2009
ADAMS COUNTY
PROPERTY ASSESSMENT
STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

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APPRAISAL, INCORPORATED
Audit Division

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

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

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INTRODUCTION

Colorado

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

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

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

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

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

The property assessment audit conducts a two-part analysis: A procedural analysis and a statistical analysis.

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for vacant land, improved residential properties and commercial properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

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

Wildrose Audit has completed the Property Assessment Study for 2009 and is pleased to report its findings for Adams County in the following report.

REGIONAL/HISTORICAL SKETCH OF ADAMS COUNTY

Regional Information

Adams County is located in the Front Range region of Colorado. The Colorado Front Range is a colloquial geographic term for the populated areas of the State that are just east of the foothills of the Front Range. It includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties.

Historical Information

Adams County has a population of approximately 414,338 people with 305.3 people per square mile, according to the U.S. Census Bureau's 2006 estimated population data.

Adams County is the fifth most populous of the 64 counties of the State of Colorado. It is named for Alva Adams, Governor of the State of Colorado 1887-1889, 1897-1899, and 1905. The county seat is Brighton.

On May 30, 1854, the Kansas-Nebraska Act created the Territory of Nebraska and Territory of Kansas, divided by the Parallel 40° North (168th Avenue in present-day Adams County). The future Adams County, Colorado, occupied a strip of northern Arapahoe County, Kansas Territory, immediately south of the Nebraska Territory.

In 1859, John D. "Colonel Jack" Henderson built a ranch, trading post, and hotel on Henderson Island in the South Platte River in Arapahoe County, Kansas Territory. Jack Henderson was the former editor and proprietor of the Leavenworth (Kansas Territory) Journal and an outspoken pro-slavery politician who had been accused of vote fraud in eastern Kansas. Henderson sold meat and provisions to gold seekers on their way up the South Platte River Trail to the gold fields during the Pike's Peak Gold Rush. Henderson Island was the first permanent settlement in the South Platte River Valley between Fort Saint Vrain in the Nebraska Territory and the Cherry Creek Diggings in the Kansas Territory. Jack Henderson eventually returned to eastern Kansas and (ironically) fought for the Union in the American Civil War. Henderson Island is today the site of the Adams County Regional Park and Fairgrounds.

The eastern portion of the Kansas Territory was admitted to the Union as the State of Kansas on January 29, 1861, and on February 28, 1861, the remaining western portion of the territory was made part of the new Colorado Territory. The Colorado Territory created Arapahoe County, on November 1, 1861, and Colorado was admitted to the Union on August 1, 1876.

In 1901, the Colorado General Assembly voted to split Arapahoe County into three parts: a new Adams County, a new consolidated City and County of Denver, and the remainder of the Arapahoe County to be renamed South Arapahoe County. A ruling by the Colorado Supreme Court, subsequent legislation, and a referendum delayed the creation of Adams County until November 15, 1902. Governor James Bradley Orman designated Brighton as the temporary Adams County Seat. Adams County originally stretched 160 miles from present-day Sheridan Boulevard to the Kansas state border. On May 12, 1903, the eastern 88 miles of Adams County was transferred to the new Washington County and the new Yuma County, reducing the length of Adams County to the present 72 miles. On November 8, 1904, Adams County voters chose Brighton as the permanent county seat.

A 1989 vote transferred 53 square miles of Adams County to the City and County of Denver for the proposed Denver International Airport, leaving the densely populated western portion of the county as two oddly-shaped peninsulas. Adams County lost the tip of its northwest corner when the consolidated City and County of Broomfield was created on November 15, 2001. (*Wikipedia.org*)

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 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 price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to insure 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 Adams County are:

Adams County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	82	0.974	1.010	3.8	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	8,886	1.015	1.021	8.6	Compliant
Vacant Land	227	0.989	1.034	10.5	Compliant

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	1.015	1.001	.069
2.00	1.017	1.009	.071
3.00	1.014	1.017	.096
4.00	1.011	1.031	.122
5.00	1.007	1.020	.091
6.00	1.022	1.007	.079
7.00	1.026	1.011	.082
8.00	1.026	1.026	.140
9.00	1.022	1.028	.137
10.00	1.004	1.013	.080
11.00	1.002	1.012	.071
12.00	1.019	1.020	.099
13.00	1.003	1.018	.083
14.00	1.135	1.008	.143
15.00	.911	1.004	.036
16.00	.931	.993	.118
Overall	1.015	1.021	.086

After applying the above described methodologies, it is concluded from the sales ratios that Adams 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, Adams County has accurately transferred sales data from the recorded deeds to the qualified or unqualified database.

Recommendations

None

TIME TRENDING VERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market trending adequately, and a further examination is warranted. This validation 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 Adams County has complied with the statutory requirements to analyze the effects of time on value in their county. Adams County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD/UNSOLD ANALYSIS

Methodology

Adams County was tested for the equal treatment of sold and unsold properties to insure 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. Once the 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 non-parametric 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 multi-variate mass appraisal model that developed ratio statistics from the sold properties that were then applied to the unsold sample. This test compared the measures of central tendency and confidence intervals for the sold properties with the unsold property sample. If this comparison was also determined to be significantly different, then the conclusion was that the county had treated the unsold properties in a different manner than sold properties.

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

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

Conclusions

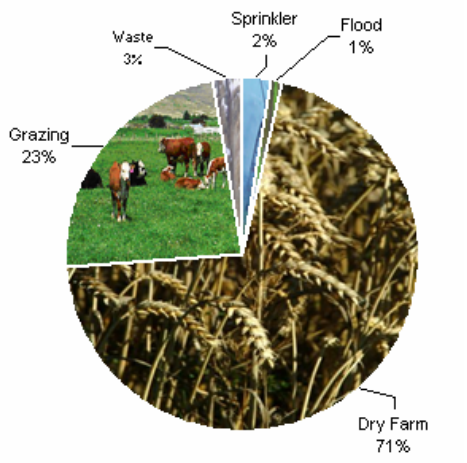
After applying the above described methodologies, it is concluded that Adams County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

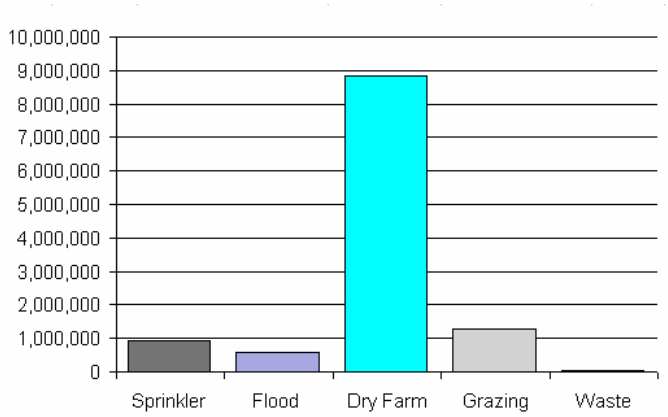
None

AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

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

Adams County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4107	Sprinkler	13,826	66.42	918,329	990,095	0.93
4117	Flood	5,711	99.80	569,992	602,181	0.95
4127	Dry Farm	394,756	22.35	8,822,392	7,987,121	1.10
4147	Grazing	131,513	9.61	1,264,436	1,264,436	1.00
4167	Waste	15,267	1.62	24,657	24,657	1.00
Total/Avg		**561,072**	**21**	**11,599,807**	**10,868,491**	**1.07**

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

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

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

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

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

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

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

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

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

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

WRA reviewed the sales verification procedures in 2009 for Adams 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 45 sales listed as unqualified. All but three of the sales selected in the sample gave reasons that were clear and supportable. Three sales had insufficient documentation.

