



STATE OF NEVADA
DEPARTMENT OF TAXATION

Web Site: http://tax.nv.gov

1550 College Parkway, Suite 115
Carson City, Nevada 89706-7937
Phone: (775) 684-2000 Fax: (775) 684-2020

RENO OFFICE
4600 Kietzke Lane
Building L, Suite 235
Reno, Nevada 89502
Phone: (775) 687-9999
Fax: (775) 688-1303

BRIAN SANDOVAL
Governor

JOAN LAMBERT
Chair, Nevada Tax Commission
DEONNE E. CONTINE
Executive Director

LAS VEGAS OFFICE
Grant Sawyer Office Building, Suite 1300
555 E. Washington Avenue
Las Vegas, Nevada 89101
Phone: (702) 486-2300 Fax: (702) 486-2373

HENDERSON OFFICE
2550 Paseo Verde Parkway, Suite 180
Henderson, Nevada 89074
Phone: (702) 486-2300
Fax: (702) 486-3377

In the Matter of:

Douglas County)
Humboldt County)
Lyon County) 2016-2017 Ratio Study
Nye County)
Washoe County)

NOTICE OF DECISION

Appearances

Terry E. Rubald, Deputy Executive Director, appeared on behalf of the Department of Taxation.

Pursuant to NRS 361.333(4)(a) and (b), Douglas Sonnemann, Douglas County Assessor, appeared on behalf of Douglas County; Jeff Johnson, Humboldt County Assessor, and Garley Amos, Chairman of the Board of County Commissioners of Humboldt County, appeared on behalf of Humboldt County; Sherree Stringer, Nye County Assessor, appeared on behalf of Nye County; and Mike Clark, Washoe County Assessor appeared on behalf of Washoe County. No one appeared on behalf of Lyon County.

Summary

The matter of the approval of the 2016-2017 Ratio Study came before the Nevada Tax Commission ("Tax Commission") for hearing in Carson City and via video conference to Las Vegas, Nevada, on May 16, 2016 after due notice to each Assessor and County Commission. The Tax Commission reviewed the ratio study and the report of the Department. Using statistical tests designed for mass appraisal, the Tax Commission found all types of property fell within the range required by NRS 361.333.

DECISION

The Commission, having considered all evidence and testimony pertaining to the matter, hereby approves the 2016-2017 Ratio Study as reported by the Department and finds no further action is required, pursuant to the authority granted in NRS 361.333.

BY THE NEVADA TAX COMMISSION THIS 16th DAY OF MAY, 2016.

Deonne E. Contine
Deonne Contine, Executive Director

cc: County Assessors
Terry E. Rubald, Deputy Executive Director



NEVADA DEPARTMENT OF TAXATION
Division of Local Government Services

2016-2017 REPORT OF
ASSESSMENT RATIO STUDY

Division of Local Government Services

2016 - 2017

Report of Assessment Ratio Study

Department of Taxation
Division of Local Government Services
1550 College Parkway, Suite 115
Carson City, NV 89706
Phone 775.684.2100 • Fax 775.684.2020

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INTRODUCTION

2016 - 2017 RATIO STUDY

AUTHORITY, OVERSIGHT AND REPORTING

Under NRS 361.333, the Nevada Tax Commission is obligated to equalize property under its jurisdiction. Equalization is the process by which the Commission ensures “that all property subject to taxation within the county has been assessed as required by law.”¹

There are two types of information which the Commission considers to determine whether property has been assessed equitably. The first type of information comes from a ratio study, which is a statistical analysis designed to study the level and uniformity of the assessments. The second type of information comes from a procedural audit which is designed to fulfill the requirements of NRS 361.333(1)(b)(2). The procedural audit examines the work practices of the assessor to determine whether all property is being assessed in a correct and timely manner.

It is important to note that the statistical analysis required by NRS 361.333 is a quality control technique designed for mass appraisal. Mass appraisal, like single-property appraisal, is a “systematic method for arriving at estimates of value.”² The difference between mass appraisal and single-property appraisal is only a matter of scope:

Mass appraisal models have more terms because they attempt to replicate the market for one or more land uses across a wide geographic area. Single-property models, on the other hand, represent the market for one kind of land use in a limited area.

Quality is measured differently in mass appraisal and single-property appraisal. The quality of a single-property appraisal is measured against a small number of comparable properties that have sold. The quality of mass appraisals is measured with statistics developed from a sample of sales in the entire area appraised by the model.³

Typically, mass appraisal techniques using valuation models for groups and classes of property are used by county assessors to determine taxable value. For example, mass appraisal techniques for land valuation are described in NAC 361.11795, and reference the use of base lot values as benchmarks for valuing properties within a stratum. In addition an assessor is required to use the IAAO “Standard on Automated Valuation Models” when developing mass appraisal models, pursuant to NAC 361.1216.

