NEVADA DEPARTMENT OF TAXATION

Division of Local Government Services

2021-2022 REPORT OF ASSESSMENT RATIO STUDY

2021 - 2022

Report of Assessment Ratio Study

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CONTENTS

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INTRODUCTION: AUTHORITY, OVERSIGHT AND REPORTING

NRS 361.333 requires the Department to determine the ratio of the assessed value of each type or class of property, for which the county assessor has the responsibility of assessing in each county, to the taxable value of that property as determined by the Department through appraisals of individual parcels. The ratio is in compliance with statute if the ratio of assessed value to taxable value is more than 32 percent or less than 36 percent. *See NRS 361.333(5)(c).*

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 the Commission considers in determining whether property has been assessed equitably. The first 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 review to determine whether each county has adequate procedures to ensure that all property subject to taxation 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.

[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.

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 2021-2022 are Clark, Esmeralda, Eureka, Lincoln, Mineral and Storey Counties.

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 ensure that each of the classifications of real and personal property is assessed between 32% and 36% 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 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 improvements, land, and total property values.

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, and 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, 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]

The IAAO recommended ratio study performance standards are as follows:

Type of Property	COD
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

[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.

Type of Property	COD
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 2021-2022 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 (2019 - 2021) across all counties for all properties.

Similar data is shown just for the counties in the 2021-2022 study year. Here the Aggregate and Median Ratios, the COD, and the Median Related Differential (MRD) are compared across types of property in the six 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. Department Finding and Recommendations, within the individual county Narratives, can be directly linked to the statistical results.

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 on page 15 indicates that of the six counties studied in 2021-2022, regressivity is present in Vacant, Improved and Rural Land in Lincoln County resulting in regressivity of All Property; Commercial/Industrial in Mineral County; and Improved Land and Single Family Residence in Storey County. Land regressivity in Lincoln County was the main contributor to regressivity within All Counties Vacant Land. Conversely, progressivity is present in All Property in Mineral County caused by progressivity within Improvements, Single Family Residence and Multi-Family Residence. Progressivity or regressivity which occurred statewide, over the past three-year period, is listed on page 13.

Aggregate Ratio

The data for the Aggregate (Overall) Ratio, or Weighted Mean, shown on page 14 are within the acceptable standard range of 32% to 36% on a composite basis for the six counties studied in 2021-2022, with the following exceptions noted: Lincoln County Vacant Land and Rural Land which resulted in All Property in Lincoln County having an Aggregate Ratio below the acceptable range, and Mineral County's Multi- Family Residence ratio above the acceptable range. As a result of the Lincoln County Vacant Land Ratio, All Counties, within the study, when

[7] International Association of Assessing Officers, Standard on Ratio Studies, (2013), p. 17; and Standard on Automated Valuation Models (2003), p. 28.

combined created a ratio below the acceptable range. However, the Aggregate Ratio for all six counties produced a total All Property ratio of 33.3% which is within the acceptable standard range. Statewide Aggregate Ratios, over the past three-year period, are listed on page 10.

Aggregate Ratios within Personal Property (PP) typically are within acceptable standard range of 32% to 36%. This year, two counties fell outside of this range in the following categories, Lincoln County Secured PP Commercial/Industrial; Mobile Home; Total Secured PP; Unsecured Mobile Home; and Total Personal Property, shown on page 19, and Mineral County Secured Commercial/Industrial and Total Personal Property, shown on page 20.

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. Median Ratios may be acceptable, yet inequity could still 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.

The Median Ratios shown on page 14 indicate the appraisal level for all classes of property in each county included in this study, measured against the taxable value established by the Department, are within the acceptable standard range of 32% and 36% using the results of the sample taken by the Department. Statewide Median Ratios, over the past three-year period, are listed on page 11.

Median Ratios within Personal Property typically are within acceptable standard Range of 32% to 36%. However, Mineral County, shown on page 20, had a Median Ratio within Secured Commercial/Industrial Personal Property above the acceptable range.

Coefficient of Dispersion (COD)

The COD ratios, shown on page 15, for the six counties studied in 2021-2022, indicate the ratios for all property, and each class of property, within the jurisdictions are relatively uniform with the exceptions, Mineral County Multi-Family Residential Improvements and All Improvements, which are outside of IAAO recommended performance standards. The COD ratios reported are typically at the low end or below the IAAO range standards. The standards are more appropriate for comparison in market-based assessment systems than in Nevada's unique hybrid system.

PROCEDURAL / OFFICE REVIEW

NRS 361.333 (1)(b)(2) requires the Department to make a determination about whether each county has adequate procedures to ensure that all property subject to taxation is being assessed in a correct and timely manner, and to note any deficiencies. For the 2021-2022 Ratio Study, the Department reviewed assessors' procedures as part of the ratio study process.

LAND AND IMPROVEMENT FACTORS

Pursuant to NRS 361.260(5), the Department reviews assessments in areas where improvement factors are applied. All counties report that land is annually reappraised, making the land factor no longer applicable. Improvement Factors for the 2021-2022 tax year are available on the Taxation website at https://tax.nv.gov/ .

2021-2022

REPORT OF ASSESSMENT RATIO STUDY

STATISTICAL TABLES

NEVADA DEPARTMENT OF TAXATION
2021-2022 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	2020	34.5	34.2	35.2	33.9	34.1	36.2	34.3	35.0
CHURCHILL	2020	34.3	34.2	34.3	32.0	34.6	34.3	34.5	35.2
CLARK	2021	34.4	34.8	34.2	33.5	34.5	34.4	34.7	35.0
DOUGLAS	2019	34.5	35.0	34.1	34.2	34.2	34.9	34.7	35.0
ELKO	2020	34.2	35.4	29.9	28.5	34.8	31.4	35.3	35.0
ESMERALDA	2021	34.0	33.9	34.5	34.1	34.1	34.3	34.0	33.9
EUREKA	2021	35.0	35.1	34.5	33.5	34.2	35.3	35.1	35.3
HUMBOLDT	2019	34.2	33.8	35.2	34.5	34.1	34.3	34.2	35.0
LANDER	2020	34.9	35.3	33.8	34.5	34.6	34.0	35.9	35.0
LINCOLN	2021	33.6	34.3	33.3	31.0	34.5	34.7	33.5	31.9
LYON	2019	33.8	33.7	33.4	39.1	33.6	33.6	33.6	35.0
MINERAL	2021	35.3	36.0	33.8	34.5	34.5	41.2	32.4	34.6
NYE	2019	34.5	35.1	34.2	33.6	34.8	33.7	34.3	37.7
PERSHING	2020	34.6	34.2	34.7	35.2	34.2	34.0	35.3	35.0
STOREY	2021	34.3	34.8	33.1	34.1	32.2	34.5	35.0	35.6
WASHOE	2019	34.3	34.5	34.2	33.8	34.7	34.0	34.2	33.7
WHITE PINE	2020	33.8	33.9	33.8	33.4	33.6	34.0	34.0	35.0
STATEWIDE	**2021**	34.3	34.7	34.0	33.6	34.3	34.3	34.6	34.3

NEVADA DEPARTMENT OF TAXATION
2021-2022 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	2020	34.3	34.0	34.6	33.1	34.0	34.5	34.4	35.0
CHURCHILL	2020	34.7	34.5	34.4	34.4	34.7	34.3	34.6	35.0
CLARK	2021	34.5	34.8	34.4	34.3	34.6	34.3	34.4	35.0
DOUGLAS	2019	34.7	35.0	34.0	34.8	34.3	34.9	35.0	34.7
ELKO	2020	34.6	34.9	34.4	34.1	34.6	34.0	34.7	35.0
ESMERALDA	2021	34.1	34.3	34.1	33.3	34.1	34.2	34.1	34.9
EUREKA	2021	34.7	34.9	35.0	33.4	34.4	34.6	35.0	35.0
HUMBOLDT	2019	34.3	34.2	34.7	34.5	34.4	34.2	34.1	35.0
LANDER	2020	34.5	35.1	33.9	33.9	34.9	34.3	34.6	35.0
LINCOLN	2021	34.5	34.5	34.4	34.7	34.4	34.6	33.9	35.0
LYON	2019	34.3	33.9	33.8	34.5	34.6	33.9	32.9	35.0
MINERAL	2021	34.4	33.5	33.8	35.0	33.5	33.9	34.4	35.0
NYE	2019	34.3	34.2	34.7	34.0	34.8	34.4	34.0	37.7
PERSHING	2020	34.9	34.7	34.5	34.6	34.7	34.7	35.2	35.0
STOREY	2021	34.5	34.3	34.5	34.0	33.5	34.4	34.7	35.7
WASHOE	2019	34.4	34.3	34.9	33.6	34.8	34.2	33.7	35.0
WHITE PINE	2020	34.1	34.2	33.9	33.4	34.0	34.1	34.2	35.0
STATEWIDE	2021	34.4	34.5	34.4	34.2	34.5	34.3	34.4	35.0

