# 2005

# Jefferson County

# PROPERTY ASSESSMENT STUDY

## Prepared for The Colorado Legislative Council

**ROCKY MOUNTAIN**
**VALUATION SPECIALISTS**

# Jefferson County

# Property Assessment Study

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# HISTORICAL SKETCH OF JEFFERSON COUNTY

Jefferson County was established in 1861 with 783 square miles and, according to the 2000 census, an approximate population of 527,056 people. It is one of the seventeen original territorial counties. The county was named for Jefferson Territory, the extralegal government which preceded Colorado Territory and took its name from President Thomas Jefferson.

The county seat is Golden which was named for Thomas L. Golden who, with James Saudners and George W. Jackson, established a temporary camp near the mouth of Clear Creek Canyon in 1858. The city, however, was actually established by the Boston Company which was headed by George West and which, from 1862 to 1867, was the capital of Colorado Territory. (William Bright, Colorado Place Names, 3rd Edition, Johnson Books, 2004, p. 94 and 74)
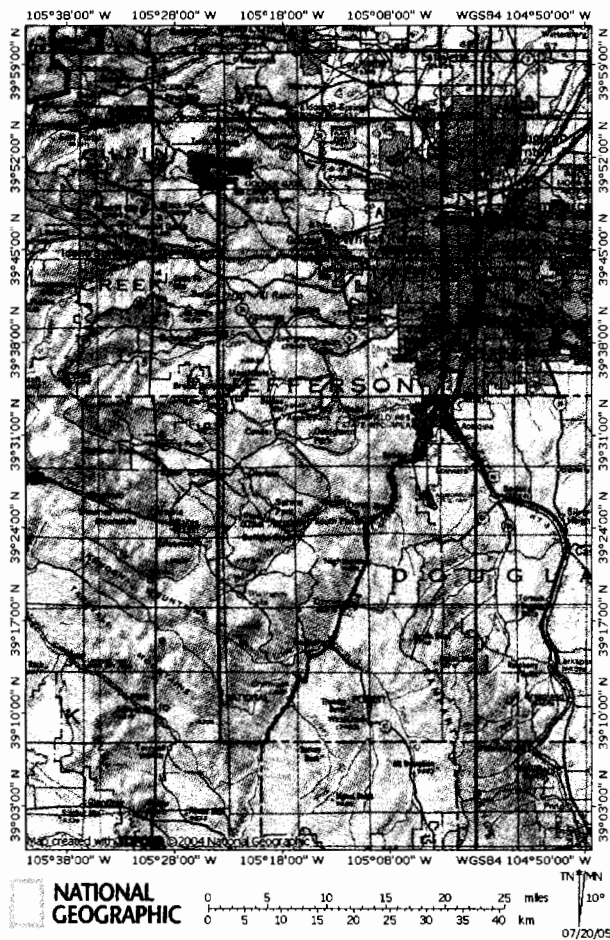
# RATIO ANALYSIS

**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 2003 and June 2004. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2004 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 to fall below 30. Although we examined grouping smaller counties by economic region to augment commercial sale totals, we still examined each county individually for compliance. 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. 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 found for Jefferson County are:

| Property Class | Number of Qualified Sales | Unweighted Median Ratio | Price Related Differential | Coefficient of Dispersion | Time Trend Analysis |
|---|---|---|---|---|---|
| **RATIO GRID** | | | | | |
| Commercial/ Industrial | 192 | .987 | 1.015 | 11.2 | Compliant |
| Condominium | N/A | N/A | N/A | N/A | N/A |
| Single Family | 17,051 | .994 | 1.008 | 6.4 | Compliant |
| Vacant Land | 448 | .984 | 1.089 | 13.8 | Compliant |

Ratio Statistics for CURRTOT / TASP by ECONOMIC AREA

| Group | Median | Price Related Differential | Coefficient of Dispersion |
|---|---|---|---|
| | .997 | 1.005 | .049 |
| 1 | .995 | 1.005 | .053 |
| 2 | .993 | 1.008 | .067 |
| 3 | .994 | 1.008 | .066 |
| 4 | .993 | 1.005 | .057 |
| 5 | .992 | 1.007 | .068 |
| 6 | .990 | 1.015 | .081 |
| 7 | 1.005 | 1.029 | .126 |
| 8 | .989 | 1.018 | .100 |
| 9 | .996 | 1.012 | .112 |
| **Overall** | .994 | 1.008 | .064 |

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

Jefferson 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 2004 and 2005 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.

