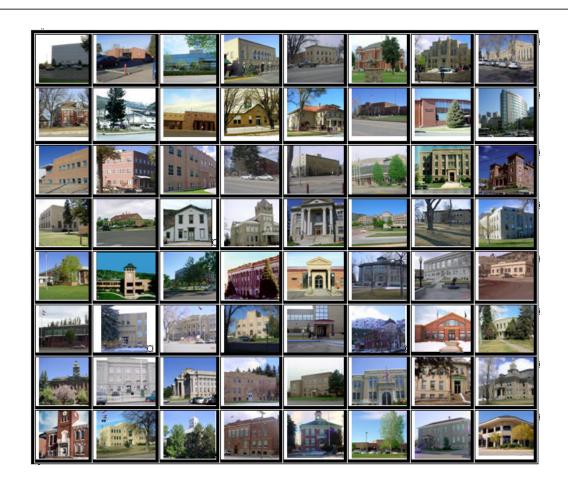


# 2012 RIO GRANDE COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2012

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

RE: Final Report for the 2012 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2012 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 2012 and is pleased to report its findings for Rio Grande County in the following report.



# REGIONAL/HISTORICAL SKETCH OF RIO GRANDE COUNTY

# **Regional Information**

Rio Grande County is located in the San Luis Valley region of Colorado. The San Luis Valley is a large, broad, alpine valley in the Rio Grande Basin of south-central Colorado. The valley is drained to the south by the Rio Grande

River which rises in the San Juan Mountains to the west of the valley. The San Luis Valley includes Alamosa, Conejos, Costilla, Mineral, Rio Grande, and Saguache counties.





#### **Historical Information**

Rio Grande County has a population of approximately 11,982 people with 13.14 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a -3.47 percent change from the 2000 Census.

The gateway to the San Juan Mountains, Rio Grande County is one of the highlights of the San Luis Valley. The county covers 913 square miles ranging from around 7,000 feet on valley floor to numerous 13,000-foot peaks. The scenic landscape and close community make Rio Grande County a great place to vacation, work and live. There are three municipalities within the county, Monte Vista, Del Norte, and South Fork and all have been historically developed along the rail line that follows the Rio Grande River.

Monte Vista is the county's largest community situated on the valley floor and is the center of the agricultural aspect of the county. There are numerous festivals and events that take place in and around Monte Vista. The Monte Vista National Wildlife Refuge is a stop for migratory Sand Hill Cranes every year.

Del Norte is a quaint town with a focus on its historic past. It is the county seat, home to the Rio Grande County Museum, and maintains a historic façade on its main street. Home to many small shops and boutiques, it is a beautiful place to shop and also provides recreational activity with climbing, hiking, and fishing close by.

The newest town in Rio Grande County is South Fork. South Fork is surrounded by the Rio Grande National Forest and other public lands and has easy access to Wolf Creek Ski Area. Developed as a logging center, it has become a gem of the Valley with a booming housing market, world class 18 hole golf course, and the distinction of being the Gateway to the Silver Thread scenic byway.

(www.riograndecounty.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 2009 and June 2010. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2010 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 Rio Grande County are:

Rio Grande County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis	
Commercial/Industrial	20	0.950	1.051	15.3	Compliant	
Condominium	N/A	N/A	N/A	N/A	N/A	
Single Family	139	0.990	1.032	13.2	Compliant	
Vacant Land	215	0.974	0.988	15.4	Compliant	

After applying the above described methodologies, it is concluded from the sales ratios that Rio Grande 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, 2009 through June 30, 2010. 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, Rio Grande 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 Rio Grande County has complied with the statutory requirements to analyze the effects of time on value in their county. Rio Grande 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

Rio Grande 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 2010 and 2012 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 Results				
Property Class	Results			
Commercial/Industrial	Compliant			
Condominium	N/A			
Single Family	Compliant			
Vacant Land	Compliant			