NEVADA DEPARTMENT OF TAXATION
2021-2022 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	2020	4.7	3.2	6.3	7.6	2.3	9.1	2.1	0.4
CHURCHILL	2020	3.3	2.5	2.1	7.2	2.0	1.7	1.5	0.2
CLARK	2021	2.3	2.9	2.8	2.6	1.9	3.3	2.0	0.3
DOUGLAS	2019	2.1	2.8	2.8	2.7	2.0	1.4	2.4	0.9
ELKO	2020	7.5	4.0	9.8	15.4	5.9	6.4	4.1	0.0
ESMERALDA	2021	2.8	2.2	2.2	4.7	1.7	1.8	2.5	1.4
EUREKA	2021	4.5	2.8	3.8	10.1	2.9	2.5	0.7	0.9
HUMBOLDT	2019	3.8	3.9	6.2	2.9	3.8	2.1	7.1	0.1
LANDER	2020	3.0	4.3	2.6	2.2	2.1	2.4	6.5	0.1
LINCOLN	2021	3.7	2.6	3.8	8.1	1.6	0.9	3.2	1.8
LYON	2019	6.8	7.3	5.0	15.8	4.1	3.4	8.2	0.6
MINERAL	2021	10.6	21.8	2.2	1.4	6.6	30.5	14.4	2.2
NYE	2019	4.4	5.7	3.5	1.8	2.9	2.3	7.0	1.4
PERSHING	2020	4.8	6.1	11.4	6.2	3.4	3.8	7.2	0.0
STOREY	2021	4.4	3.2	8.3	2.9	7.5	1.7	2.5	2.3
WASHOE	2019	2.3	2.7	2.4	3.3	1.2	2.0	2.2	0.9
WHITE PINE	2020	2.8	3.5	2.0	2.2	3.2	1.4	3.0	0.2
STATEWIDE	2021	4.2	4.6	4.6	5.8	3.2	4.6	4.4	1.3

NEVADA DEPARTMENT OF TAXATION
2021-2022 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	2020	1.00	1.00	0.98	0.98	1.00	0.95	1.00	1.00
CHURCHILL	2020	1.01	1.01	1.00	1.07	1.00	1.00	1.00	0.99
CLARK	2021	1.00	1.00	1.01	1.02	1.00	1.00	0.99	1.00
DOUGLAS	2019	1.00	1.00	1.00	1.02	1.00	1.00	1.01	0.99
ELKO	2020	1.01	0.98	1.15	1.19	0.99	1.08	0.98	1.00
ESMERALDA	2021	1.00	1.01	0.99	0.98	1.00	1.00	1.00	1.03
EUREKA	2021	0.99	0.99	1.02	1.00	1.01	0.98	1.00	0.99
HUMBOLDT	2019	1.00	1.01	0.99	1.00	1.01	1.00	0.99	1.00
LANDER	2020	0.99	0.99	1.00	0.98	1.01	1.01	0.96	1.00
LINCOLN	2021	1.03	1.01	1.04	1.12	1.00	1.00	1.01	1.10
LYON	2019	1.02	1.01	1.01	0.88	1.03	1.01	0.98	1.00
MINERAL	2021	0.97	0.93	1.00	1.02	0.97	0.82	1.06	1.01
NYE	2019	0.99	0.97	1.01	1.01	1.00	1.02	0.99	1.00
PERSHING	2020	1.01	1.02	1.00	0.98	1.01	1.02	1.00	1.00
STOREY	2021	1.00	0.99	1.04	1.00	1.04	1.00	0.99	1.00
WASHOE	2019	1.00	1.00	1.02	0.99	1.00	1.00	0.99	1.04
WHITE PINE	2020	1.01	1.01	1.00	1.00	1.01	1.00	1.01	1.00
STATEWIDE	2021	1.00	1.00	1.01	1.02	1.00	1.00	0.99	1.02

NEVADA DEPARTMENT OF TAXATION
2021-2022 RATIO STUDY
ALL APPRAISAL AREAS

OVERALL (AGGREGATE) RATIO

		Class of Property						
Subject County	All Property	Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
CLARK	34.4	34.8	34.2	33.5	34.5	34.4	34.7	35.0
ESMERALDA	34.0	33.9	34.5	34.1	34.1	34.3	34.0	33.9
EUREKA	35.0	35.1	34.5	33.5	34.2	35.3	35.1	35.3
LINCOLN	33.6	34.3	33.3	31.0	34.5	34.7	33.5	31.9
MINERAL	35.3	36.0	33.8	34.5	34.5	41.2	32.4	34.6
STOREY	34.3	34.8	33.1	34.1	32.2	34.5	35.0	35.6
ALL COUNTIES	34.4	34.8	34.1	33.5	34.3	34.6	34.7	34.0

MEDIAN RATIO

		Class of Property						
Subject County	All Property	Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
CLARK	34.5	34.8	34.4	34.3	34.6	34.3	34.4	35.0
ESMERALDA	34.1	34.3	34.1	33.3	34.1	34.2	34.1	34.9
EUREKA	34.7	34.9	35.0	33.4	34.4	34.6	35.0	35.0
LINCOLN	34.5	34.5	34.4	34.7	34.4	34.6	33.9	35.0
MINERAL	34.4	33.5	33.8	35.0	33.5	33.9	34.4	35.0
STOREY	34.5	34.3	34.5	34.0	33.5	34.4	34.7	35.7
ALL COUNTIES	34.5	34.5	34.4	34.4	34.4	34.4	34.5	35.0

NEVADA DEPARTMENT OF TAXATION
2021-2022 RATIO STUDY
ALL APPRAISAL AREAS

COEFFICIENT OF DISPERSION (COD)

		Class of Property						
Subject County	All Property	Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
CLARK	2.3	2.9	2.8	2.6	1.9	3.3	2.0	0.3
ESMERALDA	2.8	2.2	2.2	4.7	1.7	1.8	2.5	1.4
EUREKA	4.5	2.8	3.8	10.1	2.9	2.5	0.7	0.9
LINCOLN	3.7	2.6	3.8	8.1	1.6	0.9	3.2	1.8
MINERAL	10.6	21.8	2.2	1.4	6.6	30.5	14.4	2.2
STOREY	4.4	3.2	8.3	2.9	7.5	1.7	2.5	2.3
ALL COUNTIES	4.2	5.2	3.6	4.8	3.2	6.3	4.0	1.6

MEDIAN RELATED DIFFERENTIAL

		Class of Property						
Subject County	All Property	Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements
CLARK	1.00	1.00	1.01	1.02	1.00	1.00	0.99	1.00
ESMERALDA	1.00	1.01	0.99	0.98	1.00	1.00	1.00	1.03
EUREKA	0.99	0.99	1.02	1.00	1.01	0.98	1.00	0.99
LINCOLN	1.03	1.01	1.04	1.12	1.00	1.00	1.01	1.10
MINERAL	0.97	0.93	1.00	1.02	0.97	0.82	1.06	1.01
STOREY	1.00	0.99	1.04	1.00	1.04	1.00	0.99	1.00
ALL COUNTIES	1.00	0.99	1.01	1.03	1.00	1.00	0.99	1.03

CLARK COUNTY
2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	34.4%	34.5%	2.3%	204
COUNTYWIDE IMPROVEMENTS	34.8%	34.8%	2.9%	169
COUNTYWIDE IMPROVED LAND	34.2%	34.4%	2.8%	168
COUNTYWIDE VACANT LAND	33.5%	34.3%	2.6%	36
SINGLE FAMILY IMPROVEMENTS	34.8%	34.8%	2.2%	91
SINGLE FAMILY LAND	34.0%	34.3%	2.9%	91
SINGLE FAMILY TOTAL PROPERTY	34.5%	34.6%	1.9%	91
MULTIPLE FAMILY IMPROVEMENTS	34.3%	34.0%	5.2%	35
MULTIPLE FAMILY LAND	34.5%	34.5%	2.6%	35
MULTIPLE FAMILY TOTAL PROPERTY	34.4%	34.3%	3.3%	35
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.0%	35.1%	1.9%	36
COMMERCIAL/INDUSTRIAL LAND	34.1%	34.1%	3.1%	36
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.7%	34.4%	2.0%	36
RURAL IMPROVEMENTS	35.0%	35.0%	0.0%	1
RURAL LAND	35.0%	35.0%	0.4%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.3%	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%	44
AIRCRAFT	35.0%	35.0%	0.0%	10
AGRICULTURAL	35.0%	35.0%	0.0%	1
BILLBOARDS	35.0%	35.0%	0.0%	8
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.0%	9
MOBILE HOMES	35.0%	35.0%	0.0%	16
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.0%	44

ESMERALDA COUNTY
2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	34.0%	34.1%	2.8%	63
COUNTYWIDE IMPROVEMENTS	33.9%	34.3%	2.2%	43
COUNTYWIDE IMPROVED LAND	34.5%	34.1%	2.2%	43
COUNTYWIDE VACANT LAND	34.1%	33.3%	4.7%	18
SINGLE FAMILY IMPROVEMENTS	34.0%	34.7%	2.2%	19
SINGLE FAMILY LAND	34.2%	34.1%	1.3%	18
SINGLE FAMILY TOTAL PROPERTY	34.1%	34.1%	1.7%	19
MULTIPLE FAMILY IMPROVEMENTS	34.5%	34.7%	2.3%	10
MULTIPLE FAMILY LAND	33.5%	33.5%	1.6%	9
MULTIPLE FAMILY TOTAL PROPERTY	34.3%	34.2%	1.8%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.1%	34.2%	1.6%	10
COMMERCIAL/INDUSTRIAL LAND	33.3%	34.4%	3.1%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.0%	34.1%	2.5%	10
RURAL IMPROVEMENTS	32.8%	33.6%	3.3%	4
RURAL LAND	35.0%	35.0%	0.1%	6
RURAL TOTAL PROPERTY	33.9%	34.9%	1.4%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	35.2%	35.1%	0.4%	10
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.2%	35.2%	0.3%	5
MOBILE HOMES	35.0%	35.0%	0.0%	5
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.1%	16
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%	0.3%	7
MOBILE HOMES	35.0%	35.0%	0.0%	8
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.2%	26

