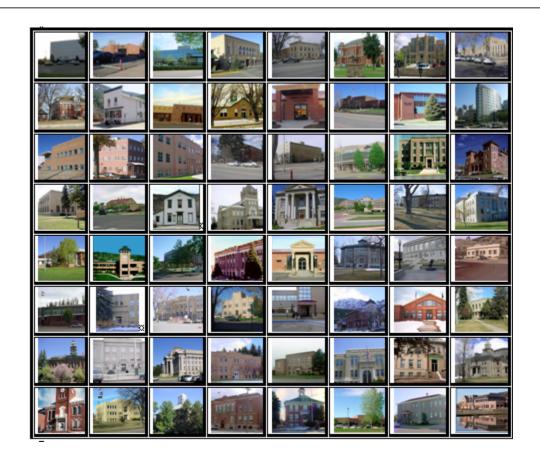


# PARK COUNTY PROPERTY ASSESSMENT STUDY







September 15, 2009

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

RE: Final Report for the 2009 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2009 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 twopart 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 2009 and is pleased to report its findings for Park County in the following report.



# REGIONAL/HISTORICAL SKETCH OF PARK COUNTY

# **Regional Information**

Park County is located in the Central Mountains region of Colorado. The Central Mountains Region is in the central portion of Colorado. It extends from the northern Gilpin county boundary approximately 210 miles southeasterly to the southern boundary of Colorado, including Chaffee, Clear Creek, Custer, Fremont, Gilpin, Huerfano, Lake, Las Animas, Park, and Teller counties.





# **Historical Information**

Park County has a population of approximately 17,157 people with 6.6 people per square mile, according to the U.S. Census Bureau's 2006 estimated population data.

Park County was named after the large geographic region known as South Park, which was named by early fur traders and trappers in the area. The geographic center of the State of Colorado is located in Park County.

The Town of Fairplay is a statutory town that is the county seat and the most populous town of Park County. The town is the fifth-highest incorporated place in Colorado at an elevation of 9,953 feet. A historic gold mining settlement, the town was founded in 1859 during the early days of the Pike's Peak Gold Rush. Although it was founded during the initial placer mining boom, the mines in the area continued to produce gold and silver ore

for many decades up through the middle of the 20th century.

The town consists of modern retail businesses along the highway, as well as a historic town on the bluff above the river along Front Street. The northern extension of Front Street along the river has been preserved and has become the site of relocated historic structures as an open air museum called South Park City, intended to recreate the early days of the Colorado Gold Rush. The Town of Fairplay, Colorado is the basis for the Town of South Park, Colorad, in the television series South Park. It also hosts Burro Days, a festival held on the last weekend of July. This event celebrates the town's mining heritage. main feature of the festival is a 29-mile burro race over rough terrain and elevation gain from downtown Fairplay to the 13,000-ft summit of Mosquito Pass.

(www. Wikipedia.org)



# RATIO ANALYSIS

# Methodology

All significant classes of properties were Sales were collected for each analyzed. property class over the appropriate sale period, which was typically defined as the 18-month period between January 2007 and June 2008. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2008 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and pricerelated differential for each class of property. Counties were not passed or failed by these

latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were "lost" because of trimming. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

#### **Conclusions**

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

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



The results for Park County are:

Park County Ratio Grid							
Number of Unweighted Price Coefficient Qualified Median Related of Property Class Sales Ratio Differential Dispersion							
Commercial/Industrial	36	1.046	1.013	11.9	Compliant		
Condominium	N/A	N/A	N/A	N/A	N/A		
Single Family	650	1.015	1.017	10.2	Compliant		
Vacant Land	741	0.979	1.038	14.5	Compliant		

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

#### Recommendations

None

# **Random Deed Analysis**

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

#### **Conclusions**

After comparing the list of randomly selected deeds with the Assessor's database, Park 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 Park County has complied with the statutory requirements to analyze the effects of time on value in their county. Park 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

Park 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 2008 and 2009 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 I	Results
Property Class	Results
Commercial/Industrial	Compliant
Condominium	N/A
Single Family	Compliant
Vacant Land	Compliant