NRS 361.333(2) permits the Department to conduct a ratio study on smaller groups of counties instead of the entire state in any one year. The ratio study is therefore conducted over a three year cycle. The counties reviewed for 2016 - 2017 are Douglas, Humboldt, Lyon, Nye, and Washoe Counties.

¹ NRS 361.333(4)(a) “The board of county commissioners and the county assessor, or their representatives, shall present evidence to the Nevada Tax Commission of the steps taken to ensure that all property subject to taxation within the county has been assessed as required by law.” Compare this statutory requirement to the International Association of Assessing Officers definition of equalization: “The process by which an appropriate governmental body attempts to ensure that property under its jurisdiction is appraised equitably at market value or as otherwise required by law.”

² Eckert, Joseph K., Ed., Property Appraisal and Assessment Administration (IAAO: Chicago, 1990), p. 35.

³ Ibid.

If inequity or bias is discovered, NRS 361.333 provides the Nevada Tax Commission the authority to apply factors designed to correct inequitable conditions to classes of property or it may order reappraisal, the goal of which is to determine whether all real and personal property is assessed at 35% of taxable value. In addition, NRS 360.215 authorizes the Department of Taxation to assist county assessors in appraising property which the ratio study shows to be in need of reappraisal. The Department also consults on the development and maintenance of standard assessment procedures to ensure that property assessments are uniformly made.

RATIO STUDY DESIGN PARAMETERS AND STANDARDS FOR ANALYSIS

Generally speaking, a "ratio study" is "designed to evaluate appraisal performance by comparing the estimate of assessed value produced by the assessor on each parcel in the sample to the estimate of taxable value produced by the Department. The comparison is called a "ratio."

The properties comprising the sample are physically inspected by Department appraisers and valued according to statutory and regulatory requirements. For instance, the Department valued improvements using the Valuation Cost Service published by Marshall Swift, pursuant to NAC 361.128.

The appraisals conducted by the Department comprise a *sample* of the *universe or population* of all properties within the jurisdiction being reviewed. From the information about the *sample*, the Department *infers* what is happening to the population as a whole.

The Department examines the ratio information for *appraisal level* and *appraisal uniformity*. Appraisal level compares how close the assessor's estimate of assessed value is to the legally mandated standard of 35% of taxable value. Appraisal level is measured by a descriptive statistic called a *measure of central tendency*. A measure of central tendency, such as the mean, median, or aggregate ratio, is a single number or value that describes the center or the middle of a set of data. In the case of this ratio study, the median describes the middle of the array of all ratios comparing the assessed value to the taxable value established for each parcel.

Assessment uniformity refers to the degree to which different properties are assessed at equal percentages of taxable value. If taxable value could be described as the center of a "target," then assessment uniformity looks at how much dispersion or distance there is between each ratio and the "target." The statistical measure known as the coefficient of dispersion (COD) measures uniformity or the distance from the "target."

The ratio study by law must include the median ratio of the total property within each subject county and each class of property. The study must also include two comparative statistics known as the overall ratio (also known as the aggregate ratio or weighted mean ratio) and the coefficient of dispersion (COD) of the median, for both the total property in each subject county and for each major class of property within the county. NRS 361.333 (5)(c) defines the major classes of property as:

- I. Vacant land;
- II. Single-family residential;
- III. Multi-residential;
- IV. Commercial and industrial; and
- V. Rural

In addition, the statistics are calculated specifically for improvement, land, and total property values. The classes are further defined as those within the reappraisal area.

The median is a statistic describing the measure of central tendency of the sample. It is the middle ratio when all the ratios are arrayed in order of magnitude, and divides the sample into two equal parts. The median is the most widely used measure of central tendency by equalization agencies because it is less affected by extreme ratios or "outliers," and is therefore the preferred measure for monitoring appraisal performance or evaluating the need for a reappraisal.⁴ NRS 361.333(5)(c) states that under- or- over assessment may exist if the median of the ratios falls in a range less than 32% or more than 36%.

The Department calculates the overall or aggregate ratio by dividing the total assessed value of all the observations (parcels) in the sample by the total taxable value of all the observations (parcels) in the sample. This produces a ratio weighted by dollar value. Because of the weight given to each dollar of value, parcels with higher values exert more influence than parcels with lower values. The aggregate ratio helps identify under or over assessment of higher valued property. For instance, an unusually high aggregate ratio might indicate that higher valued property is over assessed, or valued at a rate higher than other property. The statutory and regulatory framework does not dictate any range of acceptability for the aggregate ratio.