**Conclusions**

| UNSOLD/UNSOLD RESULTS | |
|---|---|
| Property Class | Result |
| Commercial/Industrial | Compliant |
| Condominium | N/A |
| Single Family | Compliant |
| Vacant Land | Compliant |

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

**Recommendations**
None

# AGRICULTURAL LAND STUDY

<u>Agricultural Land</u>

**Methodology**

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 has 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.

It appears from Colorado Agricultural Statistics (CAS) data that dry land hay should be considered in the crop rotation for dry land valuation. For the major crops of wheat and dry land hay CAS 10 year average of acres indicates 0 percent wheat and 100 percent hay. See table below:

| Colorado Agricultural Statistics | | | | | |
|---|---|---|---|---|---|
| County | 10-Yr Avg Acres Wheat | 10-Year Avg Acres Dry Hay | Total Acres | %Wheat | %Dry Hay |
| Moffat | 16,360 | 14,410 | 30,770 | 53% | 47% |
| Rio Blanco | 1,450 | 2,910 | 4,360 | 33% | 67% |
| Routt | 7,590 | 12,600 | 20,190 | 38% | 62% |
| Douglas | 2,950 | 8,400 | 11,350 | 26% | 74% |
| Elbert | 31,300 | 24,300 | 55,600 | 56% | 44% |
| El Paso | 1,380 | 13,270 | 14,650 | 9% | 91% |
| Jefferson | 0 | 2,650 | 2,650 | 0% | 100% |

The data analyzed resulted in the following ratios:

| Abstract Code | Land Class | Number of Acres | County Value Per Acre | County Assessed Total Value | RMVS Total Value | Ratio |
|---|---|---|---|---|---|---|
| 4117 | Flood Irrigated | 2,000 | 199 | 397,867 | 397,867 | 1.00 |
| 4127 | Dry Farm | 218 | 18 | 3,994 | 3,994 | 1.00 |
| 4137 | Meadow Hay | 2,375 | 46 | 109,118 | 109,118 | 1.00 |
| 4147 | Dry Grazing | 62,655 | 11 | 703,035 | 703,035 | 1.00 |
| 4177 | Forest | 12,277 | 13 | 162,186 | 162,186 | 1.00 |
| Total/Avg | | 79,526 | 17 | 1,376,199 | 1,376,199 | 1.00 |

**Agricultural Land Ratio Grid**

**Suggestions**

Jefferson County with the assistance of the Division of Property Taxation should review dry land crop rotations. The Division of Property Taxation recommends using a crop in the rotation when it is 10 percent or greater of crops reported by the CAS and is a base crop.

**Recommendations**

None

**Agricultural Residences**

**Methodology**

The county analyzes single-family residential sales and uses the sales comparison approach to value residences situated on agricultural lands. These residences are valued in the same manner as other single-family residences. Factors are applied based on economic areas. The county receives building permits that assist in the discovery of new construction. However they do not have a provision for physical inspections in any given time frame.

**Conclusions**

A comparison of the single-family residential sales to a sample of unsold agricultural residences indicated that agricultural residences were appraised in the same manner as the sold single-family residential properties and that the overall level and uniformity of appraisals of agricultural residences have met State Board of Equalization standards. Based on this, one can conclude that agricultural residences were valued using appropriate appraisal procedures.

**Recommendations**

None

**Agricultural Outbuildings**

Jefferson County is exempt from the Agricultural Outbuilding Study.

# 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 2005 for Jefferson County. This study was performed by checking selected sales listed as verified by the county for the 2005 valuation period. Specifically, RMVS selected 45 sales listed as verified but unqualified.

Of the 45 sales checked, 43 gave reasons that were clear and supportable. The remaining 2 sales needed more documentation.

**Conclusions**

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

# ECONOMIC AREA REVIEW AND EVALUATION

## Economic Area Narrative and Maps

**Methodology**

Jefferson County has submitted a written narrative describing the economic areas that make up the county's market areas. Jefferson 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 Jefferson County has adequately identified homogeneous 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**

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

**Recommendations**

None

# VACANT LAND

## Subdivision Discounting

In 2005 subdivisions were reviewed and 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 present worth method. The market approach was applied where more than 80 percent of the subdivision sites were sold. Questionnaires were mailed to all developers to obtain information regarding expense data for each subdivision. An absorption period was estimated for each subdivision that was discounted. Subdivision land with structures was appraised at full market value. In 2005, Jefferson County is applying the recommended methodology in ARL Volume 3 Chapter 4 page 7 in their subdivision discounting.

### Conclusions

Jefferson County has implemented proper procedures to adequately estimate value and expenses for subdivisions. Jefferson County is also correctly applying the subdivision discounting procedures to 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.