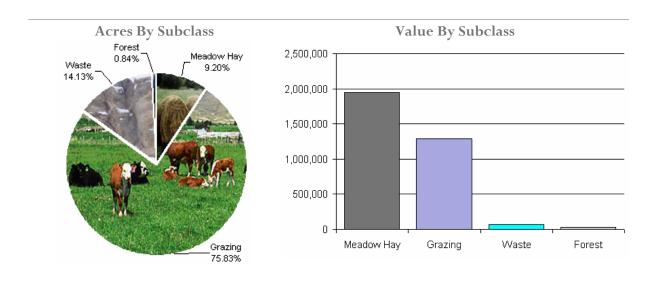
# Conclusions

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

# Recommendations



# AGRICULTURAL LAND STUDY



# **Agricultural Land**

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

(See Assessor Reference Library Volume 3 Chapter 5.)

#### **Conclusions**

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



	Park County Agricultural Land Ratio Grid							
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Fotal Value	WRA Total Value	Ratio		
4137	Meadow Hay	28,989	67.13	1,946,174	1,943,460	1.00		
4147	Grazing	238,823	5.40	1,289,040	1,289,040	1.00		
4177	Forest	2,633	11.05	29,110	29,105	1.00		
4167	Waste	44,484	1.62	71,845	71,845	1.00		
Total/Avg		314,929	10.59	3,336,169	3,333,451	1.00		

# Recommendations



# **Agricultural Outbuildings**

# Methodology

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

#### **Conclusions**

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

# Recommendations



# SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2009 for Park County. This study was conducted by checking selected sales from the master sales list for the Jan 1, 2007 - June 30, 2008 valuation period. Specifically WRA selected 30 sales listed as unqualified. All of the sales in the unqualified sales sample had reasons that were clear and supportable.

#### Conclusions

Park 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

Park County has submitted a written narrative describing the economic areas that make up the county's market areas. Park 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 Park 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 Mine Valuation Procedures

# Methodology

Colorado Revised Statutes (CRS) Article 39, Section 6, and the Assessor's Reference Library (ARL), Volume 3 are the basis for valuing producing mine property. The gross value of the ore extracted during the preceding year is determined. All costs of treatment, reduction, transportation and sale are deducted to estimate gross proceeds. The costs of extraction are deducted from the gross proceeds to estimate net proceeds.

The current value for assessment is determined by determining if 25% of the gross proceeds or 100% of the net proceeds is greater, then applying that number as the valuation for assessment.

#### Conclusions

The County valued the producing mine production using acceptable appraisal procedures.

#### Recommendations



# VACANT LAND

# **Subdivision Discounting**

Subdivisions were reviewed in 2009 in Park 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

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

#### Recommendations



# POSSESSORY INTEREST PROPERTIES

# **Possessory Interest**

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

Park County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural and commercial possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

#### Conclusions

Park 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

Park 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 This sample was levels of such property. 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.

Park 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
- Internet

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.

Park County submitted their personal property written audit plan and was current for the 2009 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

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



- Same business type or use
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts Best Information Available
- Accounts close to the \$4,000 actual value exemption status
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement

#### **Conclusions**

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

# Recommendations



# WILDROSE AUDITOR STAFF

Harry J. Fuller, Audit Project Manager

Suzanne Howard, Audit Administrative Manager

Steve Kane, Audit Statistician/Field Analyst

Carl W. Ross, Agricultural/Natural Resource Analyst

Andy Rodriguez, Field Analyst



# APPENDICES

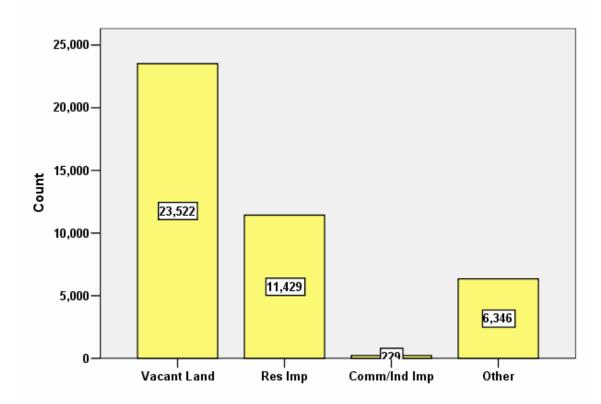


# STATISTICAL COMPLIANCE RESULTS FOR PARK COUNTY 2009

#### I. OVERVIEW

Park County is located in central Colorado. The county has a total of 41,526 real property parcels, according to data submitted by the county assessor's office in 2009. The following provides a breakdown of property classes for this county:

# Real Property Class Distribution



The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for 94% of all vacant land parcels.