EUREKA COUNTY
2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	35.0%	34.7%	4.5%	63
COUNTYWIDE IMPROVEMENTS	35.1%	34.9%	2.8%	41
COUNTYWIDE IMPROVED LAND	34.5%	35.0%	3.8%	44
COUNTYWIDE VACANT LAND	33.5%	33.4%	10.1%	18
SINGLE FAMILY IMPROVEMENTS	34.4%	34.4%	3.0%	18
SINGLE FAMILY LAND	33.6%	34.3%	7.7%	19
SINGLE FAMILY TOTAL PROPERTY	34.2%	34.4%	2.9%	19
MULTIPLE FAMILY IMPROVEMENTS	35.5%	34.9%	3.3%	10
MULTIPLE FAMILY LAND	34.1%	34.9%	2.3%	10
MULTIPLE FAMILY TOTAL PROPERTY	35.3%	34.6%	2.5%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.1%	35.0%	1.4%	10
COMMERCIAL/INDUSTRIAL LAND	35.0%	35.0%	0.0%	9
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	35.1%	35.0%	0.7%	10
RURAL IMPROVEMENTS	35.6%	35.6%	2.3%	3
RURAL LAND	35.0%	35.0%	0.1%	6
RURAL TOTAL PROPERTY	35.3%	35.0%	0.9%	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%	4
MOBILE HOMES	35.0%	35.0%	0.0%	8
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	0.1%	18
AIRCRAFT	35.0%	35.0%	0.0%	2
AGRICULTURAL	35.0%	35.0%	0.0%	2
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.3%	7
MOBILE HOMES	35.0%	35.0%	0.1%	7
TOTAL PERSONAL PROPERTY	35.0%	35.0%	0.1%	35

LINCOLN COUNTY
2021-2022 RATIO STUDY
ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	33.6%	34.5%	3.7%	65
COUNTYWIDE IMPROVEMENTS	34.3%	34.5%	2.6%	42
COUNTYWIDE IMPROVED LAND	33.3%	34.4%	3.8%	48
COUNTYWIDE VACANT LAND	31.0%	34.7%	8.1%	17
SINGLE FAMILY IMPROVEMENTS	34.4%	34.5%	2.4%	21
SINGLE FAMILY LAND	34.8%	34.4%	1.8%	22
SINGLE FAMILY TOTAL PROPERTY	34.5%	34.4%	1.6%	22
MULTIPLE FAMILY IMPROVEMENTS	34.8%	34.6%	1.1%	10
MULTIPLE FAMILY LAND	34.5%	34.3%	1.6%	10
MULTIPLE FAMILY TOTAL PROPERTY	34.7%	34.6%	0.9%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	33.4%	33.7%	4.1%	10
COMMERCIAL/INDUSTRIAL LAND	34.3%	34.2%	2.2%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	33.5%	33.9%	3.2%	10
RURAL IMPROVEMENTS	35.6%	35.6%	0.0%	1
RURAL LAND	22.0%	35.0%	15.9%	6
RURAL TOTAL PROPERTY	31.9%	35.0%	1.8%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	38.1%	35.0%	7.6%	16
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	38.5%	39.5%	11.1%	5
MOBILE HOMES	36.6%	35.0%	2.4%	11
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.7%	35.0%	14.0%	17
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%	0.1%	7
MOBILE HOMES	38.4%	35.0%	26.4%	9
TOTAL PERSONAL PROPERTY	37.1%	35.0%	10.9%	33

MINERAL COUNTY

2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	35.3%	34.4%	10.6%	71
COUNTYWIDE IMPROVEMENTS	36.0%	33.5%	21.8%	49
COUNTYWIDE IMPROVED LAND	33.8%	33.8%	2.2%	53
COUNTYWIDE VACANT LAND	34.5%	35.0%	1.4%	18
SINGLE FAMILY IMPROVEMENTS	35.0%	32.7%	10.9%	23
SINGLE FAMILY LAND	33.3%	33.5%	2.3%	23
SINGLE FAMILY TOTAL PROPERTY	34.5%	33.5%	6.6%	23
MULTIPLE FAMILY IMPROVEMENTS	44.3%	33.9%	42.4%	12
MULTIPLE FAMILY LAND	34.1%	33.8%	1.7%	12
MULTIPLE FAMILY TOTAL PROPERTY	41.2%	33.9%	30.5%	12
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	31.8%	34.3%	23.2%	12
COMMERCIAL/INDUSTRIAL LAND	34.3%	34.2%	1.9%	12
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	32.4%	34.4%	14.4%	12
RURAL IMPROVEMENTS	34.3%	32.3%	9.6%	2
RURAL LAND	35.0%	35.0%	0.1%	6
RURAL TOTAL PROPERTY	34.6%	35.0%	2.2%	6
SECURED PERSONAL PROPERTY				
ALL SECURED	36.7%	35.3%	7.4%	18
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.3%	35.3%	0.2%	2
BILLBOARDS	35.6%	35.6%	0.3%	2
COMMERCIAL/INDUSTRIAL	36.8%	38.4%	13.6%	7
MOBILE HOMES	34.6%	35.0%	0.3%	7
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	34.7%	35.0%	0.4%	21
AIRCRAFT	35.0%	35.0%	0.0%	1
AGRICULTURAL	35.0%	34.7%	1.0%	2
BILLBOARDS	34.5%	34.5%	1.0%	2
COMMERCIAL/INDUSTRIAL	34.9%	35.0%	0.3%	8
MOBILE HOMES	35.0%	35.0%	0.1%	8
TOTAL PERSONAL PROPERTY	36.4%	35.0%	3.7%	39

STOREY COUNTY
2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
COUNTYWIDE TOTAL PROPERTY	34.3%	34.5%	4.4%	64
COUNTYWIDE IMPROVEMENTS	34.8%	34.3%	3.2%	41
COUNTYWIDE IMPROVED LAND	33.1%	34.5%	8.3%	46
COUNTYWIDE VACANT LAND	34.1%	34.0%	2.9%	18
SINGLE FAMILY IMPROVEMENTS	33.7%	33.6%	2.8%	20
SINGLE FAMILY LAND	28.6%	34.5%	14.6%	20
SINGLE FAMILY TOTAL PROPERTY	32.2%	33.5%	7.5%	20
MULTIPLE FAMILY IMPROVEMENTS	34.5%	34.5%	2.4%	10
MULTIPLE FAMILY LAND	34.5%	34.1%	2.0%	10
MULTIPLE FAMILY TOTAL PROPERTY	34.5%	34.4%	1.7%	10
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.2%	34.9%	3.7%	10
COMMERCIAL/INDUSTRIAL LAND	34.5%	33.3%	3.1%	10
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	35.0%	34.7%	2.5%	10
RURAL IMPROVEMENTS	34.0%	34.0%	0.0%	1
RURAL LAND	35.9%	35.9%	2.1%	6
RURAL TOTAL PROPERTY	35.6%	35.7%	2.3%	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	34.9%	35.0%	0.2%	13
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	34.9%	35.0%	0.3%	8
MOBILE HOMES	35.0%	35.0%	0.0%	5
TOTAL PERSONAL PROPERTY	34.9%	35.0%	0.2%	13

ALL COUNTIES INCLUDED IN 2021-2022 RATIO STUDY

ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
ALL COUNTIES TOTAL PROPERTY	34.4%	34.5%	4.2%	530
ALL COUNTIES IMPROVEMENTS	34.8%	34.5%	5.2%	385
ALL COUNTIES IMPROVED LAND	34.1%	34.4%	3.6%	402
ALL COUNTIES VACANT LAND	33.5%	34.4%	4.8%	125
SINGLE FAMILY IMPROVEMENTS	34.6%	34.5%	3.6%	192
SINGLE FAMILY LAND	33.6%	34.1%	4.3%	193
SINGLE FAMILY TOTAL PROPERTY	34.3%	34.4%	3.2%	194
MULTIPLE FAMILY IMPROVEMENTS	34.6%	34.3%	9.0%	87
MULTIPLE FAMILY LAND	34.5%	34.1%	2.4%	86
MULTIPLE FAMILY TOTAL PROPERTY	34.6%	34.4%	6.3%	87
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.9%	34.7%	5.3%	88
COMMERCIAL/INDUSTRIAL LAND	34.1%	34.4%	2.8%	87
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.7%	34.5%	4.0%	88
RURAL IMPROVEMENTS	34.4%	34.6%	4.0%	12
RURAL LAND	33.7%	35.0%	3.3%	36
RURAL TOTAL PROPERTY	34.0%	35.0%	1.6%	36
SECURED PERSONAL PROPERTY				
ALL SECURED	36.1%	35.0%	4.3%	61
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.3%	7
BILLBOARDS	35.6%	35.6%	0.3%	2
COMMERCIAL/INDUSTRIAL	36.7%	35.6%	10.4%	21
MOBILE HOMES	35.3%	35.0%	0.9%	31
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	2.0%	129
AIRCRAFT	35.0%	35.0%	0.0%	15
AGRICULTURAL	35.0%	35.0%	0.4%	5
BILLBOARDS	35.0%	35.0%	0.3%	10
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	46
MOBILE HOMES	35.3%	35.0%	4.5%	53
TOTAL PERSONAL PROPERTY	35.1%	35.0%	2.7%	190