### Conclusion

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

### Recommendations

None

# PERSONAL PROPERTY AUDIT

Jefferson 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 50,000 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.

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

- Public Record Documents
- Chamber of Commerce/Economic Development Contacts
- Personal Observation or Word of Mouth

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

Jefferson County submitted their personal property written audit plan and was current for the 2005 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Businesses in a selected area
- Accounts with obvious discrepancies
- 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

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.

Jefferson County's median ratio is 1.01. 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**

Jefferson 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 JEFFERSON COUNTY
## 2005

## I. OVERVIEW

Jefferson County is located in central Colorado, and represents the western portion of the Denver metropolitan area. The county has a total of 195,435 parcels, according to the land file submitted by the county assessor's office. The following table provides a breakdown of property classes covered in this analysis:

## Property Class Distribution



| | |
|---|---|
| Vacant Land | 10,199 |
| Residential | 178,554 |
| Comm/Ind | 4,955 |
| Other | 1,727 |
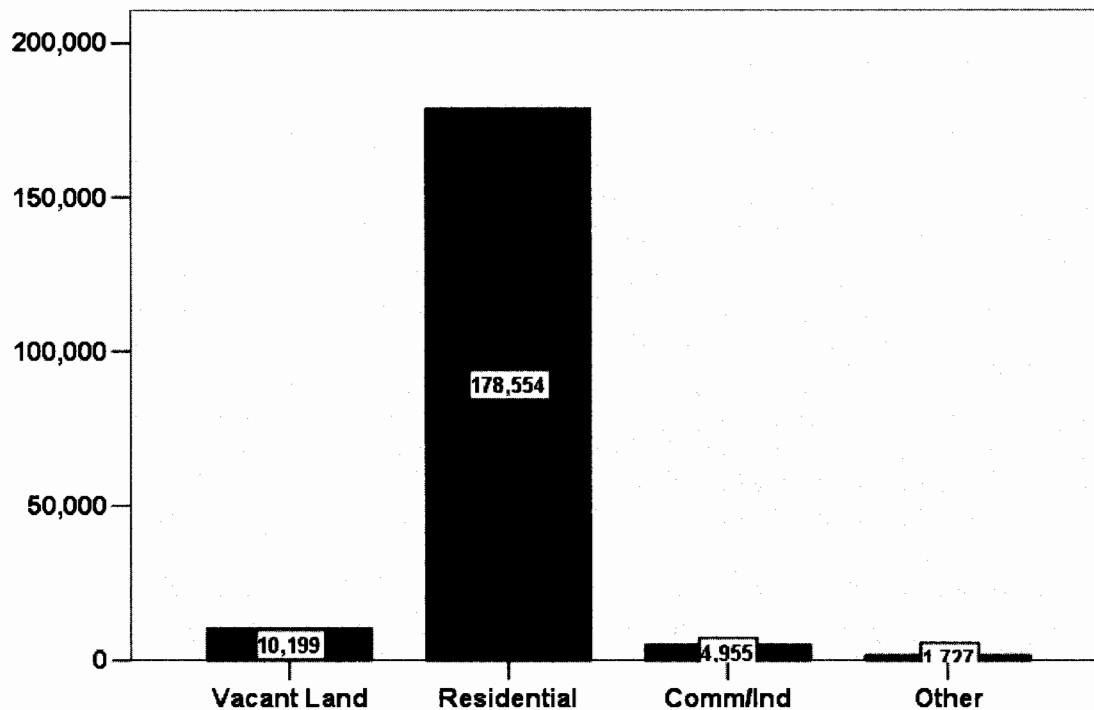
The vacant land class of properties was dominated by residential land. Residential lots (coded 100 and 1112) accounted for **79%** of all parcels, no other subclass accounted for more than 20% of the total.

For residential improved properties, single family properties accounted for **93%** of all residential properties. No sub-class breakdowns were indicated.

Commercial and industrial properties represented a smaller proportion of property classes in comparison.

## II. SALES FILE

The following sale analyses were based on the requirements of the 2005 Property Assessment Study, based on information provided by the Jefferson County Assessor's Office. There was a total of **26,025** sales in the file; of these, **23,298** were qualified sales by the county. The sales period spanned 24 months (July 2002 to June 2004). We analyzed Jefferson County's data using the 18-month period for each of the three major property classes; further data reductions will be described in each property class section.

