2016
PROWERS COUNTY
PROPERTY ASSESSMENT
STUDY

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

WILDROSE
APPRAISAL, INCORPORATED
Audit Division

September 15, 2016

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

RE: Final Report for the 2016 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2016 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

TABLE OF CONTENTS

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.

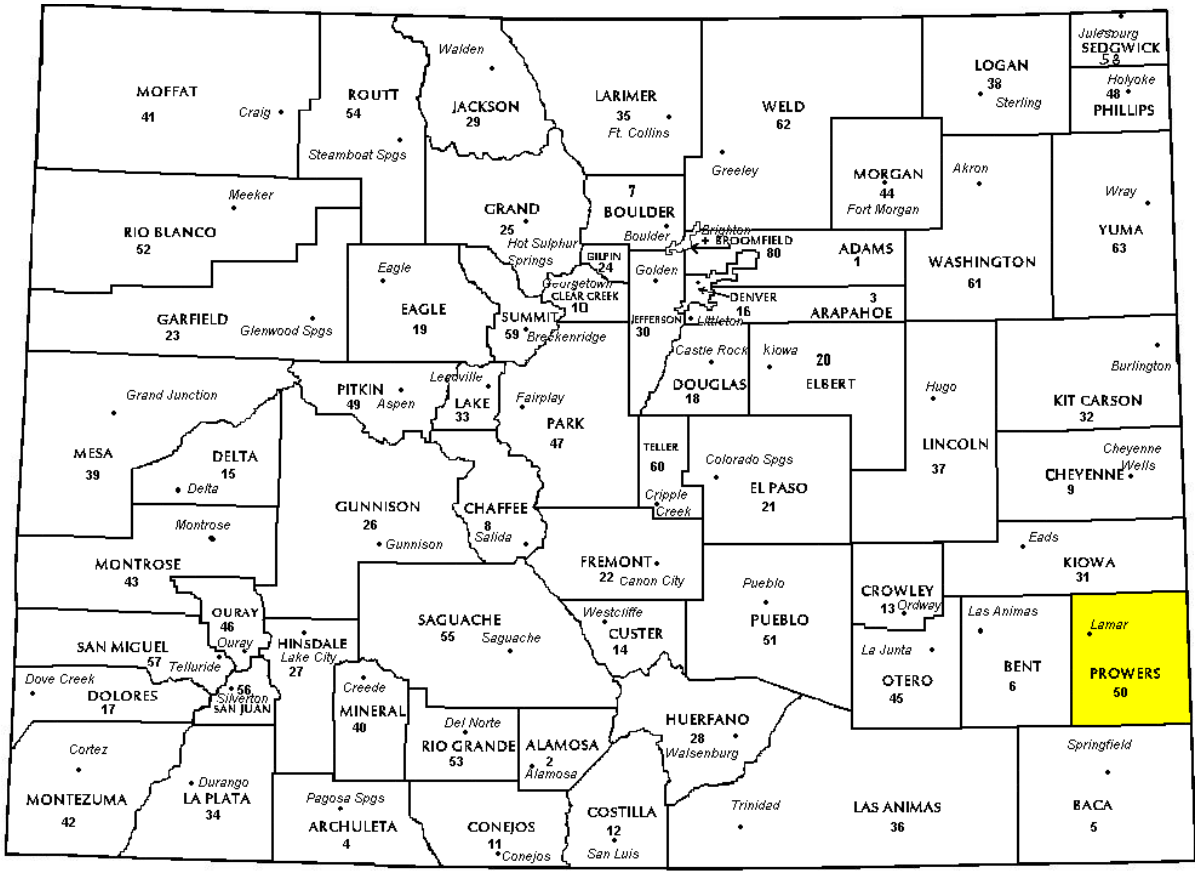
Statistical analysis is performed on vacant land, residential properties, commercial/industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax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

Wildrose Audit has completed the Property Assessment Study for 2016 and is pleased to report its findings for Prowers County in the following report.

REGIONAL / HISTORICAL SKETCH OF PROWERS COUNTY

Regional Information

Prowers County is located in the Eastern Plains region of Colorado. The Eastern Plains of Colorado refer to the region on the east side of the Rocky Mountain. It is east of the population centers of the Front Range, including Baca, Bent, Cheyenne, Crowley, Elbert, Kiowa, Kit Carson, Lincoln, Logan, Morgan, Otero, Phillips, Prowers, Sedgwick, Washington, and Yuma counties.