STATEWIDE
2019-2022 RATIO STUDIES
ALL APPRAISAL AREAS

REAL PROPERTY	AGGREGATE RATIO	MEDIAN RATIO	COD MEDIAN	SAMPLE SIZE
STATEWIDE TOTAL PROPERTY	34.3%	34.4%	4.2%	1,417
STATEYWIDE IMPROVEMENTS	34.7%	34.5%	4.6%	1,004
STATEWIDE IMPROVED LAND	34.0%	34.4%	4.6%	1,084
STATEWIDE VACANT LAND	33.6%	34.2%	5.8%	329
SINGLE FAMILY IMPROVEMENTS	34.5%	34.5%	3.5%	474
SINGLE FAMILY LAND	33.8%	34.2%	5.1%	476
SINGLE FAMILY TOTAL PROPERTY	34.3%	34.5%	3.2%	477
MULTIPLE FAMILY IMPROVEMENTS	34.4%	34.5%	5.4%	241
MULTIPLE FAMILY LAND	34.1%	34.1%	5.5%	240
MULTIPLE FAMILY TOTAL PROPERTY	34.3%	34.3%	4.6%	241
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.8%	34.5%	5.8%	261
COMMERCIAL/INDUSTRIAL LAND	34.1%	34.1%	3.3%	263
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.6%	34.4%	4.4%	265
RURAL IMPROVEMENTS	34.3%	34.6%	4.0%	14
RURAL LAND	34.4%	35.0%	1.8%	105
RURAL TOTAL PROPERTY	34.3%	35.0%	1.3%	105
SECURED PERSONAL PROPERTY				
ALL SECURED	35.1%	35.0%	1.8%	157
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.1%	28
BILLBOARDS	35.6%	35.6%	0.3%	2
COMMERCIAL/INDUSTRIAL	35.4%	35.0%	4.5%	53
MOBILE HOMES	35.0%	35.0%	0.5%	74
UNSECURED PERSONAL PROPERTY				
ALL UNSECURED	35.0%	35.0%	1.5%	383
AIRCRAFT	35.0%	35.0%	0.1%	44
AGRICULTURAL	35.0%	35.0%	0.2%	25
BILLBOARDS	35.0%	35.0%	0.2%	18
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.8%	157
MOBILE HOMES	35.0%	35.0%	3.1%	139
TOTAL PERSONAL PROPERTY	35.0%	35.0%	1.6%	540

2021-2022

REPORT OF ASSESSMENT RATIO STUDY

COUNTY ABSTRACTS AND FINDINGS

CLARK COUNTY NARRATIVE

2021-22 RATIO STUDY

Clark County annually revalues all land and improvements in the county

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND				
Vacant Land	36	36	0	0%
Single-Family Residential Land	91	91	0	0%
Multi-Family Residential Land	36	36	0	0%
Commercial and Industrial Land	38	38	0	0%
Agricultural Land	6	6	0	0%
IMPROVEMENTS				
Single-Family Residential Improvements **(Note 1)**	91	89	2	2%
Multi-family Residential Improvements **(Note 2)**	36	28	8	22%
Commercial and Industrial Improvements	38	38	0	0%

Note 1: Single Family Improvements: The Single-Family improvement outliers are a result of limitations within the prior CAMA system which did not allow for separate depreciation for small improvements from that of the main structure.

Note 2 Multi-Family Residential Improvements: Six of the outliers listed above are explained in the Finding below. The other two, are in rural Clark County. The properties have had significant changes and require full inspection.

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records Out of Ratio	Exception Rate
Personal Property	44	1139	1 (Notes)	0%

Notes: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences.

OBSERVATIONS AND SUMMARY

Procedure: County appraisers perform site inspections of improvements prior to occupancy to inspect interiors and current on-site minor improvements including porches, patios, and driveway area. Once an area is built-out, however, the assessor's office relies on building permits and/or annual aerial photography to capture any changes or new improvements to existing properties throughout the county.

Market Adjustments: The Assessor[1] has applied economic obsolescence to improvements in various market areas uniformly and equally throughout Clark County by conducting extensive analysis of recent market sales data. Once a land value is established, a sales ratio analysis is done by statistically analyzing market areas. A factor for obsolescence is applied, as needed, to all properties where taxable value exceeds market value within specified strata. Obsolescence is still required in pocket areas, or on specific properties, throughout Clark County. Due to the economic downturn caused by COVID, assessor's staff did additional market impact studies related to both residential and commercial properties and as a result, contacted additional commercial taxpayers, to offer the opportunity for alternative methods of valuation. A higher number of commercial properties were valued using the income approach of valuation during this fiscal year. The assessor is to be commended for their continued efforts in analyzing the market, determining whether obsolescence, or other adjustments to value are needed, and ensuring the most fair and accurate values possible within an ever-changing real estate market.

Personal Property: The assessor discovers business property from a variety of sources including business licensing agencies, tenant lists and a variety of media publications; for aircraft, from airport tie-down lists, hangar owner records, FAA reports, flight schools, and referrals. The county requests copies of sales agreements, receipts, and IRS depreciation schedules to estimate the personal property component of the sales price when personal property is purchased with real property for a lump-sum amount.

When a declaration is not returned by the taxpayer, the county estimates a value based on cost manuals and comparable businesses. Benchmarks are developed for industries where expected value ranges can be established. When a declaration does not meet benchmarks for that business type, the county will conduct telephone interviews, internet

[1] All references to the Assessor mean the Assessor or the Assessor's staff

research, and/or visit the site, as well as request additional documents to support reported values, and adjust as needed.

During the 21-22 Ratio Study, 44 accounts were reviewed with 1139 records. One record was found out of ratio due to an incorrect life assignment which has been corrected. One additional record was found to be missing, however, adjustments to not exceed market value rendered the cost $0.

FINDINGS AND RECOMMENDATIONS

Finding No. CL 2021-1

Criteria

Pursuant to Nevada Administrative Code (NAC) 361.128, the county assessor must determine the cost of replacement of an improvement using the standards published in the *Residential Cost Handbook*, *Marshall Valuation Service* or *Residential Estimator* software.

Condition

The Clark County data system incorrectly calculates the fixture costs into the overall cost per square foot, of multi-family duplex/tri-plex structures, when deviating from the standard base number of fixtures for the various building quality classes.

Cause

This is a CAMA system issue. Clark County inputs costs correctly from the *Residential Cost Handbook*, but the CAMA system is not correctly making the adjustments when determining the total cost per square foot. Clark County and the Department did a side by side comparison using the county valuation system and the Department's Marshall and Swift stand-alone program. This resulted in the county having a significantly lower cost per square foot from than that derived from the Department's program. Marshall & Swift was consulted. Comparisons were done with Marshall & Swift which resulted in Marshall & Swift's cost matching that of the Department. Clark County inputs the Marshall & Swift *Residential Cost Handbook* costs into their data system which generates costs outside of Marshall and Swift Software. Marshall & Swift and Clark County were unable to determine how the calculations were deriving different results. Further investigation was to take place, by Marshall & Swift's data team, to isolate whether it is a vendor system or county specific system issue. To date, the cause of the cost difference calculation is still unknown.

Effect

The lower total cost per square foot generating in the Clark County system is resulting in undervaluation of multi-family duplex/tri-plex properties when the Plumbing Fixtures deviate from that which is included into the base cost of the building. The outliers within the sample average a 5.85%, or 29.15% ratio, undervaluation of multi-family duplex/tri-plex properties whose fixtures are not equal to the number allocated into the base cost per square foot, per Marshall and Swift Standards. Within the sample reviewed, it appears that this is the only characteristic effected.

Recommendation

The Department was provided guidance by Marshall & Swift and it appears this issue is isolated to this characteristic, within this property type. Clark County was able to apply changes to their CAMA system and the system's test environment produced values we would expect to see. Marshall & Swift reviewed the changes made by Clark County and agree with the method used to correct the issue. Clark County will implement the system changes during the upcoming tax year for all properties of this type. The Department considers this Finding resolved.

ESMERALDA COUNTY NARRATIVE

2021-22 RATIO STUDY

All improvements are re-valued, and land is reappraised annually in Esmeralda County. The Assessor[1] continues to physically inspect one-fifth of the county each year to capture any new improvements added without a permit within the previous five years.