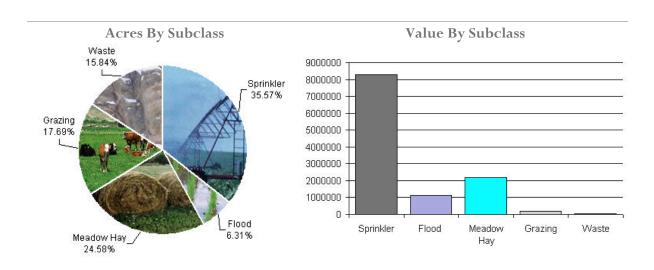
#### Conclusions

After applying the above described methodologies, it is concluded that Rio Grande 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: 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 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:



	Rio Grande County Agricultural Land Ratio Grid						
Abstract	Number County County WRA Abstract Of Value Assessed Total						
Code	Land Class	Acres	Per Acre	Total Value	Value	Ratio	
4107	Sprinkler	67,784	122.00	8,272,623	7,759,045	1.07	
4117	Flood	12,033	95.00	1,143,838	1,099,254	1.04	
4137	Meadow Hay	46,840	46.00	2,170,571	2,170,571	1.00	
4147	Grazing	33,706	6.00	196,485	196,485	1.00	
4167	Waste	30,191	2.00	48,727	48,727	1.00	
Total/Avg		190,554	62.00	11,832,244	11,274,082	1.05	

#### Recommendations

None

# **Agricultural Outbuildings**

# Methodology

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

#### Conclusions

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

#### Recommendations

None

# **Agricultural Land Under Improvements**

# Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.19 and 5.20 were being followed.

#### **Conclusions**

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

#### Recommendations



# SALES VERIFICATION

#### According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2012 for Rio Grande County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 31 sales listed as unqualified.

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

#### Conclusions

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

#### Recommendations



# ECONOMIC AREA REVIEW AND EVALUATION

#### Methodology

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



# VACANT LAND

#### **Subdivision Discounting**

Subdivisions were reviewed in 2012 in Rio Grande 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

Rio Grande 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, license, concession, contract, or other agreement.

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

assessing and valuing agricultural possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

#### Conclusions

Rio Grande 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

Rio Grande 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, documentation procedures, classification, 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.

Rio Grande 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
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications

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.

Rio Grande County submitted their personal property written audit plan and was current for the 2012 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:

- Accounts with obvious discrepancies
- New businesses filing for the first time
- Incomplete or inconsistent declarations
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts Best Information Available
- Accounts close to the \$5,500 actual value exemption status
- Accounts protested with substantial disagreement



#### **Conclusions**

Rio Grande 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

Carl W. Ross, Agricultural/Natural Resource Analyst

J. Andrew Rodriguez, Field Analyst



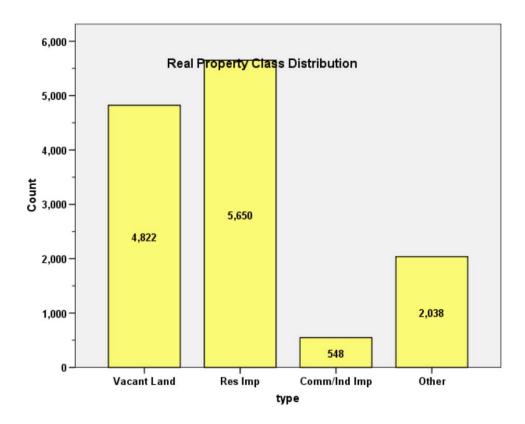
# APPENDICES



# STATISTICAL COMPLIANCE REPORT FOR RIO GRANDE COUNTY 2012

#### I. OVERVIEW

Rio Grande County is located in south central Colorado. The county has a total of 13,058 real property parcels, according to data submitted by the county assessor's office in 2012. 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) accounted for 80% of all vacant land parcels.

For residential improved properties, single family properties accounted for 80.5% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 4% of all such properties in this county.



#### II. DATA FILES

The following sales analyses were based on the requirements of the 2012 Colorado Property Assessment Study. Information was provided by the Rio Grande Assessor's Office in April 2012. The data included all 5 property record files as specified by the Auditor.