The COD is a measure of dispersion relating to the uniformity of the ratios and is calculated for all property within the subject jurisdiction and for each class of property within the subject jurisdiction. The COD measures the deviation of the individual ratios from the median ratio as a percentage of the median and is calculated by (1) subtracting the median from each ratio; (2) taking the absolute value of the calculated differences; (3) summing the absolute differences; (4) dividing by the number of ratios to obtain the "average absolute deviation;" and (5) dividing by the median. The COD has "the desirable feature that its interpretation does not depend on the assumption that the ratios are normally distributed."⁵ The COD is a relative measure and useful for comparing samples from different classes of property within counties, as well as among counties.

In 2010, the Nevada Tax Commission adopted NAC 361.1216. The regulation adopted the Standard on Automated Valuation Models, September 2003 edition published by the International Association of Assessing Officers. The Standard on Automated Valuation Models, Section 8.4.2.1, discusses the coefficient of dispersion and Table 2 references Ratio Study Performance Standards with regard to the COD. The IAAO Standard on Ratio Studies states that "the smaller the measure, the better the uniformity, but extremely low measures can signal acceptable causes such as extremely homogeneous properties or very stable markets; or unacceptable causes such as lack of quality control, calculation errors, poor sample representativeness or sales chasing. Note that as market activity changes or as the complexity of properties increases, the measures of variability usually increase, even though appraisal procedures may be equally valid."⁶

⁴ International Association of Assessing Officers, Standard on Ratio Studies, (2010), p.12; 27.

⁵ International Association of Assessing Officers, Standard on Ratio Studies, (2010), p. 13.

⁶ International Association of Assessing Officers, Standard on Ratio Studies, (2013), p. 17.

The IAAO recommended ratio study performance standards are as follows:

<u>Type of Property</u>	<u>COD</u>
Single-family Residential	
Newer, more homogenous areas	5.0 to 10.0
Older, heterogeneous areas	5.0 to 15.0
Rural residential and seasonal	5.0 to 20.0
Income-producing properties	
Larger, urban jurisdictions	5.0 to 15.0
Smaller, rural jurisdictions	5.0 to 20.0
Vacant land	5.0 to 25.0
Other real and personal property	Varies with local conditions ⁷

RATIO STUDY CONCLUSIONS

The 2016 - 2017 Ratio Study presentation includes the comparison of the median and aggregate ratios and the COD of all 17 counties required by NRS 361.333(1)(b)(1). These charts show the aggregate and median ratios and the coefficient of dispersion for the past three study years (2014 - 2016) across all counties for all properties.

Similar data is shown just for the counties in the 2016-17 study year. Here the aggregate and median ratios, the COD, and the median related differential (MRD) are compared across types of property in the five counties. Data for each individual county is displayed for each type of property across all appraisal areas within the county, not just the reappraisal area.

Median Related Differential

The median related differential is a statistic that tends to indicate regressivity when it is above 1.03 and progressivity when it is below .98. It is an indication of whether high-value properties are appraised higher or lower than low-value properties. The standard is not an absolute when samples are small or when wide variations in prices exist. In that case, other statistical tests may be more useful. This particular test is not required by statute.

The chart indicates that of the five counties studied for 2016 - 2017, regressivity is present for vacant land in Lyon County. Other counties where progressivity or regressivity occurred in prior years are also listed. The Department recommends reviewing stratifications of property and neighborhoods to ensure sufficient sales data is available, or use alternate methods of land valuation.

⁷ International Association of Assessing Officers, Standard on Ratio Studies, (2010), p. 17; and Standard on Automated Valuation Models (2003), p. 25 and p. 28.

Aggregate Ratio

The data for the aggregate (overall) ratio, or weighted mean, for the five counties are within the range of 32% to 36% on a composite basis.

Median Ratio

The median ratios of assessed value to taxable value generally indicate over-or-undervaluation of those types of property taken as a whole within the entire appraisal jurisdiction. This is not to say that inequity might not exist in pocket areas. However, this study makes these inferences for property groups as a whole within the jurisdiction, without regard to individual market areas. As noted above, for purposes of monitoring appraisal performance and for direct equalization, the median ratio is the preferred measure of central tendency.

Based on the median ratio, we can infer the appraisal level for all classes of property in each of the five counties included in this study fell between 32% and 36% using the results of the sample taken by the Department. The land, improvement, and the overall ratios of the assessed value established by each county assessor, measured against the taxable value established by the Department, are within statutory limits.

In addition, the COD for each reappraisal area for each county indicate the appraisals are relatively uniform.

LAND AND IMPROVEMENT FACTORS

The Department reviews assessments in those areas where land and improvement factors are applied pursuant to NRS 361.260(5) to ensure the factors are appropriately applied. In the last fiscal year no counties in the State used the factor for land values since all counties annually reappraise land in each county. Improvement Factors for the 2016 - 2017 tax year are also available on the Taxation website at <http://tax.state.nv.us>.

