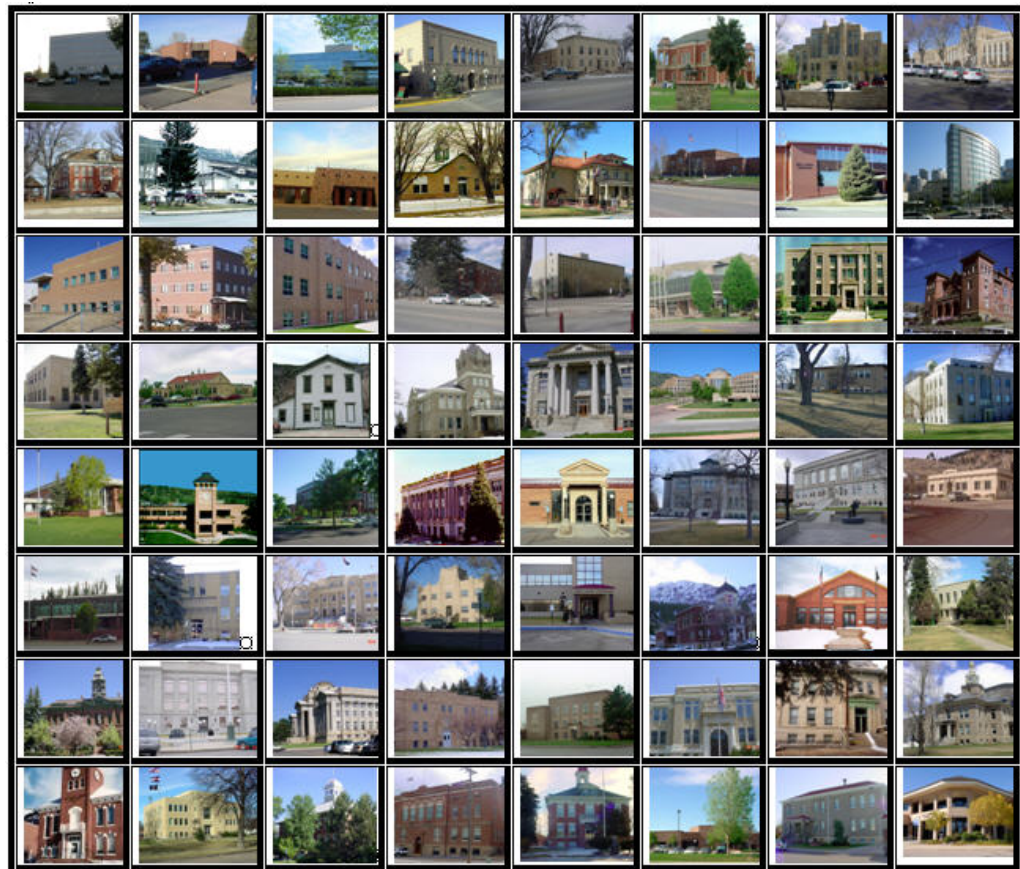# 2012
LARIMER COUNTY
PROPERTY ASSESSMENT
STUDY

September 15, 2012

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

RE: Final Report for the 2012 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2012 Colorado Property Assessment Study.

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

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

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

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

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

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INTRODUCTION

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

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

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

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

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

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

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out 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 2012 and is pleased to report its findings for Larimer County in the following report.

REGIONAL/HISTORICAL SKETCH OF LARIMER COUNTY

Regional Information

Larimer 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

Larimer County has a population of approximately 299,630 people with 115.20 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 19.14 percent change from the 2000 Census.

Larimer County was created in 1861 as one of the seventeen original counties in the Colorado Territory; however, its western boundary was disputed. Controversy existed as to whether Larimer County ended at the Medicine Bow Range or at the Continental Divide thirty miles further west. An 1886 Colorado Supreme Court decision set the boundary at the Continental Divide, although the land between the Medicine Bow Range and the divide was made part of Jackson County in 1909.

Unlike that of much of Colorado, which was founded on the mining of gold and silver, the settlement of Larimer County was based almost entirely on agriculture, an industry that few thought possible in the region during the initial days of the Colorado Gold Rush. The mining boom almost entirely passed the county by. It would take the introduction of irrigation to the region in the 1860s to bring the first widespread settlement to the area.

In 1862, the United States Army established an outpost near Laporte that was designated as Camp Collins. A devastating flood in June 1864 wiped out the outpost, forcing the Army to seek a better location. At the urging of Joseph Mason, who had settled along the Poudre in 1860, the Army relocated its post downstream adjacent to Mason's land along the Overland stage route. The site of the new post became the nucleus of the town of Fort Collins, incorporated in 1873 after the withdrawal of the Army. By that time, Mason and others had convinced the legislature of the Colorado Territorial Legislature to designate the new town as the county seat. In 1870, the legislature designated Fort Collins as the location of the state agricultural college (later Colorado State University).

Cities and towns located in Larimer County, Colorado include Berthoud, Estes Park, Fort Collins, Loveland, Timnath, Wellington, Windsor, Bellvue, Buckeye, Campion, Cherokee Park, Drake, Glendevey, Glen Haven, LaPorte, Livermore, Kinikinik, Manhattan, Masonville, Pinewood Springs, Pingree Park, Poudre Park, Feather Lakes, Rustic, Teds Place, Virginia Dale and Waverly. *(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 2009 and June 2010. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2010 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and 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 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 Larimer County are:

Larimer County Ratio Grid					
Property Class	**Number of Qualified Sales**	**Unweighted Median Ratio**	**Price Related Differential**	**Coefficient of Dispersion**	**Time Trend Analysis**
Commercial/Industrial	72	0.975	1.034	7.8	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	6,899	0.996	1.010	7.0	Compliant
Vacant Land	272	1.000	1.034	18.9	Compliant

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
EA1	.995	1.009	.065
EA2	.999	1.010	.074
EA3	.993	1.019	.083
EA4	.994	1.024	.111
Overall	.996	1.010	.070

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

Recommendations

None

Random Deed Analysis

An additional analysis was performed as part of the Ratio Analysis. Ten randomly selected deeds with documentary fees were obtained from the Clerk and Recorder. These deeds were for sales that occurred from January 1, 2009 through June 30, 2010. These sales were then checked for inclusion on the Assessor's qualified or unqualified database.