#### III. RESIDENTIAL SALES RESULTS

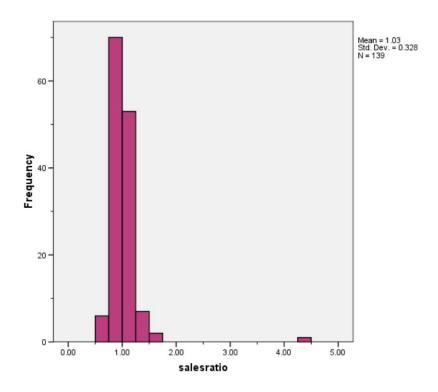
The following steps were taken to analyze the residential sales:

1. Total sales	847
2. Select improved sales	213
3. Select residential sales only	191
4. Sales between January 1, 2009 and June 30, 2010	139

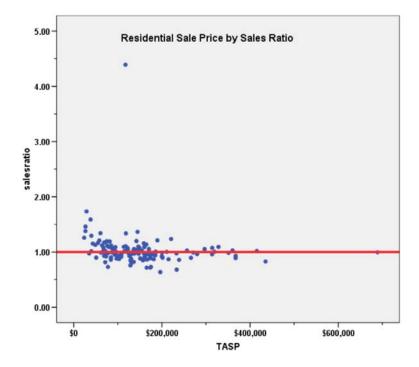
The sales ratio analysis was analyzed as follows:

Median	0.990
Price Related Differential	1.032
Coefficient of Dispersion	.132

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.

#### **Residential Market Trend Analysis**

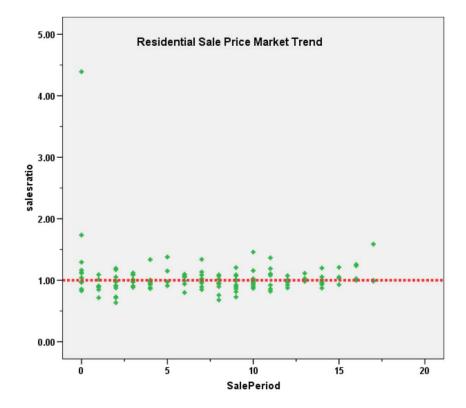
We next analyzed the residential dataset using the 18-month sale period for any residual market trending, with the following results:

Coefficients<sup>a</sup>

Mod	el	Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.058	.050		21.024	.000
	SalePeriod	004	.006	056	657	.513

a. Dependent Variable: salesratio





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

#### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median and mean actual value per square foot for 2012 between each group, as follows:

Group	No. Props	Median Val/SF	Mean Val/SF
Unsold	4,122	\$74	\$87
Sold	138	\$82	\$91

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

#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

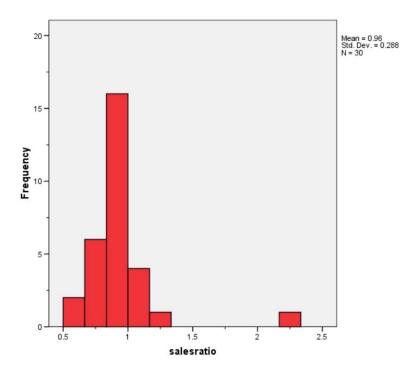
The auditor visited with the county assessor's office to verify that the commercial/industrial sales provided by the assessor were valid. Out of 24 qualified in the original data submission, 4 were found to be invalid and removed from the analysis. The new commercial/industrial sale file was provided by the assessor in June 2012 based on this field audit of the commercial and industrial sales. This file totaled 20 sales.