## III. RESIDENTIAL SALES RESULTS

The following steps were taken to analyze the appropriate residential sale dataset for Jefferson County:

| Steps | Results |
|---|---|
| 1. Selected sales coded as "Q" | 23,298 Sales |
| 2. Selected improved sales (Status = "I") | 22,743 Sales |
| 3. Selected sale with subclass codes 1112 to 1230 | 22,506 Sales |
| 4. Sales between 1/1/2003 and 6/30/2004 | 17,051 Sales |

The **17,051** sales were analyzed using the required measurements for the level of assessment, as well as for the quality of the assessment, as follows:

| OVERALL Ratio Statistics for CURRTOT / TASP | |
|---|---|
| Median | .994 |
| Price Related Differential | 1.008 |
| Coefficient of Dispersion | .064 |

**Case Processing Summary**

| | | Count | Percent |
|---|---|---|---|
| econarea | | 2057 | 12.1% |
| | 1 | 2555 | 15.0% |
| | 2 | 2833 | 16.6% |
| | 3 | 3240 | 19.0% |
| | 4 | 3713 | 21.8% |
| | 5 | 503 | 2.9% |
| | 6 | 647 | 3.8% |
| | 7 | 71 | .4% |
| | 8 | 712 | 4.2% |
| | 9 | 720 | 4.2% |
| Overall | | 17051 | 100.0% |
| Excluded | | 0 | |
| Total | | 17051 | |

**Ratio Statistics for CURRTOT / TASP by ECONOMIC AREA**

| Group | Median | Price Related Differential | Coefficient of Dispersion |
|---|---|---|---|
| | .997 | 1.005 | .049 |
| 1 | .995 | 1.005 | .053 |
| 2 | .993 | 1.008 | .067 |
| 3 | .994 | 1.008 | .066 |
| 4 | .993 | 1.005 | .057 |
| 5 | .992 | 1.007 | .068 |
| 6 | .990 | 1.015 | .081 |
| 7 | 1.005 | 1.029 | .126 |
| 8 | .989 | 1.018 | .100 |
| 9 | .996 | 1.012 | .112 |
| Overall | .994 | 1.008 | .064 |

The above ratios are in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall sales, as well as by economic area. The following graphical exhibits describe further the sales ratio distribution for all of these properties:

# RESIDENTIAL SALE RATIO ANALYSIS



Mean =0.9986
Std. Dev. =0.09017
N =17,051
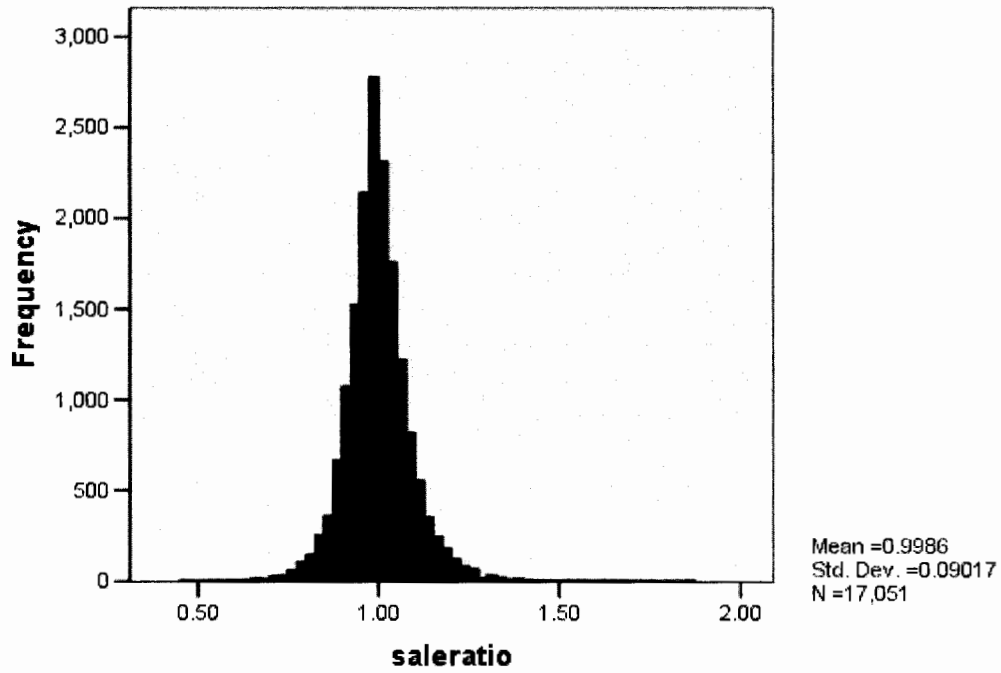
## Sale Ratio by Sale Price- Residential Properties
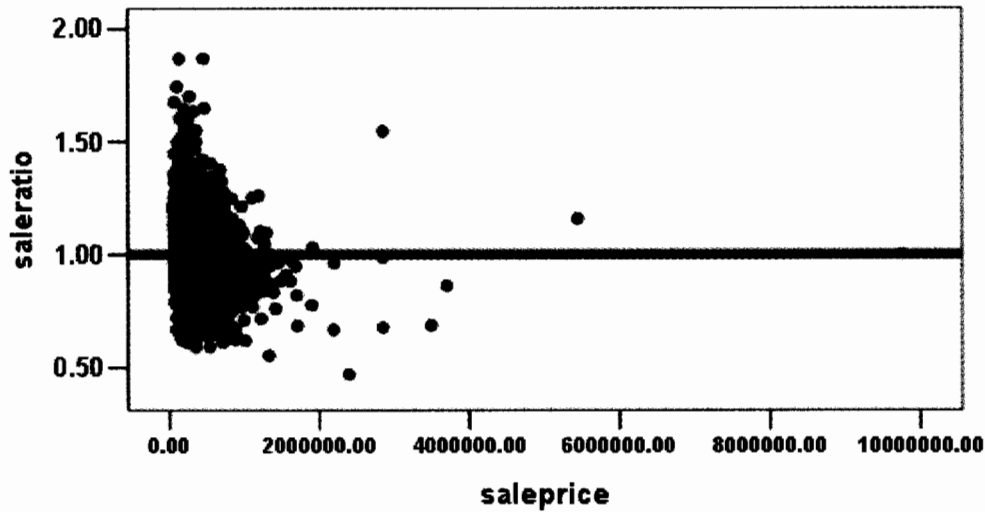