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND				
Vacant Land	18	17	1	6%
Single-Family Residential Land	19	19	0	0%
Multi-Family Residential Land	10	10	0	0%
Commercial and Industrial Land	10	9	1	10%
Agricultural Land	6	6	0	0%
IMPROVEMENTS				
Single Family Residential Improvements	19	19	0	0%
Multi-family Residential Improvements	10	10	0	0%
Commercial and Industrial Improvements	10	10	0	0%

[1] All references to the Assessor mean the Assessor or the Assessor's staff

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records In-Ratio	Records Out of Ratio	Exception Rate
Personal Property	27	305	305	0 (Notes)	0%

Note: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences.

OBSERVATIONS AND SUMMARY

Transition: Esmeralda County was among the counties that transitioned from ADS to DEVNET. Full transition from ADS to DEVNET took place during the 2020-21 fiscal year and ADS is no longer utilized. Overall, the Assessor has positive reviews of the new system and looks forward to the implementation of the DEVNET Land Module in the coming months which would improve land valuations in the more rural areas of the county.

New Construction: Esmeralda does not have an official "Building Department." New construction is documented as it is typically discovered through word of mouth, random observation or during the physical re-appraisal of an area. The Assessor anticipates an increase of new construction over the next few years as a new Lithium Mining operation is scheduled to start in late 2021.

Land Valuation: Esmeralda performs annual reappraisal of land throughout the county. Some areas of the county have remained unchanged for numerous years due to limited number of sales.

Personal Property: The Assessor has begun using DEVNET to value personal property and will address any issues that may come up. Personal Property depreciation tables were correctly updated and all values are calculating correctly. Of the 27 accounts reviewed containing 305 records, none were out of ratio.

EUREKA COUNTY NARRATIVE

2021-22 RATIO STUDY

All improvements are re-valued, and land is reappraised annually in Eureka County. Aerial imagery is updated annually in the reappraisal area and used to determine where physical inspection is needed. Populated areas are driven to discover property escaping taxation.

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND (Note #1)				
Vacant Land	18	14	4	22%
Single-Family Residential Land	19	16	3	16%
Multi-Family Residential Land	10	10	0	0%
Commercial and Industrial Land	10	10	0	0%
Agricultural Land	6	6	0	0%
IMPROVEMENTS				
Single Family Residential Improvements	19	19	0	0%
Multi-family Residential Improvements	10	9	1	10%
Commercial and Industrial Improvements	10	10	0	0%

Note 1: Land: 6 of the 7 outliers are a result of Dept 3 yr. sales evaluation vs 5 yr. Assessor sales evaluation.

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records In Ratio	Records Out of Ratio	Exception Rate
Personal Property	35	377	377	0	0%

Note: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences.

Transition: Eureka County is among the counties transitioning from ADS (Advanced Data Solutions) to GSA (Government Software Assurance). Eureka closed their 2021/22 tax roll in ADS. The Assessor[1] currently operates ADS using the AS400 unsupported. Eureka County has terminated its contract with DEVNET and has negotiated support for one year, ending April 2021, to transition to GSA. The Assessor indicated that the data conversion is complete with the next step being staff training. Eureka plans to go live with GSA in the spring of 2021.

Discovery: All property in the state is subject to taxation. The county does not have a Building Department. All discovery must be made through physical inspections, aerial imagery, notification by taxpayers, and other methods. Solar systems (See Finding 2021-1) and roof top evaporation coolers were found to be escaping taxation. The Department recommends the Assessor document and value these items by use of physical inspections and aerial imagery during annual reappraisal to capture and value these improvements and exempt when applicable.

Staffing: Eureka currently operates with an adequate staff to meet N.R.S requirements and deadlines. They have replaced/added one appraiser to their staff who has obtained state required certifications. The Assessor is monitoring their progress closely to ensure success in completing future education requirements in a timely manner.

Land Valuation: Eureka is a large county with widely varying market areas. The lack of comparable vacant sales data poses a challenge for the assessor. The Department recommends using a three-year sales analysis when valuing land as opposed to a five-year sales analysis, when there is adequate sales data available. The assessor is currently operating the land module on ADS.

FINDINGS AND RECOMMENDATIONS

Finding No. EU 2021-1

Criteria

In accordance with NRS 361.045, all property of every kind and nature whatever within this state shall be subject to taxation. NRS 701A.200(3) allows for qualified heating and cooling to be exempt. A written list of qualified energy systems must be reported to the Department in accordance with NAC 361.058.

Condition

Qualified energy systems have been escaping taxation in Eureka County and, as a result, not been exempted per statute and reported to the Department. Specifically, the

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assessor has not been valuing solar systems on residential property in Eureka County and not submitting accurate information on Heating and Cooling reports to the Department, as required.

Cause

The assessor was misinterpreting what constitutes a qualified energy system. Because solar systems are exempt, they were not being valued in accordance with NRS 361.045

Effect

Discovery within the sample may not be statistically valid to apply to the county population, therefore the overall effect is unknown. The valuation calculated by the Department did not result in improvement values falling outside of the 32 to 36 percent range, because of the exempt status of these systems. However, adequate procedures to ensure that all property subject to taxation is being assessed in a correct and timely manner, are not in place with regard to qualified systems per NRS 361.333.

Recommendation

To correct this issue, the Department recommends that, beginning with the 2022-23 tax year, the Eureka County Assessor, through physical inspections and aerial imagery during annual reappraisal, begin valuing solar systems and other qualified energy systems, to capture these improvements and exempt them when applicable, in accordance with NRS 701A.200. The Department provided statewide report training, for the assessors and their staff, on March 24th, 2021, which included reporting guidelines for Heating and Cooling reports. Eureka County should begin reporting qualified systems to the Department in accordance with NAC 361.058 beginning April 1, 2022.

ASSESSOR COMMENTS

In regards to finding No. EU 2021-1, for the 2021 Heating/Cooling Report, we utilized aerial imagery to identify residential parcels with qualified solar systems. Those systems were valued and then exempted and reported on the 2021 Heating/Cooling Report. We will continue to add qualified systems as they are discovered during reappraisal.

Also, evaporation coolers that are permanently attached will be picked up as improvements as we work through reappraisal cycles going forward.

Lastly, this was a challenging year to conduct a ratio study and I appreciate the patience and especially the open communication from the Department as we worked through the process.

LINCOLN COUNTY NARRATIVE

2021-2022 RATIO STUDY

All improvements are revalued, and land reappraised annually in Lincoln County. The Assessor[1] continues to physically inspect 1/5 of the county each year to capture any new improvements added without a permit within the previous 5 years.

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND				
Vacant Land	18	15	3	16.67%
Single-Family Residential Land	22	22	0	0%
Multi-Family Residential Land	10	10	0	0%
Commercial and Industrial Land	10	10	0	0%
Agricultural Land	6	5	1	16.67%
IMPROVEMENTS				
Single Family Residential Improvements (Note #1)	22	21	1	4.5%
Multi-family Residential Improvements	10	10	0	0%
Commercial and Industrial Improvements (Note #2)	15	13	2	13.33%

Note 1: Single-Family Residential Improvements: The 1 outlier listed above was found in the 1/5 of the county which was *physically* inspected during the 2021-2022 tax year.

Note 2: Commercial and Industrial Improvements: One outlier listed above was found in the 1/5 of the county, which was *physically* inspected, during the 2021-2022 tax year, while the other was found in the 4/5 of the county which was not.

[1] All references to the Assessor mean the Assessor or the Assessor's staff

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records In Ratio	Records Out of Ratio	Exception Rate
Personal Property	33	225	145	83	37%

Note: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences. See **Personal Property:** and **Finding No 2021-03**

OBSERVATIONS AND SUMMARY

Transition: Lincoln County transitioned from ADS to DEVNET during the 2019-20 fiscal year. The transition has not been seamless. There have been some challenges and the Assessor is continuing to work with the staff of DEVNET to make the appropriate corrections as necessary.

Training: The entire staff participated in the Assessor's Reports training class provided by the Department. This class was an overview of the reports the State requires the Assessor's to submit throughout the year. As always, the Department is available to consult for questions or concerns.

Aerial Imagery: Eagleview (Pictometry) provides aerial high-resolution imagery of buildings and improvements to assessors across the state. The Assessor indicated that aerial flyovers take place every three years and more accurately discovers improvements, particularly in more remote areas. As a result of COVID, the Department utilized the Pictometry program for inspections during this Ratio Study and in many of the more remote areas, within the sample, found the quality of the imagery lacking when compared to other counties who utilize the same service. Additionally, some of the sample properties had no imagery available and the Department had to rely on Assessor records for valuation.

Staffing: A second Deputy Assessor was hired in the Fall of 2019. She is currently working on data entry in an administrative role, is being trained, and working towards permanent certification.

Land: In the valuation of large, vacant, rural parcels with little accessibility, the Assessor currently uses nominal value of $200/acre. A deeper analysis including historical costs may be a better valuation methodology to determine an accurate nominal value when comparable sales are scarce. As more stand-alone arms-length transactions occur, the Department recommends incorporating those sales into a more recent sales analysis to better reflect the current market. The three vacant sales outliers above resulted from a current and historical sales analysis of large, vacant rural parcels.

