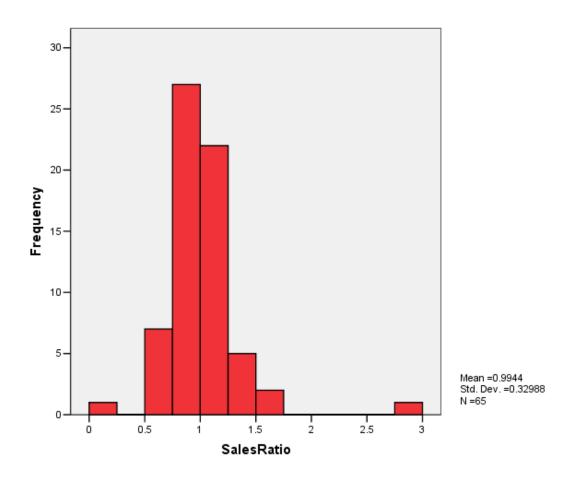
The following steps were taken to analyze vacant land sales:

1. Total sales	1,385
2. Selected qualified sales	727
3. Select vacant land sales	65

The sales ratio analysis results were as follows:

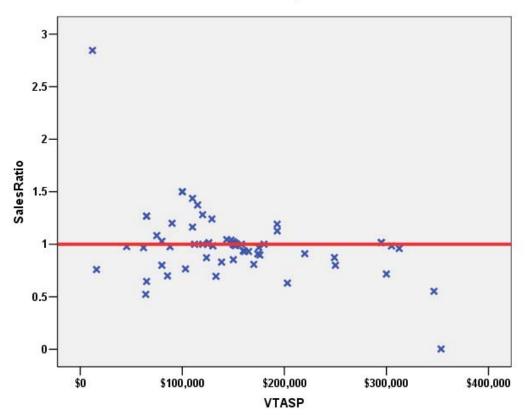
Median	0.985
Price Related Differential	1.072
Coefficient of Dispersion	.182

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









# **Vacant Land Market Trend Analysis**

The 65 vacant land sales were next analyzed, examining the sales ratios across the 18 month sale period with the following results:

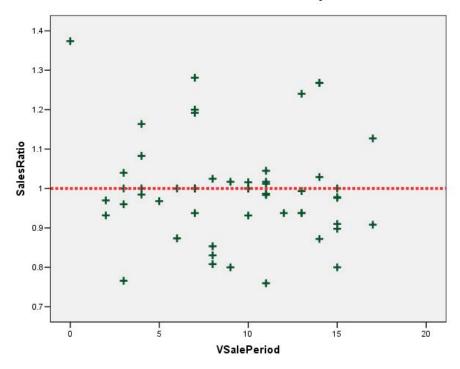
### Coefficientsa

			lardized cients	Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.025	.043		23.925	.000
	VSalePeriod	003	.004	097	697	.489

a. Dependent Variable: SalesRatio







The market trend results indicated no significant residual market trend; we therefore concluded that the assessor has adequately addressed market trending in Elbert County's vacant land valuation.

# **Sold/Unsold Analysis**

We compared the median change in actual value between 2008 and 2010 for vacant land properties (stratified by subdivision) to determine if sold and unsold properties were valued consistently, as follows:

SUBDIVNO	Group	N	Median	Mean
3.00	Unsold	8	.90	.91
	Sold	1	.90	.90
16.00	Unsold	1	1.42	1.42
	Sold	1	1.25	1.25
31.00	Unsold	21	.89	.93
	Sold	1	.89	.89
47.00	Unsold	8	.90	.93
	Sold	1	.90	.90
146.00	Unsold	9	.95	.95
	Sold	1	.95	.95
162.00	Unsold	17	1.28	1.28
	Sold	5	1.28	1.28
217.00	Unsold	2	.94	.94