Conclusions

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

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Adams County has submitted a written narrative describing the economic areas that make up the county's market areas. Adams 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 Adams County has adequately identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

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

Conclusions

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

Recommendations

None

Producing Oil and Gas Procedures

Methodology

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

STATUTORY REFERENCES

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

Actual value determined - when.

(2) The valuation for assessment of leaseholds and lands producing oil or gas shall be determined as provided in article 7 of this title.

§ 39-1-103, C.R.S.

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

Valuation:

Valuation for assessment.

(1) Except as provided in subsection (2) of this section, on the basis of the information contained in such statement, the assessor shall value such oil and gas leaseholds and lands for assessment, as real property, at an amount equal to eighty-seven and one-half percent of:

(a) The selling price of the oil or gas sold there from during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year;

(b) The selling price of oil or gas sold in the same field area for oil or gas transported from the premises which is not sold during the preceding calendar year, after excluding the selling price of all oil or gas delivered to the United States government or any agency thereof, the state of Colorado or any agency thereof, or any political subdivision of the state as royalty during the preceding calendar year.

§ 39-7-102, C.R.S.

Conclusions

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

Recommendations:

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2009 in Adams 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

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

Recommendations

None

POSSESSORY INTEREST PROPERTIES

Possessory Interest

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

Adams 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

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

Recommendations

None

PERSONAL PROPERTY AUDIT

Adams 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.

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

- Public Record Documents
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth

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.

Adams 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:

- Accounts with obvious discrepancies
- New businesses filing for the first time
- 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

Adams County's median ratio is 1.00. This is in compliance with the State Board of Equalization (SBOE) compliance requirements which range from .90 to 1.10 with no COD requirements.

Conclusions

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

Recommendations

None

WILDROSE AUDITOR STAFF

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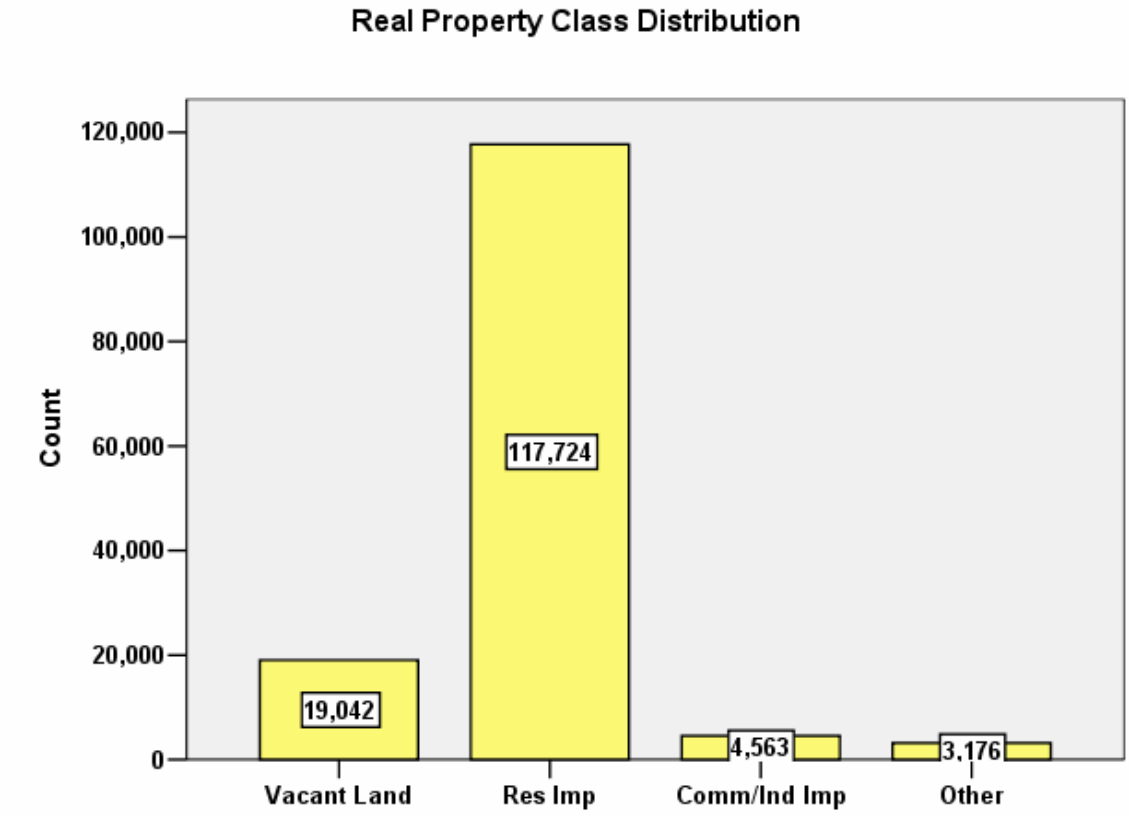
APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR ADAMS COUNTY
2009

I. OVERVIEW

Adams County is an urban county located along Colorado's Front Range. The county has a total of 144,505 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:



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

For residential improved properties, single family properties accounted for 82% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3% 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 Adams Assessor's Office on June 8, 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. All sales	16,559
2. Qualified sales	9,526
3. Improved sales	9,140
4. Select residential sales only	8,886

The sales ratio analysis results were as follows:

Case Processing Summary

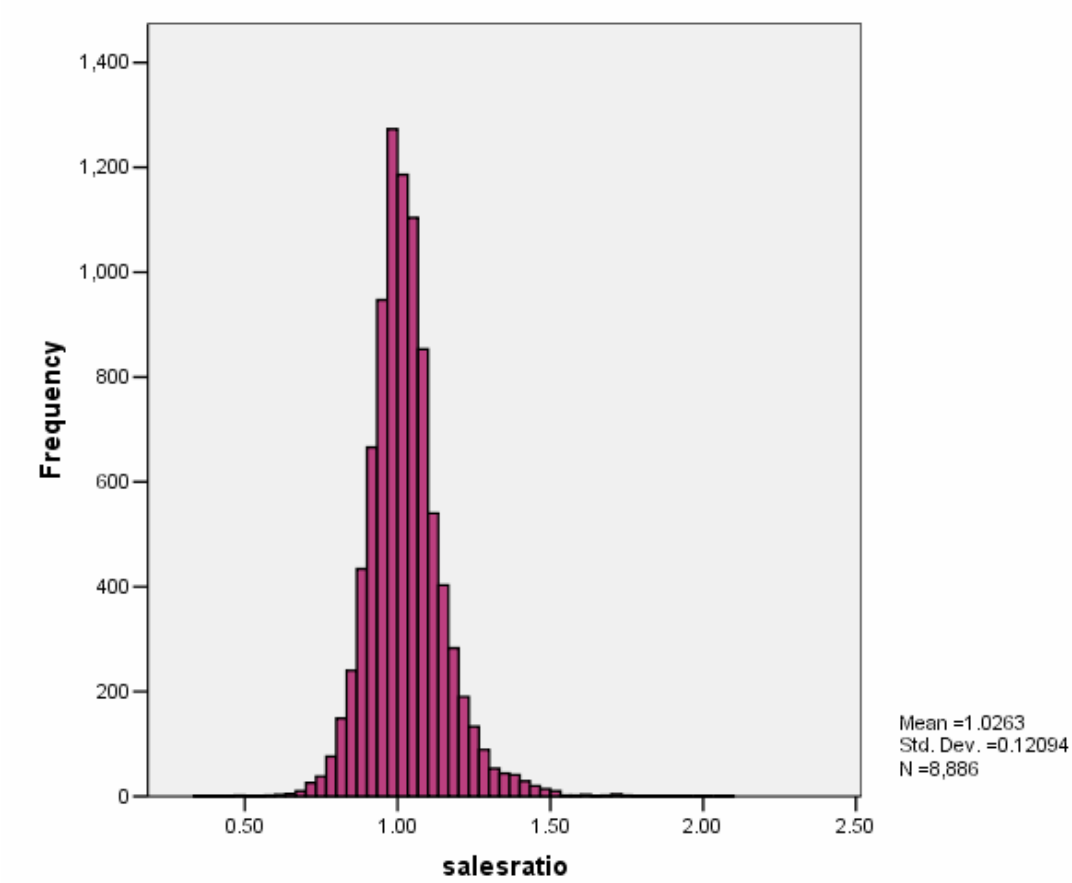
		Count	Percent
econarea	1.00	95	1.1%
	2.00	1538	17.4%
	3.00	150	1.7%
	4.00	77	.9%
	5.00	1174	13.3%
	6.00	430	4.9%
	7.00	2612	29.5%
	8.00	268	3.0%
	9.00	367	4.1%
	10.00	376	4.2%
	11.00	965	10.9%
	12.00	427	4.8%
	13.00	337	3.8%
	14.00	15	.2%
	15.00	4	.0%
	16.00	20	.2%
Overall		8855	100.0%
Excluded		31	
Total		8886	

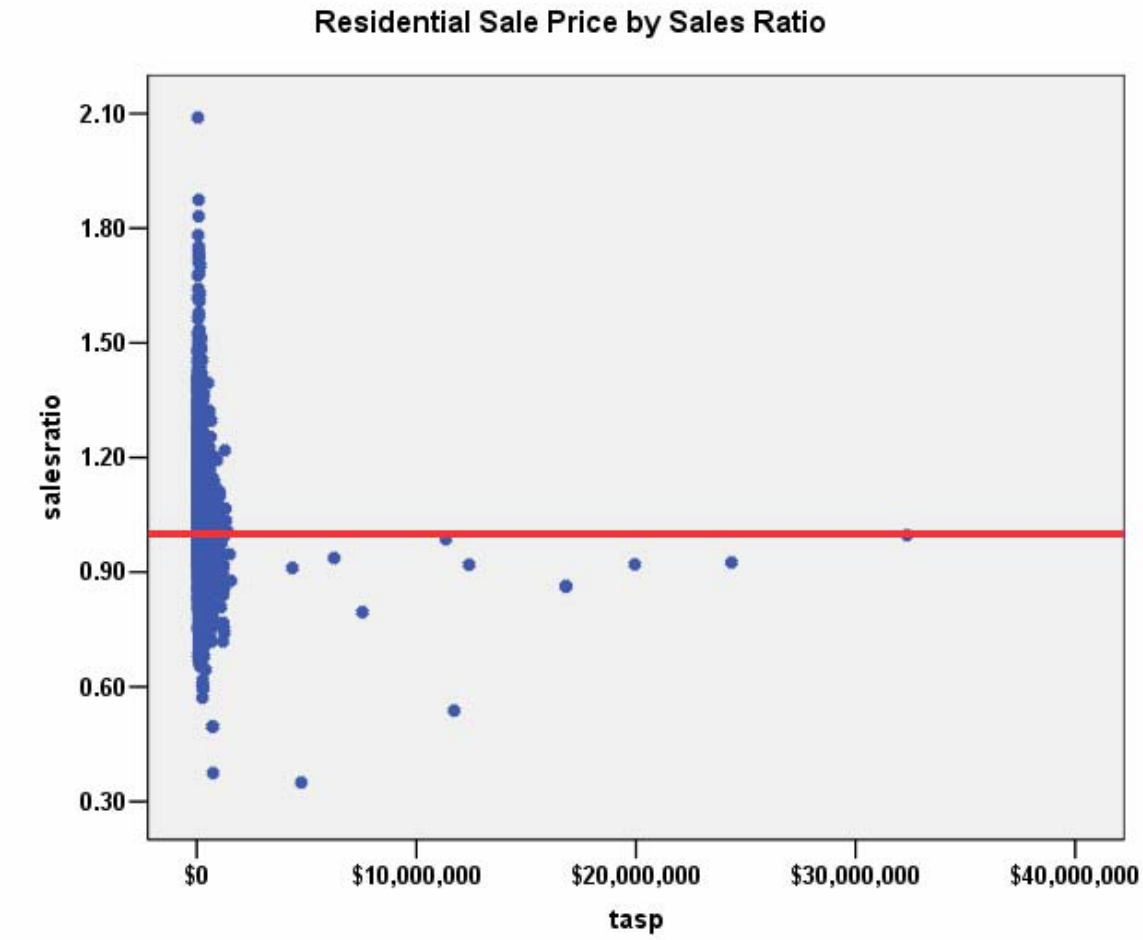
Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion
1.00	1.015	1.001	.069
2.00	1.017	1.009	.071
3.00	1.014	1.017	.096
4.00	1.011	1.031	.122
5.00	1.007	1.020	.091
6.00	1.022	1.007	.079
7.00	1.026	1.011	.082
8.00	1.026	1.026	.140
9.00	1.022	1.028	.137
10.00	1.004	1.013	.080
11.00	1.002	1.012	.071
12.00	1.019	1.020	.099
13.00	1.003	1.018	.083
14.00	1.135	1.008	.143
15.00	.911	1.004	.036
16.00	.931	.993	.118
Overall	1.015	1.021	.086

Please note that the median ratio and COD totals for Economic Areas 14, 15 and 16 are not valid, based on the very low number of residential sales for those areas. In terms of the valid economic areas (1 through 13), the median ratio and COD totals were all in compliance in terms of the SBOE thresholds.