Personal Property: The wrong conversion factors were used for the accounts on the secured roll which created the unusually high Exception Rate. See Finding No. LN 2021-

01. Additionally, three pieces of equipment were reported by the taxpayer on the Personal Property Declaration but not added to the taxpayer's personal property account. The Assessor was notified that the three pieces of property were escaping taxation and will add them to the taxpayer's business equipment account. Finally, two mobile homes within the sample have the incorrect depreciation applied to them. Both are fully depreciated but the data system did not fully depreciate them. This is not a result of the unsecured cost factors being applied. See Finding No 2021-02.

FINDINGS AND RECOMMENDATIONS

Finding No. LN 2021-01

Criteria

Pursuant to NAC 361.1371 (2), the taxable value of personal property must be determined by adjusting the acquisition cost of the property by a cost-index factor and reducing the adjusted acquisition cost by an estimate of applicable depreciation. The taxable value so determined shall be deemed to be the indicator of value of replacement cost new less depreciation.

Condition

Values in the Personal Property portion of the Ratio Study, if calculated correctly, produce ratios right around 35%. All secured accounts within the Ratio Study sample produced ratios that did not align with expectations and many ratios fell outside of the statutory accepted range of 32-36%, after adjusting for rounding.

Cause

The Assessor calculated personal property on the Secured Tax Roll by applying the Cost Conversion Factors from the 2020-21 Personal Property Manual which only apply to personal property on the Unsecured Tax Roll. The 2021-22 Cost Conversion Factors should have been applied to these accounts.
When ADS was the counties supported data system, the system administrator updated the personal property tables statewide. In new DEVNET CAMA system, the Assessor is responsible for updating the tables annually. The Lincoln County Assessor was not aware of this and did not update the tables for the secures accounts.

Effect

Secured Personal Property is depreciated in the current tax year where unsecured is depreciated in the previous year. Therefore, by applying the unsecured cost factors for depreciation, secured properties are losing a year of depreciation and being over assessed. This is results in higher depreciated values and tax bills. There were 16 secured personal property accounts that were affected within the sample resulting in 77 of the 83 outliers. Apart from fully depreciated equipment, all secured equipment is depreciated incorrectly, but because of the statutory acceptable range of 32-36%, not all incorrectly depreciated equipment resulted in an outlier. Significant overvaluation and inequity in Secured Personal Property accounts countywide was created as a result of this issue.

Recommendation

The Assessor is directed to input the Secured Personal Property Tables within the DEVNET system as soon as possible and update all secured records prior to sending personal property tax bills. Additionally, The Department recommends putting procedures in place to ensure all depreciation tables are correctly updated in the future.

Finding No. LN 2021-02

Criteria

Per NAC 361.130, Mobile or manufactured home depreciation must be calculated pursuant to the schedule located in the annual *Personal Property Manual.* NAC 361.1371 (2), when using the *Personal Property Manual,* the taxable value of personal property must be determined by adjusting the acquisition cost of the property by a cost-index factor and reducing the adjusted acquisition cost by an estimate of applicable depreciation. The taxable value so determined shall be deemed to be the indicator of value of replacement cost new less depreciation.

Condition

Of the mobile homes within the sample, 55% of the homes are of an age to be fully depreciated and 18% of those should have been fully depreciated but did not have the correct depreciation applied. Per the depreciation tables in the Personal Property Manual, approved by the Nevada Tax Commission, *all* mobile Homes *sold* prior to July 1, 1982, those *not sold* prior to July 1, 1982 but of an age of 1981 on the unsecured roll, and 1982 on the secured roll, should have a residual depreciation of 20%. The 18% not correctly depreciated were only depreciated to 43%.

Cause

Since the Department does not have access to the DEVNET system, we cannot determine, or speculate as to, why some homes are correctly and fully depreciating while others are not.

Effect

In order to know the overall effect on the county, first data collection would need to be done to know how many homes should be fully depreciated in the county, followed by research to determine how many are not. Without access to Lincoln County's data to the Department cannot perform this task. If the sample is an accurate indication of the population, 10% of all mobile homes, or 18% of those that should be fully depreciated, are being over assessed by 23%. This results in a higher tax bill to those taxpayer's effected.

Recommendation

The Assessor has been made aware of the issue. The Department has recommended that the Assessor review all mobile homes, that should be fully depreciated, to confirm the proper depreciation has been applied. The examination should take place as soon as possible to reflect current costs, correct inequities and come into compliance with statutory depreciation schedules, prior to billing. The Assessor and DEVNET staff are researching to determine the cause and what needs to be done to correct it.

Finding No. LN 2021-03

Criteria

This finding is specific to a parcel that was split from an original Ag (Agricultural) parcel. Per NRS 361A.270, the owner has a responsibility to notify the Assessor of cessation of agricultural use or conversion to higher use within 30 days of the parcel no longer exclusively having agricultural use. Per NRS 361A.280, once made aware of a conversion to a higher use, the Assessor is the responsible for the collection of applicable deferred taxes due, the difference between what would have been collected based on full cash value versus what was actually collected for the preceding 6 years. In order to continue as Ag Deferred, according to NRS 361A.110 (2), a new agricultural use application is required by June 1 following a change in use or change in ownership as defined by NRS 361A.031. For parcels less than 20 acres, the application must be sent to the Department of Taxation with respect to NAC 361A.140. Per NRS 361A.150(d), the Assessing authority must then determine whether there is sufficient activity to qualify as an agricultural pursuit. If not, the land is to be valued to which the improvements are being used in accordance with NRS 361.227.

Condition

The original application for Ag Deferred status, was approved by the Assessor and recorded May 30, 2018. That parcel was then split and the parcel in the sample was recorded on June 13, 2018. As a result of the split, a new application for Ag Deferred approval was then required for the new parcel. Because the new parcel is under 20 acres, any application received was required to be submitted to the Department, per NAC 361A.140. No application was submitted for approval. When a change in use occurred, and a home was built on the property, an application was again required to be submitted for approval. The completed structure was placed on the tax roll during the 20-21 fiscal year. Failing to obtain approval for the new parcel to be included as part of the overall Ag Deferred operation, at the time of the change in use, required deferred taxes to be collected. The Assessor assessed the new parcel as Ag Deferred without receiving approval as required by statute. The Assessor provided requested application documents on Jan 6, 2020, which consisted of the application for the original parcel. The Assessor was notified of the situation by the Department Supervisor and told he needed to provide an application with qualifying supporting documentation or remove the property from Ag Deferred and collect any deferred tax owed, as the new parcel currently did not qualify for Ag Deferment. On April 6, 2021, the Department received an Ag Application, submitted by the taxpayer to the Assessor on March 18, 2021. Income information submitted does not meet the statutory minimum gross income requirement set forth in NRS 361A.030. The application was denied.

Cause

When reviewing historical sales for land analysis, it was discovered that several Agricultural parcels have been sold over the years that consisted of under 20 acres. The applications received by the Department, in that time frame, are a very small fraction of Ag parcels sold that were under 20 acres. Most of the Ag parcels sold, under 20 acres, were multiparcel sales and we assume, part of larger operations. It is the Department's opinion that the Assessor's Office is uneducated regarding the statutes and regulations directing the Agricultural Deferment program. Both in relation to when to submit to the Department for approval and the implications of parcel splits and changes in use.

Effect

The specific sample parcel has been underassessed since its creation. No deferred taxes have been billed or paid and, as of the date of this Narrative, still classified as an Agricultural Deferred parcel. When the Assessor was notified of this issue, the parcel was receiving a full Ag deferred valuation and taxed accordingly. When the 21-22 tax roll closed in Dec. 2020, the 2.2 acre parcel of land had a taxable value of $1,829. Currently the 22-23 taxable value of Ag land is $1,829 and land valued in accordance with NRS 361.227 is $36,449.

Recommendation

In relation to this specific parcel, since the documentation does not meet the qualifying requirements to receive an Ag Deferred Assessment, the Assessor must move forward with instructions provided on Jan 12, 2021 and remove them from receiving Ag Deferred Assessment, change the land use to code to SFR (200) or a mixed residential use, if applicable, bill any deferred taxes, and provide proof to the Department when completed. The Assessor needs to be diligent when processing agricultural use applications. There are specific guidelines regarding application requirements, deferred taxes, conversions to a higher use, disqualification of property and other details regarding Agriculture use. All agricultural use applications consisting of a parcel less than 20 acres must be forwarded to the Department. In the case of multiple parcels in the same operation, parcels under 20 acres must be submitted to the Department with copies of the application and supporting documents for approval. When less than 20 acres are split from a larger parcel, and the taxpayer wishes it to remain part of the parent parcel operation, an application must be provided to the Department for review and approval of any parcel under 20 acres. This specific parcel is being addressed, but the Assessor needs to be aware of similar scenarios in the future. If any question arises as to the authority to approve, or applicability of a statute, the Department should be contacted for guidance.

MINERAL COUNTY NARRATIVE

2021-2022 RATIO STUDY

All land is reappraised annually in Mineral County. The Assessor[1] is transitioning to annual re-costing and will continue to physically inspect 1/5 of the county each year.

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND				
Vacant Land	18	18	0	0%
Single-Family Residential Land	23	23	0	0%
Multi-Family Residential Land	12	12	0	0%
Commercial and Industrial Land	12	12	0	0%
Agricultural Land	6	6	0	0%
IMPROVEMENTS				
Single-Family Residential Improvements **(Note 1)**	23	16	8	35%
Multi-family Residential Improvements **(Note 2)**	12	4	8	67%
Commercial and Industrial Improvements	12	4	8	67%

Note: See **Finding No. MN 2021-01 thru 03** for details related to above Exception Rates and Observations out of Compliance.