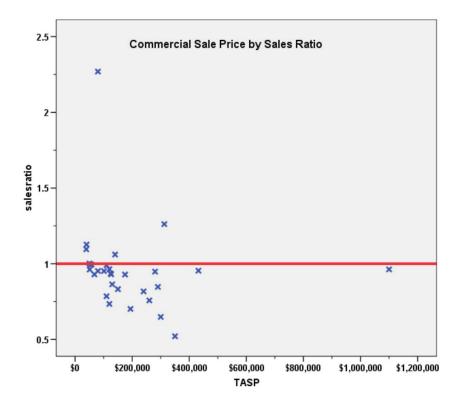
Because there were fewer than 30 sales, 10 supplemental appraisals of unsold commercial/industrial properties were completed to bring the total number of analyzed properties to 30 for the final sales ratio analysis. We used all 30 sold and appraised properties for the ratio analysis, and the 20 sold properties for the market trending and sold/unsold analysis.

Median	0.950
Price Related Differential	1.051
Coefficient of Dispersion	.153

The median sales ratio statistics were in compliance. The following histogram and scatter plot describe the sales ratio distribution further:







# Commercial/Industrial Market Trend Analysis

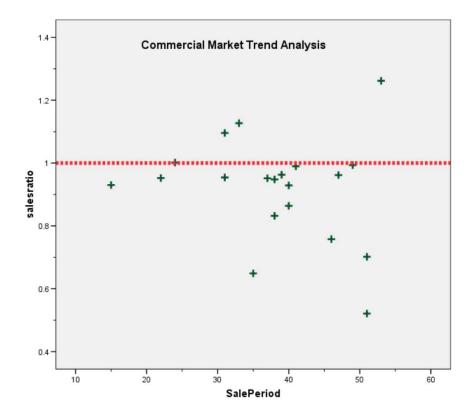
The assessor did not apply any market trend adjustment to the commercial/industrial dataset. The 20 commercial/industrial sales were analyzed, examining the sale ratios across a 60-month sale period with the following results:

Coefficients<sup>a</sup>

Mode	I	Unstandardized Coefficients		Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.045	.150		6.981	.000
	SalePeriod	003	.004	200	866	.398

a. Dependent Variable: salesratio





The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Rio Grande County.

#### **Sold/Unsold Analysis**

We compared the median change in value between 2010 and 2012 between sold and unsold commercial properties, as follows:

Group	No.	Median	Mean
Unsold	516	1.06	1.21
Sold	20	1.05	1.11

The above results indicate that the assessor has valued sold and unsold commercial/industrial properties consistently.

#### V. VACANT LAND SALE RESULTS

The following steps were taken to analyze vacant land sales:

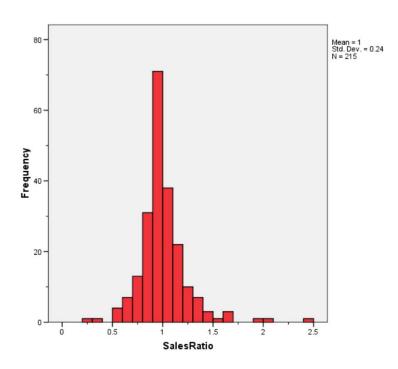
1. Total sales	847
2. Select vacant land sales	216
4. Select non-agricultural sales	215
5. Sales between January 2007 and June 2010	215



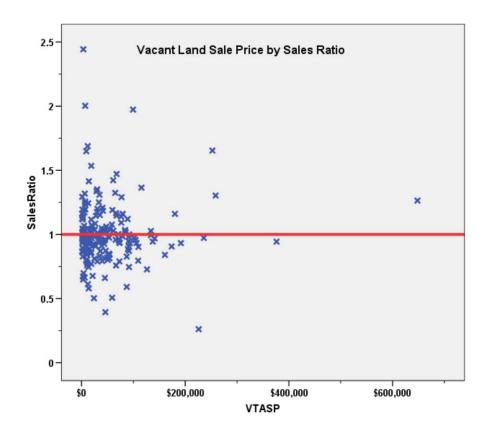
The sales ratio analysis was analyzed as follows:

Median	0.974
Price Related Differential	0.988
Coefficient of Dispersion	.154

The above tables indicate that the Rio Grande 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**