2016-2017

REPORT OF ASSESSMENT RATIO STUDY

STATISTICAL TABLES

NEVADA DEPARTMENT OF TAXATION
2016-2017 RATIO STUDY
AGGREGATE RATIOS

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY	IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY RESIDENCE	MULTI-FAMILY RESIDENCE	COMMERCIAL INDUSTRIAL	RURAL LAND & IMPROVEMENTS
CARSON CITY	2014	32.5	32.6	33.9	29.9	33.9	34.9	32.3	34.9
CHURCHILL	2014	34.6	34.7	34.1	34.6	34.4	34.6	34.9	35.0
CLARK	2015	34.5	34.7	34.7	33.6	34.7	33.7	34.8	35.0
DOUGLAS	2016	34.7	35.0	34.2	34.2	34.5	35.0	34.9	35.0
ELKO	2014	33.2	32.4	34.7	35.2	32.7	33.9	32.6	35.0
ESMERALDA	2015	33.7	33.6	34.0	34.1	34.0	32.8	32.7	33.9
EUREKA	2015	34.7	34.9	34.0	34.5	34.7	34.6	34.5	35.0
HUMBOLDT	2016	33.7	33.3	34.9	33.8	33.8	34.3	33.2	35.0
LANDER	2014	34.0	34.2	34.4	28.9	34.3	34.2	34.2	33.5
LINCOLN	2015	33.4	33.1	34.3	33.8	33.9	33.2	32.5	33.3
LYON	2016	33.1	32.6	34.7	33.6	33.2	34.2	32.1	35.0
MINERAL	2015	31.7	30.3	34.5	34.9	33.1	29.9	31.8	35.0
NYE	2016	33.3	33.2	34.3	34.0	34.2	33.3	32.7	35.0
PERSHING	2014	34.7	34.8	34.5	33.9	33.5	33.8	35.3	35.0
STOREY	2015	33.7	33.6	32.2	35.0	32.2	32.3	34.5	35.0
WASHOE	2016	34.6	34.8	34.2	34.1	34.3	34.8	34.9	35.0
WHITE PINE	2014	34.3	34.3	34.3	33.5	33.6	34.1	34.4	34.9
STATEWIDE	2016	33.9	33.9	34.2	33.1	34.1	34.0	33.9	34.6

NEVADA DEPARTMENT OF TAXATION
2016-2017 RATIO STUDY
MEDIAN RATIOS

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY	IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY RESIDENCE	MULTI-FAMILY RESIDENCE	COMMERCIAL INDUSTRIAL	RURAL LAND & IMPROVEMENTS
CARSON CITY	2014	34.4	34.4	34.4	33.9	34.2	34.9	34.0	34.9
CHURCHILL	2014	34.8	35.0	34.0	34.8	34.7	34.7	35.0	35.0
CLARK	2015	34.5	34.7	34.7	34.5	34.8	33.6	34.7	35.0
DOUGLAS	2016	34.9	35.0	34.8	34.4	34.6	35.1	34.8	35.0
ELKO	2014	34.5	33.5	34.9	35.0	33.8	34.3	34.1	35.0
ESMERALDA	2015	34.0	33.7	34.4	34.5	33.8	33.6	33.5	34.3
EUREKA	2015	34.9	35.0	33.9	35.0	34.9	34.8	34.5	35.0
HUMBOLDT	2016	34.2	33.5	34.6	34.0	34.0	34.5	33.9	35.0
LANDER	2014	34.5	34.6	34.6	34.8	34.7	34.1	34.6	32.7
LINCOLN	2015	33.8	33.3	34.2	34.3	33.9	33.4	32.6	35.0
LYON	2016	34.2	33.5	35.0	35.2	33.6	34.4	33.0	35.0
MINERAL	2015	33.5	32.4	35.0	34.5	33.5	32.2	33.1	35.0
NYE	2016	34.1	33.9	34.7	34.2	34.4	33.6	32.6	35.0
PERSHING	2014	34.4	34.5	34.7	34.4	34.0	34.3	35.0	35.0
STOREY	2015	33.9	33.8	34.6	34.6	33.2	33.9	34.5	35.0
WASHOE	2016	34.4	34.5	34.7	34.2	34.4	34.2	34.4	35.0
WHITE PINE	2014	34.2	34.1	34.3	34.0	33.8	33.7	34.4	34.9
STATEWIDE	2016	34.4	34.3	34.6	34.5	34.3	34.2	34.4	35.0