For residential improved properties, single family properties accounted for 96% of all residential properties.

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



#### II. DATA FILES

The following sales analyses were based on the requirements of the 2009 Colorado Property Assessment Study. Information was provided by the Park Assessor's Office on April 28. 2009. 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:

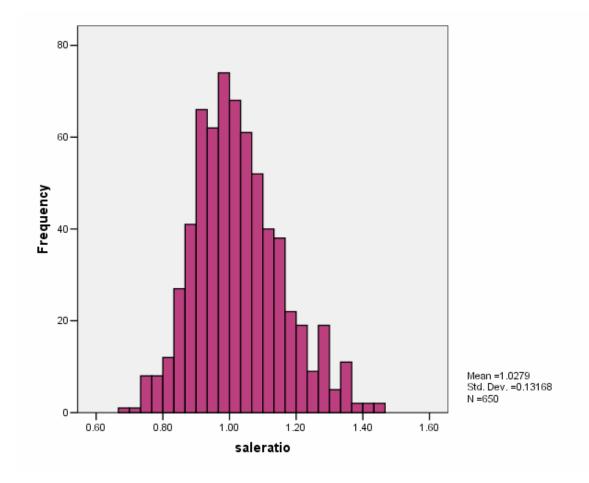
1. Total sales	15,316
2. Selected qualified sales	4,510
3. Select improved sales	2,143
4. Non duplicate sales	2,104
5. Select residential sales only	2,029
6. Sales between January 1, 2007 and June 30, 2008	650

The sales ratio analysis was analyzed as follows:

Median	1.015
Price Related Differential	1.017
Coefficient of Dispersion	.102

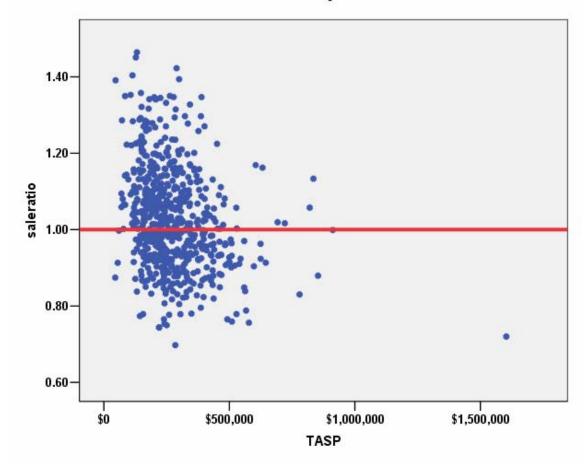
The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The following graphs describe further the sales ratio distribution for these properties:











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

# **Residential Market Trend Analysis**

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



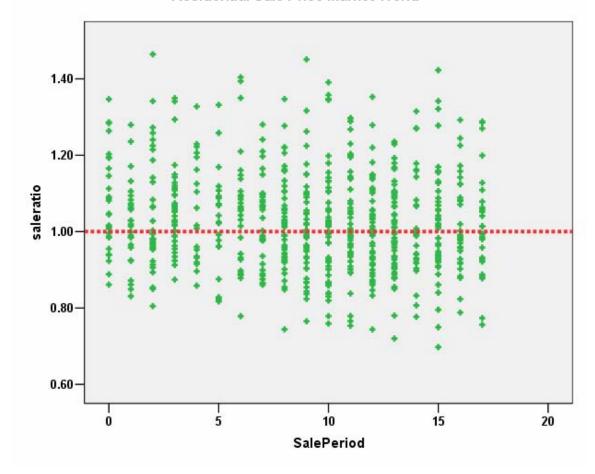
# Coefficients<sup>a</sup>

			Unstandardized Coefficients		Standardized Coefficients		
ECONAREA	Model		В	Std. Error	Beta	t	Sig.
1.00	1	(Constant)	1.080	.017		63.404	.000
		SalePeriod	006	.002	231	-3.379	.001
2.00	1	(Constant)	1.140	.070		16.296	.000
		SalePeriod	005	.006	193	813	.427
3.00	1	(Constant)	1.013	.045		22.340	.000
		SalePeriod	006	.004	420	-1.534	.153
5.00	1	(Constant)	.950	.051		18.647	.000
		SalePeriod	.005	.005	.202	1.012	.322
6.00	1	(Constant)	1.056	.021		51.136	.000
		SalePeriod	001	.002	045	676	.500
7.00	1	(Constant)	1.012	.021		48.851	.000
		SalePeriod	3.39E-005	.002	.002	.017	.987
8.00	1	(Constant)	1.050	.052		20.244	.000
		SalePeriod	005	.005	164	-1.130	.265