Conclusions

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

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

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

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2010 and 2012 actual values for each qualified class of property. All qualified vacant land classes were tested using this method. The sale property ratios were arrayed using a range of 0.8 to 1.5, which theoretically excluded changes between years that were due to other unrelated changes in the property. These ratios were also stratified at the appropriate level of analysis. 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 Larimer County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

None

AGRICULTURAL LAND STUDY

Acres By Subclass

Value By Subclass
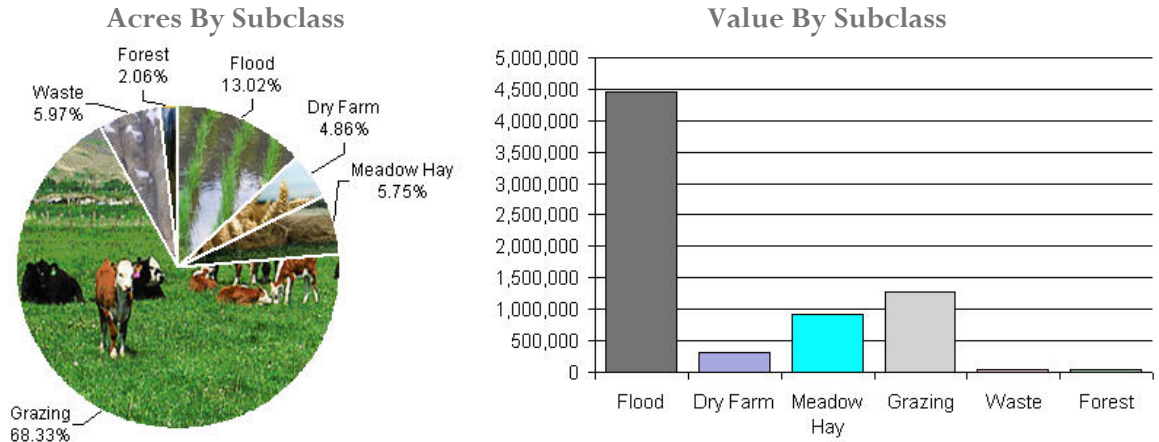
Agricultural Land

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:

Larimer County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4117	Flood	52,076	86.00	4,458,271	4,694,763	0.95
4127	Dry Farm	19,451	16.00	310,550	309,111	1.00
4137	Meadow Hay	22,991	40.00	921,791	921,791	1.00
4147	Grazing	273,220	5.00	1,283,760	1,283,760	1.00
4177	Forest	8,225	5.00	44,165	44,238	1.00
4167	Waste	23,883	2.00	38,546	38,546	1.00
Total/Avg		399,846	18.00	7,057,083	7,336,447	0.96

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

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

Recommendations

None

Agricultural Land Under Improvements

Methodology

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

Conclusions

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

Recommendations

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 2012 for Larimer County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 48 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

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

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Larimer County has submitted a written narrative describing the economic areas that make up the county's market areas. Larimer 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 Larimer 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 2012 in Larimer County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14) and by applying the recommended methodology in ARL Vol 3, Chap 4. Subdivision Discounting in the intervening year was accomplished by reducing the absorption period by one year. In instances where the number of sales within an approved plat was less than the absorption rate per year calculated for the plat, the absorption period was left unchanged.

Conclusions

Larimer 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.

Larimer 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

Larimer 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

Larimer 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.

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

- Public Record Documents
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor

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

Larimer County submitted their personal property written audit plan and was current for the 2012 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

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

- Accounts protested with substantial disagreement

Larimer 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

Larimer 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

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician*

Carl W. Ross, *Agricultural / Natural Resource Analyst*

J. Andrew Rodriguez, *Field Analyst*

A P P E N D I C E S

STATISTICAL COMPLIANCE REPORT
FOR LARIMER COUNTY
2012

I. OVERVIEW

Larimer County is a northern county located along Colorado's Front Range urban corridor. The county has a total of 145,184 real property parcels, according to data submitted by the county assessor's office in 2012. The following provides a breakdown of property classes for this county:
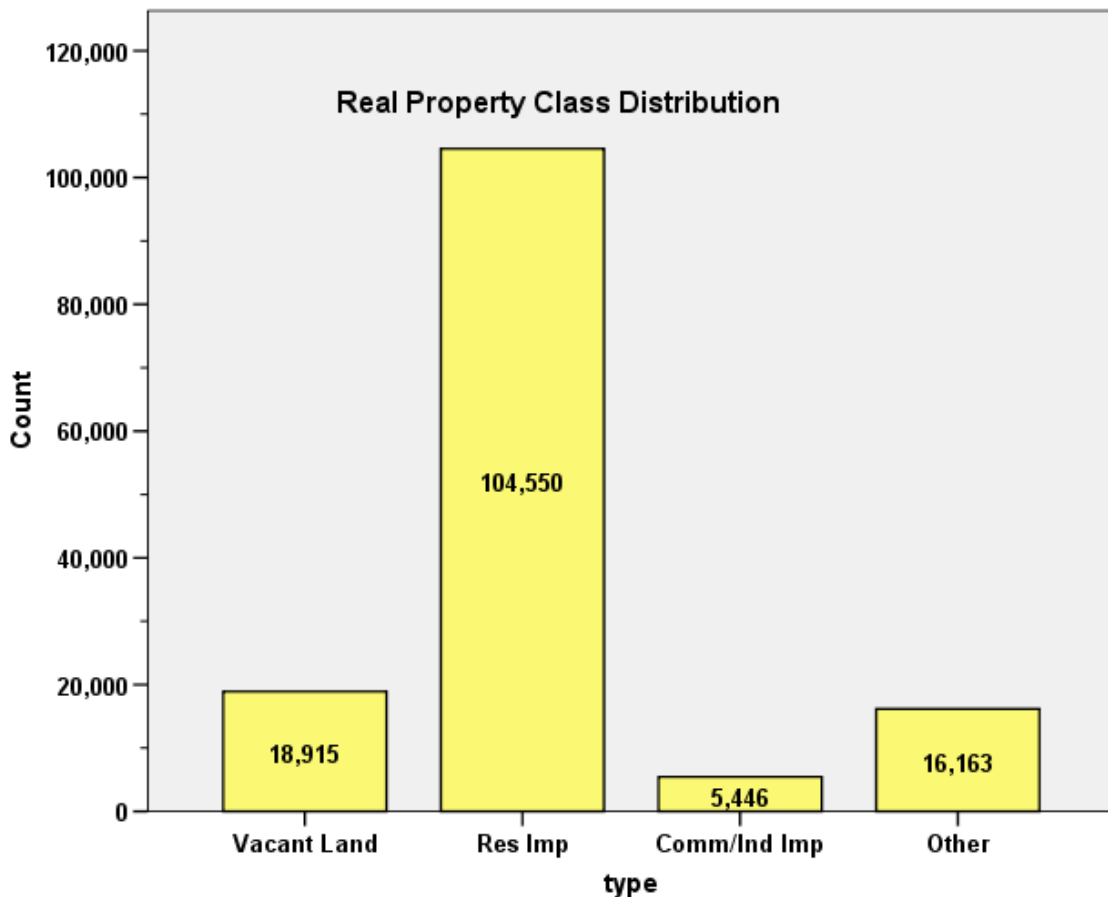
The vacant land class of properties was dominated by residential land. Residential lots (coded 100) accounted for 73.5% of all vacant land parcels.

