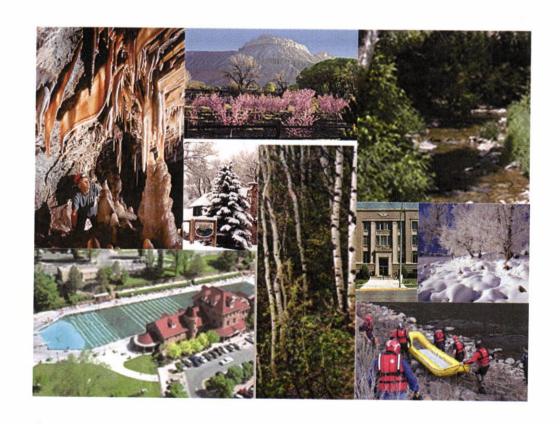


# 2015 GARFIELD COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2015

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

RE: Final Report for the 2015 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2015 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. Zuller

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

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

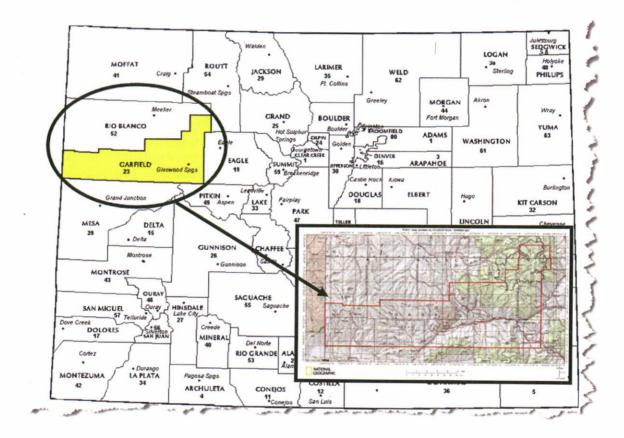
Wildrose Audit has completed the Property Assessment Study for 2015 and is pleased to report its findings for Garfield County in the following report.



# REGIONAL/HISTORICAL SKETCH OF GARFIELD COUNTY

#### **Regional Information**

Garfield County is located in the Western Slope region of Colorado. The Western Slope of Colorado refers to the region west of the Rocky Mountains. It includes Archuleta, Delta, Dolores, Eagle, Garfield, Grand, Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit counties.





#### **Historical Information**

Garfield County has a population of approximately 56,389 people with 19.13 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 28.77 percent change from the 2000 Census.

Garfield County is located in the scenic plateau and canyon country of western Colorado. Covering 3000 square miles, it is 110 miles long and extends to the Utah border. It was carved out of Summit County on February 10, 1883. In historical times, the earliest inhabitants were the Ute Indians, and the land was theirs by treaty until April 12, 1880, when they were removed to reservations after the "Meeker Massacre" of 1879. Although explorers, missionaries, miners, and a few settlers had already visited the area of Garfield County, the main influx of settlers began to arrive and towns were founded beginning in 1880.

The towns in Garfield County are located along the Colorado and Roaring Fork rivers in the eastern end of the county, while much of the western portion has only a few roads and fewer inhabitants. The town of Defiance was founded in 1831 by Isaac Cooper who hoped to develop the natural hot springs into a resort. Unfortunately he died before his dream could be realized. It became the county seat in 1883 and was incorporated and renamed in 1885 as Glenwood Springs, which remains the county seat and largest city today. In 1887 a coal tycoon, Walter Devereaux purchased the hot springs and vapor caves for \$125,000 and began to build the famous pool and spa resort. This was the same year that the Denver and Rio Grande Railroad extended its tracks through the difficult Glenwood Canyon and into Glenwood Springs, Aspen and beyond.

While the county retains part of its ranching and farming heritage, and tourism is important, every town from Carbondale to Parachute has become a bedroom community to provide workers to the ever-booming and ever-expanding Aspen skiing economy. People commute to Aspen, 86 miles from Battlement Mesa, as well as to Grand Junction, 63 miles from Rifle.