The following graphs describe the overall sales ratio results for Adams County:


1,400
1,200
1,000
800
600
400
200
0
Frequency
0.50
1.00
1.50
2.00
2.50
salesratio
Mean =1.0263
Std. Dev. =0.12094
N =8,886



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

Residential Market Trend Analysis

We next analyzed the residential dataset using the 18-month sale period for any residual market trending and broken down by economic area, as follows:

Coefficients[a]

econarea	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
.	1	(Constant)	1.087	.186		5.859	.000
		SalePeriod	-.003	.017	-.037	-.200	.843
1.00	1	(Constant)	.974	.021		47.281	.000
		SalePeriod	.004	.002	.239	2.374	.020
2.00	1	(Constant)	1.035	.005		198.340	.000
		SalePeriod	-.002	.000	-.092	-3.634	.000
3.00	1	(Constant)	1.053	.020		53.112	.000
		SalePeriod	-.002	.002	-.074	-.902	.369
4.00	1	(Constant)	1.051	.041		25.487	.000
		SalePeriod	-.002	.004	-.048	-.414	.680
5.00	1	(Constant)	1.077	.007		146.113	.000
		SalePeriod	-.005	.001	-.206	-7.205	.000
6.00	1	(Constant)	1.043	.011		98.708	.000
		SalePeriod	-.001	.001	-.072	-1.497	.135
7.00	1	(Constant)	1.054	.004		253.081	.000
		SalePeriod	-.002	.000	-.109	-5.607	.000
8.00	1	(Constant)	1.100	.023		48.788	.000
		SalePeriod	-.006	.002	-.160	-2.639	.009
9.00	1	(Constant)	1.049	.021		50.459	.000
		SalePeriod	-.001	.002	-.021	-.405	.686
10.00	1	(Constant)	1.014	.011		95.247	.000
		SalePeriod	-.002	.001	-.113	-2.202	.028
11.00	1	(Constant)	1.017	.007		154.697	.000
		SalePeriod	.000	.001	-.024	-.749	.454
12.00	1	(Constant)	1.044	.013		77.890	.000
		SalePeriod	-.001	.001	-.051	-1.044	.297
13.00	1	(Constant)	1.017	.012		85.851	.000
		SalePeriod	.000	.001	-.021	-.377	.706
14.00	1	(Constant)	1.281	.148		8.671	.000
		SalePeriod	-.015	.011	-.338	-1.294	.218
15.00	1	(Constant)	1.022	.056		18.253	.003
		SalePeriod	-.014	.006	-.846	-2.248	.154
16.00	1	(Constant)	.694	.068		10.266	.000
		SalePeriod	.022	.006	.655	3.679	.002

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for any of the economic areas. While several economic areas had statistically significant results, the magnitude of each trend was not significant; we therefore concluded that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the median actual value per square foot for 2009 between each group. The data was analyzed both as a whole and broken down by economic area, as follows:

Group	N	Median	Mean
Unsold	108,870	$124	$128
Sold	8,855	$122	$126

ECONAREA	Group	N	Median	Mean
1	**Unsold**	1,573	$131	$130
	Sold	95	$147	$140
2	**Unsold**	13,721	$115	$119
	Sold	1,538	$112	$116
3	**Unsold**	1,869	$123	$122
	Sold	150	$133	$133
4	**Unsold**	2,345	$137	$141
	Sold	77	$132	$141
5	**Unsold**	22,437	$146	$149
	Sold	1,174	$148	$153
6	**Unsold**	8,248	$153	$146
	Sold	430	$142	$144
7	**Unsold**	26,898	$125	$128
	Sold	2,612	$125	$129
8	**Unsold**	6,228	$109	$111
	Sold	268	$107	$109
9	**Unsold**	6,930	$121	$121
	Sold	367	$117	$119
10	**Unsold**	2,877	$160	$163
	Sold	376	$157	$163
11	**Unsold**	8,456	$110	$109
	Sold	965	$112	$113
12	**Unsold**	4,444	$80	$85
	Sold	427	$89	$90
13	**Unsold**	1,974	$82	$86
	Sold	337	$96	$94
14	**Unsold**	304	$74	$78
	Sold	15	$75	$82
15	**Unsold**	99	$78	$81
	Sold	4	$71	$78
16	**Unsold**	419	$75	$79
	Sold	20	$81	$81

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

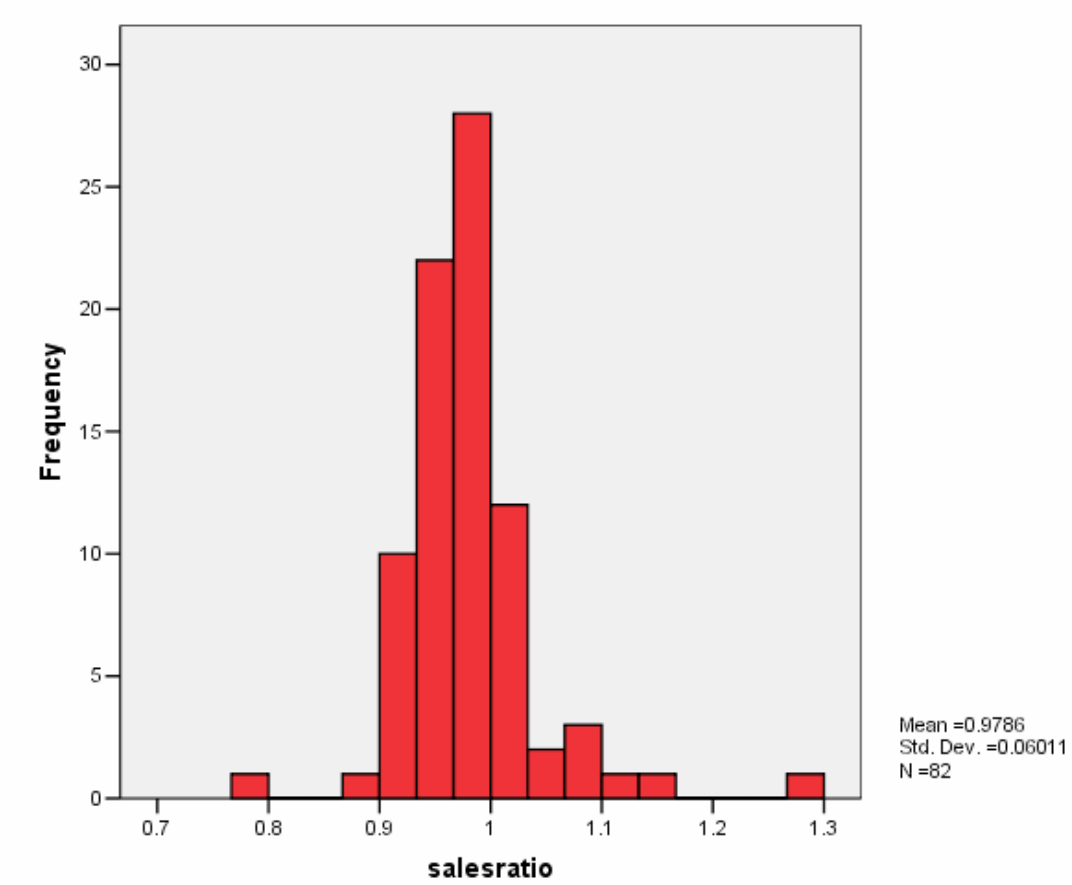
IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

