DOUGLAS COUNTY

2007 DOUGLAS COUNTY PROPERTY ASSESSMENT STUDY

ROCKY MOUNTAIN VALUATION SPECIALISTS

September 15, 2007

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

RE: Final Report for the 2007 Colorado Property Assessment Study for Colorado's sixty four counties

Dear Mr. Mlinek:

Rocky Mountain Valuation Specialists LLC is pleased to submit the Final Reports for the 2007 Colorado Property Assessment Study for all sixty four counties that make up the State of Colorado.

These reports represent the result of a two-part analysis and audit for each county: A procedural analysis and a statistical analysis.

The procedural analysis, for each county, included all classes of property and specifically looked at how the assessor developed economic areas, confirmed and qualified their sales, developed their time adjustments, and performed their periodic physical property inspections. The audit also reviewed the procedures for discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for residential properties and commercial properties was examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coalmines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims were also reviewed. Starting in 2007, procedural analyses of agricultural outbuildings were performed for each county.

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Statistical analysis was also performed, for each county, on vacant land, residential properties, commercial/industrial properties, and agricultural land. A statistical analysis was performed to check for personal property compliance on the top 11 counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

Throughout this project RMVS has remained committed to its belief that for an ad valorem system to be successful, values must be equitable and market-driven in all parts of Colorado. Only then is the taxpayer assured of a fair property tax.

RMVS appreciates the opportunity to be of service to the State of Colorado.

Mark R. Linné **MAI, CAE, ASA, CRE, FRICS**
Managing Director
Rocky Mountain Valuation Specialists LLC

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INTRODUCTION

The Colorado Constitution directs that each property tax levy shall be uniform upon all real and personal property not exempt from taxation. The constitution goes on to direct that the actual value of all applicable real and personal property shall be determined under general laws, which shall prescribe such methods and regulations as shall secure just and equalized valuations (Colo. Const., Art. X, Sec. 3 (1)(a)).

In order to check that all applicable property has been valued with just and equalized valuations, the Constitution states that commencing in 1983 the general assembly shall cause a valuation for assessment study to be conducted. Such study shall determine whether or not the assessor of each county has complied with the property tax provisions of this constitution and of the statutes in valuing property and has determined the actual value and valuation for assessment of each and every class of taxable real and personal property consistent with such provisions. Such study shall sample at least one percent of each and every class of taxable real and personal property in the county (Colo. Const., Art. X, Sec. 3 (2)(a)).

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.

C.R.S. 39-1-104 (16)(a)(b) and (c) outlined how this was to be accomplished by stating that during each property tax year, the director of research of the legislative council shall contract with a private person for a valuation for assessment study to be conducted as set forth in this subsection (16). The study shall be conducted in all counties of the state to determine whether or not the assessor of each county has, in fact, used all manuals, formulas, and other directives required by law to arrive at the valuation for assessment of each and every class of real and personal property in the county. The person conducting the study shall sample each class of property in a statistically valid manner, and the aggregate of such sampling shall equal at least one percent of all properties in each county of the state. The sampling shall show that the various areas, ages of buildings, economic conditions, and uses of properties have been sampled. Such study shall be completed, and a final report of the findings and conclusions thereof shall be submitted to the state board of equalization, by September 15 of the year in which the study is conducted.

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.

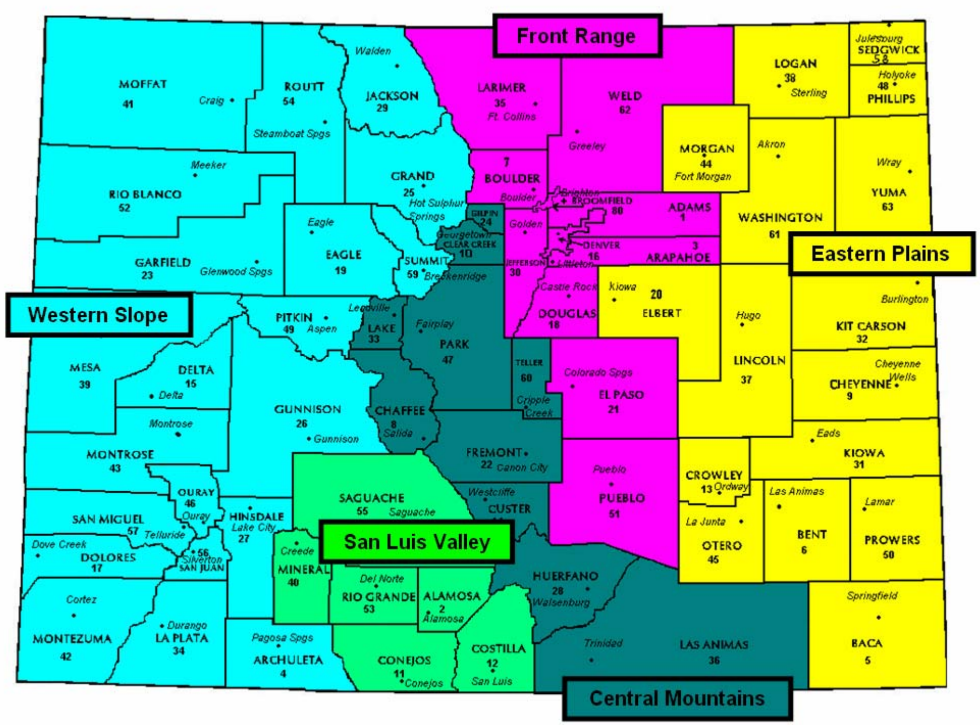
RMVS has completed the Property Assessment Study for 2007 and is pleased to report its findings for Douglas County in the following report.

REGIONAL/HISTORICAL SKETCH OF DOUGLAS COUNTY

Regional Information

Douglas 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 of Colorado which are just east of the foothills of the Front Range, from which the region takes its name. The region contains the largest cities and the majority of the population of Colorado, aligned in a north-south configuration on the western edge of the Great Plains, where they meet the Rockies. Geologically, the region lies mostly within the Colorado Piedmont, in the valley of the South Platte and Arkansas rivers on the east side of the Rockies.

The Front Range includes Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, El Paso, Jefferson, Larimer, Pueblo, and Weld counties. The Colorado Front Range communities include (in a roughly north-to-south order): Fort Collins, Greeley, Loveland, Longmont, Boulder, Denver-Aurora Metropolitan Area, Castle Rock, Colorado Springs, Pueblo.