Historical Information

Prowers County had an estimated population of approximately 12,034 people with 7.7 people per square mile, according to the U.S. Census Bureau's 2014 estimated census data. This represents a -4.1 percent change from April 1, 2010 to July 1, 2014.

Prowers County, once part of Bent County, was established in 1889 with an area of 1,621 square miles. The county was named for John W. Prowers, the pioneer who drove the first herd of Hereford cattle to the Arkansas Valley from Missouri.

The county seat is Lamar, named for Lucius Q. C. Lamar, the Secretary of the Interior at the time.

The City of Lamar serves as the industrial and retail center for southeast Colorado. Located in the fertile Arkansas River Valley, the surrounding agricultural landscape features wide-open spaces with panoramic views of irrigated corn and alfalfa fields, as well as dry land wheat fields. This semi-arid climate is favorable to livestock production and offers an average of 340 days of sunshine annually.

Visitors and guests can find a variety of recreational activities, historically significant sites and western traditions to visit or attend year round in Prowers County. Attractions in the County include the Santa Fe Trail, Camp Amache, camping, fishing, hunting, birding trails, WPA structures, petroglyphs, and Big Timbers Museum.

Colorado Green (Shell Wind Energy and PPM Energy) has located the world's fifth largest wind farm in the world south of Prowers County. Xcel Energy purchases the energy created from Colorado Green and Prairie Wind Energy and converts it at the AC/DC Electricity Converter Station in northern Prowers County. This is one of seven such transfer stations located along the nation's heartland.

The Pierre Auger Observatory has selected southeast Colorado as the site in the northern hemisphere to build a world-class observatory to study the highest energy cosmic rays. A visitor's center and scientific conference center will be built on Lamar Community College grounds.

(www.prowerscounty.net, www.procolorado.org., William Bright, Colorado Place Names, 3rd Edition, Johnson Books, 2004, p. 143 and 101)

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 2013 and June 2014. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2014 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and 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 Prowers County are:

Prowers County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	34	1.004	1.032	11.8	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	162	0.996	1.016	8.8	Compliant
Vacant Land	N/A	N/A	N/A	N/A	N/A

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

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 method also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

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

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

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

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

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

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

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

Conclusions

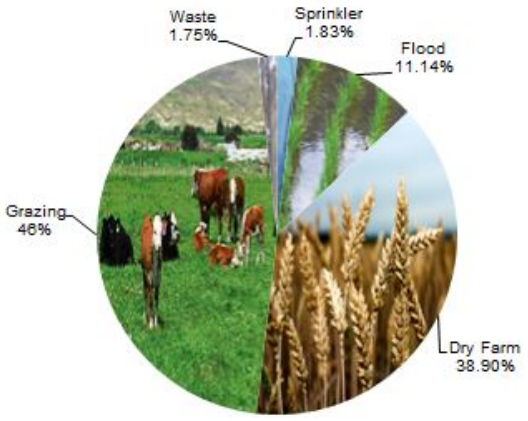
After applying the above described methodologies, it is concluded that Prowers County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

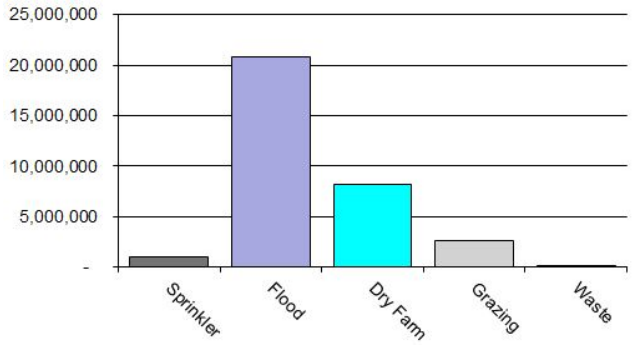
None

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:

Prowers 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	18,101	55.32	1,001,363	994,370	1.01
4117	Flood	110,158	186.80	20,577,759	20,768,717	0.99
4127	Dry Farm	384,450	20.09	7,722,462	8,176,018	0.94
4147	Grazing	458,373	5.75	2,634,349	2,634,349	1.00
4167	Waste	17,327	1.99	34,420	34,420	1.00
Total/Avg		**988,409**	**32.35**	**31,970,354**	**32,607,875**	**0.98**

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

Prowers 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

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

- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

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

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

Prowers 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 2016 for Prowers County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 33 sales listed as unqualified.