a. Dependent Variable: saleratio







The above analysis indicated that the assessor has adequately addressed market trending in the valuation of residential properties. While there was a marginally significant trend statistically, the magnitude of the trend (at 0.1% per month) was not significant.

# 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 2009 between each group, as follows:

Group	No.	Median	Mean
Unsold	10,780	\$190	\$201
Sold	649	\$205	\$207

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



#### IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

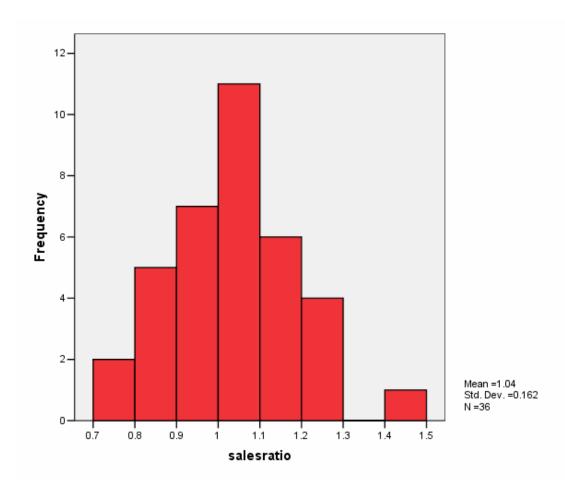
A separate commercial sales file that ranges from July 2003 to June 2008 was provided by the assessor. The following steps were taken to analyze these commercial/industrial sales:

1. Total sales	235
2. Selected qualified sales	56
3. Select improved sales	43
4. Non duplicate sales	43
5. Select commercial/industrial sales	36

The sales ratio analysis was analyzed as follows:

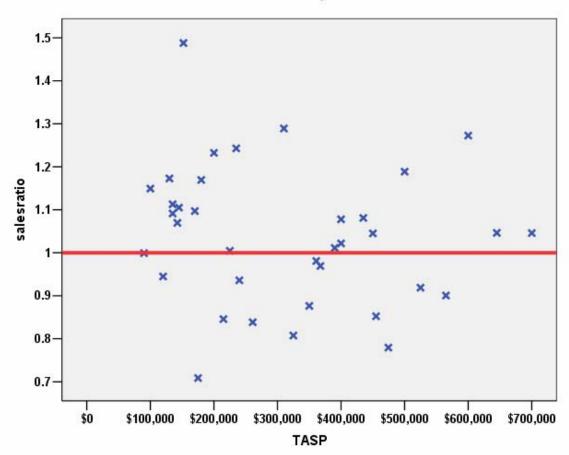
Median	1.046
Price Related Differential	1.013
Coefficient of Dispersion	.119

The above tables indicate that the Park 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 36 commercial/industrial sales were analyzed, examining the sale ratios across a 60 month sale period with the following results:

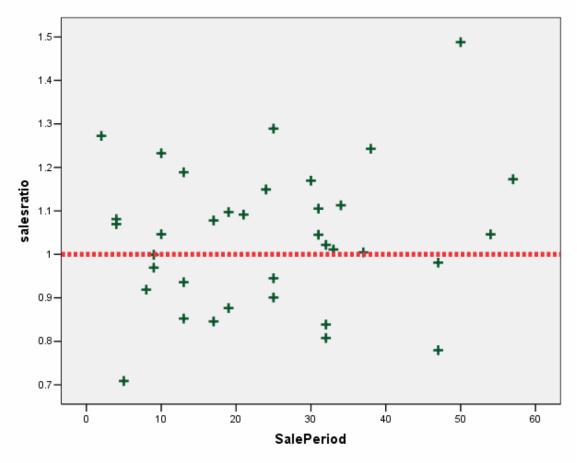
Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	.998	.052		19.083	.000
	SalePeriod	.002	.002	.153	.904	.372