For residential improved properties, single family properties accounted for 87.1% of all residential properties.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial properties accounted for 3.8% of all such properties in this county.

II. DATA FILES

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

III. RESIDENTIAL SALES RESULTS

The following steps were taken to analyze the residential sales:

1. All sales	53,101
2. Qualified sales	28,428
3. Improved sales	25,160
3. Select residential sales only	24,695
4. Sales between January 1, 2009 and June 30, 2010	6,899

The sales ratio analysis was analyzed as follows:

Case Processing Summary

		Count	Percent
ECONAREA	EA1	4283	62.1%
	EA2	2130	30.9%
	EA3	274	4.0%
	EA4	212	3.1%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
EA1	.995	1.009	.065
EA2	.999	1.010	.074
EA3	.993	1.019	.083
EA4	.994	1.024	.111
Overall	.996	1.010	.070

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

ECONAREA: EA1

Mean = 1.00
Std. Dev. = 0.102
N = 4,283

ECONAREA: EA2

Mean = 1.01
Std. Dev. = 0.116
N = 2,130

ECONAREA: EA3

Mean = 0.99
Std. Dev. = 0.136
N = 274

ECONAREA: EA4

Mean = 1.00
Std. Dev. = 0.174
N = 212
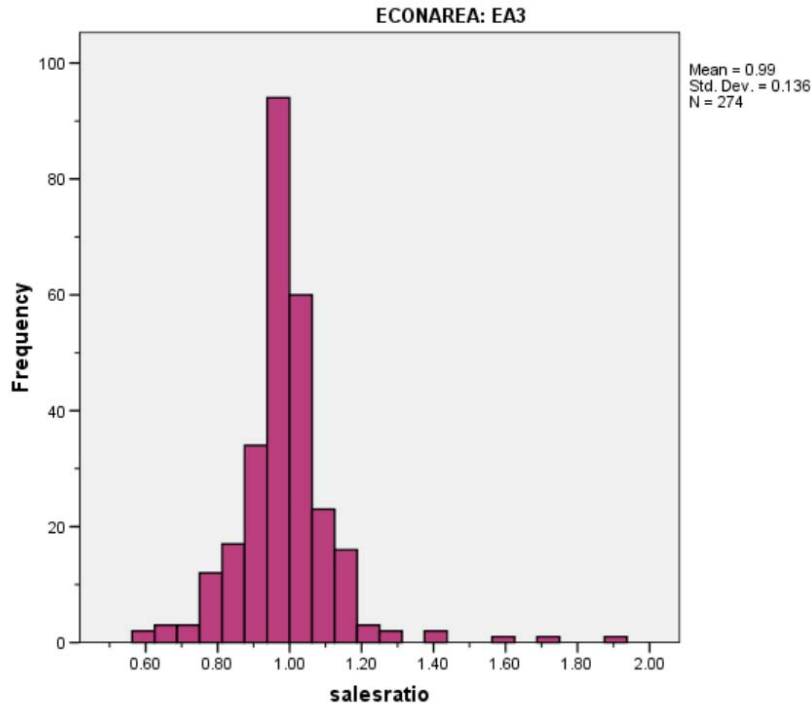
The above graphs indicate that the distribution of the sale ratios was within state mandated limits.

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		
EA1	1	(Constant)	.991	.003		357.136	.000
		SalePeriod	.001	.000	.050	3.245	.001
EA2	1	(Constant)	.988	.005		218.759	.000
		SalePeriod	.002	.000	.098	4.521	.000
EA3	1	(Constant)	.976	.015		66.008	.000
		SalePeriod	.002	.002	.063	1.041	.299
EA4	1	(Constant)	.999	.023		43.647	.000
		SalePeriod	-5.067E-5	.002	-.001	-.021	.983

a. Dependent Variable: salesratio

There was no residual market trending present in the sale ratio data for any of the economic areas; in Economic Areas 1 and 2, where marginally statistical significant trend were present, the magnitude of those trends (at 0.1% and 0.2% per month, respectively) 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 2012 between each group. The data was analyzed broken down by economic area, as follows:

ECONAREA	Group	N	Median	Mean
EA1	Unsold	52,851	$137.15	$144.09
	Sold	4,283	$136.27	$144.27
EA2	Unsold	31,838	$129.87	$134.32
	Sold	2,130	$131.97	$138.70
EA3	Unsold	6,103	$208.98	$219.80
	Sold	274	$209.81	$226.75
EA4	Unsold	6,870	$148.52	$154.76
	Sold	212	$164.23	$166.79
Total	Unsold	97,914	$137.30	$146.21
	Sold	6,899	$136.64	$146.52

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

1. All sales   53,101
2. Qualified sales   28,428
3. Improved sales   25,160
3. Select commercial/industrial sales only   434
4. Sales between January 1, 2009 and June 30, 2010   72