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

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

> The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.
>
> The contractor has reviewed with the assessor any analysis indicating that sales data are inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code.

If there appears to be any inconsistency in the coding, the contractor has conducted further analysis to determine if the sales included in that code have been assigned appropriately.

Conclusions

Prowers County appears to be doing a good job of verifying their sales.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

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

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 2016 in Prowers 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

Prowers 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.

Prowers 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

Prowers 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

Prowers 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.

Prowers 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.

Prowers County submitted their personal property written audit plan and was current for the 2016 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Accounts with obvious discrepancies
- New businesses filing for the first time
- Accounts with omitted property
- Same business type or use
- Non-filing Accounts - Best Information Available
- Accounts close to the $7,300 actual value exemption status
- Change of Ownership

Conclusions

Prowers 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*

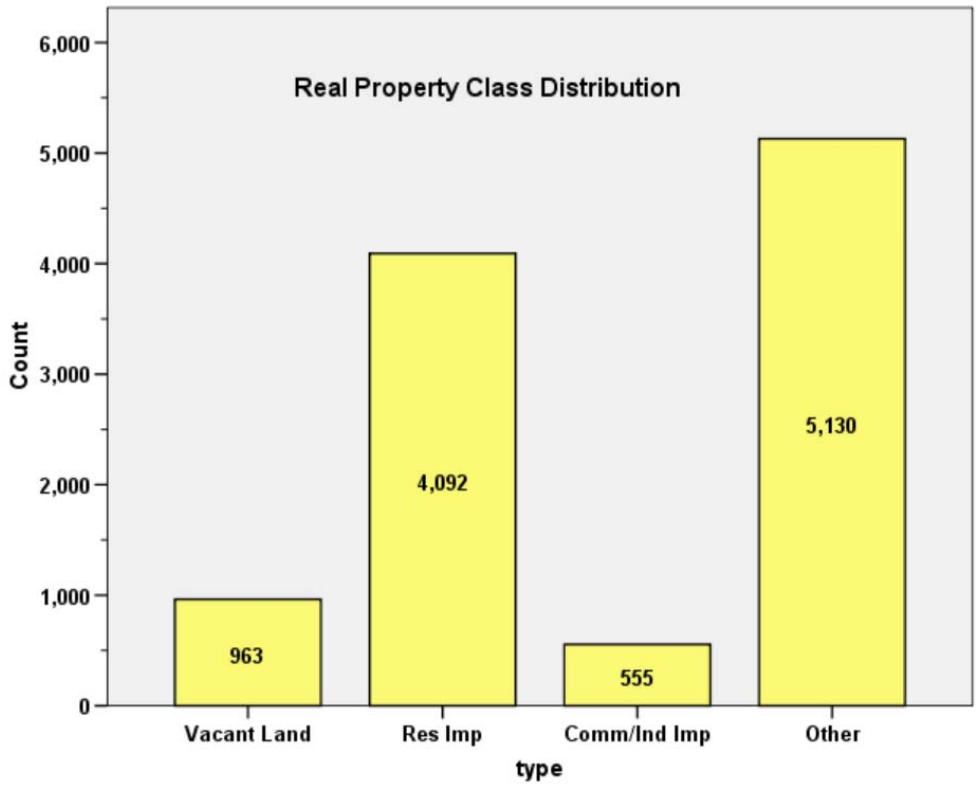
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR PROWERS COUNTY
2016

I. OVERVIEW

Prowers County is an agricultural county located in southeastern Colorado. The county has a total 10,740 real property parcels, according to data submitted by the county assessor's office in 2016. The following provides a breakdown of property classes for this county:



Based on the number of vacant land parcels in Prowers County, we were not required to analyze this class of property for audit compliance.

For residential improved properties, single family properties accounted for 82.6% of all residential properties. Properties classified as mobile homes (1235) were excluded from this analysis.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 5.4% of all such properties in this county.