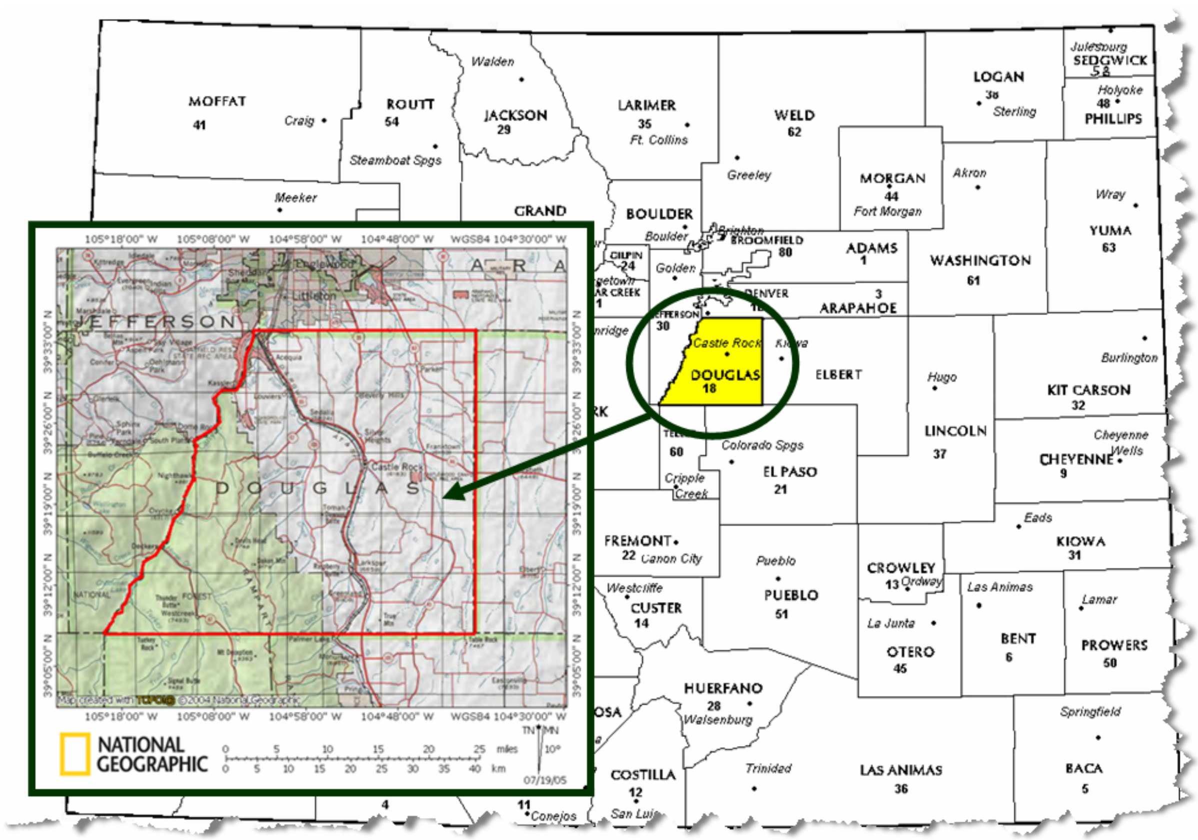


Historical Information

Douglas County has a population of approximately 249,416 people with 209.2 people per square mile, according to the U.S. Census Bureau's 2005 estimated population data.

The County was established in 1861 with an area of 843 square miles and was named for Stephen A. Douglas.

The county seat is Castle Rock, so named for the nearby castellated rock formation which was given its name by Dr. Edwin James, botanist of Major Stephen Long's 1820 expedition. (William Bright, Colorado Place Names, 3rd Edition, Johnson Books, 2004, p.54 and 32)



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 2005 and June 2006. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2006 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either "Q" or "C." The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to insure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method were 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 Douglas County are:

Douglas County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	77	0.953	0.994	14.2	Compliant
Condominium	N/A	N/A	N/A	N/A	N/A
Single Family	15,877	0.980	1.021	6.9	Compliant
Vacant Land	1,092	0.993	1.085	18.1	Compliant

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.987	1.021	.066
2	.979	1.020	.063
3	.962	1.025	.087
4	.978	1.022	.073
5	.970	1.003	.100
6	.966	1.016	.090
7	1.017	1.035	.163
Overall	.980	1.021	.069

NOTE: There were 65 residential sales without a specified economic area; the overall ratio statistics in this table do not include these sales n this table.

After applying the above described methodologies, it is concluded from the sales ratios that Douglas 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, than 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 Douglas County has complied with the statutory requirements to analyze the effects of time on value in their county. Douglas 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

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

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

If either residential or commercial differences were significant using the unit value method, or if data limitations made the comparison invalid, then the next step was to perform a ratio analysis comparing the 2006 and 2007 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.

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

Conclusions

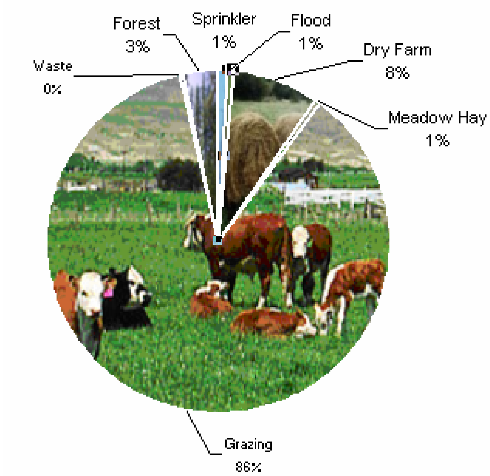
After applying the above described methodologies, it is concluded that Douglas County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

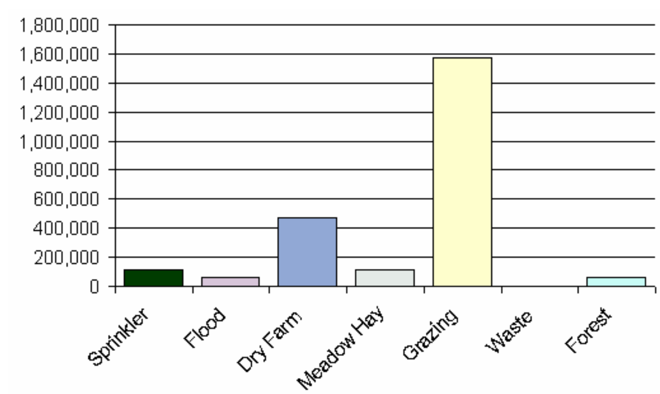
None

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:

Douglas County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	RMVS Total Value	Ratio
4107	Sprinkler	1,698	64.94	110,276	108,901	1.01
4117	Flood	1,217	47.60	57,931	58,322	0.99
4127	Dry Farm	16,943	27.66	468,643	465,983	1.01
4137	Meadow Hay	1,381	79.20	109,382	109,382	1.00
4147	Grazing	180,826	8.69	1,571,658	1,571,658	1.00
4177	Forest	6,812	8.48	57,775	57,775	1.00
4167	Waste	872	1.63	1,424	1,424	1.00
Total/Avg		**209,749**	**11.33**	**2,377,090**	**2,373,446**	**1.00**

Recommendations

None

Recommendations

None

Agricultural Outbuildings

Methodology

A sample of various use types of agricultural outbuildings with varying ages were reviewed to see if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.73 through 5.78 were being followed.

Following are the Sections of the ARL considered in the agricultural outbuilding study, the results of the audit and any recommendations:

Physical Inventory Issues:

The Assessors Reference Library Volume 3 page 5.73 states:

All characteristics that are found at the site are to be listed regardless of whether or not they contribute to value. Data collection activities performed during *the physical inventory of the agricultural structures found on a farm or ranch include the following:*

1. *Describing, classifying, and identifying the physical location of the improvements, and*

2. *Identifying the quality and condition of property components that contribute to value.*

Photographs of the subject property are useful documentation, in addition to the listed information, and are especially effective where subjective valuation judgment is applied. However, photographs are optional, at the discretion of the assessor.

The Division recommends a five-year cycle of agricultural structures physical inspections. All agricultural structures located in the county should be physically inspected at least every five years.

Conclusions for Physical Inventory Compliance:
The county is currently in compliance in their inspection cycle.

Recommendations for Physical Inventory Compliance:
None

Cost Service Used, Height Multiplier and Area/Perimeter Multiplier Issues

The following ARL Volume 3 page 5.74 addresses Cost Service Used Issues, Height multiplier Issues, and area/perimeter multiplier issues:

The Assessors Reference Library Volume 3 page 5.74 states:

The Division recommends counties use the Marshall & Swift Valuation Service for the following reasons:

1. *Use of a single cost service promotes uniformity of agricultural structures valuations among counties.*
2. *Statewide equalization will result from uniform valuations.*
3. *Marshall & Swift is recognized as an authoritative source within the appraisal profession.*
4. *It provides for different types of construction (classes A-B-C-D-S).*
5. *It provides uniform definitions of quality (excellent-good-average-low cost).*
6. *It provides height multipliers. If height multipliers are not utilized, the county must document the reason.*
7. *It provides area/perimeter multipliers. If area perimeter multipliers are not utilized, the county must document the reason.*
8. *It provides refinements in cost to the general descriptions for various building components.*
9. *Costs are inclusive of direct and indirect cost, i.e. materials, labor, contractor's overhead and profit, design fees, and permits, etc.*

Counties may develop and use their own cost tables if they are well documented, supportable, and consistent with or similar to those used by the surrounding counties to ensure equalization of values.

Whenever local cost tables are used and they differ from surrounding counties, supporting documentation must be submitted.

Conclusions for Cost Service Used Compliance:
The county is currently in compliance in the use of an approved cost resource.

Recommendations for Cost Service Used Compliance:
None

Conclusions for Height Multiplier Used Compliance:
The county is currently in compliance in the use of an approved height multiplier.

Recommendations for Height Multiplier Used Compliance:
None

Conclusions for Area/Perimeter Multiplier Used Compliance:
The county is currently in compliance in the use of an approved area/perimeter multiplier.

Recommendations for Area/Perimeter Multiplier Used Compliance:
None

Local Multiplier Compliance Issues:

The Assessors Reference Library Volume 3 page 5.75 states:

Local multipliers are applied to agricultural structure costs that are derived from Marshall & Swift to adjust these costs to reflect local cost conditions.

The Division provides cost multipliers to be applied to Marshall & Swift cost values, depending on the location of each county, at each change in level of value. These multipliers are then used for the following intervening year, as well. The current local multipliers may be found in Addendum 5-G, Rural Structures Local Multipliers.

Counties are to use the Division published cost multipliers unless specific county cost multipliers have been purchased from Marshall & Swift or locally researched and developed. When using Marshall & Swift-developed multipliers, weighted labor and material costs and all local sales taxes have been included.

The use of out-of-state multipliers is not recommended. Documentation must be available for any cost multipliers used other than those provided by the Division or directly by Marshall & Swift. However, local multipliers are unnecessary if costs are locally developed.

Conclusions for Local Multiplier Compliance:
The county is currently in compliance in their use of the local multiplier.

Recommendations for Local Multiplier Compliance:
None

Depreciation Compliance Issues:

The Assessors Reference Library Volume 3 page 5.76 states:

Adjustments for depreciation should be in accordance with Marshall & Swift Valuation Service valuation procedures, unless locally developed economic lives and depreciation schedules are well supported and have been validated through field inspection.

Supporting documentation should be available for all locally developed depreciation schedules. The following methods as defined in The Dictionary of Real Estate Appraisal, Third Edition, Appraisal

Institute, 1993, may be used to measure accrued depreciation:

1. *<u>Observed Condition</u>: The condition of a property ascertained from a detailed inspection, physical condition. The observed condition method requires both a physical inspection and sound appraiser judgment.*

2. *<u>Economic Age-Life Method (Straight Line):</u> A method of estimating accrued depreciation in which the ratio between the effective age of a building and its total economic life is applied to the current cost of the improvements to obtain a lump-sum deduction.*

This is the method employed by Marshall & Swift. The Division recommends the use of Marshall & Swift depreciation tables.

Conclusions for Proper Depreciation Schedule Compliance:
The county is currently in compliance in their use of a proper depreciation schedule.

Recommendations for Proper Depreciation Schedule Compliance:
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. RMVS has used the above-cited statutes as a guide in our study of the county's procedures and practices for verifying sales.