The above graphs indicate that the distribution of the sale ratios was within state mandated limits, and that there were no significant price related differential issues.

### Residential Market Trend Analysis

Jefferson County reported that they applied market trending adjustments to residential sales, using a 24-month period (July 2002 to June 2004) to account for seasonality. To confirm that no residual market trending was present in the adjusted sale price, we regressed the residential sale period by economic area across the 24-month sale period, with the following results:

**Coefficients**[a]

| econarea | Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|---|
| | | | B | Std. Error | Beta | | |
| | 1 | (Constant) | 1.008 | .002 | | 419.136 | .000 |
| | | saleperiod | -.001 | .000 | -.107 | -5.670 | .000 |
| 1 | 1 | (Constant) | .997 | .002 | | 447.561 | .000 |
| | | saleperiod | 1.62E-005 | .000 | .002 | .097 | .923 |
| 2 | 1 | (Constant) | 1.000 | .003 | | 377.973 | .000 |
| | | saleperiod | .000 | .000 | -.034 | -2.101 | .036 |
| 3 | 1 | (Constant) | 1.003 | .003 | | 366.491 | .000 |
| | | saleperiod | .000 | .000 | -.035 | -2.259 | .024 |
| 4 | 1 | (Constant) | .996 | .002 | | 491.542 | .000 |
| | | saleperiod | -9.4E-005 | .000 | -.009 | -.617 | .537 |
| 5 | 1 | (Constant) | .999 | .006 | | 173.657 | .000 |
| | | saleperiod | -9.1E-005 | .000 | -.008 | -.197 | .844 |
| 6 | 1 | (Constant) | .995 | .007 | | 142.974 | .000 |
| | | saleperiod | .000 | .001 | -.014 | -.390 | .697 |
| 7 | 1 | (Constant) | 1.000 | .039 | | 25.754 | .000 |
| | | saleperiod | .002 | .003 | .063 | .600 | .550 |
| 8 | 1 | (Constant) | .989 | .008 | | 118.411 | .000 |
| | | saleperiod | .000 | .001 | .021 | .631 | .528 |
| 9 | 1 | (Constant) | 1.009 | .009 | | 110.461 | .000 |
| | | saleperiod | -.001 | .001 | -.024 | -.729 | .466 |

a. Dependent Variable: saleratio

Based on the above results, we conclude that Jefferson County has correctly applied market trend adjustments to their residential sales.

## Sold/Unsold Analysis

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

| GROUP | N | Median | Mean |
|---|---|---|---|
| Unsold | 150,985 | $153 | $163 |
| Sold | 14,917 | $152 | $160 |
| Total | 165,902 | $153 | $162 |

## IV. COMMERCIAL/INDUSTRIAL SALES RESULTS

The following steps were taken to analyze the appropriate commercial and industrial sale dataset for Jefferson County:

| Steps | Results |
|---|---|
| 1. Selected sales coded as "Q" | 23,298 Sales |
| 2. Selected improved sales (Status = "I") | 22,743 Sales |
| 3. Selected sale with subclass codes 2000 to 2999 | 235 Sales |
| 4. Sales between 1/1/2003 and 6/30/2004 | 192 Sales |

**192** sales were analyzed using the required measurements for the level of assessment, as well as for the quality of the assessment.