(Garfield County, Colorado by Judy Crook and Vikki Gray)



# RATIO ANALYSIS

#### Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 1, 2013 and June 30, 2014. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2014 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 Garfield County are:

Garfield County Ratio Grid						
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis	
Commercial/Industrial	69	0.976	1.064	11.1	Compliant	
Condominium	N/A	N/A	N/A	N/A	N/A	
Single Family	1,092	0.995	1.011	7	Compliant	
Vacant Land	172	1.000	1.069	9.5	Compliant	

After applying the above described methodologies, it is concluded from the sales ratios that Garfield County is in compliance with SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations



# TIME TRENDING VERIFICATION

#### Methodology

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

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

#### Conclusions

After verification and analysis, it has been determined that Garfield County has complied with the statutory requirements to analyze the effects of time on value in their county. Garfield 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

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

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

or if there are other explanations for the observed difference.

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

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

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



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

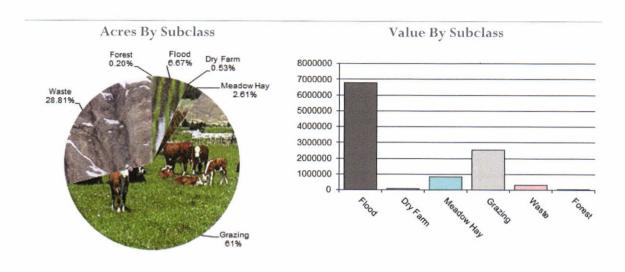
#### Conclusions

After applying the above described methodologies, it is concluded that Garfield 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 any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly.

(See Assessor Reference Library Volume 3 Chapter 5.)

#### Conclusions

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



Garfield County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Fotal Value	WRA Total Value	Ratio
4117	Flood	38,201	175.62	6,708,912	6,795,191	0.99
4127	Dry Farm	3,034	29.20	88,600	89,549	0.99
4137	Meadow Hay	14,977	55.54	831,832	831,832	1.00
4147	Grazing	350,576	7.21	2,529,045	2,529,045	1.00
4177	Forest	1,120	13.67	15,310	15,310	1.00
4167	Waste	165,049	1.99	327,870	327,870	1.00
Total/Avg		572,957	18.33	10,501,567	10,588,797	0.99

#### 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

Garfield County has substantially complied with the procedures provided by the Division

of Property Taxation for the valuation of agricultural outbuildings.

#### Recommendations



# **Agricultural Land Under Improvements**

### Methodology

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

#### Conclusions

Garfield County has used the following methods to discover land under a residential improvement on a farm or ranch that is determined to be not integral under 39-1-102, C.R.S.:

- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Garfield County has used the following methods to discover the land area under a residential improvement that is determined to be not integral under 39-1-102, C.R.S.:

- Property Record Card Analysis
- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Written Correspondence other than Questionnaire
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Garfield 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 2015 for Garfield County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 38 sales listed as unqualified.

All but one of the sales selected in the sample gave reasons that were clear and supportable. One sale had insufficient reason for disqualification.

For residential, commercial, and vacant land sales with considerations over \$500, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

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

When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number



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

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

Garfield County did not qualify for indepth subclass analysis.

#### Conclusions

Garfield County appears to be doing a good job of verifying their sales. There are no recommendations.

#### Recommendations



# ECONOMIC AREA REVIEW AND EVALUATION

#### Methodology

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

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

#### Recommendations



# NATURAL RESOURCES

#### **Earth and Stone Products**

#### Methodology

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

#### Conclusions

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

#### Recommendations

None

# **Producing Oil and Gas**

# Methodology

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

#### STATUTORY REFERENCES

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

#### Actual value determined - when.

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

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

#### Valuation:

#### Valuation for assessment.

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

#### § 39-7-102, C.R.S.

#### Conclusions

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

#### Recommendations



# **Producing Coal Mines**

#### Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Section 6, Valuation of Producing Coal Leaseholds and Lands, the income approach is the primary method applied to find value for the valuation of coalmines. This methodology estimates annual economic royalty income based on previous year's production, then capitalizes that income to value using a Hoskold factor to

estimate the present worth of the permitted acres. The operator provides production data and the life of the leases.

#### Conclusions

County has applied the correct formulas and state guidelines to coal mine valuation.

#### Recommendations



# VACANT LAND

#### **Subdivision Discounting**

Subdivisions were reviewed in 2015 in Garfield County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was

developed using the summation method. Subdivision land with structures was appraised at full market value.

#### Conclusions

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

Garfield County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural, commercial and ski area 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

Garfield 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

Garfield 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.