[1] All references to the Assessor mean the Assessor or the Assessor's staff

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records Out of Ratio	Exception Rate
Personal Property (Note)	42	283	51	18%

Note: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences. See **Personal Property:** and **Finding No 2021-03**

OBSERVATIONS AND SUMMARY

Transition: Mineral County transitioned from ADS to DEVNET during the 2019-20 fiscal year. Because ADS was not being properly utilized, there were many problems that arose during the data transition process. The Assessor is having to manually correct many of these issues. This process is expected to take at least one more year to complete.

Ratio Study 2018-19: The previous Ratio Study brought to light many deficiencies and statutory violations occurring within Mineral County. Since the current Assessor took office, the Department has seen significant improvement in Mineral County and feel it is important to recognize all that has been achieved, by the Assessor, in the past 3 years. The Assessor has enlisted the assistance of other counties, most significantly Storey County, the Department and an independent contractor to quickly make corrections and improve processes within the office. The Assessor's diligence and commitment to Mineral County taxpayers is commendable.

Reappraisal: The Assessor is currently applying the improvement factor, approved by the Nevada Tax Commission, to the portion of the county that is within the "DEVNET Building Manual" section of the database, See Finding No 2021-1. The Assessor is still performing corrections as a result of Findings from the last Ratio Study as well as issues discovered during the transition from ADS to the DEVNET CAMA system. Once completed, the county will re-costing all improvements annually. The Assessor has performed extensive physical reappraisal across the county since the last Ratio Study and has been working hard to bring all property into statutory compliance. The goal is to have all property in the county reappraised in in compliance within a year's time. Once this is achieved, Finding No 2018-02 will be fully resolved.

Improvements: Incorrect application of Marshall & Swift and the Rural Building Manual was present in several of the sample properties. Converted Manufactured Homes were valued as Single-Family Residences, Bunkhouses were used to incorrectly value Single Family Residences and shed costs were used to incorrectly value detached garages. These properties are in the areas the Assessor has not yet inspected, since coming into office. The Assessor has been advised to watch for these error types and correct them when identified. The Department will readdress this issue, during the next Ratio Study, once the Assessor has had the opportunity to bring all parcel into compliance as described in Finding No 2021-01, which is a continuation of Finding No 2018-01.

Sales Records: Sales records are now maintained in the DEVNET system. The Assessor has provided training to staff in order to improve the verification and validation process. In the past, verification, validation and duplication has been a problem causing challenges in the land valuation process. The Department will better be able to evaluate progress in the next Ratio Study.

Land Valuation: The Assessor will contract an independent appraiser to develop "neighborhoods" in order to utilize the CAMA Land Valuation Module in the future. Other issues that require immediate attention have made this process a secondary priority since the inception of DEVNET. Mineral County does not experience the market fluctuations of larger counties. The Assessor is currently taking a high-level market analysis approach, to land valuation, while focusing on correcting Findings from the 2018-19 and 2021-22 Ratio Studies and issues that arose as a result of the DEVNET transition.

APEX: The 2015-2016 Ratio Study noted that sketches in file should be redone in the APEX drawing program to eliminate noted errors in total square footage. In 2019, the Assessor had a full-time intern who began this process. It is unknown if another intern will be available during the upcoming school year. Therefore, as time allows, the Assessor will continue this process.

Staffing: Since the last study, Finding No. 2018-03 has been resolved. The Assessor is fully certified and one of the two other employees now holds a Personal Property Certification while the other performs general office duties and DMV. Approval was given in March 2021 enabling the Assessor to hire a Real Property Appraiser.

Personal Property: Mineral County contracted with the former Personal Property Appraiser from Storey County and worked with the Storey County Assessor to correct personal property accounts within the county. Accounts were reviewed, properly input into the system and training was provided to the Mineral County staff on how to properly and accurately administer and manage personal property accounts.

During review of the Declarations of Value, it was noted that, several of the accounts do not have current declarations and/or all equipment is deactivated. It was discovered that many personal property accounts were incorrectly deactivated in the ADS system. During the DEVNET data transfer process, these accounts came into the CAMA system as active accounts. Within the sample, 3 of the 42 accounts, consisting of 41 of the 283 records, were deactivated accounts that transitioned as active accounts within the new CAMA system. The Assessor is reviewing all personal property accounts, where a Declaration was not returned, in order to identify all accounts which are no longer active and deactivate them.

Many of the old mobile home accounts do not have any documentation related to acquisition cost. This is a common occurrence when dealing with pre-1990s mobile home accounts. In order to maintain proper records, it is recommended that the Assessor put procedures in place to store Dealer's Reports of Sale (DRS) or documentation related to alternative valuation methods and costs when DRS is not available, to include NADA valuation and comparative sales analysis.

While the Department noted several deficiencies within personal property, the Assessor has made great strides in improving personal property records and processes since the previous Ratio Study.

Finding No. MN 2021-01

Criteria

Each year, property is assessed according to NRS 361.260**.** When determining the taxable value of improvements, the calculation of the cost of replacement of an improvement must be calculated in accordance with NAC 361.128, which states that the *Residential Cost Handbook*, *Marshall Valuation Service*, *Residential Estimator* software or *Commercial Estimator* software, or the manual of rural building costs must be used. Additionally, per NRS 361.260(6), the county assessor must reappraise all real property at least once every 5 years. NRS 361.227 regulates how to determine the taxable value of real property.

Condition

Most outliers resulting in the high exception rates were, mostly, a result of factored values that have not yet been inspected or re-costed by the current assessor. Reappraisal of the entire county has been in progress but not yet completed since the Findings of the last Ratio Study. As part of the data conversion, a section called DEVNET Building Manual was incorporated. This section of the system allows the Assessor to apply the improvement factor and depreciation, to property improvements, until reinspection and record cleanup can take place. All properties currently in the DEVNET Building Manual section of the CAMA program have still not been valued to a current cost.

Cause

The last time properties in the DEVNET Building Manual were valued to a current cost was between 2010 and 2014. Improvement factors have been applied on many parcels in lieu of the statutory reappraisal minimum of every 5 years, as required by NRS 361.260(6). In some cases, improvement factors have been applied for the past consecutive 10 years, in lieu of re-costing from Marshall & Swift.

Effect

As a result, every property needs to be visited in order to update records and ensure accurate taxation is taking place. Since the 2018-19 Ratio Study the Assessor has been correcting properties as they come up in the reappraisal cycle and as time allows, inspections in non-reappraisal areas are taking place and properties are being re-costed in the DEVNET system. Over and under assessment is still occurring throughout the county creating an equalization problem. This will continue to occur until all properties have been removed from the DEVNET Building Manual and valued from Marshall & Swift in according to statutes and regulations.

Recommendation

The Assessor has been in close contact with The Department and working hard to come fully into compliance with all statutes and regulations. Because this has been such a

massive undertaking, The Department recommends continuing with the guidance provided and Department oversite will continue.
The Assessor hopes to have all properties re-inspected and valued within the next year. Once this process is complete, the Assessor will be able to do annual re-costing of all improvements and be able to maintain compliance with statutes and regulations. The Assessor has made great progress in cleaning up the data and moving the county into compliance with statutes and regulations.

Finding No. MN 2021-02

Criteria

NRS 361.050 and NRS 361.060 provides exemptions of taxation for United States property and property of counties, cities, towns, Nevada Rural Housing Authority and certain other political subdivisions.

Condition

As part of the data conversion, a section called DEVNET Building Manual was incorporated. This section of the system allows the Assessor to apply the improvement factor and depreciation, to property improvements, until reinspection and record cleanup can take place. All properties currently in the DEVNET Building Manual section of the CAMA program still have not been valued to a current cost. The application of the exempt value reduction, of the valuation of properties located in this portion of the CAMA system, does not update to reflect the full property valuation exemption as provided by NRS 361.050 and NRS 361.060.

Cause

The DEVNET CAMA system was not intended to be utilized in the way it currently is, with regard to the DEVNET Building Manual. Because the ADS system was not utilized in the manner intended, the data did not transfer and function properly in DEVNET. Property currently in the DEVNET Building manual is held as a lump sum value. As a result, when the improvement factor and depreciation is applied, it does not update the exempt value.

Effect

There were three properties in the sample with improvements 100% exempt per NRS 361.060. These properties are in a neighborhood consisting solely of parcels that are exempt under NRS 361.060. The taxable improvement value of the three properties total $279,401. The exempt value of the three properties total $212,870. This is a difference of $66,531. The total number of properties effected in this situation throughout the county is unknown to The Department. Exemption values are reported to The Department and used in the Statistical Analysis of the Roll and other informational documents used for various purposes by various stakeholders and incorrectly represent exemption values and dollars for Mineral County.

Recommendation

The only way to correct this issue is to re-cost the properties, within the Marshall & Swift program, so the data will properly calculate the order of operations to accurately reflect and report within the system. The Department recommends adding these properties to the 22-23 reappraisal year to ensure accurate data is included, or re-costing without inspection and data clean up and ensuring that is done when the properties scheduled reappraisal is done.