	Sold	1	.94	.94
232.00	Unsold	4	1.03	1.03
	Sold	1	1.03	1.03
237.00	Unsold	4	1.01	1.26
	Sold	1	1.01	1.01
266.00	Unsold	98	1.00	1.00
	Sold	2	1.00	1.00
277.00	Unsold	4	1.00	1.25
	Sold	1	1.00	1.00
294.00	Unsold	12	.74	.74
	Sold	1	1.56	1.56
302.00	Unsold	1	1.00	1.00
	Sold	1	.64	.64
320.00	Unsold	2	.97	.97
	Sold	1	.97	.97
344.00	Unsold	13	1.05	1.05
	Sold	3	1.09	1.08
356.00	Unsold	129	1.48	1.47
	Sold	5	1.48	1.75
380.00	Unsold	8	.86	.89
	Sold	1	.86	.86
392.00	Unsold	10	1.33	1.16
	Sold	1	1.33	1.33
405.00	Unsold	104	1.29	268.54
	Sold	5	1.29	1.13
417.00	Unsold	12	1.07	.98
	Sold	2	.50	.50
423.00	Unsold	1	1.18	1.18
	Sold	1	1.06	1.06
462.00	Unsold	14	.99	.99
	Sold	1	1.14	1.14
487.00	Unsold	73	.80	.80
100.05	Sold	9	.80	.90
499.00	Unsold	4	1.34	3.64
	Sold	4	1.34	1.43
Total	Unsold	559	1.05	50.88
	Sold	65	1.16	1.24

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



### V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the actual value per square foot rate for this group and compared it to rates assigned to residential single family improvements in Elbert County.

The following indicates that agricultural residential improvements were valued in a manner similar to the single family residential improvements in this county:

### Descriptives

	abstrimp			Statistic	Std. Error
ImpValSF	1212	Mean		\$62.98	\$.269
		95% Confidence	Lower Bound	\$62.46	
		Interval for Mean	Upper Bound	\$63.51	
		5% Trimmed Mean		\$63.38	
		Median		(\$64.43)	
		Variance		484.040	
		Std. Deviation		\$22.001	
		Minimum		\$0	
		Maximum		\$470	
		Range		\$470	
		Interquartile Range		\$31	
		Skewness		.862	.030
		Kurtosis		19.127	.060
	4277	Mean		\$62.09	\$1.325
		95% Confidence	Lower Bound	\$59.49	
		Interval for Mean	Upper Bound	\$64.70	
		5% Trimmed Mean		862.96	
		Median		(\$66.46)	
		Variance		575.642	
		Std. Deviation		\$23.993	
		Minimum		\$2	
		Maximum		\$115	
		Range		\$113	
		Interquartile Range		\$37	
		Skewness		488	.135
		Kurtosis		453	.268

### **VI. Conclusions**

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



### **STATISTICAL ABSTRACT**

### **Residential**

#### Ratio Statistics for CURRTOT / TASP

Mean		1.023
95% Confidence Interval	Lower Bound	1.008
for Mean	Upper Bound	1.038
Median		.998
95% Confidence Interval	Lower Bound	.981
for Median	Upper Bound	1.007
	Actual Coverage	95.4%
Weighted Mean		.987
95% Confidence Interval	Lower Bound	.974
for Weighted Mean	Upper Bound	1.000
Price Related Differential		1.037
Coefficient of Dispersion		.129
Coefficient of Variation	Mean Centered	19.0%

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		.967
95% Confidence Interval	Lower Bound	.903
for Mean	Upper Bound	1.031
Median		.951
95% Confidence Interval	Lower Bound	.882
for Median	Upper Bound	1.033
	Actual Coverage	95.7%
Weighted Mean		.930
95% Confidence Interval	Lower Bound	.840
for Weighted Mean	Upper Bound	1.019
Price Related Differential		1.040
Coefficient of Dispersion		.132
Coefficient of Variation	Mean Centered	17.7%

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 / vTASP

Mean		.994
95% Confidence Interval	Lower Bound	.913
for Mean	Upper Bound	1.076
Median		.985
95% Confidence Interval	Lower Bound	.938
for Median	Upper Bound	1.000
	Actual Coverage	95.4%
Weighted Mean		.928
95% Confidence Interval	Lower Bound	.845
for Weighted Mean	Upper Bound	1.011
Price Related Differential		1.072
Coefficient of Dispersion		.182
Coefficient of Variation	Mean Centered	33.2%

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.