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

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

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

Garfield County submitted their personal property written audit plan and was current for the 2015 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
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Accounts with omitted property



- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts Best Information Available
- Accounts close to the \$7,300 actual value exemption status
- Accounts protested with substantial disagreement

#### Conclusions

Garfield 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



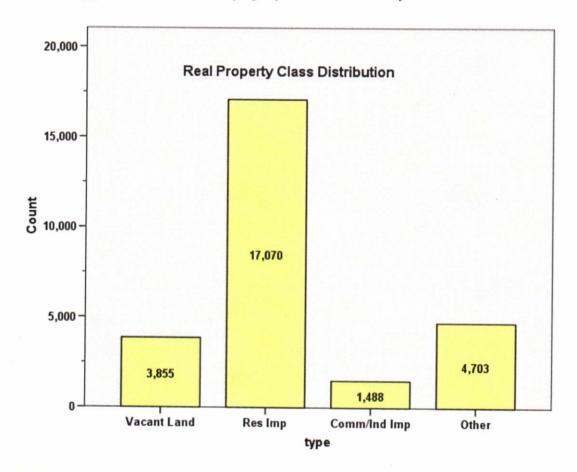
# APPENDICES



#### STATISTICAL COMPLIANCE REPORT FOR GARFIELD COUNTY 2015

#### I. OVERVIEW

Garfield County is a mountain resort county located in west central Colorado. The county has a total of 27,116 real property parcels, according to data submitted by the county assessor's office in 2015. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 48.7% of all vacant land parcels.

For residential improved properties, single family properties accounted for 86.9% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 5.5% of all such properties in this county.



#### II. DATA FILES

The following sales analyses were based on the requirements of the 2015 Colorado Property Assessment Study. Information was provided by the Garfield Assessor's Office in April 2015. The data included all 5 property record files as specified by the Auditor.

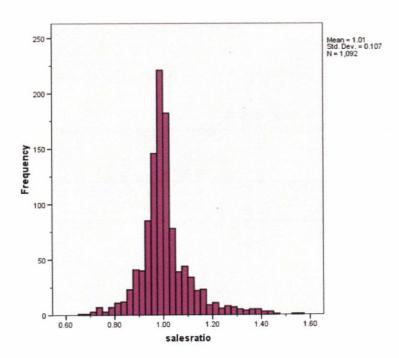
#### III. RESIDENTIAL SALES RESULTS

There were 1,092 qualified residential sales for this analysis. The sale period ran from January 2013 to June 2014.

The sales ratio analysis was analyzed as follows:

Median	0.995
Price Related Differential	1.011
Coefficient of Dispersion	.070

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

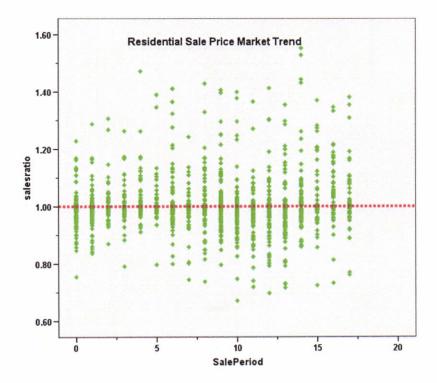
We next analyzed the residential dataset using the 18-month sale period for any residual market trending, as follows:

Coefficients<sup>a</sup>

Model		Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	.999	.006		163.294	.000
	SalePeriod	.001	.001	.045	1.495	.135

a. Dependent Variable: salesratio





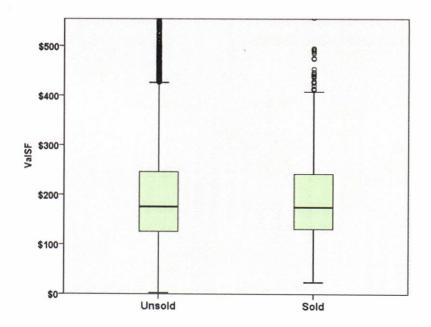
The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties.

#### Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2015 between each group, as follows:

Group	N	Median	Mean
Unsold	15,625	\$176	\$194
Sold	1,085	\$175	\$191





**Hypothesis Test Summary** 

	Null Hypothesis	Test	Sig.	Decision
1	The medians of ValSF are the same across categories of sold.	Independent- Samples Median Test	.551	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

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

#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

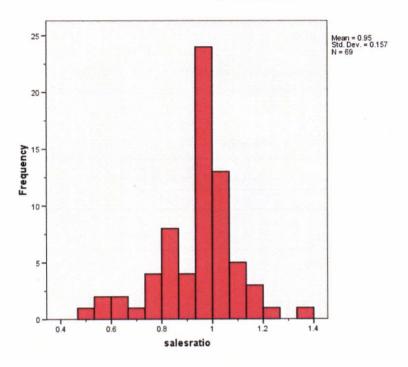
There were 69 qualified commercial sales for this analysis. The sale period ran from July 2012 to June 2014.

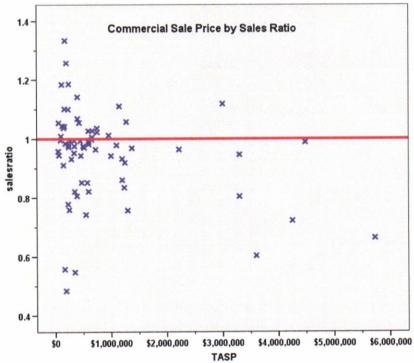
The sales ratio analysis was analyzed as follows:

Median	0.976
Price Related Differential	1.064
Coefficient of Dispersion	.111

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









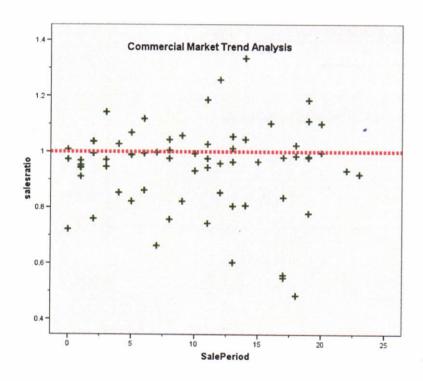
#### **Commercial Market Trend Analysis**

The assessor did not apply any market trend adjustment to the commercial dataset. The commercial sales were analyzed, examining the sale ratios across the 24 month sale period with the following results:

Coefficients<sup>a</sup>

Mode	I	Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	.957	.035		27.073	.000
	SalePeriod	001	.003	039	323	.748

a. Dependent Variable: salesratio



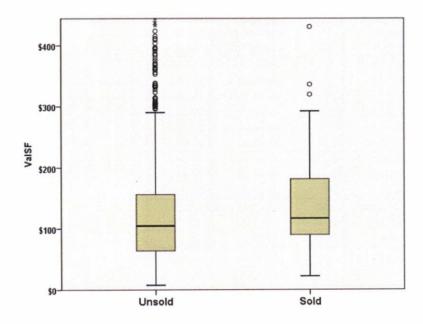
The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Garfield County.

#### Sold/Unsold Analysis

We compared the median actual value per square foot between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. The following results indicate that based on the median actual value, the sold and unsold commercial properties were valued consistently:



Group	No, Props	Median Val / SF	Mean Val / SF
Unsold	1,347	\$105	\$126
Sold	69	\$117	\$157



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The medians of ValSF are the same across categories of sold.	Independent- Samples Median Test	.064	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.



ABSTRIMP	sold	Ν	Median	Mean
2212	UNSOLD	187	\$98.23	\$125.27
1	SOLD	9	\$107.87	\$164.35
	Total	196	\$99.65	\$127.06
2220	UNSOLD	114	\$138.26	\$165.37
	SOLD	6	\$117.99	\$110.68
	Total	120	\$136.50	\$162.64
2230	UNSOLD	291	\$116.29	\$152.51
l	SOLD	13	\$105.40	\$196.81
	Total	304	\$115.63	\$154.40
2235	UNSOLD	189	\$66.69	\$80.27
1	SOLD	13	\$108.02	\$105.20
7.	Total	202	\$67.54	\$81.88
2245	UNSOLD	401	\$120.10	\$117.45
	SOLD	15	\$171.86	\$159.46
	Total	416	\$121.36	\$118.96
Total	UNSOLD	1182	\$105.17	\$126.00
l	SOLD	56	\$114.73	\$151.09
	Total	1238	\$106.37	\$127.13

We next ran the comparison between sold and unsold commercial properties using the change in value between 2014 and 2015, as follows:

Group	No. Props	Median % Chg Val	Mean % Chg Val
Unsold	1,417	1.02	1.09
Sold	69	1.07	1.17

Based on the above comparison analyses, we concluded that Garfield County has valued sold and unsold commercial properties consistently.