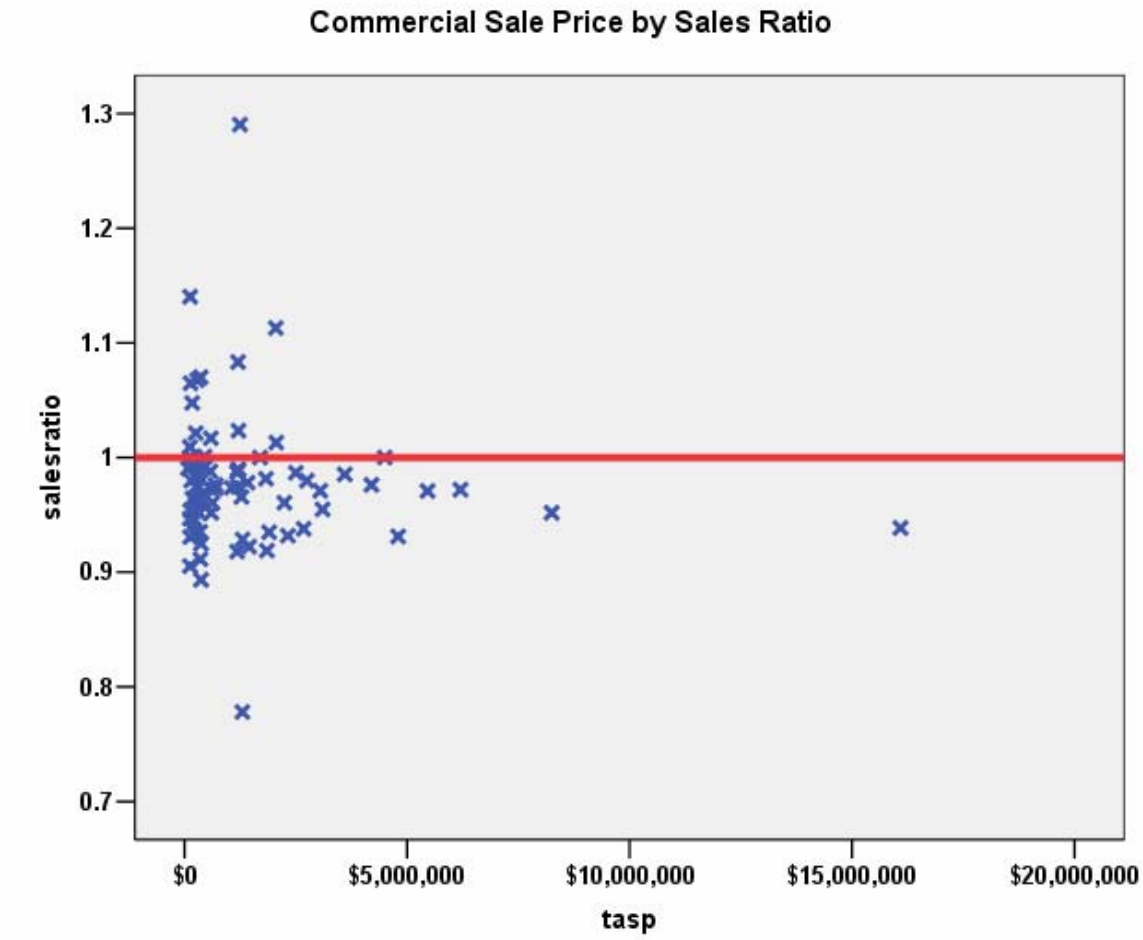
1. All sales	16,559
2. Qualified sales	9,526
3. Improved sales	9,140
4. Select commercial/industrial sales only	82

The sales ratio analysis results were as follows:

Median	**0.974**
Price Related Differential	**1.010**
Coefficient of Dispersion	**.038**

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


Frequency
30
25
20
15
10
5
0
0.7
0.8
0.9
1
1.1
1.2
1.3
salesratio
Mean =0.9786
Std. Dev. =0.06011
N =82



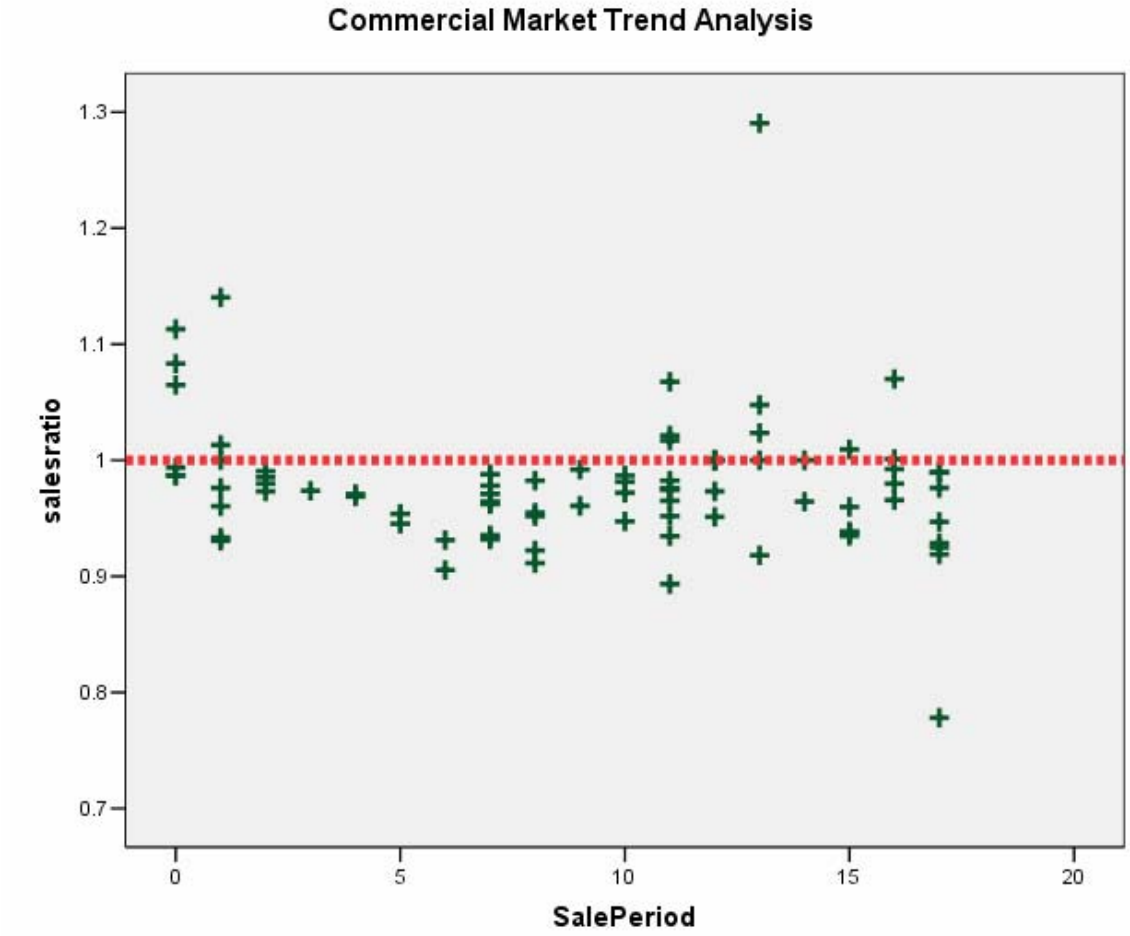
Commercial/Industrial Market Trend Analysis

The 82 commercial/industrial sales were next analyzed by examining the sale ratios across the 18 month sale period. The purpose was to check for any residual market trending. The results were as follows:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.994	.013		77.483	.000
	SalePeriod	-.002	.001	-.159	-1.438	.154

a. Dependent Variable: salesratio



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

Sold/Unsold Analysis

We compared the median change in actual value between 2008 and 2009 for commercial/industrial properties to determine if sold and unsold properties were valued consistently, as follows:

Group	N	Median	Mean
Unsold	3,605	$63	$87
Sold	67	$65	$84

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

V. VACANT LAND SALE RESULTS

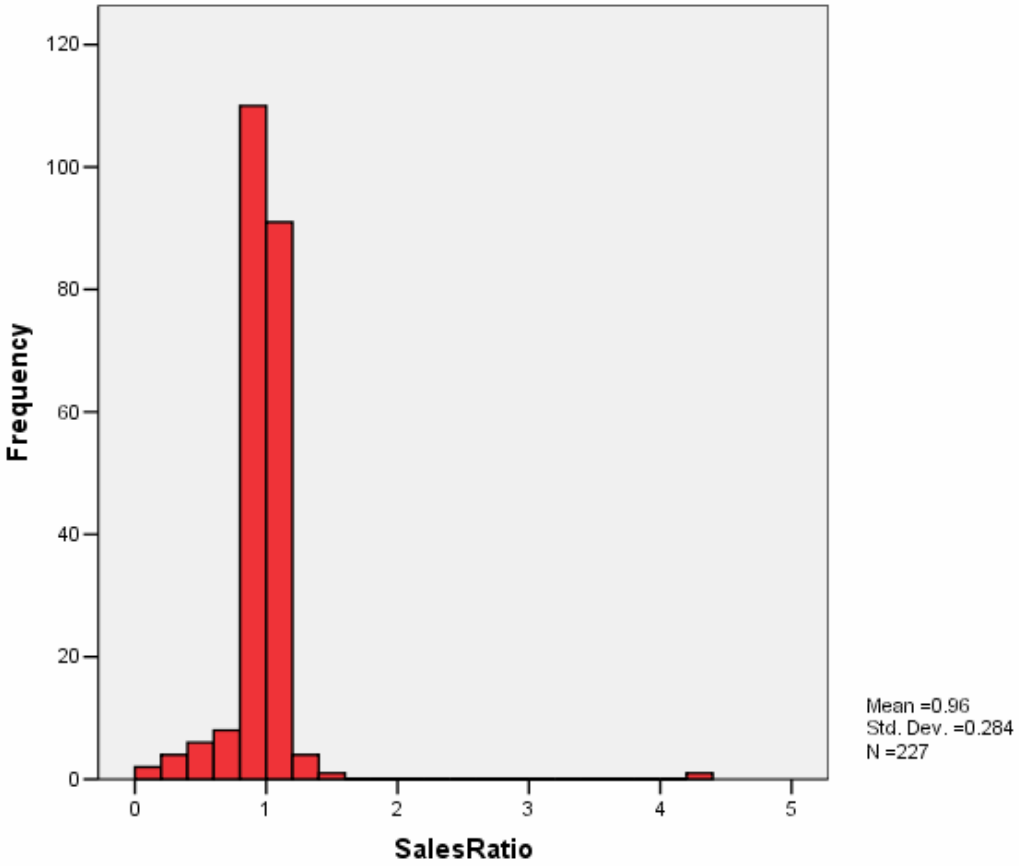
The following steps were taken to analyze the vacant land sales:

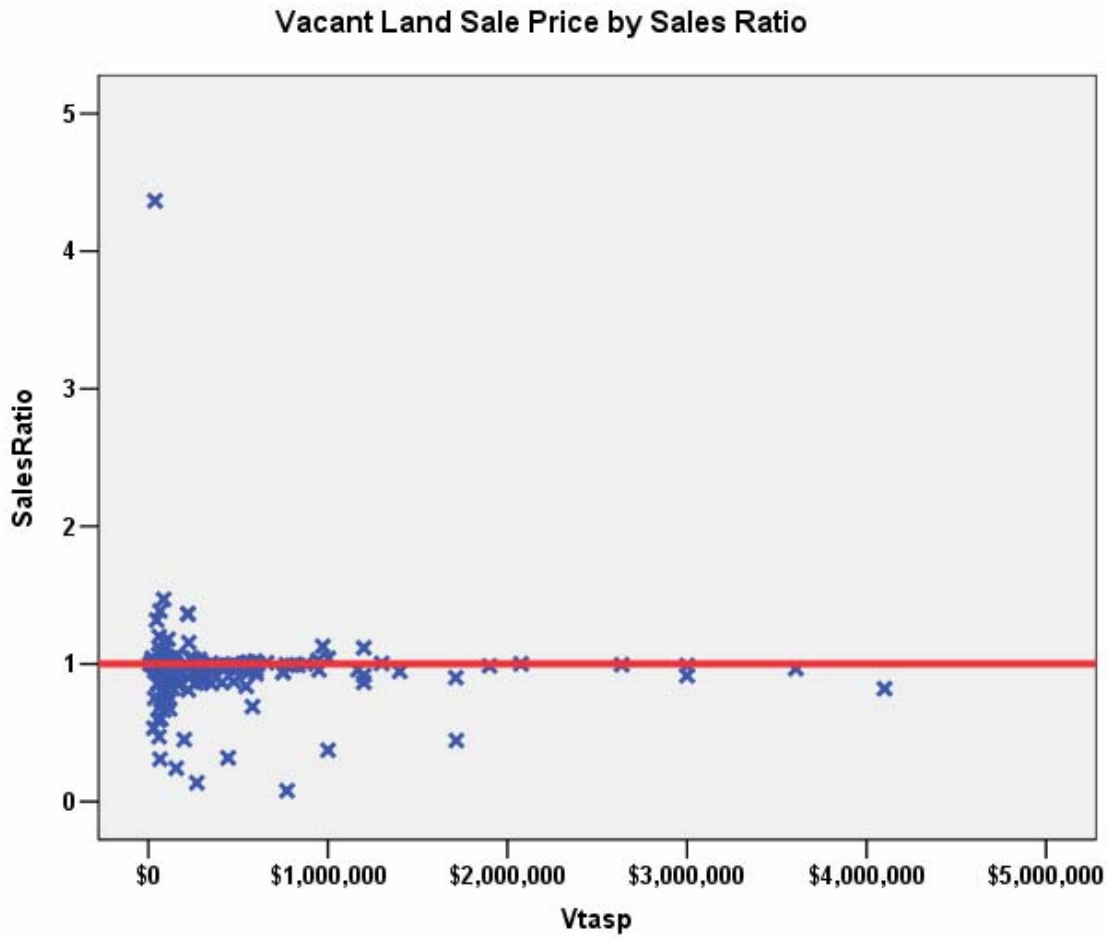
1. All sales	16,559
2. Qualified sales	9,526
3. Vacant land sales	434
4. Residential & commercial/ind vacant land sales	227

The sales ratio analysis results were as follows:

Median	**0.989**
Price Related Differential	**1.034**
Coefficient of Dispersion	**.105**

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





The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits. No sales were trimmed.