NEVADA DEPARTMENT OF TAXATION
2016-2017 RATIO STUDY
COEFFICIENTS OF DISPERSION

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY	IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY RESIDENCE	MULTI-FAMILY RESIDENCE	COMMERCIAL INDUSTRIAL	RURAL LAND & IMPROVEMENTS
CARSON CITY	2014	4.8	5.6	4.0	7.2	2.2	3.5	7.4	0.7
CHURCHILL	2014	1.4	1.5	2.2	1.9	1.5	1.0	0.8	0.0
CLARK	2015	2.6	3.0	2.5	2.1	2.8	1.7	1.8	3.2
DOUGLAS	2016	1.3	0.1	2.9	2.7	1.1	0.2	1.3	0.0
ELKO	2014	3.7	6.0	1.2	0.9	4.1	2.7	6.8	0.0
ESMERALDA	2015	4.2	4.4	3.5	7.2	2.6	3.3	2.6	1.2
EUREKA	2015	1.9	1.8	2.7	1.8	2.1	2.8	1.0	-
HUMBOLDT	2016	2.6	3.3	3.3	1.8	2.2	2.0	4.4	0.0
LANDER	2014	7.7	2.4	2.8	20.3	1.6	1.6	2.4	2.1
LINCOLN	2015	4.4	3.8	2.7	5.3	3.1	2.8	3.5	1.0
LYON	2016	5.7	7.5	2.3	9.0	6.5	1.4	5.1	0.1
MINERAL	2015	8.9	17.2	2.3	3.4	10.2	9.7	10.4	0.2
NYE	2016	2.7	3.3	2.5	2.9	1.9	2.0	2.3	0.8
PERSHING	2014	3.6	5.3	2.3	2.3	4.4	3.3	3.6	0.0
STOREY	2015	5.0	5.6	9.3	3.7	6.2	4.2	3.4	0.1
WASHOE	2016	1.7	2.5	1.7	1.7	1.6	1.6	1.9	0.0
WHITE PINE	2014	3.3	4.5	2.7	3.0	4.1	2.0	3.5	0.4
STATEWIDE	2016	4.1	5.1	3.0	5.2	3.6	3.5	4.4	0.6

NEVADA DEPARTMENT OF TAXATION
 2016-2017 RATIO STUDY
 MEDIAN RELATED DIFFERENTIALS

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY	IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY RESIDENCE	MULTI-FAMILY RESIDENCE	COMMERCIAL INDUSTRIAL	RURAL LAND & IMPROVEMENTS
CARSON CITY	2014	1.06	1.06	1.02	1.13	1.01	1.00	1.05	1.00
CHURCHILL	2014	1.01	1.01	1.00	1.00	1.01	1.00	1.00	1.00
CLARK	2015	1.00	1.00	1.00	1.03	1.00	1.00	1.00	1.00
DOUGLAS	2016	1.01	1.00	1.02	1.00	1.00	1.00	1.00	1.00
ELKO	2014	1.04	1.04	1.00	0.99	1.03	1.01	1.05	1.00
ESMERALDA	2015	1.01	1.00	1.01	1.01	0.99	1.02	1.02	1.01
EUREKA	2015	1.01	1.00	1.00	1.01	1.00	1.01	1.00	1.00
HUMBOLDT	2016	1.01	1.00	0.99	1.01	1.00	1.01	1.02	1.00
LANDER	2014	1.02	1.01	1.01	1.20	1.01	1.00	1.01	0.98
LINCOLN	2015	1.01	1.00	1.00	1.01	1.00	1.01	1.00	1.05
LYON	2016	1.03	1.03	1.01	1.05	1.01	1.01	1.03	1.00
MINERAL	2015	1.06	1.07	1.01	0.99	1.01	1.08	1.04	1.00
NYE	2016	1.02	1.02	1.01	1.01	1.01	1.01	1.00	1.00
PERSHING	2014	0.99	0.99	1.00	1.01	1.01	1.01	0.99	1.00
STOREY	2015	1.01	1.01	1.07	0.99	1.03	1.05	1.00	1.00
WASHOE	2016	0.99	0.99	1.02	1.00	1.00	0.98	0.99	1.00
WHITE PINE	2014	1.00	0.99	1.00	1.01	1.01	0.99	1.00	1.00
STATEWIDE	2016	1.01	1.01	1.01	1.04	1.01	1.01	1.01	1.01

NEVADA DEPARTMENT OF TAXATION
 2016-2017 RATIO STUDY
 ALL APPRAISAL AREAS
 OVERALL (AGGREGATE) RATIO

Subject County	All Property
DOUGLAS	34.7
HUMBOLDT	33.7
LYON	33.1
NYE	33.3
WASHOE	34.6
ALL COUNTIES	34.1

Class of Property						
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
35.0	34.2	34.2	34.5	35.0	34.9	35.0
33.3	34.9	33.8	33.8	34.3	33.2	35.0
32.6	34.7	33.6	33.2	34.2	32.1	35.0
33.2	34.3	34.0	34.2	33.3	32.7	35.0
34.8	34.2	34.1	34.3	34.8	34.9	35.0
34.1	34.3	34.1	34.2	34.6	33.7	35.0