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 Park 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, as follows

Subclass	Group	No.	Median	Mean
Total	Unsold	155	\$120	\$141
	Sold	30	\$140	\$147



# V. VACANT LAND SALE RESULTS

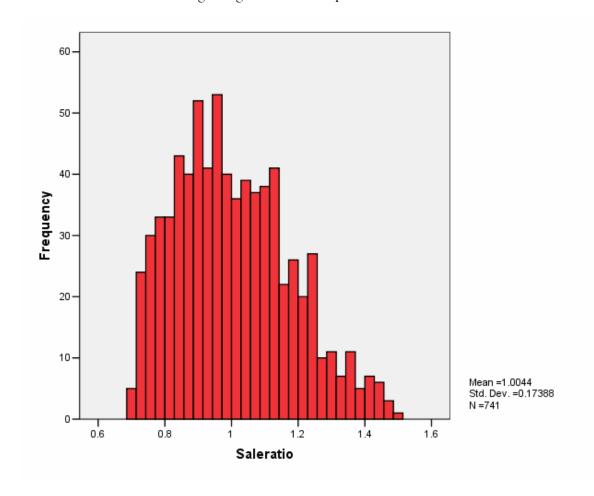
The following steps were taken to analyze vacant land sales:

1. Total sales	15,316
2. Selected qualified sales	4,510
3. Select vacant land sales	2,367
4. Select non-agricultural sales	2,345
5. Sales between July 1, 2006 and June 30, 2008	741

The sales ratio analysis was analyzed as follows:

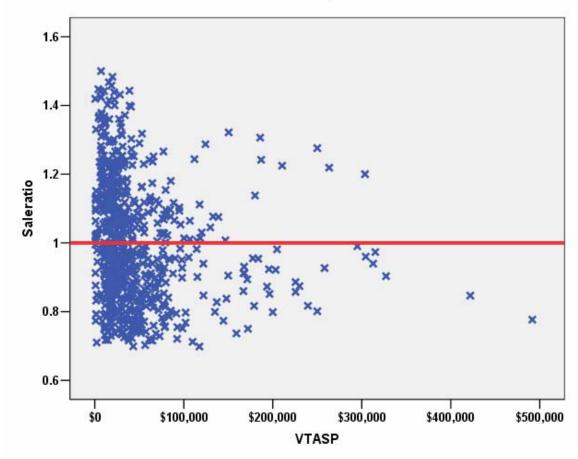
Median	0.979
Price Related Differential	1.038
Coefficient of Dispersion	.145

The above tables indicate that the Park 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 adjustment to the vacant land dataset. We analyzed the sales ratios for vacant land sales, based on the time adjusted sale price (TASP) and the actual land value to determine if there was any residual time trending in the vacant land valuations. The 741 vacant land sales were analyzed, examining the sales ratios across the 18 month sale period with the following results:

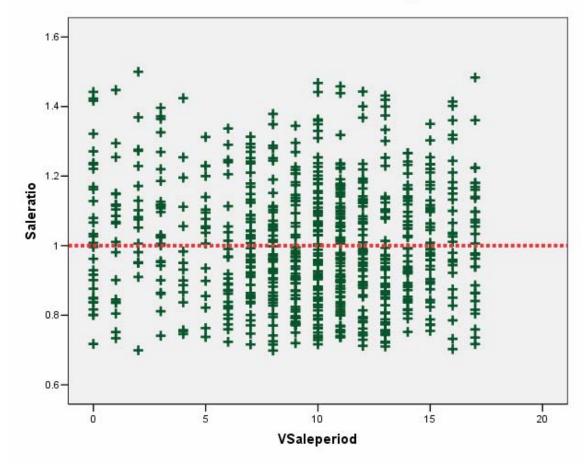
#### Coefficientsa

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	1.022	.015		66.866	.000
	SalePeriod	002	.001	047	-1.276	.202

a. Dependent Variable: Saleratio







The market trend analysis indicated no statistically significant trend. Based on these results, we concluded that the assessor has adequately considered market trending in their vacant land valuations.