**Ratio Statistics for CURRTOT / TASP**

| Median | .987 |
|---|---|
| Price Related Differential | 1.015 |
| Coefficient of Dispersion | .112 |

The above ratios are in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall sales. The following graphical exhibits describe further the sales ratio distribution for all of these properties:

# COMMERCIAL SALE RATIO ANALYSIS



Mean =0.97
Std. Dev. =0.16995
N =192
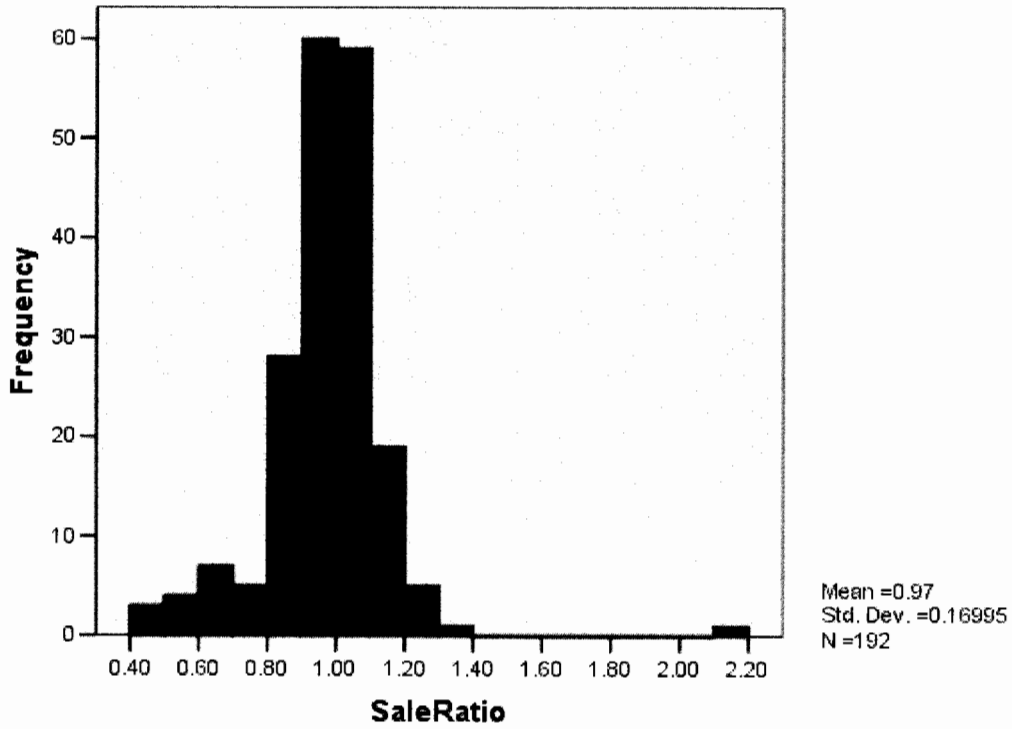
## Sale Ratio by Sale Price- Commercial Properties
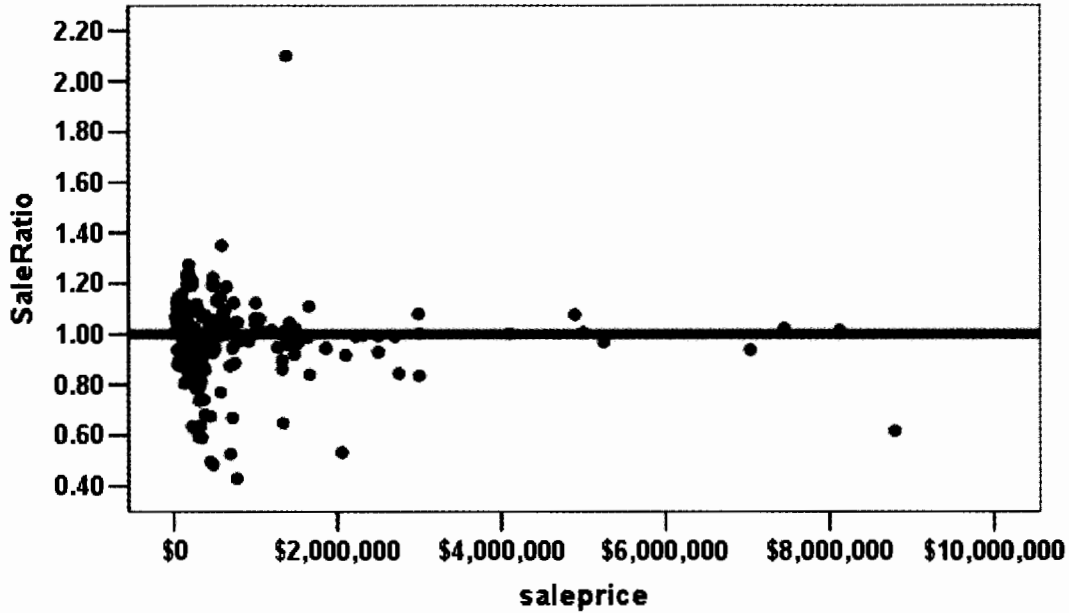