II. DATA FILES

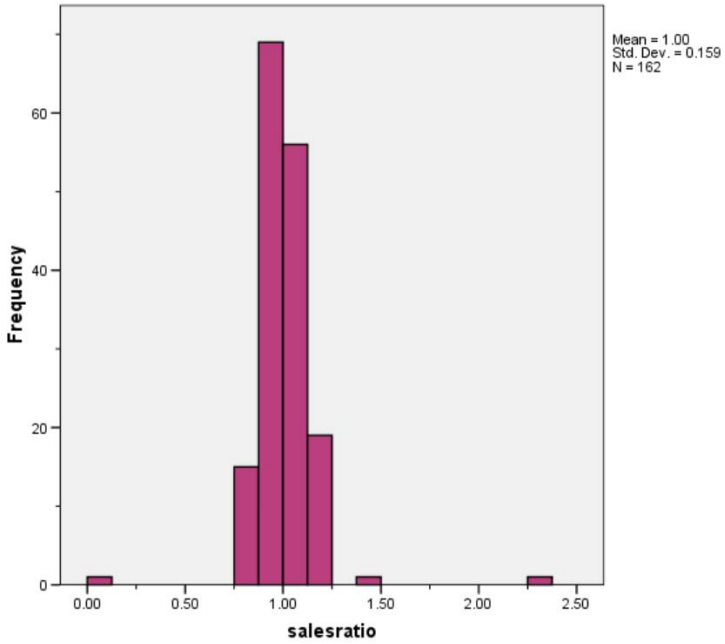
The following sales analyses were based on the requirements of the 2016 Colorado Property Assessment Study. Information was provided by the Prowers Assessor's Office in March 2016. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

We analyzed 162 qualified residential sales for this analysis.

Median	**0.996**
Price Related Differential	**1.016**
Coefficient of Dispersion	**.088**

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 all of these properties:



The above graphs indicate that the distribution of the sale ratios was within state mandated limits, and that there were no significant price-related differential issues. No sales were trimmed.

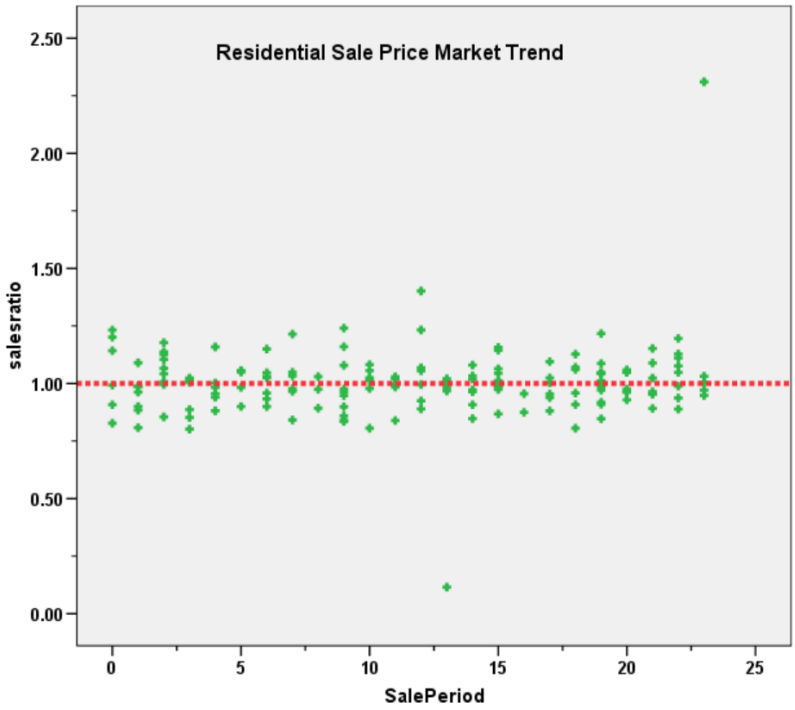
Residential Market Trend Analysis

We next analyzed the residential dataset using the 24-month sale period, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.979	.025		39.768	.000
	SalePeriod	.002	.002	.095	1.202	.231