# **Sold/Unsold Analysis**

We compared the median change in actual value between 2008 and 2009 for vacant land properties to determine if sold and unsold properties were valued consistently. We stratified these results by subdivision with at least 5 sales, as follows:

SUBDIVNO	Group	No.	Median	Mean
05-01700	0	54	1.41	3.03
	1	7	1.41	14.98
05-02801	0	1754	1.75	1.67
	1	23	1.67	1.62
05-03000	0	2824	.95	1.03
	1	20	.95	1.06
05-03021	0	1291	1.12	2.22



	1	6	2.59	132.87
05-03114	0	26	1.17	1.23
	1	5	1.47	1.55
05-03190	0	43	1.85	1.98
	1	6	1.59	1.76
05-03201	0	385	1.05	1.07
	1	16	1.06	1.12
05-03550	0	719	1.20	1.21
	1	26	1.18	1.23
05-03590	0	97	1.15	1.14
	1	8	1.31	1.34
05-08550	0	251	1.16	1.13
	1	16	1.16	1.23
05-08600	0	31	1.25	1.26
	1	7	1.25	1.25
05-08601	0	63	1.26	1.25
	1	5	1.26	1.26
06-00977	0	103	1.43	1.51
	1	6	1.49	1.71
06-00978	0	146	1.29	1.35
	1	9	2.34	2.36
06-03800	0	44	1.22	1.19
	1	5	1.22	1.24
06-03820	0	14	1.32	1.27
	1	6	1.27	1.24
06-06250	0	553	1.55	1.57
	1	50	1.64	1.66
06-06414	0	36	1.63	1.66
	1	5	1.96	1.88
06-06610	0	39	1.26	1.26
	1	4	1.26	2.51
06-06700	0	65	1.29	1.33
	1	6	1.39	1.39
06-06800	0	145	1.29	1.30
	1	11	1.39	1.41
06-08033	0	1	1.67	1.67
	1	5	1.67	1.70
06-08650	0	97	1.30	1.31
	1	12	1.30	1.27
06-08651	0	105	1.32	1.24
	1	11	1.37	1.30
06-08653	0	68	1.36	1.38
	1	13	1.29	1.41



0	119	1.50	1.49
1	7	1.48	1.39
0	105	1.30	1.29
1	21	1.27	1.32
0	44	1.15	1.17
1	5	1.14	1.20
0	51	1.14	1.18
1	5	1.09	1.10
0	86	1.09	1.10
1	7	1.44	1.56
0	108	1.24	1.25
1	11	1.14	1.15
0	413	1.18	1.19
1	26	1.24	1.29
0	241	1.12	1.15
1	6	1.15	1.35
0	228	1.09	1.12
1	6	1.32	1.36
0	136	1.17	1.17
1	5	1.39	1.59
0	113	1.27	1.29
1	7	1.37	1.35
0	102	1.13	1.13
1	7	1.14	1.14
0	191	1.18	1.19
1	12	1.22	1.38
0	126	1.11	1.09
1	6	1.21	1.25
0	336	.88	.90
1	14	1.02	1.11
	1 0 1 0 1 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0 0 0 0 1 1 0	1       7         0       105         1       21         0       44         1       5         0       51         1       5         0       86         1       7         0       108         1       11         0       413         1       26         0       241         1       6         0       228         1       6         0       136         1       5         0       113         1       7         0       102         1       7         0       191         1       12         0       126         1       6         0       336	1       7       1.48         0       105       1.30         1       21       1.27         0       44       1.15         1       5       1.14         0       51       1.14         1       5       1.09         0       86       1.09         1       7       1.44         0       108       1.24         1       11       1.14         0       413       1.18         1       26       1.24         0       241       1.12         1       6       1.15         0       228       1.09         1       6       1.32         0       136       1.17         1       5       1.39         0       113       1.27         1       7       1.37         0       102       1.13         1       7       1.14         0       191       1.18         1       1       1         0       126       1.11         1       6       1.21         0       336<

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 Park County.