MEDIAN RATIO

Subject County	All Property
DOUGLAS	34.9
HUMBOLDT	34.2
LYON	34.2
NYE	34.1
WASHOE	34.4
ALL COUNTIES	34.5

Class of Property						
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
35.0	34.8	34.4	34.6	35.1	34.8	35.0
33.5	34.6	34.0	34.0	34.5	33.9	35.0
33.5	35.0	35.2	33.6	34.4	33.0	35.0
33.9	34.7	34.2	34.4	33.6	32.6	35.0
34.5	34.7	34.2	34.4	34.2	34.4	35.0
34.3	34.8	34.2	34.3	34.5	34.1	35.0

NEVADA DEPARTMENT OF TAXATION
 2016-2017 RATIO STUDY
 ALL APPRAISAL AREAS
 COEFFICIENT OF DISPERSION (COD)

Subject County	All Property
DOUGLAS	1.3
HUMBOLDT	2.6
LYON	5.7
NYE	2.7
WASHOE	1.7
ALL COUNTIES	2.9

Class of Property						
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
0.1	2.9	2.7	1.1	0.2	1.3	0.0
3.3	3.3	1.8	2.2	2.0	4.4	0.0
7.5	2.3	9.0	6.5	1.4	5.1	0.1
3.3	2.5	2.9	1.9	2.0	2.3	0.8
2.5	1.7	1.7	1.6	1.6	1.9	0.0
3.8	2.5	3.7	2.7	1.9	3.8	0.2

MEDIAN RELATED DIFFERENTIAL

Subject County	All Property
DOUGLAS	1.01
HUMBOLDT	1.01
LYON	1.03
NYE	1.02
WASHOE	0.99
ALL COUNTIES	1.01

Class of Property						
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
1.00	1.02	1.00	1.00	1.00	1.00	1.00
1.00	0.99	1.01	1.00	1.01	1.02	1.00
1.03	1.01	1.05	1.01	1.01	1.03	1.00
1.02	1.01	1.01	1.01	1.01	1.00	1.00
0.99	1.02	1.00	1.00	0.98	0.99	1.00
1.01	1.01	1.00	1.00	1.00	1.01	1.00

DOUGLAS COUNTY
2016-2017 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	34.7%	34.9%	1.3%	53
COUNTYWIDE IMPROVEMENTS	35.0%	35.0%	0.1%	37
COUNTYWIDE IMPROVED LAND	34.2%	34.8%	2.9%	43
COUNTYWIDE VACANT LAND	34.2%	34.4%	2.7%	10
SINGLE FAMILY IMPROVEMENTS	35.1%	35.1%	0.1%	20
SINGLE FAMILY LAND	33.4%	33.6%	3.4%	20
SINGLE FAMILY TOTAL PROPERTY	34.5%	34.6%	1.1%	20
MULTIPLE FAMILY IMPROVEMENTS	35.0%	35.0%	0.0%	8
MULTIPLE FAMILY LAND	35.1%	35.4%	0.4%	8
MULTIPLE FAMILY TOTAL PROPERTY	35.0%	35.1%	0.2%	8
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.0%	35.0%	0.0%	9
COMMERCIAL/INDUSTRIAL LAND	34.6%	34.6%	2.9%	9
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.9%	34.8%	1.3%	9
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.0%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.0%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	35.0%	35.0%	0.1%	18
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	6
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.1%	6
MOBILE HOMES	35.0%	35.0%	0.0%	6
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.1%	19
AIRCRAFT	35.0%	35.0%	0.0%	6
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	35.0%	35.0%	0.0%	2
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	5
MOBILE HOMES	35.0%	35.0%	0.0%	6
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.1%	37

**HUMBOLDT COUNTY
2016-2017 RATIO STUDY**

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	33.7%	34.2%	2.6%	56
COUNTYWIDE IMPROVEMENTS	33.3%	33.5%	3.3%	40
COUNTYWIDE IMPROVED LAND	34.9%	34.6%	3.3%	46
COUNTYWIDE VACANT LAND	33.8%	34.0%	1.8%	10
SINGLE FAMILY IMPROVEMENTS	33.7%	33.3%	2.6%	20
SINGLE FAMILY LAND	34.3%	34.3%	3.1%	20
SINGLE FAMILY TOTAL PROPERTY	33.8%	34.0%	2.2%	20
MULTIPLE FAMILY IMPROVEMENTS	34.4%	34.5%	1.6%	10
MULTIPLE FAMILY LAND	33.8%	33.9%	3.7%	10
MULTIPLE FAMILY TOTAL PROPERTY	34.3%	34.5%	2.0%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	32.1%	32.7%	4.4%	10
COMMERCIAL/INDUSTRIAL LAND	35.9%	34.7%	4.1%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	33.2%	33.9%	4.4%	10
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.0%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.0%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	34.9%	35.0%	1.1%	18
AIRCRAFT	35.0%	35.0%	0.0%	3
AGRICULTURAL	34.8%	35.0%	1.8%	4
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	34.9%	35.0%	3.0%	4
MOBILE HOMES	35.0%	35.0%	0.1%	7
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.0%	20
AIRCRAFT	35.0%	35.0%	0.1%	4
AGRICULTURAL	35.0%	35.0%	0.0%	3
BILLBOARDS	35.0%	35.0%	0.0%	3
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.0%	4
MOBILE HOMES	35.0%	35.0%	0.0%	6
TOTAL PERSONAL PROPERTY	34.9%	35.0%	0.5%	38