### Commercial Market Trend Analysis

The assessor did not apply a market trend factor to the commercial sales. Our analysis verified this conclusion by analyzing the sale ratios across the 24-month sale period, as follows:

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .957 | .018 | | 53.210 | .000 |
| | saleperiod | .002 | .002 | .065 | .998 | .319 |

a. Dependent Variable: SaleRatio

The above table indicates that no significant market trend factor was indicated.

## Sold/Unsold Analysis

In terms of the consistent treatment of commercial/industrial sold and unsold properties, we examined the change in value between 2004 and 2005 for commercial/industrial property values between these two groups. The following table compares the 2004 and 2005 actual values for commercial/industrial properties in Jefferson County, grouped by sold and unsold properties:

| GROUP | N | Median | Mean |
|---|---|---|---|
| Sold | 110 | 1.0989 | 1.1228 |
| Unsold | 2856 | 1.0894 | 1.0992 |
| Total | 2966 | 1.0905 | 1.1000 |

Based on the above analysis, we conclude that the Jefferson County Assessor has valued sold and unsold commercial properties in a consistent manner.
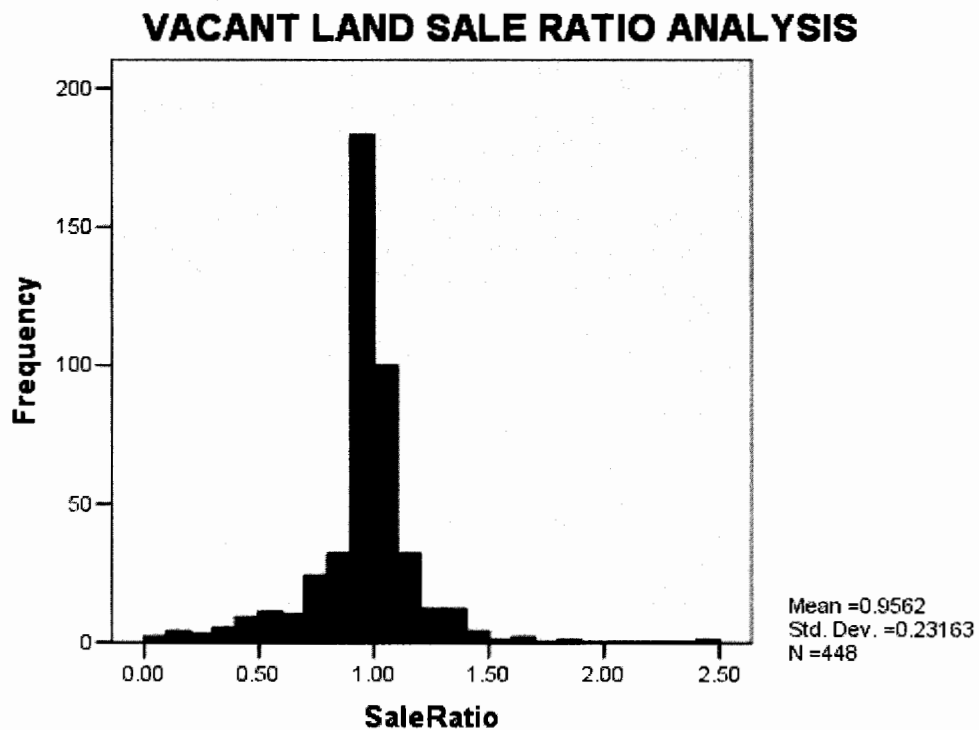
## V. VACANT LAND SALE RESULTS

| **Steps** | **Results** |
|---|---|
| 1. Selected sales coded as "Q" | 23,298 Sales |
| 2. Selected improved sales (Status = "I") | 22,743 Sales |
| 3. Selected sales with abstract codes less than 4000 | 522 Sales |
| 4. Selected sales between Jan 2003 and June 2004 | 448 Sales |