RMVS has conducted a study of the sales verification procedures in 2007 for Douglas County. This study was performed by checking selected sales listed as verified by the county for the 2007-2008 valuation period. Specifically, RMVS selected 45 sales listed as verified but unqualified. Of the 45 sales checked, 44 gave reasons that were clear and supportable. The remaining 1 sale had insufficient documentation.

Conclusions

Douglas County appears to be doing an adequate job of verifying their sales. There are no recommendations or suggestions.

Recommendations

None

Economic Area Review and Evaluation

Methodology

Douglas County has submitted a written narrative describing the economic areas that make up the county's market areas. Douglas 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 Douglas 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 the primary method applied to find value for production of earth and stone products. The number of tons was multiplied by an economic location factor that represented the landlord's royalty. The landlord's share was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor was determined by the life of the reserves, or the lease. The value was primarily 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

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

Recommendations

None

VACANT LAND

Subdivision Discounting

In 2007 subdivisions were reviewed. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold, using the present worth method. The market approach was applied where more than 80 percent of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was developed, using the summation method. Subdivision land with structures was appraised at full market value.

Conclusions

Douglas 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 property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 pages 71 through 104 in accordance with the requirements of 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Section 7.79: 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. This county under audit has been reviewed for their procedures and adherence to guidelines when assessing and valuing possessory interest properties. The county under audit has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

Conclusions

Douglas County has implemented an adequate discovery process to place possessory interest properties on the roll. Douglas County also is correctly and consistently applying the correct procedures and valuation methods in the valuation of possesssory interest properties.

Recommendations

None

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PERSONAL PROPERTY AUDIT

Douglas 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 requirements are outlined as follows:

Use ARL Volume 5 including current discovery, classification, and documentation procedures, and including 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, RMVS 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.

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

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation 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.

Douglas County submitted their personal property written audit plan and was current for the 2007 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:

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- Businesses in a selected area
- Accounts with obvious discrepancies
- New businesses filing for the first time
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Same business type or use
- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts close to the $2,500 actual value exemption status
- Accounts protested with substantial disagreement

Douglas 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

Douglas 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

RMVS Auditor Staff

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APPENDICES

STATISTICAL ANALYSIS FOR DOUGLAS COUNTY
2007

I. OVERVIEW

Douglas County is an urban county located in the Front Range region of Colorado. The county has a total of 123,620 properties, according to data submitted by the county assessor's office in 2007. The following table provides a breakdown of property classes covered in this analysis:

The vacant land class of properties was dominated by residential land. Vacant Residential Land (coded 0100) accounted for 89% of all vacant land parcels.

For residential improved properties, single family properties accounted for 93% of all residential improved parcels. No sub-class breakdowns were indicated. There were 7 economic areas indicated for residential properties. Each will be analyzed separately.

Commercial and industrial properties accounted for only 1,733 parcels.

II. SALES FILE

The following sale analyses were based on the requirements of the 2007 Property Assessment Study, based on information provided by the Douglas County Assessor's Office. The assessor provided a sale file with 32,803 total sales. These sales spanned the period July 2004 to July 2006. The 18-month period between January 2005 and June 2006 will be used to test ratio compliance for each class.

Further data reductions will be described in each property class section.

III. RESIDENTIAL SALES RESULTS

Steps	Results
1. Selected sales coded as "Q"	23,227 Sales
2. Selected improved sales (Status = "I")	21,047 Sales
3. Selected sale with subclass codes 1112 to 1230	20,814 Sales
4. Sales between 1/2005 and 6/2006	15,877 Sales

The following frequency table indicates the number of residential improved sales by economic area for Douglas County:

Case Processing Summary

		Count	Percent
EconArea	1	4725	29.9%
	2	5911	37.4%
	3	1113	7.0%
	4	3636	23.0%
	5	145	.9%
	6	259	1.6%
	7	23	.1%
Overall		15812	100.0%
Excluded		65	
Total		15877	

The 15,877 sales with identified economic areas were analyzed using the required measurements for the level of assessment, as well as for the quality of the assessment. The analysis was broken down by economic area, as follows:

OVERALL Ratio Statistics for CURRTOT / TASP

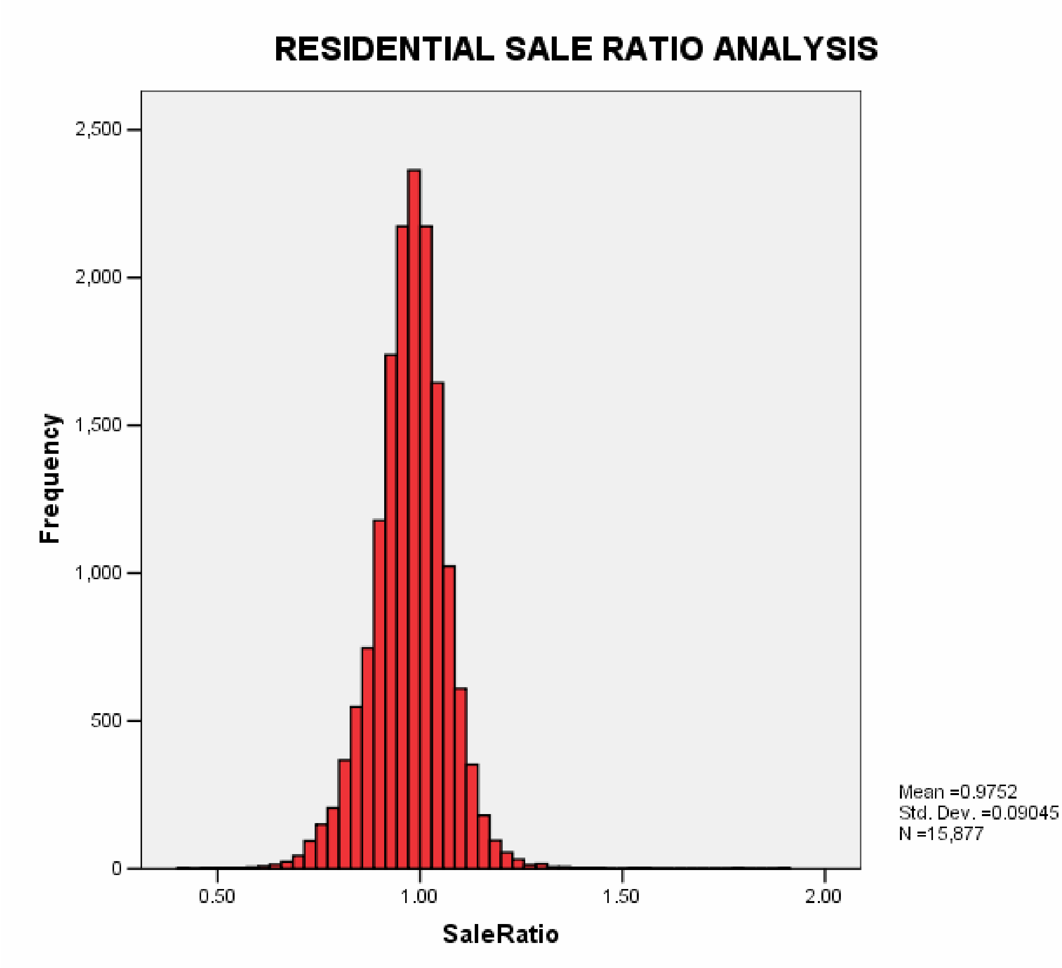
Group	Median	Price Related Differential	Coefficient of Dispersion
Overall	.979	1.021	.069