LYON COUNTY
2016-2017 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	33.1%	34.2%	5.7%	53
COUNTYWIDE IMPROVEMENTS	32.6%	33.5%	7.5%	37
COUNTYWIDE IMPROVED LAND	34.7%	35.0%	2.3%	43
COUNTYWIDE VACANT LAND	33.6%	35.2%	9.0%	10
SINGLE FAMILY IMPROVEMENTS	33.0%	33.5%	9.8%	17
SINGLE FAMILY LAND	34.5%	34.5%	2.4%	17
SINGLE FAMILY TOTAL PROPERTY	33.2%	33.6%	6.5%	17
MULTIPLE FAMILY IMPROVEMENTS	34.1%	34.4%	1.5%	10
MULTIPLE FAMILY LAND	34.6%	34.7%	2.8%	10
MULTIPLE FAMILY TOTAL PROPERTY	34.2%	34.4%	1.4%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	30.8%	32.0%	6.7%	10
COMMERCIAL/INDUSTRIAL LAND	34.7%	35.3%	2.6%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	32.1%	33.0%	5.1%	10
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.1%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.1%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	35.0%	35.0%	0.0%	17
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	5
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.0%	3
MOBILE HOMES	35.0%	35.0%	0.0%	9
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.1%	27
AIRCRAFT	35.0%	35.0%	0.0%	5
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	35.0%	35.0%	0.0%	5
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.3%	8
MOBILE HOMES	35.0%	35.0%	0.0%	9
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.1%	44

**NYE COUNTY
2016-2017 RATIO STUDY**

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	33.3%	34.1%	2.7%	48
COUNTYWIDE IMPROVEMENTS	33.2%	33.9%	3.3%	32
COUNTYWIDE IMPROVED LAND	34.3%	34.7%	2.5%	38
COUNTYWIDE VACANT LAND	34.0%	34.2%	2.9%	10
SINGLE FAMILY IMPROVEMENTS	34.2%	35.0%	2.4%	15
SINGLE FAMILY LAND	34.2%	34.5%	2.7%	15
SINGLE FAMILY TOTAL PROPERTY	34.2%	34.4%	1.9%	15
MULTIPLE FAMILY IMPROVEMENTS	33.1%	33.4%	2.0%	7
MULTIPLE FAMILY LAND	34.1%	34.9%	3.0%	7
MULTIPLE FAMILY TOTAL PROPERTY	33.3%	33.6%	2.0%	7
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	32.7%	32.2%	2.7%	10
COMMERCIAL/INDUSTRIAL LAND	33.6%	34.0%	2.2%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	32.7%	32.6%	2.3%	10
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.8%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.8%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	35.0%	35.0%	0.0%	15
AIRCRAFT	35.0%	35.0%	0.0%	1
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.0%	5
MOBILE HOMES	35.0%	35.0%	0.0%	9
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.2%	27
AIRCRAFT	35.0%	35.0%	0.0%	5
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	35.0%	35.0%	0.0%	5
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.5%	8
MOBILE HOMES	35.0%	35.0%	0.0%	9
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.1%	42

**WASHOE COUNTY
2016-2017 RATIO STUDY**

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	34.6%	34.4%	1.7%	63
COUNTYWIDE IMPROVEMENTS	34.8%	34.5%	2.5%	45
COUNTYWIDE IMPROVED LAND	34.2%	34.7%	1.7%	51
COUNTYWIDE VACANT LAND	34.1%	34.2%	1.7%	12
SINGLE FAMILY IMPROVEMENTS	34.4%	34.7%	2.2%	25
SINGLE FAMILY LAND	34.0%	34.8%	2.1%	25
SINGLE FAMILY TOTAL PROPERTY	34.3%	34.4%	1.6%	25
MULTIPLE FAMILY IMPROVEMENTS	35.2%	33.8%	2.4%	10
MULTIPLE FAMILY LAND	34.2%	34.5%	1.4%	10
MULTIPLE FAMILY TOTAL PROPERTY	34.8%	34.2%	1.6%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.1%	34.4%	2.8%	10
COMMERCIAL/INDUSTRIAL LAND	34.3%	34.1%	1.2%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.9%	34.4%	1.9%	10
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.0%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.0%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	n/a	n/a	n/a	-
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	n/a	n/a	n/a	-
MOBILE HOMES	n/a	n/a	n/a	-
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.0%	25
AIRCRAFT	35.0%	35.0%	0.0%	4
AGRICULTURAL	35.0%	35.0%	0.1%	4
BILLBOARDS	35.0%	35.0%	0.0%	3
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.0%	8
MOBILE HOMES	35.0%	35.0%	0.0%	6
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.0%	25