## **Residential Median Ratio Stratification**

### **Sale Price**

### **Case Processing Summary**

		Count	Percent
SPRec	\$50K to \$100K	12	1.8%
	\$100K to \$150K	45	6.9%
	\$150K to \$200K	70	10.7%
	\$200K to \$300K	173	26.5%
	\$300K to \$500K	258	39.6%
	\$500K to \$750K	79	12.1%
	\$750K to \$1,000K	13	2.0%
	Over \$1,000K	2	.3%
Overall		652	100.0%
Excluded		0	
Total		652	



## **Case Processing Summary**

		Count	Percent
SPRec	\$50K to \$100K	12	1.8%
	\$100K to \$150K	45	6.9%
	\$150K to \$200K	70	10.7%
	\$200K to \$300K	173	26.5%
	\$300K to \$500K	258	39.6%
	\$500K to \$750K	79	12.1%
	\$750K to \$1,000K	13	2.0%
	Over \$1,000K	2	.3%
Overall		652	100.0%
Excluded		0	
Total		652	

## **Subclass**

# **Case Processing Summary**

		Count	Percent
Preduse	550.00	1	.2%
	1212.00	646	99.1%
	1215.00	1	.2%
	1230.00	4	.6%
Overall		652	100.0%
Excluded		0	
Total		652	

## Ratio Statistics for CURRTOT / TASP

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
550.00	.555	1.000	.000	
1212.00	.995	1.037	.129	19.7%
1215.00	1.008	1.000	.000	
1230.00	1.031	.998	.042	7.2%
Overall	.998	1.037	.129	19.6%



# Age

# **Case Processing Summary**

		Count	Percent
AgeRec	0	1	.2%
	Over 100	9	1.4%
	75 to 100	13	2.0%
	50 to 75	4	.6%
	25 to 50	83	12.7%
	5 to 25	343	52.6%
	5 or Newer	199	30.5%
Overall		652	100.0%
Excluded		0	
Total		652	

## Ratio Statistics for CURRTOT / TASP

				Coefficient of Variation
	5.4 P	Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	.555	1.000	.000	
Over 100	1.008	1.056	.217	27.6%
75 to 100	.986	1.070	.295	38.0%
50 to 75	.985	1.036	.174	22.9%
25 to 50	.988	1.035	.147	24.1%
5 to 25	1.011	1.034	.136	20.5%
5 or Newer	.966	1.018	.088	11.5%
Overall	.998	1.037	.129	19.6%

# **Improved Area**

# **Case Processing Summary**

		Count	Percent
ImpSFRec	0	1	.2%
	500 to 1,000 sf	4	.6%
	1,000 to 1,500 sf	39	6.0%
	1,500 to 2,000 sf	58	8.9%
	2,000 to 3,000 sf	152	23.3%
	3,000 sf or Higher	398	61.0%
Overall		652	100.0%
Excluded		0	
Total		652	



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

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	.555	1.000	.000	
500 to 1,000 sf	.960	1.028	.182	22.2%
1,000 to 1,500 sf	.961	1.041	.126	16.6%
1,500 to 2,000 sf	1.041	1.024	.129	19.3%
2,000 to 3,000 sf	1.003	1.040	.145	24.0%
3,000 sf or Higher	.987	1.031	.120	17.9%
Overall	.998	1.037	.129	19.6%

# **Improvement Quality**

# **Case Processing Summary**

	Count	Percent
qual 1	2	.3%
2	69	10.6%
3	488	75.0%
4	87	13.4%
5	5	.8%
Overall	651	100.0%
Excluded	1	
Total	652	

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

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
1	1.349	1.145	.414	58.6%
2	1.049	1.038	.204	33.0%
3	.991	1.027	.120	16.9%
4	.969	1.020	.097	13.3%
5	.965	1.023	.103	13.5%
Overall	.999	1.037	.128	19.5%



# **Commercial Median Ratio Stratification**

## **Sale Price**

## **Case Processing Summary**

		Count	Percent
SPRec	\$25K to \$50K	3	10.0%
	\$50K to \$100K	1	3.3%
	\$100K to \$150K	5	16.7%
	\$150K to \$200K	5	16.7%
	\$200K to \$300K	5	16.7%
	\$300K to \$500K	5	16.7%
	\$500K to \$750K	1	3.3%
	Over \$1,000K	5	16.7%
Overall		30	100.0%
Excluded		0	
Total		30	

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

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
\$25K to \$50K	1.042	.999	.122	22.0%
\$50K to \$100K	1.445	1.000	.000	
\$100K to \$150K	.882	.989	.110	16.2%
\$150K to \$200K	.967	1.000	.064	10.2%
\$200K to \$300K	1.033	.996	.061	7.9%
\$300K to \$500K	.849	.994	.074	10.8%
\$500K to \$750K	.648	1.000	.000	
Over \$1,000K	.779	.926	.133	21.8%
Overall	.951	1.040	.132	18.1%