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



# Descriptives

	ABSTRIMP			Statistic	Std. Error
impValSF	1212.00	Mean		\$141.20	\$1.171
		95% Confidence	Lower Bound	\$138.90	
		Interval for Mean	Upper Bound	\$143.50	
		5% Trimmed Mean		@4.20.43	
		Median		\$135.98	
		Variance		2410.100	
		Std. Deviation		\$49.129	
		Minimum		\$6	
		Maximum		\$520	
		Range		\$514	
		Interquartile Range		\$57	
		Skewness		1.486	.058
		Kurtosis		6.274	.117
	4277.00	Mean		\$141.73	\$5.043
		95% Confidence	Lower Bound	\$131.79	
		Interval for Mean	Upper Bound	\$151.67	
		5% Trimmed Mean		¢100.17	
		Median		\$129.92	
		Variance		5340.244	
		Std. Deviation		\$73.077	
		Minimum		\$31	
		Maximum		\$596	
		Range		\$565	
		Interquartile Range		\$58	
		Skewness		3.200	.168
		Kurtosis		14.863	.334

# **VI. CONCLUSIONS**

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



#### **STATISTICAL ABSTRACT**

# **Residential**

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

Mean		1.028
95% Confidence Interval	Lower Bound	1.018
for Mean	Upper Bound	1.038
Median		1.015
95% Confidence Interval	Lower Bound	1.000
for Median	Upper Bound	1.024
	Actual Coverage	95.5%
Weighted Mean		1.011
95% Confidence Interval	Lower Bound	.999
for Weighted Mean	Upper Bound	1.022
Price Related Differential		1.017
Coefficient of Dispersion		.102
Coefficient of Variation	Mean Centered	12.8%

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**

Mean		1.038
95% Confidence Interval	Lower Bound	.983
for Mean	Upper Bound	1.093
Median		1.046
95% Confidence Interval	Lower Bound	.969
for Median	Upper Bound	1.097
	Actual Coverage	97.1%
Weighted Mean		1.025
95% Confidence Interval	Lower Bound	.970
for Weighted Mean	Upper Bound	1.080
Price Related Differential		1.013
Coefficient of Dispersion		.119
Coefficient of Variation	Mean Centered	15.6%

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



# **Vacant Land**

# **Ratio Statistics for CURRLND / VTASP**

Mean		1.004
95% Confidence Interval	Lower Bound	.992
for Mean	Upper Bound	1.017
Median		.979
95% Confidence Interval	Lower Bound	.967
for Median	Upper Bound	1.002
	Actual Coverage	95.3%
Weighted Mean		.967
95% Confidence Interval	Lower Bound	.950
for Weighted Mean	Upper Bound	.984
Price Related Differential		1.038
Coefficient of Dispersion		.145
Coefficient of Variation	Mean Centered	17.3%

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	\$25K to \$50K	2	.3%
	\$50K to \$100K	14	2.2%
	\$100K to \$150K	59	9.1%
	\$150K to \$200K	120	18.5%
	\$200K to \$300K	245	37.7%
	\$300K to \$500K	179	27.5%
	\$500K to \$750K	25	3.8%
	\$750K to \$1,000K	5	.8%
	Over \$1,000K	1	.2%
Overall		650	100.0%
Excluded		0	
Total		650	



# **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
0	NA a ali a sa	Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
\$25K to \$50K	1.133	.997	.228	32.3%
\$50K to \$100K	1.087	.992	.078	10.9%
\$100K to \$150K	1.077	1.001	.112	14.3%
\$150K to \$200K	1.050	1.000	.091	11.4%
\$200K to \$300K	1.013	1.000	.101	13.1%
\$300K to \$500K	.986	1.002	.090	11.6%
\$500K to \$750K	.924	.996	.084	11.6%
\$750K to \$1,000K	.999	.998	.096	12.7%
Over \$1,000K	.720	1.000	.000	
Overall	1.015	1.017	.102	13.0%

# Age

# **Case Processing Summary**

		Count	Percent
AgeRec	0	1	.2%
	75 to 100	5	.8%
	50 to 75	12	1.8%
	25 to 50	153	23.5%
	5 to 25	328	50.5%
	5 or Newer	151	23.2%
Overall		650	100.0%
Excluded		0	
Total		650	

# Ratio Statistics for CURRTOT / TASP

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	1.141	1.000	.000	
75 to 100	1.043	1.017	.117	17.3%
50 to 75	1.155	1.061	.140	18.8%
25 to 50	1.020	1.011	.113	14.1%
5 to 25	1.017	1.018	.097	12.4%
5 or Newer	1.003	1.010	.092	11.9%
Overall	1.015	1.017	.102	13.0%