#### V. VACANT LAND SALE RESULTS

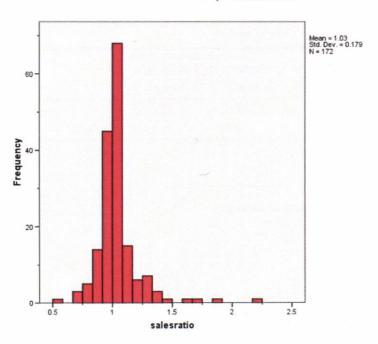
There were 172 total qualified vacant land sales for this analysis; another sale was excluded due to its extreme sales ratio. The sale period ran from January 2013 to June 2014.

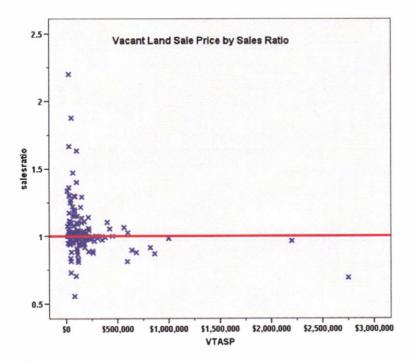
The sales ratio analysis was analyzed as follows:

Median	1.000
Price Related Differential	1.069
Coefficient of Dispersion	.095

The above table indicates that the Garfield 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**

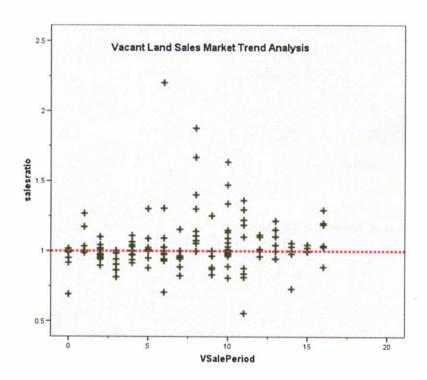
The assessor did apply market trend adjustments to the vacant land dataset. The 172 vacant land sales were analyzed, examining the sale ratios across the 18 month sale period with the following results:



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

Model		Unstandardize	d Coefficients	Standardized Coefficients		
		В	Std. Error	Beta	t	Sig.
1	(Constant)	.992	.025	2	39.766	.000
	VSalePeriod	.006	.003	.140	1.837	.068

a. Dependent Variable: salesratio



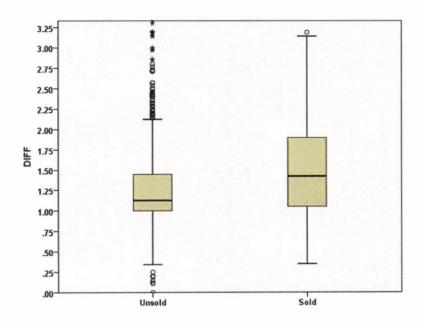
The above analysis indicated that there was no significant residual market trending in the sales ratio across the 18 month sale period. We concluded that the assessor has applied market trending adjustments in an appropriate manner.

#### Sold/Unsold Analysis

We compared the median change in actual value between 2014 and 2015 for vacant land properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean
Unsold	3,671	1.13	1.68
Sold	172	1.43	1.65





### ANOVA

DIFF

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.093	1	.093	.001	.972
Within Groups	284511.937	3841	74.072		
Total	284512.030	3842			



### Report

DIFF

NBHD	sold	N	Median	Mean
111040	0	18	1.94	2.00
	1	5	1.94	2.02
	Total	23	1.94	2.00
112007	0	65	1.74	1.78
	1	17	1.73	1.79
	Total	82	1.73	1.78
112007	0	18	2.11	2.02
	1	6	1.90	1.85
	Total	24	1.90	1.98
112008	0	14	2.00	1.97
	1	5	2.07	2.04
	Total	19	2.00	1.99
112046	0	32	1.29	1.31
	1	6	1.38	1.35
	Total	38	1.29	1.32
112047	0	18	.55	.61
	1	8	.80	.83
	Total	26	.55	.68
131008	0	16	1.40	1.36
	1	7	1.40	1.33
	Total	23	1.40	1.35
131009	0	5	1.70	1.67
	1	9	1.70	1.69
	Total	14	1.70	1.68
141012	0	12	1.02	1.03
	1	5	1.00	1.01
	Total	17	1.00	1.02
Total	0	198	1.59	1.57
	1	68	1.57	1.56
	Total	266	1.59	1.57