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion
1	.987	1.021	.066
2	.979	1.020	.063
3	.962	1.025	.087
4	.978	1.022	.073
5	.970	1.003	.100
6	.966	1.016	.090
7	1.017	1.035	.163
Overall	.980	1.021	.069

NOTE: There were 65 residential sales without a specified economic area; the overall ratio statistics in this table do not include these sales n this table.

All of the economic areas with sufficient sales are in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE), as well as the overall ratio statistics. EA 7 had only 23 sales and was exempt from these requirements. The following graphical exhibits describe further the sales ratio distribution for these properties:


RESIDENTIAL SALE RATIO ANALYSIS
2,500
2,000
1,500
1,000
500
0
Frequency
0.50
1.00
1.50
2.00
SaleRatio
Mean =0.9752
Std. Dev. =0.09045
N =15,877

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.

Residential Market Trend Analysis

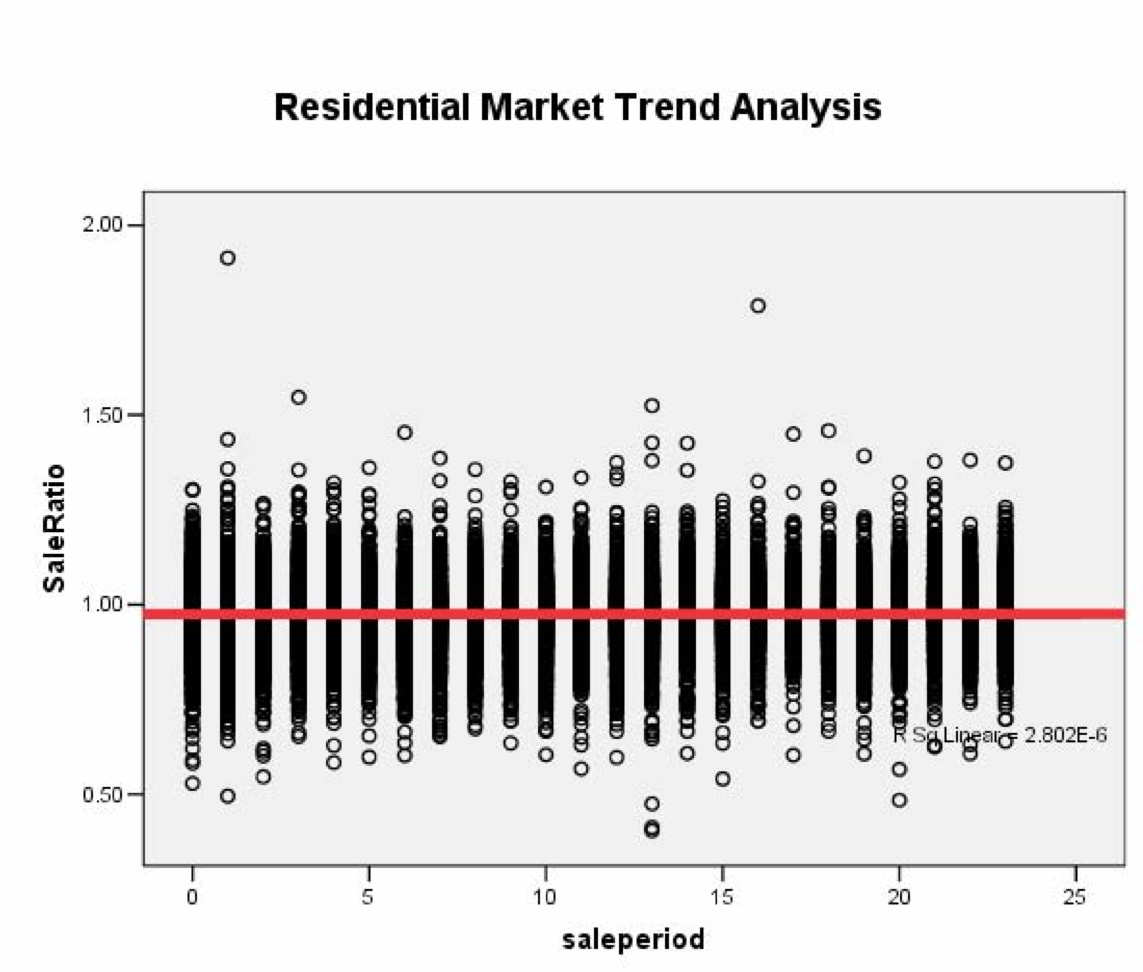
To determine if market trending was adequately accounted for in the residential valuation for Douglas County, we regressed the sale ratios across the 24-month sale period for Douglas County, as follows:

Coefficients[a]

EconArea	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
.	1	(Constant)	.986	.047		21.105	.000
		saleperiod	-.005	.005	-.123	-.985	.328
1	1	(Constant)	.975	.002		479.528	.000
		saleperiod	.001	.000	.055	4.289	.000
2	1	(Constant)	.976	.002		563.887	.000
		saleperiod	.000	.000	-.027	-2.353	.019
3	1	(Constant)	.960	.005		178.890	.000
		saleperiod	.000	.000	.016	.639	.523
4	1	(Constant)	.979	.003		391.731	.000
		saleperiod	.000	.000	-.029	-1.969	.049
5	1	(Constant)	.962	.017		58.061	.000
		saleperiod	-5.5E-006	.001	.000	-.005	.996
6	1	(Constant)	.948	.011		83.100	.000
		saleperiod	.002	.001	.138	2.531	.012
7	1	(Constant)	.971	.091		10.717	.000
		saleperiod	.006	.007	.153	.803	.429

a. Dependent Variable: SaleRatio

The above table indicates that overall there were no economic areas with significant market trend factors. The three economic areas with statistically significant market trends had trend amounts that were less than 2% per month.