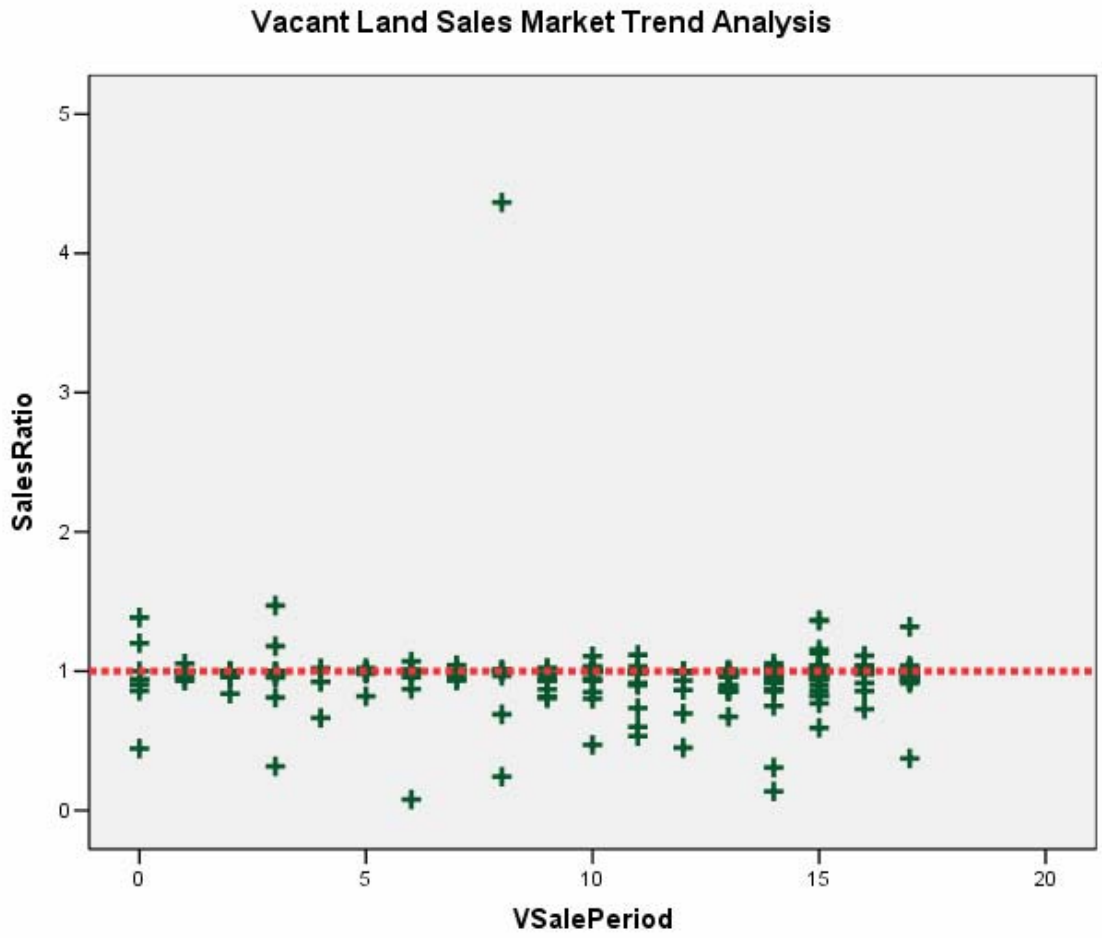
Vacant Land Market Trend Analysis

We next analyzed the vacant land dataset using the 18-month sale period, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.971	.044		22.319	.000
	VSalePeriod	-.001	.004	-.021	-.319	.750

a. Dependent Variable: SalesRatio



The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in value for 2008 and 2009 between each group. We stratified the vacant land properties by subdivision and found overall consistency. The following results present the comparison results by subdivision for sold and unsold properties for subdivision with at least 3 sales:

Report

DIFF

subno	sold	N	Median	Mean
008EA	0	8	1.42	1.42
	1	5	1.42	1.42
	Total	13	1.42	1.42
015BB	0	74	.89	.89
	1	5	.89	.89
	Total	79	.89	.89
055HB	0	114	1.08	1.13
	1	41	1.08	1.15
	Total	155	1.08	1.14
175PA	0	69	.68	.68
	1	4	.68	.68
	Total	73	.68	.68
255HA	0	13	.90	.90
	1	4	.90	.90
	Total	17	.90	.90
339GA	0	40	1.10	1.22
	1	17	1.38	1.27
	Total	57	1.10	1.23
342VA	0	59	.92	.92
	1	5	.92	.93
	Total	64	.92	.92
352RA	0	20	1.00	1.00
	1	5	1.00	1.00
	Total	25	1.00	1.00
365CA	0	55	.92	.95
	1	3	.92	.92
	Total	58	.92	.95
448RA	1	4	1.58	1.58
	Total	4	1.58	1.58
513TA	0	21	.87	.87
	1	3	.87	.87
	Total	24	.87	.87
613CB	0	80	.92	.96
	1	3	.92	.92
	Total	83	.92	.96
Total	0	553	.92	.97
	1	99	1.08	1.12
	Total	652	.92	.99

Overall, we concluded that the county assessor valued sold and unsold vacant properties consistently.

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

Based on the parameters of the state audit analysis, this county was exempt from this analysis for 2009.

VI. CONCLUSIONS

Based on this 2009 audit statistical analysis, residential, commercial and vacant land properties were found to be in compliance with state guidelines.

STATISTICAL ABSTRACT

Residential

Ratio Statistics for currtot / tasp

Mean		1.026
95% Confidence Interval for Mean	Lower Bound	1.024
	Upper Bound	1.029
Median		1.015
95% Confidence Interval for Median	Lower Bound	1.013
	Upper Bound	1.017
	Actual Coverage	95.0%
Weighted Mean		1.001
95% Confidence Interval for Weighted Mean	Lower Bound	.993
	Upper Bound	1.008
Price Related Differential		1.026
Coefficient of Dispersion		.087
Coefficient of Variation	Mean Centered	11.8%

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 Land

Ratio Statistics for currtot / tasp

Mean		.979
95% Confidence Interval for Mean	Lower Bound	.965
	Upper Bound	.992
Median		.974
95% Confidence Interval for Median	Lower Bound	.964
	Upper Bound	.982
	Actual Coverage	96.5%
Weighted Mean		.969
95% Confidence Interval for Weighted Mean	Lower Bound	.954
	Upper Bound	.983
Price Related Differential		1.010
Coefficient of Dispersion		.038
Coefficient of Variation	Mean Centered	6.1%

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

Vacant Land

Ratio Statistics for currlnd / Vtasp

Mean		.959
95% Confidence Interval for Mean	Lower Bound	.922
	Upper Bound	.996
Median		.989
95% Confidence Interval for Median	Lower Bound	.977
	Upper Bound	.999
	Actual Coverage	95.4%
Weighted Mean		.927
95% Confidence Interval for Weighted Mean	Lower Bound	.890
	Upper Bound	.964
Price Related Differential		1.034
Coefficient of Dispersion		.105
Coefficient of Variation	Mean Centered	29.6%

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

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	5	.1%
	$25K to $50K	76	.9%
	$50K to $100K	598	6.7%
	$100K to $150K	1654	18.6%
	$150K to $200K	2386	26.9%
	$200K to $300K	2833	31.9%
	$300K to $500K	1092	12.3%
	$500K to $750K	152	1.7%
	$750K to $1,000K	45	.5%
	Over $1,000K	45	.5%
Overall		8886	100.0%
Excluded		0	
Total		8886	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.158	1.005	.128	17.7%
$25K to $50K	1.121	1.002	.123	18.0%
$50K to $100K	1.082	1.000	.124	16.5%
$100K to $150K	1.044	1.001	.103	13.6%
$150K to $200K	1.012	1.000	.077	10.2%
$200K to $300K	1.010	1.000	.071	9.3%
$300K to $500K	.982	1.002	.074	9.5%
$500K to $750K	.987	1.003	.096	13.7%
$750K to $1,000K	1.004	.999	.063	8.2%
Over $1,000K	.911	1.008	.113	16.2%
Overall	1.015	1.026	.087	12.0%