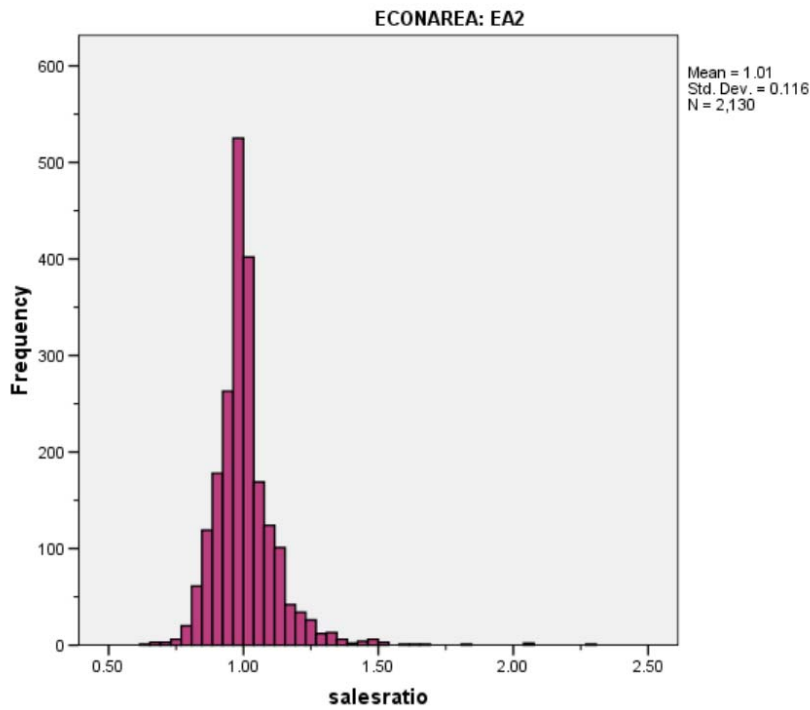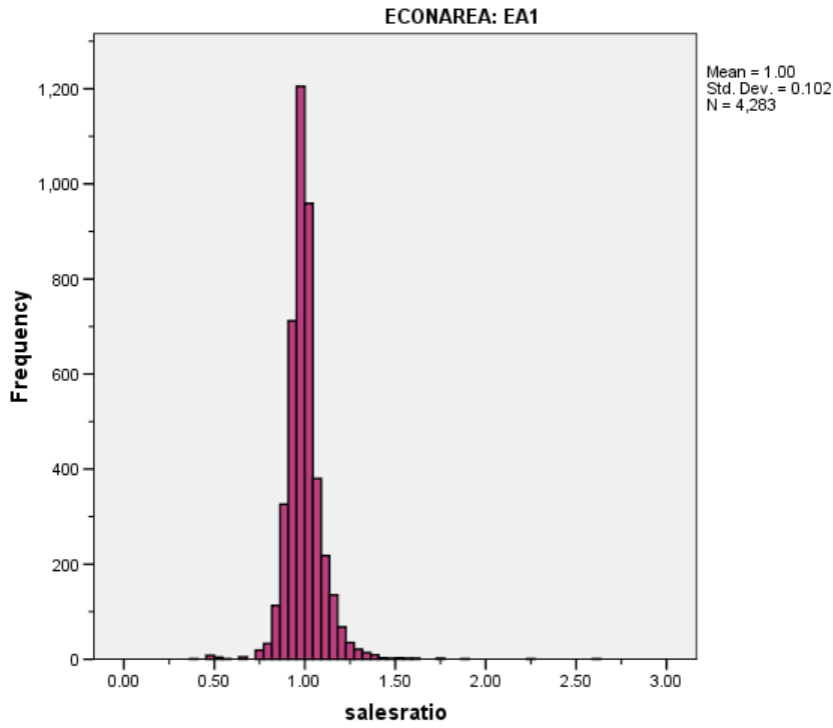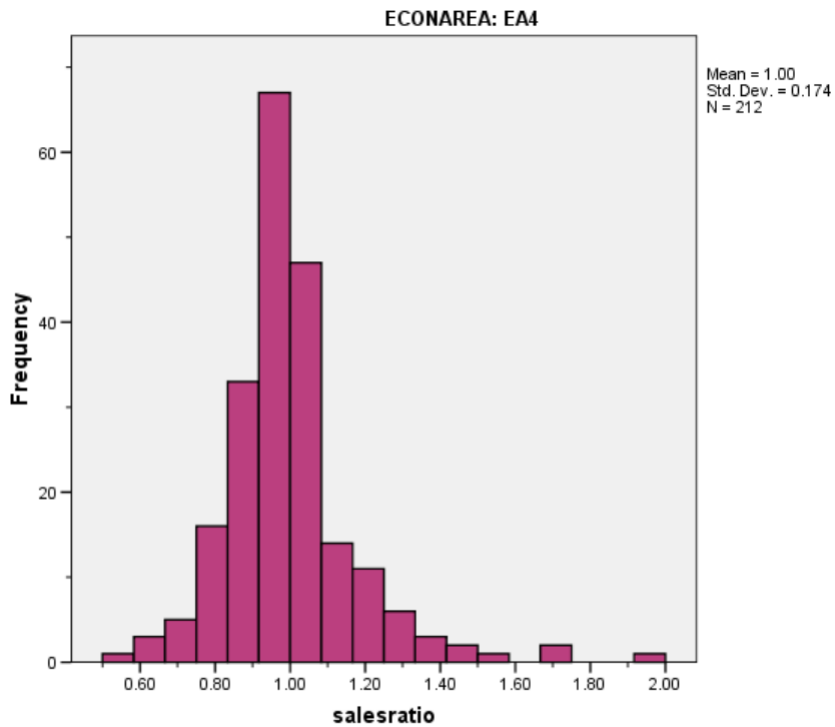The sales ratio analysis was analyzed as follows:

Median	**0.975**
Price Related Differential	**1.034**
Coefficient of Dispersion	**.078**