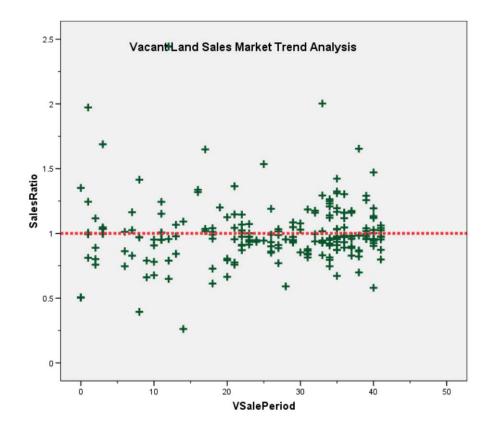
The assessor did not apply any market trend adjustment to the vacant land dataset. The 215 vacant land sales were analyzed, examining the sale ratios across the 42 month sale period with the following results:

Coefficients<sup>a</sup>

ſ	Model		Unstandardize	d Coefficients	Standardized Coefficients		
L			В	Std. Error	Beta	t	Sig.
Γ	1	(Constant)	.986	.038		25.964	.000
L		VSalePeriod	.001	.001	.033	.481	.631

a. Dependent Variable: SalesRatio





The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Rio Grande County.

#### Sold/Unsold Analysis

We compared the median change in actual value between 2010 and 2012 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean
Unsold	4,484	0.78	0.87
Sold	215	0.71	0.78

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 Rio Grande County.

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



		Descri	ptives				
	ABSTE	RIMP		Statistic	Std. Error		
ImpValSF	1212	Mean		\$69.53	\$.527		
		95% Confidence Interval for	Lower Bound	\$68.50			
		Mean	Upper Bound	\$70.56			
		5% Trimmed Mean		\$67.04			
		Median	\$62.67	)			
		Variance		1195.409			
		Std. Deviation		\$34.575			
		Minimum		\$1			
		Maximum	\$324				
		Range		\$322			
		Interquartile Range		\$38			
		Skewness		1.375	.03		
		Kurtosis	3.322	.07			
	4277	Mean	\$69.79	\$2.690			
		95% Confidence Interval for	Lower Bound	\$64.47			
		Mean	Upper Bound	\$75.10			
		5% Trimmed Mean		\$67.56			
		Median		\$62.74	)		
		Variance		1179.649			
		Std. Deviation	Std. Deviation				
		Minimum	\$5				
		Maximum	\$219				
		Range	\$214				
		Interguartile Range		\$42			
	,	Skewness		1.157	.19		
		Kurtosis		1.925	.37		

#### VI. CONCLUSIONS

The results from the statistical analysis indicate that residential, commercial and vacant properties in Rio Grande County were compliant with Colorado State Audit guidelines. Agricultural residential values were also found to meet state guidelines.



#### STATISTICAL ABSTRACT Residential

#### Ratio Statistics for CURRTOT / TASP

	95% Confiden Me			95% Con	fidence Interval fo	or Median		95% Confiden Weighte				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.030	.975	1.085	.990	.972	1.004	95.9%	.998	.954	1.042	1.032	.132	31.8%

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.

#### Commercial/Industrial

#### Ratio Statistics for CURRTOT / TASP

	95% Confiden Me			95% Con	fidence Interval fo	or Median		95% Confiden Weighte				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.957	.850	1.065	.950	.864	.964	95.7%	.911	.823	.999	1.051	.153	30.1%

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**

	95% Confiden Me			95% Con	fidence Interval fo	or Median		95% Confiden Weighte				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.002	.970	1.034	.974	.955	.991	95.9%	1.014	.948	1.080	.988	.154	23.9%

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



# **Residential Median Ratio Stratification**

#### Sale Price

#### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	1	.7%
	\$25K to \$50K	9	6.5%
	\$50K to \$100K	35	25.2%
	\$100K to \$150K	38	27.3%
	\$150K to \$200K	32	23.0%
	\$200K to \$300K	13	9.4%
	\$300K to \$500K	10	7.2%
	\$500K to \$750K	1	.7%
Overall		139	100.0%
Excluded	ı	0	
Total		139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.258	1.000	.000	.%
\$25K to \$50K	1.294	1.021	.163	20.2%
\$50K to \$100K	1.010	1.005	.094	12.4%
\$100K to \$150K	.997	1.003	.176	57.3%
\$150K to \$200K	.941	1.001	.096	13.3%
\$200K to \$300K	.974	.998	.090	13.3%
\$300K to \$500K	.994	1.005	.063	8.3%
\$500K to \$750K	.994	1.000	.000	.%
Overall	.990	1.032	.132	33.4%