**ALL COUNTIES INCLUDED IN
2016-2017 RATIO STUDY**

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
ALL COUNTIES TOTAL PROPERTY	34.1%	34.5%	2.9%	273
ALL COUNTIES IMPROVEMENTS	34.1%	34.3%	3.8%	191
ALL COUNTIES IMPROVED LAND	34.3%	34.8%	2.5%	221
ALL COUNTIES VACANT LAND	34.1%	34.2%	3.7%	52
SINGLE FAMILY IMPROVEMENTS	34.3%	34.7%	3.8%	97
SINGLE FAMILY LAND	33.8%	34.4%	2.8%	97
SINGLE FAMILY TOTAL PROPERTY	34.2%	34.3%	2.7%	97
MULTIPLE FAMILY IMPROVEMENTS	34.7%	34.4%	2.1%	45
MULTIPLE FAMILY LAND	34.3%	34.9%	2.5%	45
MULTIPLE FAMILY TOTAL PROPERTY	34.6%	34.5%	1.9%	45
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	33.3%	33.5%	5.1%	49
COMMERCIAL/INDUSTRIAL LAND	34.7%	34.5%	2.8%	49
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	33.7%	34.1%	3.8%	49
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.2%	30
RURAL TOTAL PROPERTY	35.0%	35.0%	0.2%	30
SECURED PERSONAL PROPERTY				
ALL SECURED	34.9%	35.0%	0.3%	68
AIRCRAFT	35.0%	35.0%	0.0%	4
AGRICULTURAL	34.8%	35.0%	0.5%	15
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.7%	18
MOBILE HOMES	35.0%	35.0%	0.0%	31
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.1%	118
AIRCRAFT	35.0%	35.0%	0.0%	24
AGRICULTURAL	35.0%	35.0%	0.1%	7
BILLBOARDS	35.0%	35.0%	0.0%	18
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	33
MOBILE HOMES	35.0%	35.0%	0.0%	36
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.2%	186

**STATEWIDE
2014-2017 RATIO STUDIES**

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
STATEWIDE TOTAL PROPERTY	33.9%	34.4%	4.0%	1,544
STATEWIDE IMPROVEMENTS	33.9%	34.3%	5.1%	1,090
STATEWIDE IMPROVED LAND	34.2%	34.6%	3.0%	1,153
STATEWIDE VACANT LAND	33.1%	34.5%	5.2%	389
SINGLE FAMILY IMPROVEMENTS	34.1%	34.3%	4.6%	555
SINGLE FAMILY LAND	33.8%	34.4%	3.5%	554
SINGLE FAMILY TOTAL PROPERTY	34.1%	34.3%	3.6%	555
MULTIPLE FAMILY IMPROVEMENTS	33.9%	34.1%	4.5%	241
MULTIPLE FAMILY LAND	34.3%	34.5%	2.9%	241
MULTIPLE FAMILY TOTAL PROPERTY	34.0%	34.2%	3.5%	241
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	33.8%	34.5%	6.5%	261
COMMERCIAL/INDUSTRIAL LAND	34.4%	34.4%	2.7%	261
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	33.9%	34.4%	4.4%	262
RURAL IMPROVEMENTS	34.0%	34.1%	2.8%	10
RURAL LAND	35.0%	35.0%	0.4%	97
RURAL TOTAL PROPERTY	34.6%	35.0%	0.6%	97
SECURED PERSONAL PROPERTY				
ALL SECURED	35.0%	35.0%	0.3%	217
AIRCRAFT	35.0%	35.0%	0.0%	4
AGRICULTURAL	34.9%	35.0%	0.2%	52
BILLBOARDS	35.0%	35.0%	0.1%	2
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.6%	64
MOBILE HOMES	35.0%	35.0%	0.1%	95
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.3%	371
AIRCRAFT	35.0%	35.0%	0.2%	74
AGRICULTURAL	35.0%	35.0%	0.2%	37
BILLBOARDS	35.0%	35.0%	0.0%	42
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.3%	95
MOBILE HOMES	34.9%	35.0%	0.6%	123
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.3%	588