The **448** vacant land sales were analyzed using the require measurements for the level of assessment, as well as for the quality of the assessment. The following ratio analysis indicates the results:

### Ratio Statistics for NEWCURTO / TASP

| Median | .984 |
|---|---|
| Price Related Differential | 1.089 |
| Coefficient of Dispersion | .138 |

The above table indicates that the vacant land ratios are in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall sales. The following histogram and scatter plot describe the sales ratio distribution for all of these properties:

## VACANT LAND SALE RATIO ANALYSIS



Mean =0.9562
Std. Dev. =0.23163
N =448

# Sale Ratio by Sale Price- Vacant Land Properties
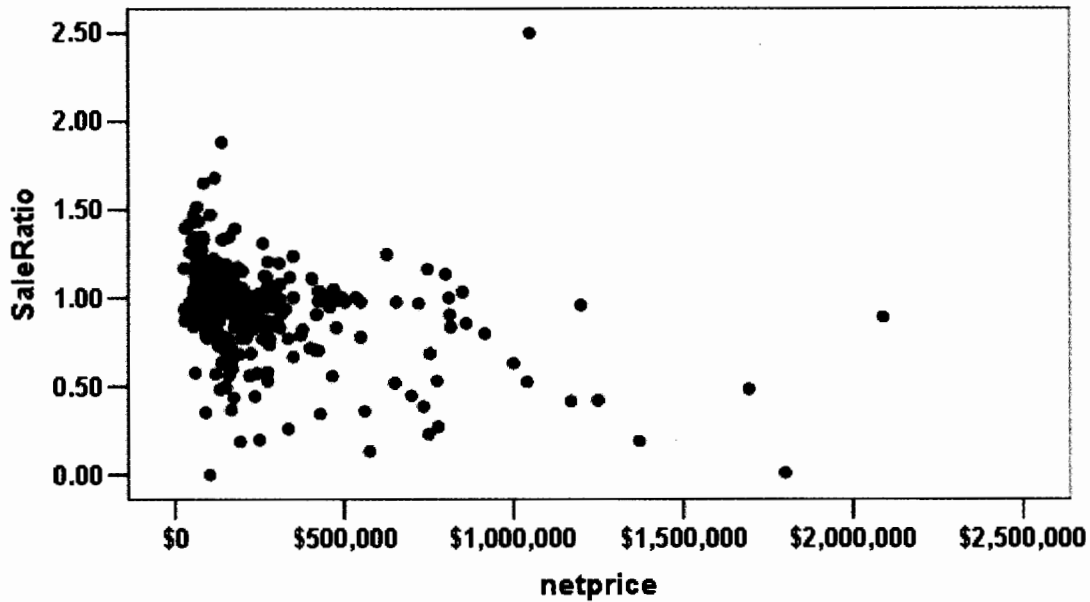


**Vacant Land Market Trend Analysis**

The assessor applied market trend adjustments to vacant land sales as part of their valuation development. We validated that there was no residual market trend factor by regressing the sale ratio across the 24-month sale period, with the following results:

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | .957 | .020 | | 48.576 | .000 |
| | saleperiod | .000 | .002 | -.003 | -.071 | .943 |

a. Dependent Variable: SaleRatio

The above indicates that there was no significant market trend factor after the assessor made their adjustments.

**Sold/Unsold Analysis**

In terms of the consistent treatment of vacant land sold and unsold properties, we examined the change in value between 2004 and 2005 for vacant land property values between these two groups. The following table and graph compares the 2004 and 2005 actual values for these properties in Jefferson County, grouped by sold and unsold properties:

| GROUP | N | Median | Mean |
|-------|------|--------|--------|
| Sold | 278 | 1.1110 | 1.1225 |
| Unsold | 7,538 | 1.0769 | 1.0953 |
| Total | 7,816 | 1.0769 | 1.0963 |

Based on the above analysis, we conclude that the Jefferson County Assessor has valued sold and unsold vacant land properties in a consistent manner.

## VI. AGRICULTURAL IMPROVEMENTS ANALYSIS

Jefferson County was exempt from this portion of the 2005 audit.

## VII. CONCLUSIONS

Based on this 2005 audit statistical analysis, residential, commercial/industrial, and vacant land properties were in compliance with state guidelines. This included sale ratio compliance, time trend validation, and sold/unsold valuation consistency.