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

Mean = 0.98
Std. Dev. = 0.138
N = 72

Commercial Sale Price by Sales Ratio
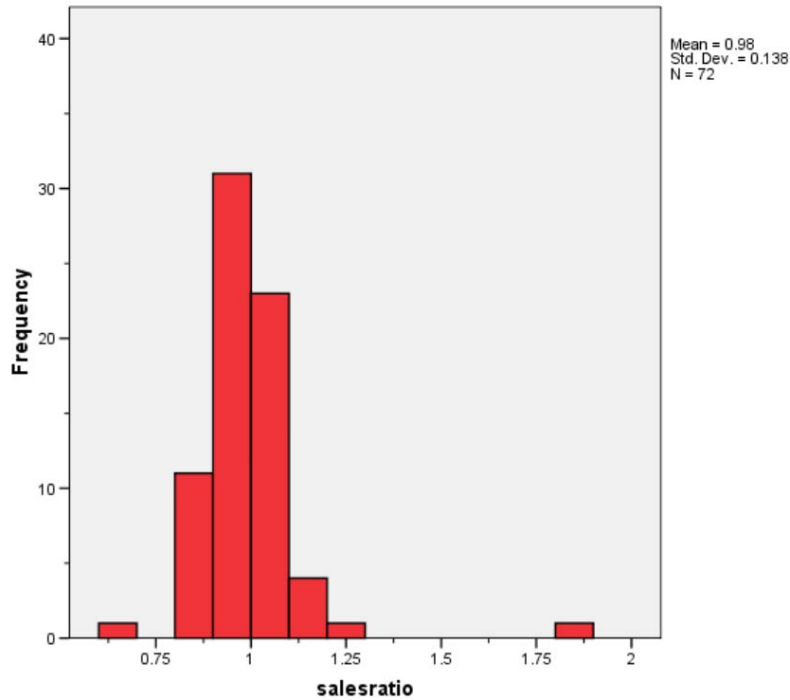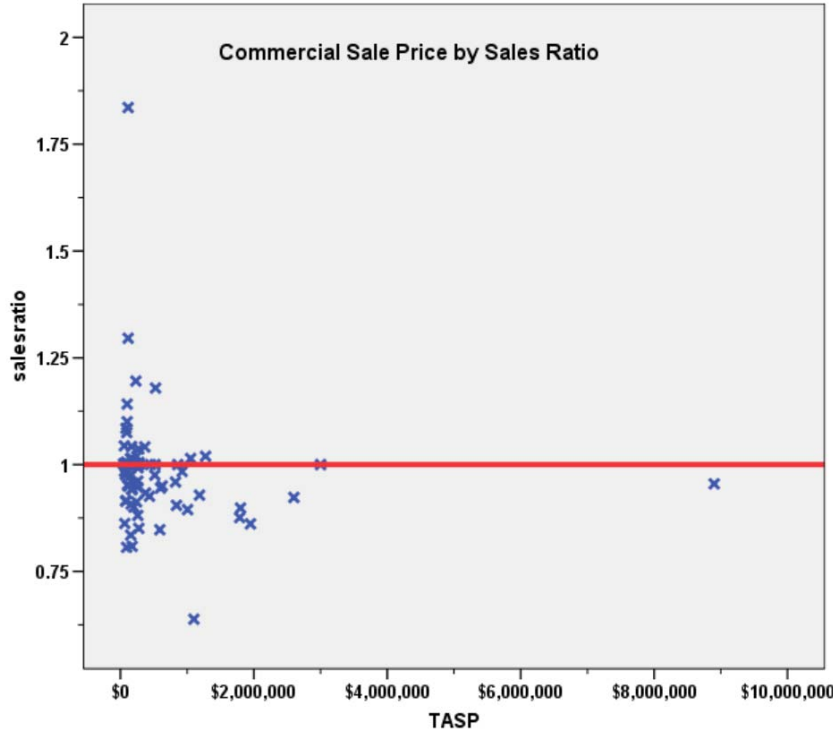
Commercial/Industrial Market Trend Analysis

The assessor did apply market trend adjustments to the vacant land dataset. The 74 vacant land sales were analyzed, examining the sale ratios across the 18 month sale period with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.983	.029		33.766	.000
	SalePeriod	.000	.003	-.012	-.099	.922

a. Dependent Variable: salesratio
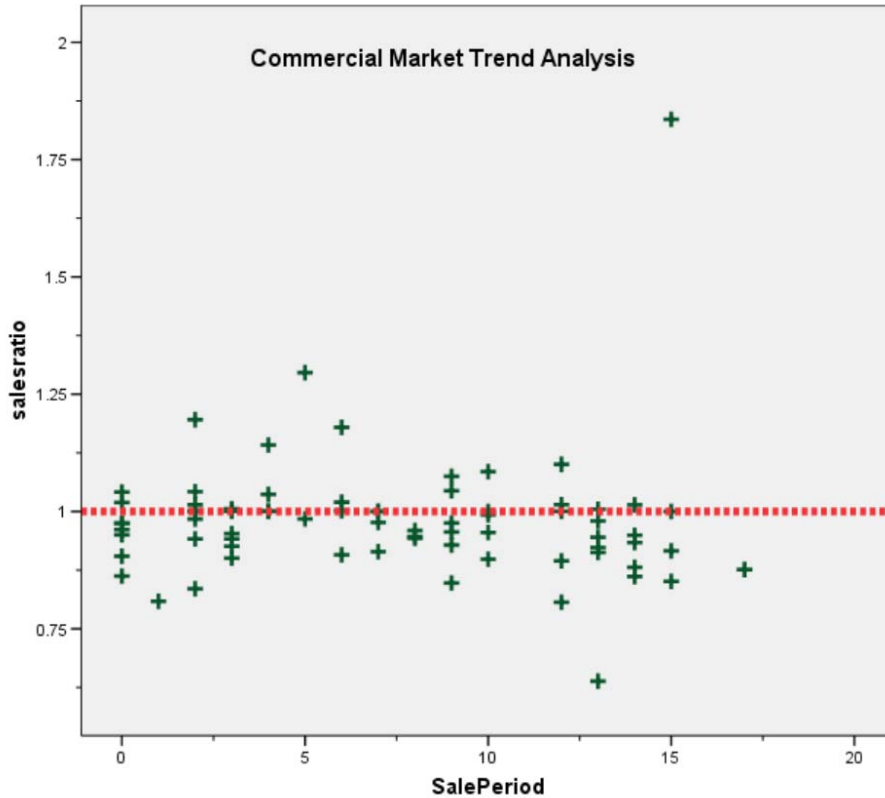
There was no residual market trending present in the commercial sale ratios. We concluded that the assessor has adequately considered market trending adjustments as part of the vacant land valuation.