Subclass

Case Processing Summary

		Count	Percent
Preduse	1212	7006	78.8%
	1214	771	8.7%
	1215	59	.7%
	1220	22	.2%
	1225	16	.2%
	1230	978	11.0%
	1236	28	.3%
	1240	3	.0%
	1270	2	.0%
	1277	1	.0%
Overall		8886	100.0%
Excluded		0	
Total		8886	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
1212	1.017	1.015	.086	11.7%
1214	1.007	1.015	.074	10.4%
1215	1.048	1.066	.209	25.3%
1220	1.030	1.030	.167	20.8%
1225	.931	1.047	.089	13.7%
1230	1.007	1.017	.085	11.6%
1236	1.084	1.053	.187	26.9%
1240	.375	.879	.167	31.2%
1270	.496	1.000	.000	.0%
1277	1.028	1.000	.000	.
Overall	1.015	1.026	.087	12.0%

Age

Case Processing Summary

		Count	Percent
AgeRec	0	31	.3%
	Over 100	6	.1%
	75 to 100	39	.4%
	50 to 75	651	7.3%
	25 to 50	1799	20.2%
	5 to 25	3386	38.1%
	5 or Newer	2974	33.5%
Overall		8886	100.0%
Excluded		0	
Total		8886	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	1.057	1.900	.232	32.7%
Over 100	1.001	1.022	.141	19.4%
75 to 100	.986	1.012	.111	18.0%
50 to 75	1.004	1.026	.137	18.6%
25 to 50	1.022	1.030	.100	13.6%
5 to 25	1.021	1.021	.079	10.7%
5 or Newer	1.006	1.012	.073	9.5%
Overall	1.015	1.026	.087	12.0%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	0	31	.3%
	LE 500 sf	7	.1%
	500 to 1,000 sf	1100	12.4%
	1,000 to 1,500 sf	2878	32.4%
	1,500 to 2,000 sf	2207	24.8%
	2,000 to 3,000 sf	2092	23.5%
	3,000 sf or Higher	571	6.4%
Overall		8886	100.0%
Excluded		0	
Total		8886	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
0	1.057	1.900	.232	32.7%
LE 500 sf	1.142	1.015	.157	22.7%
500 to 1,000 sf	1.010	1.025	.118	16.2%
1,000 to 1,500 sf	1.008	1.013	.088	12.2%
1,500 to 2,000 sf	1.022	1.011	.078	10.6%
2,000 to 3,000 sf	1.021	1.010	.074	9.8%
3,000 sf or Higher	1.003	1.038	.087	11.7%
Overall	1.015	1.026	.087	12.0%

Quality

Case Processing Summary

		Count	Percent
Qual	2.00	6440	72.7%
	2.25	2	.0%
	2.33	2	.0%
	2.50	12	.1%
	3.00	1662	18.8%
	3.50	3	.0%
	3.67	1	.0%
	3.75	1	.0%
	4.00	19	.2%
	4.33	1	.0%
	4.50	16	.2%
	5.00	54	.6%
	5.50	2	.0%
	6.00	18	.2%
	6.50	5	.1%
	6.67	1	.0%
	7.00	326	3.7%
	7.50	1	.0%
	8.00	95	1.1%
	8.33	1	.0%
	8.50	1	.0%
	9.00	1	.0%
	11.00	126	1.4%
	12.00	65	.7%
Overall		8855	100.0%
Excluded		31	
Total		8886	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2.00	1.015	1.020	.090	12.4%
2.25	.931	1.009	.060	8.5%
2.33	.978	1.003	.014	1.9%
2.50	.980	1.009	.086	13.3%
3.00	1.014	1.023	.075	9.9%
3.50	.986	.945	.081	15.0%
3.67	1.067	1.000	.000	.
3.75	1.343	1.000	.000	.
4.00	1.006	1.004	.070	8.8%
4.33	.863	1.000	.000	.
4.50	1.013	1.008	.076	11.1%
5.00	1.000	1.085	.135	19.8%
5.50	1.152	.969	.124	17.5%
6.00	1.007	1.013	.066	9.1%
6.50	.966	.996	.041	5.7%
6.67	1.228	1.000	.000	.
7.00	1.014	1.009	.069	8.7%
7.50	.983	1.000	.000	.
8.00	1.024	1.008	.065	8.9%
8.33	1.055	1.000	.000	.
8.50	.818	1.000	.000	.
9.00	1.144	1.000	.000	.
11.00	1.013	1.009	.070	9.9%
12.00	1.014	1.026	.104	14.0%
Overall	1.015	1.021	.086	11.8%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$50K to $100K	1	1.2%
	$100K to $150K	11	13.4%
	$150K to $200K	4	4.9%
	$200K to $300K	14	17.1%
	$300K to $500K	10	12.2%
	$500K to $750K	7	8.5%
	Over $1,000K	35	42.7%
Overall		82	100.0%
Excluded		0	
Total		82	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$50K to $100K	.991	1.000	.000	.
$100K to $150K	1.000	.999	.043	6.5%
$150K to $200K	.972	1.001	.030	4.8%
$200K to $300K	.979	.999	.026	3.6%
$300K to $500K	.958	.998	.040	5.4%
$500K to $750K	.973	1.000	.014	2.2%
Over $1,000K	.974	1.010	.043	7.8%
Overall	.974	1.010	.038	6.2%

Subclass

Case Processing Summary

		Count	Percent
Preduse	2212	26	31.7%
	2220	11	13.4%
	2230	9	11.0%
	2235	34	41.5%
	3215	2	2.4%
Overall		82	100.0%
Excluded		0	
Total		82	

Ratio Statistics for currtot / tasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
2212	.981	1.018	.044	7.8%
2220	.978	1.022	.043	6.7%
2230	.938	1.042	.056	8.8%
2235	.974	1.002	.025	3.5%
3215	.966	.996	.006	.8%
Overall	.974	1.010	.038	6.2%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
VPreduse	100	148	65.2%
	200	39	17.2%
	300	11	4.8%
	510	1	.4%
	520	2	.9%
	530	1	.4%
	550	1	.4%
	700	2	.9%
	1112	3	1.3%
	1115	1	.4%
	1135	2	.9%
	1136	1	.4%
	2112	6	2.6%
	2115	2	.9%
	2125	1	.4%
	2130	4	1.8%
	2135	2	.9%
Overall		227	100.0%
Excluded		0	
Total		227	

Ratio Statistics for currInd / Vtasp

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	.995	1.003	.076	14.7%
200	.986	1.061	.178	58.7%
300	.990	.972	.043	7.1%
510	.963	1.000	.000	.
520	.898	1.001	.035	4.9%
530	.078	1.000	.000	.
550	.927	1.000	.000	.
700	1.002	.999	.002	.2%
1112	.933	.962	.035	5.3%
1115	.600	1.000	.000	.
1135	1.000	1.000	.000	.0%
1136	.308	1.000	.000	.
2112	.980	.973	.058	8.3%
2115	.953	.962	.093	13.2%
2125	.820	1.000	.000	.
2130	.690	1.054	.448	53.2%
2135	.703	.790	.331	46.7%
Overall	.989	1.034	.105	28.9%