Residential Market Trend Analysis
2.00
1.50
1.00
0.50
SaleRatio
R Sq Linear = 2.802E-6
0
5
10
15
20
25
saleperiod

Sold/Unsold Analysis

In terms of the consistent treatment of residential sold and unsold properties, we examined the median actual values per square foot for each group. The following table indicates that both groups were valued in a consistent manner:

Group	N	Median	Mean	Minimum	Maximum
Unsold	68,365	$147	$158	$15	$494
Sold	13,996	$148	$157	$32	$455

IV. COMERCIAL/INDUSTRIAL SALE RESULTS

Commercial Sales

The following diagrams describe the data reduction process for commercial/industrial sales:

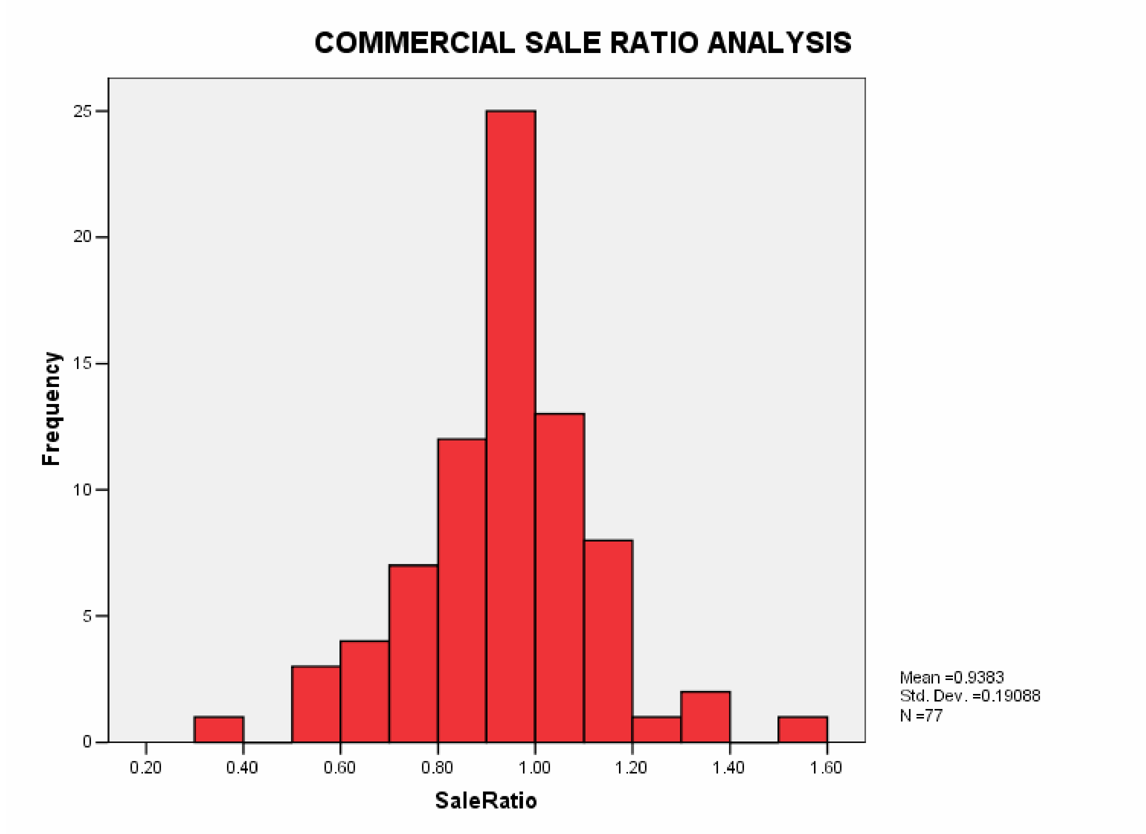
Steps	Results
1. Selected sales coded as "Q"	23,227 Sales
2. Selected improved sales (Status = "I")	21,047 Sales
3. Selected sale with subclass codes 2112 to 3115	107 Sales
4. Sales between 1/2005 and 6/2006	77 Sales