Finding No. MN 2021-03

Criteria

Pursuant to NAC 361.1371 (2), the taxable value of personal property must be determined by adjusting the acquisition cost of the property by a cost-index factor and reducing the adjusted acquisition cost by an estimate of applicable depreciation. The taxable value so determined shall be deemed to be the indicator of value of replacement cost new less depreciation.

Condition

Values in the Personal Property portion of the Ratio Study, if calculated correctly, produce ratios right around 35%. All secured accounts within the Ratio Study sample produced ratios that did not align with expectations and many ratios fell outside of the statutory accepted range of 32-36%, after adjusting for rounding.

Cause

The Assessor calculated personal property on the Secured Tax Roll by applying the Cost Conversion Factors from the 2020-21 Personal Property Manual which only apply to personal property on the Unsecured Tax Roll. The 2021-22 Cost Conversion Factors should have been applied to these accounts.
When ADS was the counties supported data system, the system administrator updated the personal property tables statewide. In new DEVNET CAMA system, the Assessor is responsible for updating the tables annually. The Mineral County Assessor was not aware of this and did not update the tables for the secures accounts.

Effect

Secured Personal Property is depreciated in the current tax year where unsecured is depreciated in the previous year. Therefore, by applying the unsecured cost factors for depreciation, secured properties are losing a year of depreciation and being over assessed. This is results in higher depreciated values and tax bills. There were 18 secured personal property accounts that were affected within the sample resulting in 51 outliers. Apart from fully depreciated equipment, all secured equipment is depreciated incorrectly, but because of the statutory acceptable range of 32-36%, not all incorrectly depreciated equipment resulted in an outlier. Significant overvaluation and inequity in Secured Personal Property accounts countywide was created as a resulted of this issue.

Recommendation

The Assessor is directed to input the Secured Personal Property Tables within the DEVNET system as soon as possible and update all secured records prior to sending personal property tax bills. Additionally, The Department recommends putting procedures in place to ensure all depreciation tables are correctly updated in the future.

ASSESSOR COMMENTS

Reappraisal: In addition to our re-appraisal areas, we have been working diligently on completing building records for all structures on the military base. We worked closely with the base contractor to secure access to areas which have previously been considered sensitive. In September of 2020, the base contractor (SOC) escorted staff as we conducted field appraisals on over 70 industrial/military structures. After an intense three days the Assessors Office now has enough information to complete appraisals on all 2600 plus structures on the Army Weapons Depot. It is estimated this will take at least another two years to complete the government exempt account and the Possessory Interest account for those assets in use by the base contractor.
The Assessor has contracted with Stafford Appraisals to handle the appraisals and represent Mineral County at any Board of Appeals for our two largest accounts. This arrangement will continue and will include a new 700 MW Solar facility projected to begin construction in 2022.
Sales Records: Staff is now required to understand the IAAOs “Standard on Verification and Adjustment of Sales” prior to working with sales.
APEX: Intern has completed over 1,000 sketches and will be training staff in Apex in his final month. Additionally, staff completed new sketches on over 70 industrial buildings which previously had no data.
Staffing: Assessor has continually asked for more staff since 2018. Although it was included in the 20-21 budget, a new hire freeze was enacted due to Covid and budgetary uncertainties. Once a new Commissioners Board was seated, permission to proceed was granted. The hiring process is down to two candidates and we have a tentative hiring date of May 1, 2021. **Personal Property:** We continue working to improve Personal Property accounts. We have not only encountered errors in data as mentioned but also functionality and calculation issues in the new software. A new Personal Property program is in the final stages of design and we are told it will be rolled out sometime this year. We expect issues with the new program as well but are hopeful they will be minor and worked out within the first fiscal year in use.
Findings: We understand the Condition as described above, realize the Cause of the conditions and sees the Effect this has had on values in Mineral County. We agree with and will diligently follow the recommendation of the Department.
Finding 2: We believe our current approach to the DEVNET Building Manual properties will save a great deal of staff hours and provide more accurate and current values moving forward.

Additional Comments:
Every spring while preparing the next years budget, I consider the challenges of the previous year and estimate the shortfalls of the upcoming year. For the last three years our major shortfalls have been the lack of an adequate number of trained staff and the lack of a vehicle to conduct re-appraisals and field work. Although the budget for a new

Appraiser Trainee was included in our 20-21 budget, a hiring freeze was ordered and we were unable to hire until May of 2021. To conduct field work, my office has had to borrow a Public Works yard vehicle or use our personal vehicles. My personal vehicle has been used for re-appraising for the last two years exclusively. I have included a request to our Board of Commissioners to fund the purchase of a vehicle for my office in this years budget but must compete with requests from other departments. Any assistance in achieving this would be greatly appreciated.

STOREY COUNTY NARRATIVE

2021-22 RATIO STUDY

All improvements are re-valued, and land is reappraised annually in Storey County. The Assessor[1] continues to physically inspect one-fifth of the county each year to capture any new improvements added without a permit within the previous five years.

An independent contractor is responsible for assessing land, new construction, and improvements for commercial/industrial properties in Book 5, *Industrial Area*, and a portion of the commercial/industrial properties in Book 4, *Outside Area,* each year. In FY 2021-2022, the independent contractor also conducted an in-depth Land Study for Appraisal Area # 5.

DEPARTMENT FINDINGS

Property Type	Sample Size	In Ratio	Out of Ratio	Exception Rate
LAND				
Vacant Land	18	18	0	0%
Single-Family Residential Land (Note 1)	20	15	5	25%
Multi-Family Residential Land.	10	10	0	0%
Commercial and Industrial Land	10	10	0	0%
Agricultural Land (Note 2)	6	5	1	17%
IMPROVEMENTS				
Single Family Residential Improvements	20	20	0	0%
Multi-family Residential Improvements	10	10	0	0%
Commercial and Industrial Improvements (Note 3)	10	9	1	10%

[1] All references to the Assessor mean the Assessor or the Assessor's staff

Note 1: Single-Family Residential Land: All the Single-Family Residential land outliers were found in the 4/5 of the county which was not physically inspected during the 2021-22 tax year, see **Land:**

Note 2: Agricultural Land: The outlier listed above was found in the 4/5 of the county which was not physically inspected during the 2021-22 tax year, see **Agricultural Land:**

Note 3: Commercial and Industrial Improvements: The outlier listed above was found in the 4/5 of the county which was not physically inspected during the 2021-22 tax year, see **Transition:**

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records In Ratio	Records Out of Ratio	Exception Rate
Personal Property	18	62	62	0 (Note)	0%

Note: *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences.

OBSERVATIONS AND SUMMARY

Transition: Storey County fully transitioned from ADS to DEVNET during the 2020-21 fiscal year and are no longer utilizing ADS. Review of data is continually taking place to ensure proper data transfer and correct valuations are being generated. The industrial outlier was due to transitioning issues. The Marshall & Swift multiplier, applied to this parcel did not convert correctly in DEVNET, creating an overvaluation. The Assessor has identified which parcels were affected and will correct them.

Staffing: Until September 2020, Storey County was fully staffed with the Assessor and one appraiser certified in both real and personal property, one appraiser certified in real property, and one in personal property. With the loss of the only other dual certified appraiser, the Assessor is currently training the Personal Property Appraiser to transition into real property and expects to have another appraiser hired, for personal property, by the start of the next fiscal year.

Intercounty Relations: Despite the challenges the counties have faced through the data system transition and COVID, in addition to the responsibilities of the Storey County office, the Assessor has been providing significant assistance and training, on personal time, to two other counties. Not only does the Assessor show commitment to Storey County, but to the success of Assessor's in neighboring counties, when in need.

Marshall and Swift: With exception of the industrial parcels effected by the transition, the Assessor has corrected the Finding from the 2018-19 Ratio Study related to the Local Cost Multiplier.

Land: The independent contractor, utilized by the county, is developing "neighborhoods" throughout the county so that the Assessor can implement the use DEVNET's land module for valuation. In addition, an in-depth land analysis is taking place to identify additional characteristics of both individual properties and areas. This project is expected to be completed in the next two years. All the land outliers are in the Rainbow Bend area. This area is found east of Reno and Sparks, a short drive to the Industrial area, and it is located along the shore of the Truckee River. Due to its unique location and other market influences, property prices have increased significantly over the last few years. Amidst the unprecedented times, the Assessor opted not to change values until the independent contractor does a complete land study in the 2022-23 fiscal year. Market analysis of the median price of single-family residence shows signs of a potential slow down, supporting the decision. It should be noted that the Assessor has taken significant steps to collect land data and ensure proper identification, classification, equalization, and valuation of all parcels throughout the county since the 2018-19 Ratio Study.

Agricultural Land: The agricultural land is valued by utilizing the values published by the Nevada Tax Commission. The Assessor generated the assessment for the Agricultural land value using the correct price per acre. However, the independent contractor unknowingly used an outdated spreadsheet that caused some land values to change when the Assessor imported the spreadsheet into the new CAMA system. Due to this oversight, other agricultural parcels in the same area were affected. The change in the price per acre for the other sample properties, in that area, was minimal and the ratios stayed within the acceptable range. The Assessor has addressed and corrected this oversight.