While the median change in value using all vacant land properties indicated some difference between sold and unsold, the mean change in value was not significant, according to the analysis of variance test. In addition, when neighborhoods with at least 5 sales were analyzed, the sold and unsold vacant land median changes in value were similar.

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



### 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 Garfield 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	SFR	Mean		\$104.87	\$.492
		95% Confidence Interval for	Lower Bound	\$103.90	
		Mean	Upper Bound	\$105.83	
		5% Trimmed Mean		\$103.36	
		Median		\$102.42	
		Variance		1451.038	
		Std. Deviation		\$38.092	
		Minimum		\$4	
		Maximum		\$447	
		Range		\$442	
		Interquartile Range		\$49	
		Skewness		.729	.032
		Kurtosis		2.056	.063
	AG	Mean		\$110.39	\$4.160
	RES	95% Confidence Interval for	Lower Bound	\$102.19	
		Mean	Upper Bound	\$118.59	
		5% Trimmed Mean		\$106.49	
		Median		\$99.25	
		Variance		3876.420	
		Std. Deviation		\$62.261	
		Minimum		\$8	
		Maximum		\$395	
		Range		\$387	
		Interquartile Range		\$86	
		Skewness	= 1	1.040	.163
		Kurtosis		1.873	.324

### VI. CONCLUSIONS

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

### Residential Median Ratio STATISTICAL ABSTRACT

### Ratio Statistics for CURRTOT / TASP

Weighted Mean Lower Bound Upper Bound Differential Dispersion	_				and the same of th	
1003 1011	Mean	55	pper Bound Coverage	Lower Bound Upper Bound Cov		Lower Bound Upper Bound
	95.1% 997	01	866	985 388		982

# Commercial/Industrial Median Ratio

### Ratio Statistics for CURRTOT / TASP

	95% Confidence	ence Interval for Aean		95% Con	fidence Interval fo	or Median		95% Confiden Weighter	ice Interval for id Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
.947	606	586	926	.948	388.	97.1%	068	.820	096	1,064	.111	16.5%

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

## Vacant Land Median Ratio

	95% Confiden Me	lence Interval for Mean		95% Cont	fidence Interval fo	r Median	,	95% Confiden Weighte	ce interval for d Mean			Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean
1.031	1.004	1.058	1.000	1,000	1.000	96.1%	.964	.911	1.018	1.069	960'	17.4%

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



### Residential Sale Ratio Stratification

### Sale Price

### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	8	.7%
	\$25K to \$50K	11	1.0%
	\$50K to \$100K	63	5.8%
	\$100K to \$150K	110	10.1%
	\$150K to \$200K	131	12.0%
	\$200K to \$300K	284	26.0%
	\$300K to \$500K	305	27.9%
	\$500K to \$750K	116	10.6%
	\$750K to \$1,000K	41	3.8%
	Over \$1,000K	23	2.1%
Overall		1092	100.0%
Excluded	ı	0	
Total		1092	

Group		10		Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.000	.994	.069	14.4%
\$25K to \$50K	1.019	.996	.122	18.9%
\$50K to \$100K	1.033	1.007	.122	16.7%
\$100K to \$150K	1.004	1.000	.083	12.5%
\$150K to \$200K	.994	.998	.082	11.7%
\$200K to \$300K	.996	1.001	.070	10.7%
\$300K to \$500K	.992	1.000	.053	8.4%
\$500K to \$750K	.988	1.001	.049	7.5%
\$750K to \$1,000K	.983	1.002	.070	10.4%
Over \$1,000K	.983	1.003	.031	4.9%
Overall	.995	1.011	.070	10.8%