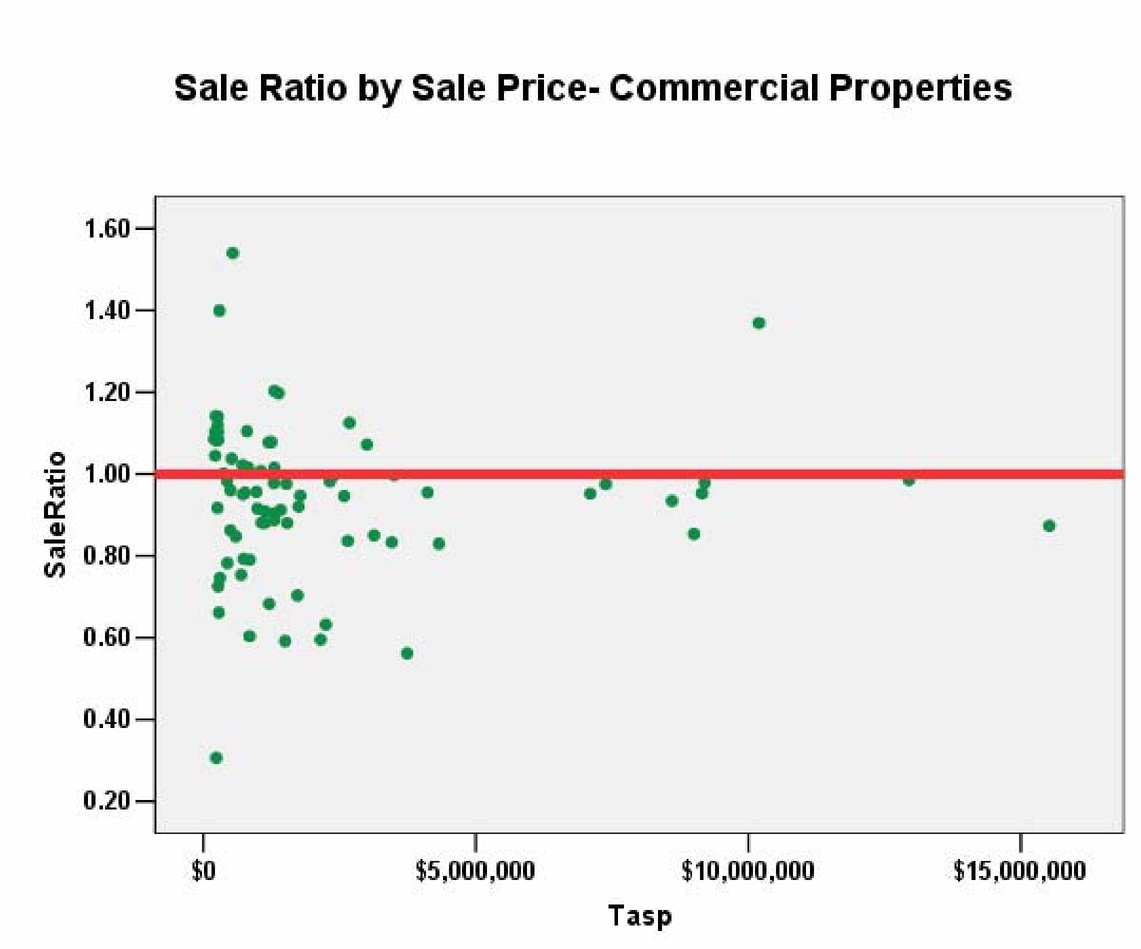
The following ratio analysis indicates the results:

Ratio Statistics for CURRTOT / TASP

Median	**.953**
Price Related Differential	**0.994**
Coefficient of Dispersion	**.142**

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


COMMERCIAL SALE RATIO ANALYSIS
Frequency
25
20
15
10
5
0
0.20
0.40
0.60
0.80
1.00
1.20
1.40
1.60
SaleRatio
Mean =0.9383
Std. Dev. =0.19088
N =77



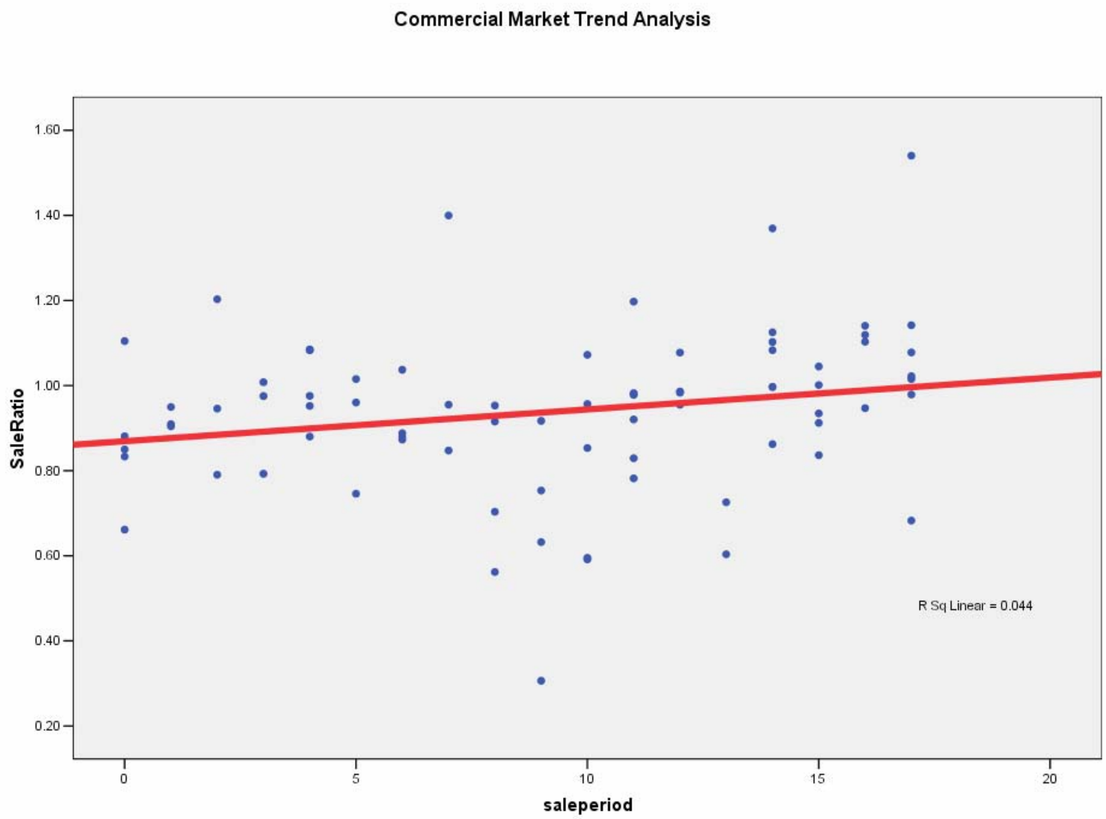
Commercial Market Trend Analysis

According to the Douglas County Assessor, there were not enough commercial properties by subclass to apply any significant market trending. We regressed the commercial/industrial sale ratios across the 18-month period prior to June 30, 2006, with the following results:

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.869	.043		20.205	.000
	saleperiod	.007	.004	.209	1.851	.068

a. Dependent Variable: SaleRatio



The above results indicate a non-significant trend in the commercial/industrial sale ratio data. The auditors concur with Douglas County that no sale trend should be applied.

Sold/Unsold Analysis

In terms of the consistent treatment of commercial and industrial sold and unsold properties, we compared the 2007 median actual value per square foot for each group, as follows:

Group	No. Props	Median	Mean	Minimum	Maximum
UNSOLD	1,358	$140	$161	$50	$491
SOLD	74	$150	$162	$51	$420

The above indicates that overall, Douglas County has valued sold and unsold commercial/industrial properties in a consistent manner.