# **Improved Area**

# **Case Processing Summary**

		Count	Percent
ImpSFRec	0	1	.2%
	LE 500 sf	10	1.5%
	500 to 1,000 sf	146	22.5%
	1,000 to 1,500 sf	265	40.8%
	1,500 to 2,000 sf	157	24.2%
	2,000 to 3,000 sf	61	9.4%
	3,000 sf or Higher	10	1.5%
Overall		650	100.0%
Excluded		0	
Total		650	

# **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
0	1.141	1.000	.000	
LE 500 sf	1.161	.994	.138	15.8%
500 to 1,000 sf	.994	1.013	.093	11.9%
1,000 to 1,500 sf	1.024	1.014	.099	12.7%
1,500 to 2,000 sf	.994	1.016	.109	14.2%
2,000 to 3,000 sf	1.023	1.017	.097	12.2%
3,000 sf or Higher	1.050	1.076	.120	17.1%
Overall	1.015	1.017	.102	13.0%

# **Improvement Quality**

# **Case Processing Summary**

		Count	Percent
QUAL	1.00	14	2.2%
	2.00	124	19.1%
	2.50	2	.3%
	2.67	1	.2%
	3.00	437	67.3%
	3.67	1	.2%
	4.00	61	9.4%
	5.00	9	1.4%
Overall		649	100.0%
Excluded		1	
Total		650	



# **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
1.00	1.079	1.006	.113	14.4%
2.00	1.020	1.008	.110	14.3%
2.50	1.108	1.008	.022	3.1%
2.67	.992	1.000	.000	-
3.00	1.016	1.016	.100	12.8%
3.67	1.133	1.000	.000	
4.00	.983	1.014	.087	11.4%
5.00	1.019	1.007	.068	10.4%
Overall	1.015	1.017	.102	13.0%

# **Commercial Median Ratio Stratification**

# **Sale Price**

# **Case Processing Summary**

		Count	Percent
SPRec	\$50K to \$100K	2	5.6%
	\$100K to \$150K	6	16.7%
	\$150K to \$200K	5	13.9%
	\$200K to \$300K	5	13.9%
	\$300K to \$500K	13	36.1%
	\$500K to \$750K	5	13.9%
Overall		36	100.0%
Excluded		0	
Total		36	

# **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
\$50K to \$100K	1.074	.996	.070	9.9%
\$100K to \$150K	1.098	.998	.043	7.1%
\$150K to \$200K	1.169	1.005	.156	24.3%
\$200K to \$300K	.936	1.001	.120	18.2%
\$300K to \$500K	1.011	1.001	.109	14.6%
\$500K to \$750K	1.046	.995	.095	14.2%
Overall	1.046	1.013	.119	15.5%



# **Subclass**

# **Case Processing Summary**

		Count	Percent
Preduse	2112	21	58.3%
	2115	1	2.8%
	2120	4	11.1%
	2125	1	2.8%
	2130	7	19.4%
	2135	2	5.6%
Overall		36	100.0%
Excluded		0	
Total		36	

# **Ratio Statistics for CURRTOT / TASP**

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
2112	1.078	1.014	.118	15.8%
2115	.852	1.000	.000	
2120	1.055	1.010	.094	12.3%
2125	1.243	1.000	.000	-
2130	.945	1.001	.129	16.9%
2135	1.028	.999	.016	2.3%
Overall	1.046	1.013	.119	15.5%

# **Vacant Land Median Ratio Stratification**

# **Case Processing Summary**

		Count	Percent
VPredUse	100	691	93.3%
	520	3	.4%
	530	5	.7%
	540	10	1.3%
	550	22	3.0%
	560	1	.1%
	1112	9	1.2%
Overall		741	100.0%
Excluded		0	
Total		741	



# Ratio Statistics for CURRLND / VTASP

				Coefficient of Variation
		Price Related	Coefficient of	Median
Group	Median	Differential	Dispersion	Centered
100	.981	1.031	.147	18.1%
520	1.051	1.000	.029	6.0%
530	1.055	1.046	.071	12.0%
540	.934	1.053	.116	13.7%
550	.959	1.014	.103	13.6%
560	.903	1.000	.000	
1112	1.005	1.124	.170	22.2%
Overall	.979	1.038	.145	17.9%