#### **Sub-Class**

# **Case Processing Summary**

		Count	Percent
ABSTRIMP	1212	136	97.8%
	1230	1	.7%
	2176	1	.7%
	2220	1	.7%
Overall		139	100.0%
Excluded		0	
Total		139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1212	.990	1.028	.109	16.2%
1230	.922	1.000	.000	.%
2176	4.392	1.000	.000	.%
2220	.930	1.000	.000	.%
Overall	.990	1.032	.132	33.4%



# Age

# **Case Processing Summary**

		Count	Percent
AgeRec	Over 100	19	13.7%
	75 to 100	9	6.5%
	50 to 75	19	13.7%
	25 to 50	33	23.7%
	5 to 25	51	36.7%
	5 or Newer	8	5.8%
Overall		139	100.0%
Excluded		0	
Total		139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Over 100	1.035	1.114	.191	27.0%
75 to 100	.909	.988	.094	12.1%
50 to 75	.998	1.010	.113	15.0%
25 to 50	.986	1.028	.089	12.8%
5 to 25	.994	1.048	.156	50.1%
5 or Newer	.971	1.002	.052	7.3%
Overall	.990	1.032	.132	33.4%



# Improved Area

# **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	2	1.4%
	500 to 1,000 sf	21	15.1%
	1,000 to 1,500 sf	47	33.8%
	1,500 to 2,000 sf	38	27.3%
	2,000 to 3,000 sf	29	20.9%
	3,000 sf or Higher	2	1.4%
Overall		139	100.0%
Excluded		0	
Total		139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LE 500 sf	.894	1.004	.039	5.6%
500 to 1,000 sf	.973	1.049	.133	18.1%
1,000 to 1,500 sf	1.007	1.041	.123	19.6%
1,500 to 2,000 sf	.971	1.005	.103	13.9%
2,000 to 3,000 sf	.990	1.009	.069	9.6%
3,000 sf or Higher	2.740	1.102	.603	85.3%
Overall	.990	1.032	.132	33.4%



# Improvement Quality

#### Case Processing Summary

	Count	Percent
QUALITY 0	9	6.5%
1	62	44.6%
2	61	43.9%
3	7	5.0%
Overall	139	100.0%
Excluded	0	
Total	139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
0	1.294	1.023	.153	20.3%
1	.989	1.027	.110	15.5%
2	.974	1.027	.144	46.9%
3	1.003	1.002	.036	5.2%
Overall	.990	1.032	.132	33.4%



# **Improvement Condition**

#### **Case Processing Summary**

		Count	Percent
CONDITIOn	0	9	6.5%
	1	62	44.6%
	2	61	43.9%
	3	7	5.0%
Overall		139	100.0%
Excluded		0	
Total		139	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
0	1.294	1.023	.153	20.3%
1	.989	1.027	.110	15.5%
2	.974	1.027	.144	46.9%
3	1.003	1.002	.036	5.2%
Overall	.990	1.032	.132	33.4%



# **Commercial Median Ratio Stratification**

#### Sale Price

#### **Case Processing Summary**

		Count	Percent
SPRec	\$25K to \$50K	3	10.0%
	\$50K to \$100K	6	20.0%
	\$100K to \$150K	10	33.3%
	\$150K to \$200K	2	6.7%
	\$200K to \$300K	5	16.7%
	\$300K to \$500K	3	10.0%
	Over \$1,000K	1	3.3%
Overall		30	100.0%
Excluded	i	0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
\$25K to \$50K	1.096	1.005	.038	6.4%
\$50K to \$100K	.978	.961	.241	59.2%
\$100K to \$150K	.933	1.000	.081	11.1%
\$150K to \$200K	.815	1.007	.139	19.7%
\$200K to \$300K	.817	1.002	.095	13.7%
\$300K to \$500K	.954	1.010	.259	39.4%
Over \$1,000K	.963	1.000	.000	.%
Overall	.950	1.051	.153	30.3%