Sold/Unsold Analysis

We compared the median value per square feet between sold and unsold properties to determine if both groups were valued consistently, as follows:

Group	No.	Median	Mean
Unsold	5,271	$80.00	$98.90
Sold	72	$77.97	$105.07

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

V. VACANT LAND SALE RESULTS

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

1. All sales	53,101
2. Qualified sales	28,428
3. Vacant land sales	1,724
4. Exclude agricultural land sales	1,680
4. Sales between January 1, 2009 and June 30, 2010	272

The sales ratio analysis was analyzed as follows:

Median	**1.000**
Price Related Differential	**1.034**
Coefficient of Dispersion	**.189**

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:
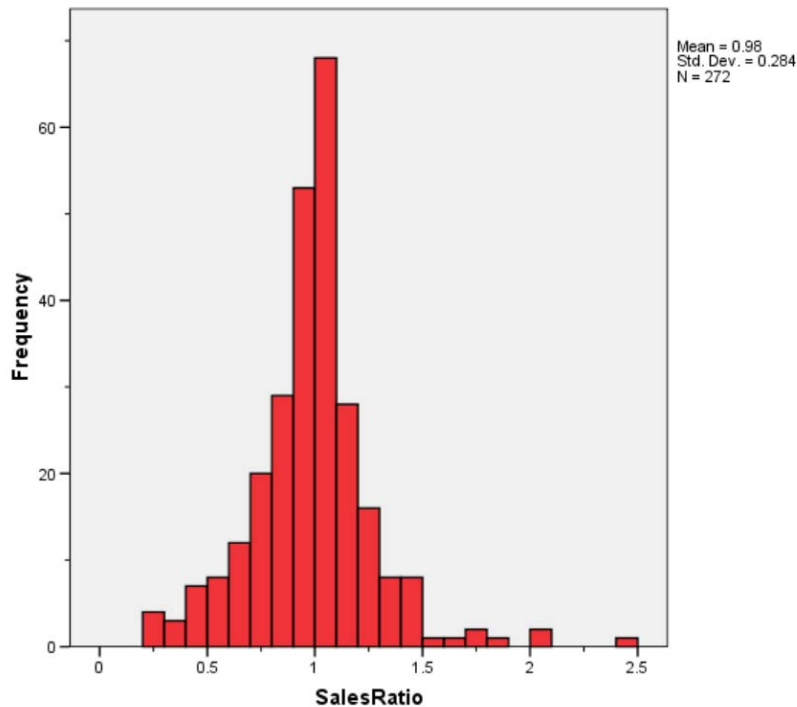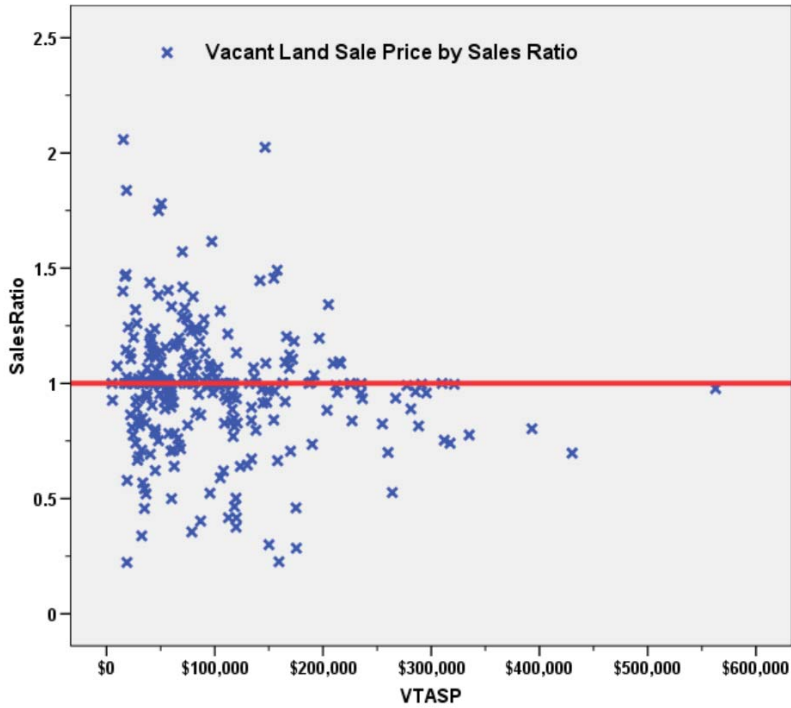
The above histogram indicates that the distribution of the vacant land sale ratios was within state mandated limits, while the above scatter plot indicated that there was no price related differential issues. No sales were trimmed.

Vacant Land Market Trend Analysis

We next analyzed the vacant land dataset using the 18-month sale period and stratified by economic area, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.990	.035		28.644	.000
	VSalePeriod	-.001	.004	-.015	-.253	.800

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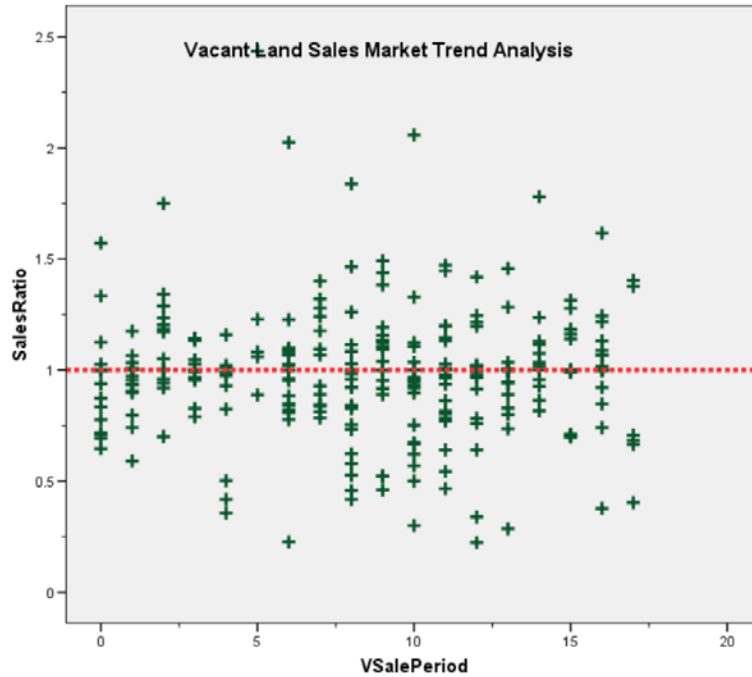
The above analysis indicated that no significant market trending was present in the vacant land sale data. We concluded that the assessor has adequately dealt with market trending for vacant land properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold vacant land properties, we compared the median change in value for 2010 and 2012 between each group, as follows:

Group	N	Median	Mean
Unsold	16,408	1.0000	1.1387
Sold	268	1.0000	1.0636

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

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final verification concerned the assigned actual values for agricultural residential improvements. We compared the median improved value per square foot rate for this subclass and compared it to the median improved value per square foot for residential single family improvements in Larimer County.

The following indicates that both groups were valued in essentially the same manner:

Descriptives

	ABSTRIMP			Statistic	Std. Error
ImpValSF	1212	Mean		$421.28	$26.419
		95% Confidence Interval for Mean	Lower Bound	$369.50	
			Upper Bound	$473.06	
		5% Trimmed Mean		$111.04	
		Median		$107.99	
		Variance		6.415E7	
		Std. Deviation		$8,009.304	
		Minimum		$0	
		Maximum		$800,000	
		Range		$800,000	
		Interquartile Range		$38	
		Skewness		43.655	.008
		Kurtosis		2695.198	.016
	4277	Mean		$537.18	$210.478
		95% Confidence Interval for Mean	Lower Bound	$123.86	
			Upper Bound	$950.50	
		5% Trimmed Mean		$113.33	
		Median		$112.35	
		Variance		2.822E7	
		Std. Deviation		$5,312.228	
		Minimum		$1	
		Maximum		$118,800	
		Range		$118,799	
		Interquartile Range		$47	
		Skewness		18.593	.097
		Kurtosis		394.103	.193

VI. CONCLUSIONS

Based on this 2012 audit statistical analysis for Larimer County, residential, commercial industrial, vacant land and agricultural residential properties were found to be in compliance with state guidelines.

STATISTICAL ABSTRACT
Residential

Ratio Statistics for CURRTOT / TASP

ECONAREA	Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
		Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
EA1	.998	.995	1.001	.995	.992	.996	95.3%	.990	.986	.993	1.009	.065	10.2%
EA2	1.005	1.000	1.010	.999	.997	1.000	95.1%	.995	.990	1.001	1.010	.074	11.5%
EA3	.989	.973	1.005	.993	.985	1.000	95.4%	.971	.951	.991	1.019	.083	13.7%
EA4	.998	.975	1.022	.994	.981	1.000	95.4%	.975	.953	.996	1.024	.111	17.5%

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

Commercial Land

Ratio Statistics for CURRTOT / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.981	.949	1.014	.975	.949	1.000	95.6%	.949	.924	.973	1.034	.078	14.1%

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	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			Mean Centered
.983	.949	1.017	1.000	.978	1.000	95.5%	.951	.916	.986	1.034	.189	28.8%

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.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	2	.0%
	$25K to $50K	5	.1%
	$50K to $100K	173	2.5%
	$100K to $150K	944	13.7%
	$150K to $200K	2002	29.0%
	$200K to $300K	2349	34.0%
	$300K to $500K	1158	16.8%
	$500K to $750K	214	3.1%
	$750K to $1,000K	40	.6%
	Over $1,000K	12	.2%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LT $25K	1.546	1.025	.218	30.9%
$25K to $50K	1.506	.993	.209	31.4%
$50K to $100K	1.038	1.009	.148	24.4%
$100K to $150K	1.005	1.001	.081	12.6%
$150K to $200K	1.000	1.000	.064	9.3%
$200K to $300K	.985	1.000	.061	9.4%
$300K to $500K	.986	1.001	.068	10.0%
$500K to $750K	.978	1.000	.071	12.3%
$750K to $1,000K	.964	.999	.100	14.1%
Over $1,000K	.967	1.004	.111	16.9%
Overall	.996	1.010	.070	11.1%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212	5923	85.9%
	1215	67	1.0%
	1220	24	.3%
	1230	879	12.7%
	1545	1	.0%
	1729	1	.0%
	2061	1	.0%
	2235	1	.0%
	9210	1	.0%
	9229	1	.0%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation — Median Centered
1212	.996	1.010	.070	11.1%
1215	1.000	1.001	.023	4.1%
1220	.998	1.009	.034	5.0%
1230	.993	1.018	.073	12.1%
1545	.975	1.000	.000	.%
1729	.810	1.000	.000	.%
2061	.947	1.000	.000	.%
2235	1.000	1.000	.000	.%
9210	.998	1.000	.000	.%
9229	.981	1.000	.000	.%
Overall	.996	1.010	.070	11.1%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	147	2.1%
	75 to 100	111	1.6%
	50 to 75	359	5.2%
	25 to 50	2153	31.2%
	5 to 25	3326	48.2%
	5 or Newer	803	11.6%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.995	1.020	.076	12.9%
75 to 100	1.000	1.008	.083	13.0%
50 to 75	1.000	1.012	.094	14.5%
25 to 50	.998	1.011	.072	12.1%
5 to 25	.995	1.009	.066	10.0%
5 or Newer	.983	1.001	.065	10.1%
Overall	.996	1.010	.070	11.1%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	19	.3%
	500 to 1,000 sf	757	11.0%
	1,000 to 1,500 sf	2504	36.3%
	1,500 to 2,000 sf	2038	29.5%
	2,000 to 3,000 sf	1357	19.7%
	3,000 sf or Higher	224	3.2%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation — Median Centered
LE 500 sf	.976	1.103	.192	30.3%
500 to 1,000 sf	.988	1.018	.086	13.6%
1,000 to 1,500 sf	.995	1.011	.068	11.0%
1,500 to 2,000 sf	.995	1.010	.064	9.7%
2,000 to 3,000 sf	1.000	1.012	.069	10.9%
3,000 sf or Higher	1.000	1.010	.072	13.5%
Overall	.996	1.010	.070	11.1%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	5510	79.9%
	Average Plus	860	12.5%
	Excellent	1	.0%
	Fair	269	3.9%
	Good	196	2.8%
	Good Plus	40	.6%
	Low	4	.1%
	Very Good	19	.3%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.995	1.010	.069	10.9%
Average Plus	.998	1.012	.075	11.7%
Excellent	1.018	1.000	.000	.%
Fair	.995	1.010	.078	11.8%
Good	.998	1.012	.062	10.3%
Good Plus	1.000	1.012	.078	12.2%
Low	1.045	1.053	.100	14.8%
Very Good	1.001	1.012	.116	27.6%
Overall	.996	1.010	.070	11.1%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	6885	99.8%
	Badly Worn	1	.0%
	Good	11	.2%
	Very Good	2	.0%
Overall		6899	100.0%
Excluded		0	
Total		6899	

Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Average	.996	1.010	.070	11.1%
Badly Worn	1.012	1.000	.000	.%
Good	.978	.997	.055	7.6%
Very Good	.863	1.027	.061	8.7%
Overall	.996	1.010	.070	11.1%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	$25K to $50K	1	1.4%
	$50K to $100K	14	19.4%
	$100K to $150K	7	9.7%
	$150K to $200K	13	18.1%
	$200K to $300K	12	16.7%
	$300K to $500K	4	5.6%
	$500K to $750K	6	8.3%
	$750K to $1,000K	4	5.6%
	Over $1,000K	11	15.3%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
$25K to $50K	1.002	1.000	.000	.%
$50K to $100K	.992	.996	.073	9.5%
$100K to $150K	1.000	1.010	.178	36.3%
$150K to $200K	.943	.999	.051	7.1%
$200K to $300K	.996	1.002	.060	8.9%
$300K to $500K	.967	1.001	.047	5.8%
$500K to $750K	.963	1.004	.071	11.6%
$750K to $1,000K	.972	.999	.031	4.4%
Over $1,000K	.923	.980	.074	11.5%
Overall	.975	1.034	.078	14.2%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1721	1	1.4%
	1886	1	1.4%
	2212	5	6.9%
	2215	2	2.8%
	2220	10	13.9%
	2225	1	1.4%
	2228	2	2.8%
	2230	9	12.5%
	2235	8	11.1%
	2245	33	45.8%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
1721	1.000	1.000	.000	.%
1886	.913	1.000	.000	.%
2212	.901	1.063	.104	16.6%
2215	.890	1.006	.016	2.3%
2220	.948	1.006	.037	5.0%
2225	1.000	1.000	.000	.%
2228	.869	.951	.069	9.8%
2230	1.000	1.003	.035	6.8%
2235	.949	1.101	.171	36.2%
2245	.984	1.042	.071	10.2%
Overall	.975	1.034	.078	14.2%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	6	8.3%
	75 to 100	2	2.8%
	50 to 75	7	9.7%
	25 to 50	9	12.5%
	5 to 25	42	58.3%
	5 or Newer	6	8.3%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Over 100	.913	1.045	.089	14.3%
75 to 100	.953	.991	.055	7.7%
50 to 75	1.000	1.102	.155	34.5%
25 to 50	1.000	1.022	.066	9.5%
5 to 25	.982	1.024	.060	8.8%
5 or Newer	.904	1.046	.096	12.4%
Overall	.975	1.034	.078	14.2%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	1	1.4%
	500 to 1,000 sf	8	11.1%
	1,000 to 1,500 sf	15	20.8%
	1,500 to 2,000 sf	10	13.9%
	2,000 to 3,000 sf	7	9.7%
	3,000 sf or Higher	31	43.1%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
LE 500 sf	.862	1.000	.000	.%
500 to 1,000 sf	.993	.992	.058	9.0%
1,000 to 1,500 sf	.980	1.000	.059	7.9%
1,500 to 2,000 sf	1.000	1.060	.148	30.2%
2,000 to 3,000 sf	.959	.999	.047	6.8%
3,000 sf or Higher	.945	1.006	.069	9.8%
Overall	.975	1.034	.078	14.2%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	Average	50	69.4%
	Average Plus	8	11.1%
	Fair	3	4.2%
	Good	10	13.9%
	Very Good	1	1.4%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
Average	.988	1.039	.087	16.1%
Average Plus	.992	1.022	.057	8.7%
Fair	.975	.999	.046	6.9%
Good	.938	1.014	.043	5.4%
Very Good	.947	1.000	.000	.%
Overall	.975	1.034	.078	14.2%

Improvement Condition

Case Processing Summary

		Count	Percent
CONDITION	Average	62	86.1%
	Good	10	13.9%
Overall		72	100.0%
Excluded		0	
Total		72	

Ratio Statistics for CURRTOT / TASP

Group				Coefficient of Variation
	Median	Price Related Differential	Coefficient of Dispersion	Median Centered
Average	.975	1.038	.081	14.9%
Good	.967	.990	.062	8.5%
Overall	.975	1.034	.078	14.2%

Vacant Land Median Ratio Stratification

Case Processing Summary

		Count	Percent
ABSTRLND	100	95	34.9%
	200	2	.7%
	400	22	8.1%
	510	2	.7%
	520	1	.4%
	540	3	1.1%
	550	21	7.7%
	1112	121	44.5%
	1135	1	.4%
	1616	1	.4%
	2112	2	.7%
	9179	1	.4%
Overall		272	100.0%
Excluded		0	
Total		272	

Ratio Statistics for CURRLND / VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation Median Centered
100	1.000	1.048	.201	32.8%
200	.770	.985	.044	6.2%
400	.933	1.020	.275	35.0%
510	.881	.934	.159	22.5%
520	1.000	1.000	.000	.%
540	.819	1.075	.122	20.6%
550	1.000	1.049	.155	20.6%
1112	1.000	1.027	.177	25.9%
1135	.848	1.000	.000	.%
1616	1.000	1.000	.000	.%
2112	.961	1.000	.003	.4%
9179	1.314	1.000	.000	.%
Overall	1.000	1.034	.189	28.4%