a. Dependent Variable: salesratio

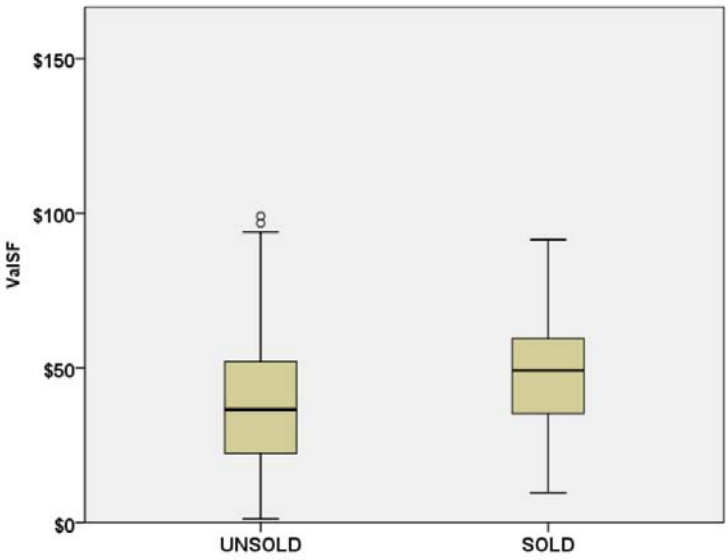


The above analysis indicated that there was no significant residual marginal trend present in the sale ratios.

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 2016 between each group, as follows:

Group	No. Props	Median Val/Sf	Mean Val/SF
Unsold	3,476	$37	$38
Sold	159	$49	$47



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of ValSF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.000	Reject the null hypothesis.

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

Given the gap between the sold and unsold residential properties using the value per square foot, we next examined the average change in value between 2014 and 2016 reappraisal years to verify that sold properties and unsold properties were valued in a similar manner:

Group	No. Props	Median Chg Val	Mean Chg Val
Unsold	3,452	1.00	1.04
Sold	159	1.02	1.06

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.072	Retain the null hypothesis.

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

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

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

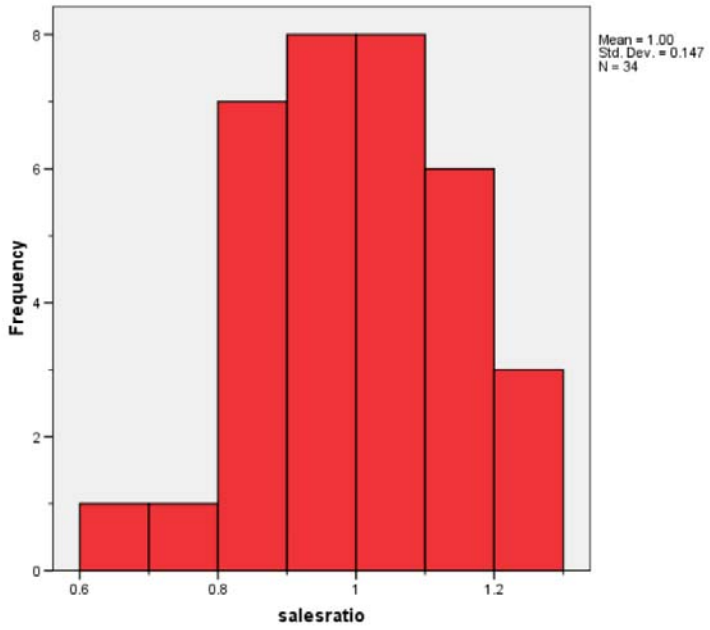
We analyzed 34 qualified commercial/industrial sales for this analysis

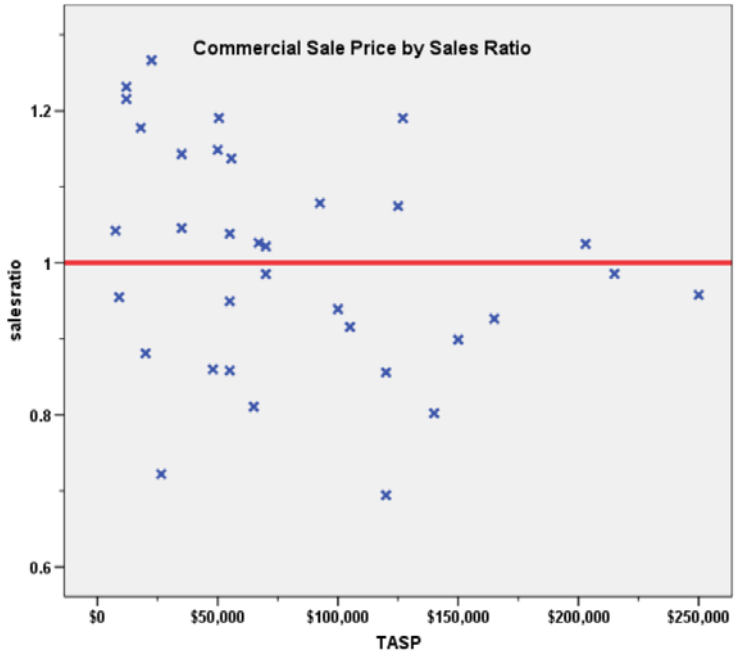
Median	**1.004**
Price Related Differential	**1.032**
Coefficient of Dispersion	**.118**