# Subclass

#### **Case Processing Summary**

		Count	Percent
ABSTRIMP	1712	1	3.3%
	2212	8	26.7%
	2220	9	30.0%
	2230	12	40.0%
Overall		30	100.0%
Excluded		0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1712	2.269	1.000	.000	.%
2212	.958	1.017	.075	11.4%
2220	.935	1.009	.100	14.9%
2230	.939	1.032	.142	20.6%
Overall	.950	1.051	.153	30.3%



# Age

# **Case Processing Summary**

		Count	Percent
AgeRec	Over 100	7	23.3%
	75 to 100	4	13.3%
	50 to 75	7	23.3%
	25 to 50	4	13.3%
	5 to 25	8	26.7%
Overall		30	100.0%
Excluded		0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Over 100	.962	1.011	.075	10.5%
75 to 100	.921	1.158	.457	85.6%
50 to 75	.952	1.120	.123	21.2%
25 to 50	.978	1.044	.054	9.0%
5 to 25	.897	.980	.144	20.8%
Overall	.950	1.051	.153	30.3%



# Improved Area

# **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	1	3.3%
	500 to 1,000 sf	1	3.3%
	1,000 to 1,500 sf	7	23.3%
	1,500 to 2,000 sf	2	6.7%
	2,000 to 3,000 sf	6	20.0%
	3,000 sf or Higher	13	43.3%
Overall		30	100.0%
Excluded		0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LE 500 sf	.993	1.000	.000	.%
500 to 1,000 sf	1.096	1.000	.000	.%
1,000 to 1,500 sf	.935	1.045	.079	12.3%
1,500 to 2,000 sf	.783	1.021	.104	14.7%
2,000 to 3,000 sf	.973	1.002	.125	20.1%
3,000 sf or Higher	.952	1.075	.207	43.3%
Overall	.950	1.051	.153	30.3%



# **Improvement Quality**

# Case Processing Summary

	Count	Percent
QUALITY 1	13	43.3%
2	12	40.0%
3	5	16.7%
Overall	30	100.0%
Excluded	0	
Total	30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	.964	1.051	.149	39.7%
2	.825	1.009	.155	19.7%
3	.948	.980	.125	19.9%
Overall	.950	1.051	.153	30.3%



# Improvement Condition

# **Case Processing Summary**

		Count	Percent
CONDITIOn	1	13	43.3%
	2	12	40.0%
	3	5	16.7%
Overall		30	100.0%
Excluded		0	
Total		30	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	.964	1.051	.149	39.7%
2	.825	1.009	.155	19.7%
3	.948	.980	.125	19.9%
Overall	.950	1.051	.153	30.3%



# **Vacant Land Median Ratio Stratification**

#### **Case Processing Summary**

		Count	Percent
ABSTRLND	100	181	84.2%
	200	2	.9%
	350	1	.5%
	400	1	.5%
	520	1	.5%
	530	1	.5%
	540	4	1.9%
	550	6	2.8%
	560	3	1.4%
	1112	14	6.5%
	1135	1	.5%
Overall		215	100.0%
Excluded		0	
Total		215	

Group					ficient of riation
	Median	Price Related Differential	Coefficient of Dispersion		edian ntered
100	.970	1.029	.140		23.3%
200	1.158	.944	.144		20.4%
350	2.003	1.000	.000	.%	
400	1.001	1.000	.000	.%	
520	1.160	1.000	.000	.%	
530	1.303	1.000	.000	.%	
540	1.165	.922	.188		26.9%
550	1.133	1.097	.133		19.2%
560	1.147	1.035	.128		24.2%
1112	.914	1.007	.188		25.8%
1135	.793	1.000	.000	.%	
Overall	.974	.988	.154		24.8%