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V. VACANT LAND SALE RESULTS

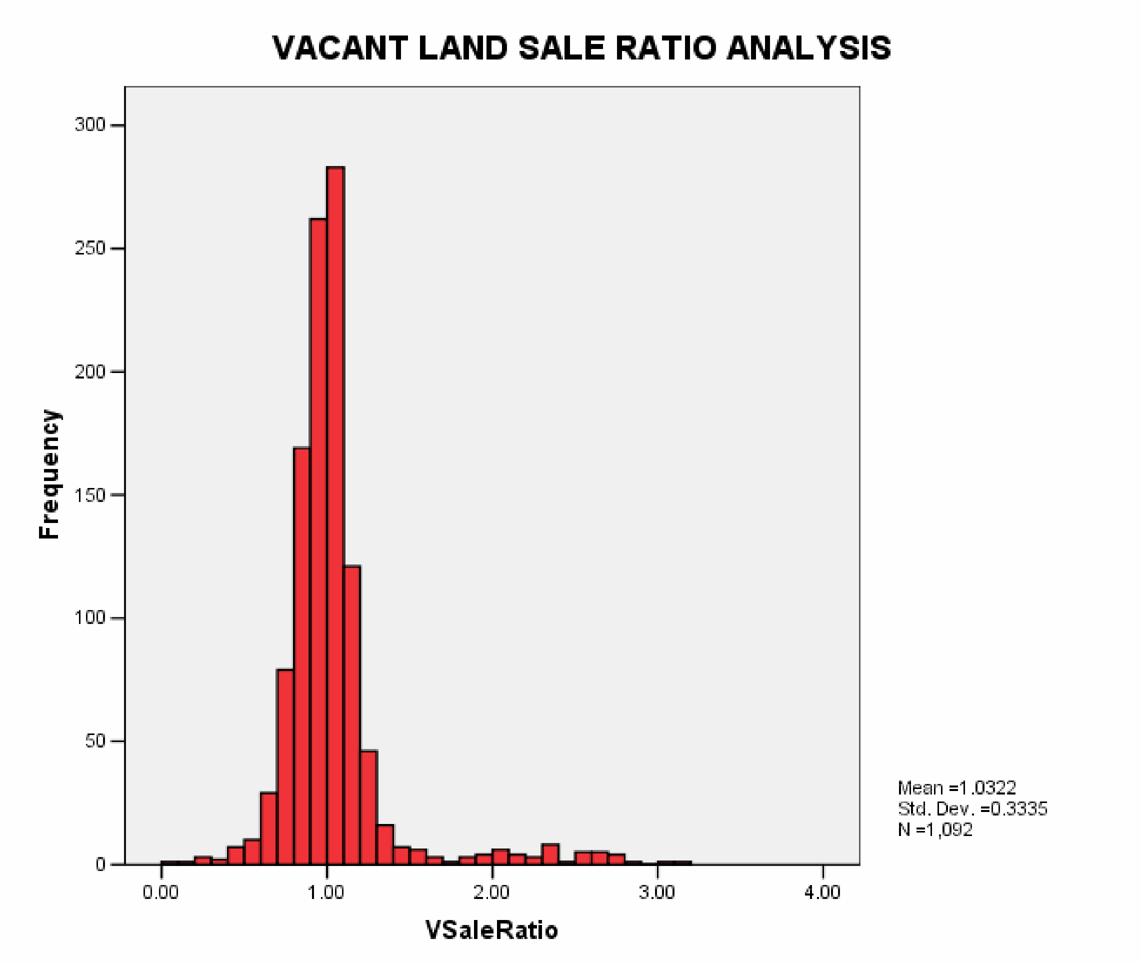
Steps	Results
1. Selected sales coded as "Q"	23,227 Sales
2. Selected improved sales (Status = "V")	1,474 Sales
3. Selected sale with subclass codes LT 4000	1,373 Sales
4. Sales between 1/2005 and 6/2006	1,092 Sales

The **1,092** vacant land sales were analyzed using the required measurements for the level of assessment, as well as for the quality of the assessment. The following ratio analysis indicates the results:

OVERALL Ratio Statistics for CURRLND / VTASP

Median	**.993**
Price Related Differential	**1.085**
Coefficient of Dispersion	**.181**

The following histogram and scatter plot describe the sales ratio distribution for these vacant land sales:


VACANT LAND SALE RATIO ANALYSIS
Frequency
300
250
200
150
100
50
0
0.00
1.00
2.00
3.00
4.00
VSaleRatio
Mean =1.0322
Std. Dev. =0.3335
N =1,092

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

Vacant Land Market Trend Analysis

Vacant land sales were also adjusted over the 24-month sale period. We verified that Douglas County adequately accounted for market trending by analyzing the sale ratios across the sale period. The following analysis indicates the results of analyzing the vacant land sale ratios over the prior 18 months by economic area:

Coefficients[a]

EconArea	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
.	1	(Constant)	.852	.032		26.309	.000
		Vsaleperiod	.015	.009	.700	1.698	.188
1	1	(Constant)	.990	.010		94.313	.000
		Vsaleperiod	.000	.001	.012	.185	.853
2	1	(Constant)	.920	.052		17.700	.000
		Vsaleperiod	.006	.006	.284	.983	.347
3	1	(Constant)	.942	.022		42.012	.000
		Vsaleperiod	.007	.002	.366	3.608	.001
4	1	(Constant)	.963	.017		56.975	.000
		Vsaleperiod	.004	.002	.151	2.063	.041
5	1	(Constant)	1.011	.034		29.714	.000
		Vsaleperiod	-.002	.003	-.103	-.603	.550
6	1	(Constant)	.930	.012		75.269	.000
		Vsaleperiod	.006	.001	.279	4.523	.000
7	1	(Constant)	.917	.041		22.241	.000
		Vsaleperiod	.007	.005	.342	1.259	.232

a. Dependent Variable: VSaleRatio

The above statistically significant trends for two economic areas were only marginally significant from a practical perspective. Overall, we concluded that the assessor has adequately addressed market trending for vacant land sales.

Sold/Unsold Analysis

In terms of the consistent treatment of vacant land sold and unsold properties, we examined the median percent change in value between 2006 and 2007 for these two groups. The following table compares these groups:

Group	N	Median	Mean
Unsold	9,370	1.2000	1.2277
Sold	989	1.1452	1.1703

VII. CONCLUSIONS

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