The above table indicates that the Prowers County commercial/industrial sale ratios were in compliance with the SBOE standards, both overall and by relevant subclass (none in this case due to the small number of sales). The following histogram and scatter plot describe the sales ratio distribution further:

Commercial Market Trend Analysis

The assessor did not apply any market trend adjustment to the commercial dataset. The 34 sales did not indicate a significant trend, based on our analysis.

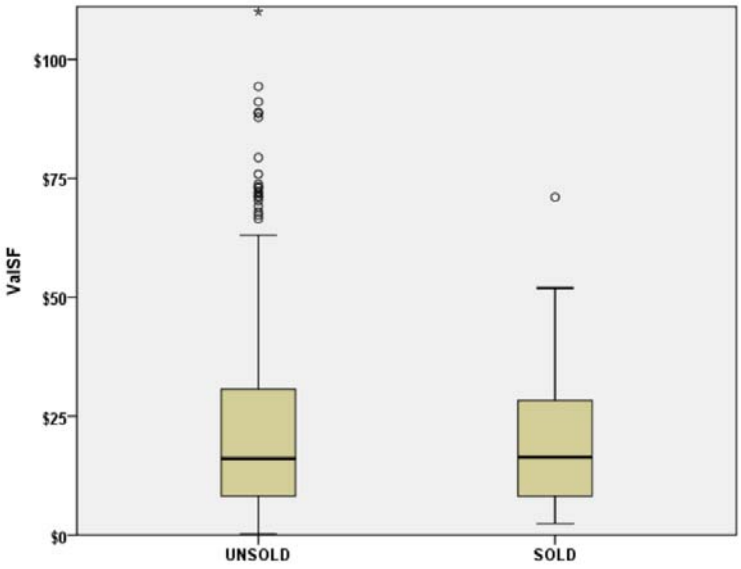




Sold/Unsold Analysis

We compared the median actual value per square foot between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. While this is a challenge to prove in this county, given the small number of sales and the overall small number and diversity of commercial/industrial properties in general, the following results indicate that based on the median actual value, both groups were valued in a consistent manner:

Group	No.	Median Val/SF	Mean Val/SF
Unsold	520	$16	$25
Sold	34	$16	$20



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of ValSF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.842	Retain the null hypothesis.

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

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the actual value per square foot rate for this group and compared it to rates assigned to residential single family improvements in Neighborhood 7 in Prowers County.

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

Descriptives

	ABSTRIMP			Statistic	Std. Error
ImpValSF	SFR	Mean		$24.03	$.858
		95% Confidence Interval for Mean	Lower Bound	$22.34	
			Upper Bound	$25.71	
		5% Trimmed Mean		$23.14	
		Median		$19.05	
		Variance		230.889	
		Std. Deviation		$15.195	
		Minimum		$0	
		Maximum		$89	
		Range		$89	
		Interquartile Range		$19	
		Skewness		1.019	.138
		Kurtosis		1.683	.274
	Ag Res	Mean		$25.15	$1.045
		95% Confidence Interval for Mean	Lower Bound	$23.09	
			Upper Bound	$27.21	
		5% Trimmed Mean		$24.63	
		Median		$18.74	
		Variance		241.412	
		Std. Deviation		$15.537	
		Minimum		$0	
		Maximum		$67	
		Range		$67	
		Interquartile Range		$24	
		Skewness		.602	.164
		Kurtosis		-.570	.326

VI. CONCLUSIONS

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

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.004	.980	1.029	.996	.983	1.012	95.1%	.989	.973	1.005	1.016	.088	15.9%