### Subclass

### **Case Processing Summary**

		Count	Percent
ABSTRIMP	1212	972	89.0%
	1215	13	1.2%
	1220	6	.5%
	1225	1	.1%
	1230	100	9.2%
Overall		1092	100.0%
Excluded		0	
Total		1092	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1212	.994	1.011	.070	11.0%
1215	1.022	.990	.051	7.5%
1220	.967	1.038	.080	10.5%
1225	.991	1.000	.000	.%
1230	1.001	1.012	.070	9.9%
Overall	.995	1.011	.070	10.8%



### Age

### **Case Processing Summary**

		Count	Percent
AgeRec	75 to 100	4	.4%
	50 to 75	48	4.4%
	25 to 50	277	25.4%
	5 to 25	736	67.4%
	5 or Newer	27	2.5%
Overall		1092	100.0%
Excluded		0	
Total		1092	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
75 to 100	.987	1.010	.048	7.1%
50 to 75	.998	1.009	.076	13.2%
25 to 50	.993	1.017	.073	11.6%
5 to 25	.997	1.009	.068	10.5%
5 or Newer	.981	1.004	.048	8.0%
Overall	.995	1.011	.070	10.8%



### Improved Area

### **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	14	1.3%
	500 to 1,000 sf	83	7.6%
3	1,000 to 1,500 sf	416	38.1%
	1,500 to 2,000 sf	311	28.5%
	2,000 to 3,000 sf	205	18.8%
	3,000 sf or Higher	63	5.8%
Overall	_	1092	100.0%
Excluded		0	
Total		1092	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LE 500 sf	1.000	.946	.061	11.5%
500 to 1,000 sf	.984	1.021	.085	12.5%
1,000 to 1,500 sf	.993	1.012	.075	11.7%
1,500 to 2,000 sf	.993	1.011	.066	10.1%
2,000 to 3,000 sf	1.001	1.012	.056	8.9%
3,000 sf or Higher	1.001	1.019	.076	12.1%
Overall	.995	1.011	.070	10.8%



### Improvement Quality

### **Case Processing Summary**

	Count	Percent
QUALITY 1	1	.1%
2	141	13.0%
3	868	80.0%
4	70	6.5%
5	5	.5%
Overall	1085	100.0%
Excluded	7	
Total	1092	

### Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
_	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
1	.966	1.000	.000	.%
2	.998	1.022	.083	13.0%
3	.994	1.009	.069	10.6%
4	.998	1.008	.053	8.7%
5	.977	1.005	.040	7.7%
Overall	.994	1.011	.070	10.8%

**Improvement Condition** 

NOT AVAILABLE



### **Commercial Sale Ratio Stratification**

### Sale Price

### **Case Processing Summary**

		Count	Percent
SPRec	\$50K to \$100K	4	5.8%
	\$100K to \$150K	5	7.2%
	\$150K to \$200K	7	10.1%
	\$200K to \$300K	8	11.6%
	\$300K to \$500K	13	18.8%
	\$500K to \$750K	13	18.8%
	\$750K to \$1,000K	2	2.9%
	Over \$1,000K	17	24.6%
Overall		69	100.0%
Excluded	_ =	0	_
Total		69	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
\$50K to \$100K	.977	.999	.038	5.2%
\$100K to \$150K	1.037	1.005	.059	9.4%
\$150K to \$200K	1.043	.998	.228	32.4%
\$200K to \$300K	.976	1.001	.105	14.9%
\$300K to \$500K	.976	.995	.103	16.1%
\$500K to \$750K	.990	.994	.061	9.9%
\$750K to \$1,000K	.977	1.001	.036	5.0%
Over \$1,000K	.932	1.046	.124	16.5%
Overall	.976	1.064	.111	16.3%



### Subclass

### Case Processing Summary

		Count	Percent
ABSTRIMP	1546	1	1.4%
	2060	1	1.4%
	2212	9	13.0%
	2215	4	5.8%
	2217	1	1.4%
	2220	6	8.7%
	2224	1	1.4%
	2230	13	18.8%
	2233	1	1.4%
	2235	13	18.8%
	2240	1	1.4%
	2245	15	21.7%
	3212	1	1.4%
	3215	2	2.9%
Overall		69	100.0%
Excluded		0	
Total		69	