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

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

	95% Confidence Interval for Mean			95% Confidence Interval for Median				95% Confidence Interval for Weighted Mean				Coefficient of Variation
Mean	Lower Bound	Upper Bound	Median	Lower Bound	Upper Bound	Actual Coverage	Weighted Mean	Lower Bound	Upper Bound	Price Related Differential	Coefficient of Dispersion	Mean Centered
1.001	.950	1.053	1.004	.926	1.074	97.6%	.971	.924	1.018	1.032	.119	14.6%

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

Vacant Land

Not applicable

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	15	9.3%
	$25K to $50K	26	16.0%
	$50K to $100K	61	37.7%
	$100K to $150K	42	25.9%
	$150K to $200K	11	6.8%
	$200K to $300K	7	4.3%
Overall		162	100.0%
Excluded		0	
Total		162	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
LT $25K	1.050	.983	.179	35.0%
$25K to $50K	.991	1.004	.105	20.3%
$50K to $100K	1.008	1.002	.071	9.2%
$100K to $150K	.972	.999	.070	9.3%
$150K to $200K	1.020	1.000	.038	4.5%
$200K to $300K	.900	1.000	.050	7.5%
Overall	.996	1.016	.088	16.0%

Sub-Class

Case Processing Summary

		Count	Percent
ABSTRIMP	1212	143	88.3%
	1233	16	9.9%
	1235	1	.6%
	1236	1	.6%
	2745	1	.6%
Overall		162	100.0%
Excluded		0	
Total		162	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
1212	.997	1.016	.085	16.2%
1233	.986	1.003	.079	9.9%
1235	.840	1.000	.000	.%
1236	1.402	1.000	.000	.%
2745	.808	1.000	.000	.%
Overall	.996	1.016	.088	16.0%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	20	12.3%
	75 to 100	19	11.7%
	50 to 75	57	35.2%
	25 to 50	44	27.2%
	5 to 25	21	13.0%
	5 or Newer	1	.6%
Overall		162	100.0%
Excluded		0	
Total		162	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
Over 100	1.000	1.009	.077	10.6%
75 to 100	1.020	.991	.066	10.0%
50 to 75	1.002	1.031	.100	20.0%
25 to 50	.989	1.007	.064	10.1%
5 to 25	.975	.998	.127	22.4%
5 or Newer	1.080	1.000	.000	.%
Overall	.996	1.016	.088	16.0%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	2	1.2%
	500 to 1,000 sf	10	6.2%
	1,000 to 1,500 sf	37	22.8%
	1,500 to 2,000 sf	61	37.7%
	2,000 to 3,000 sf	42	25.9%
	3,000 sf or Higher	10	6.2%
Overall		162	100.0%
Excluded		0	
Total		162	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LE 500 sf	.636	2.604	.818	115.7%
500 to 1,000 sf	1.005	1.003	.052	6.5%
1,000 to 1,500 sf	.997	1.032	.119	24.8%
1,500 to 2,000 sf	1.005	1.018	.083	11.0%
2,000 to 3,000 sf	.989	1.009	.062	8.0%
3,000 sf or Higher	.992	.987	.050	7.6%
Overall	.996	1.016	.088	16.0%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	ABOVE AVG	18	11.1%
	AVERAGE	37	22.8%
	AVERAGE/GD	1	.6%
	AVG/ABOVE	40	24.7%
	AVG/GOOD	2	1.2%
	EXCELLENT	3	1.9%
	EXCELLENT2	1	.6%
	FAIR	13	8.0%
	FAIR/AVG	6	3.7%
	FR/AVG	3	1.9%
	H/LOW	5	3.1%
	LOW	9	5.6%
	LOW/FAIR	11	6.8%
	LOW/LOW	5	3.1%
	MINIMUM	8	4.9%
Overall		162	100.0%
Excluded		0	
Total		162	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
ABOVE AVG	.988	1.011	.043	6.4%
AVERAGE	.983	1.029	.128	28.8%
AVERAGE/GD	.860	1.000	.000	.%
AVG/ABOVE	.981	1.000	.063	8.2%
AVG/GOOD	.903	.992	.068	9.6%
EXCELLENT	1.080	.973	.070	13.0%
EXCELLENT2	.882	1.000	.000	.%
FAIR	1.047	.998	.096	12.3%
FAIR/AVG	1.078	.999	.058	9.0%
FR/AVG	1.008	.978	.111	17.0%
H/LOW	1.033	1.006	.047	6.9%
LOW	1.044	.996	.052	8.0%
LOW/FAIR	1.021	1.013	.066	9.5%
LOW/LOW	1.012	1.013	.054	9.5%
MINIMUM	.981	1.067	.132	16.3%
Overall	.996	1.016	.088	16.0%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT $25K	7	20.6%
	$25K to $50K	5	14.7%
	$50K to $100K	11	32.4%
	$100K to $150K	7	20.6%
	$150K to $200K	1	2.9%
	$200K to $300K	3	8.8%
Overall		34	100.0%
Excluded		0	
Total		34	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LT $25K	1.178	.991	.101	14.2%
$25K to $50K	1.046	.984	.136	19.1%
$50K to $100K	1.022	1.003	.083	11.2%
$100K to $150K	.899	1.000	.132	18.7%
$150K to $200K	.926	1.000	.000	.%
$200K to $300K	.986	1.002	.023	3.5%
Overall	1.004	1.032	.119	14.6%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	2212	9	26.5%
	2213	1	2.9%
	2220	4	11.8%
	2225	1	2.9%
	2227	1	2.9%
	2230	9	26.5%
	2231	1	2.9%
	2233	2	5.9%
	2235	3	8.8%
	9237	1	2.9%
	9247	1	2.9%
	9277	1	2.9%
Overall		34	100.0%
Excluded		0	
Total		34	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
2212	.939	1.006	.159	19.6%
2213	1.216	1.000	.000	.%
2220	.972	1.019	.068	10.9%
2225	1.025	1.000	.000	.%
2227	.856	1.000	.000	.%
2230	1.046	.999	.105	12.9%
2231	.860	1.000	.000	.%
2233	.974	1.020	.049	6.9%
2235	1.026	1.034	.041	7.7%
9237	1.143	1.000	.000	.%
9247	1.149	1.000	.000	.%
9277	1.231	1.000	.000	.%
Overall	1.004	1.032	.119	14.6%

Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	12	35.3%
	75 to 100	2	5.9%
	50 to 75	8	23.5%
	25 to 50	10	29.4%
	5 to 25	1	2.9%
	5 or Newer	1	2.9%
Overall		34	100.0%
Excluded		0	
Total		34	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Over 100	1.012	1.080	.156	18.3%
75 to 100	.962	1.040	.084	11.9%
50 to 75	1.026	1.017	.119	16.3%
25 to 50	.954	1.010	.074	11.0%
5 to 25	1.074	1.000	.000	.%
5 or Newer	1.079	1.000	.000	.%
Overall	1.004	1.032	.119	14.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	1,000 to 1,500 sf	1	2.9%
	1,500 to 2,000 sf	6	17.6%
	2,000 to 3,000 sf	8	23.5%
	3,000 sf or Higher	19	55.9%
Overall		34	100.0%
Excluded		0	
Total		34	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1,000 to 1,500 sf	.955	1.000	.000	.%
1,500 to 2,000 sf	.986	.997	.087	10.9%
2,000 to 3,000 sf	1.014	1.050	.127	16.6%
3,000 sf or Higher	1.025	1.046	.125	15.4%
Overall	1.004	1.032	.119	14.6%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	AVERAGE	2	5.9%
	AVG/GOOD	1	2.9%
	FAIR	8	23.5%
	FR/AVG	7	20.6%
	LOW	6	17.6%
	LOW/FAIR	4	11.8%
	LOW/LOW	1	2.9%
	LOW/MIN	1	2.9%
	MINIMUM	4	11.8%
Overall		34	100.0%
Excluded		0	
Total		34	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation: Median Centered
AVERAGE	1.135	.992	.049	7.0%
AVG/GOOD	1.137	1.000	.000	.%
FAIR	.938	1.000	.092	12.9%
FR/AVG	.958	1.001	.072	9.8%
LOW	1.118	1.019	.132	16.2%
LOW/FAIR	.927	.996	.050	6.2%
LOW/LOW	1.143	1.000	.000	.%
LOW/MIN	1.149	1.000	.000	.%
MINIMUM	1.110	1.061	.145	21.7%
Overall	1.004	1.032	.119	14.6%

Vacant Land Median Ratio Stratification

Not applicable