Group					ficient of riation
	Median	Price Related Differential	Coefficient of Dispersion		edian ntered
1546	.998	1.000	.000	.%	
2060	.994	1.000	.000	.%	
2212	.860	.999	.137		18.2%
2215	.976	1.065	.104		16.0%
2217	.603	1.000	.000	.%	
2220	1.013	1.036	.057		7.0%
2224	1.012	1.000	.000	.%	
2230	.919	1.164	.152		18.8%
2233	1.118	1.000	.000	.%	
2235	.942	.940	.114		19.8%
2240	1.055	1.000	.000	.%	
2245	.996	.994	.081		12.6%
3212	1.069	1.000	.000	.%	
3215	.975	.999	.004		.6%
Overall	.976	1.064	.111		16.3%



### Improved Area

### **Case Processing Summary**

		Count	Percent
ImpSFRec	LE 500 sf	1	1.4%
	500 to 1,000 sf	7	10.1%
	1,000 to 1,500 sf	5	7.2%
	1,500 to 2,000 sf	10	14.5%
	2,000 to 3,000 sf	11	15.9%
	3,000 sf or Higher	35	50.7%
Overall	=	69	100.0%
Excluded		0	
Total		69	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LE 500 sf	.911	1.000	.000	.%
500 to 1,000 sf	1.009	.992	.072	13.6%
1,000 to 1,500 sf	.993	1.009	.076	10.9%
1,500 to 2,000 sf	.883	1.015	.194	24.7%
2,000 to 3,000 sf	.994	1.013	.086	12.9%
3,000 sf or Higher	.968	1.065	.109	15.6%
Overall	.976	1.064	.111	16.3%



### Improvement Quality

### Case Processing Summary

	Count	Percent
QUALITY 2	50	72.5%
3	15	21.7%
5	4	5.8%
Overall	69	100.0%
Excluded	0	
Total	69	

### Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
2	.977	1.031	.116	17.1%
3	.946	1.093	.113	15.7%
5	.978	.995	.036	6.0%
Overall	.976	1.064	.111.	16.3%

Improvement Condition

NOT AVAILABLE



### **Vacant Land Sale Ratio Stratification**

### Sale Price

### **Case Processing Summary**

		Count	Percent
SPRec	LT \$25K	7	4.1%
	\$25K to \$50K	33	19.2%
	\$50K to \$100K	43	25.0%
	\$100K to \$150K	39	22.7%
	\$150K to \$200K	18	10.5%
	\$200K to \$300K	15	8.7%
	\$300K to \$500K	7	4.1%
	\$500K to \$750K	5	2.9%
	\$750K to \$1,000K	3	1.7%
	Over \$1,000K	2	1.2%
Overall		172	100.0%
Excluded		0	
Total		172	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
LT \$25K	1.074	.947	.259	45.7%
\$25K to \$50K	1.000	1.012	.110	17.7%
\$50K to \$100K	1.000	1.006	.112	21.0%
\$100K to \$150K	1.000	1.000	.077	13.6%
\$150K to \$200K	.993	1.002	.052	8.6%
\$200K to \$300K	.996	1.002	.046	6.9%
\$300K to \$500K	1.000	.998	.030	4.9%
\$500K to \$750K	.896	1.004	.089	12.8%
\$750K to \$1,000K	.915	.997	.041	6.2%
Over \$1,000K	.828	1.019	.164	23.2%
Overall	1.000	1.069	.095	18.2%



### **Land Subclass**

### **Case Processing Summary**

	in the second	Count	Percent
ABSTRLND	100	100	58.1%
	200	16	9.3%
	350	2	1.2%
	400	19	11.0%
	520	6	3.5%
	530	1	.6%
	540	1	.6%
	550	1	.6%
	1112	23	13.4%
	1135	1	.6%
	2125	1	.6%
	3115	1	.6%
Overall		172	100.0%
Excluded		0	
Total		172	

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
100	1.000	1.042	.105	20.3%
200	1.002	1.191	.147	24.7%
350	1.019	.997	.019	2.6%
400	1.004	.998	.087	14.7%
520	1.000	.999	.027	6.0%
530	1.000	1.000	.000	.%
540	.989	1.000	.000	.%
550	1.018	1.000	.000	.%
1112	.980	1.000	.069	10.0%
1135	1.000	1.000	.000	.%
2125	.963	1.000	.000	.%
3115	.982	1.000	.000	.%
Overall	1.000	1.069	.095	18.2%