



NEVADA DEPARTMENT OF TAXATION  
Division of Local Government Services

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# 2020-2021 REPORT OF ASSESSMENT RATIO STUDY

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Division of Local Government Services

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2020 - 2021

# Report of Assessment Ratio Study

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2020 - 2021 REPORT OF ASSESSMENT RATIO STUDY

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## 2020-2021 RATIO STUDY

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### INTRODUCTION: AUTHORITY, OVERSIGHT AND REPORTING

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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.”<sup>1</sup>

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.”<sup>2</sup> 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.<sup>3</sup>*

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.

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<sup>1</sup> 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.”

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

<sup>3</sup> 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 2020-2021 are Carson City, Churchill, Elko, Lander, Pershing and White Pine 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**

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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.<sup>4</sup> 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."<sup>5</sup> 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."<sup>6</sup>

The IAAO recommended ratio study performance standards are as follows:

<u>Type of Property</u>	<u>COD</u>
<b>Single-family Residential</b>	
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

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

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

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

<u>Type of Property</u>	<u>COD</u>
<b>Income-producing properties</b>	
Larger, urban jurisdictions	5.0 to 15.0
Smaller, rural jurisdictions	5.0 to 20.0
<b>Vacant land</b>	5.0 to 25.0
<b>Other real and personal property</b>	Varies with local conditions <sup>7</sup>

## **RATIO STUDY CONCLUSIONS**

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The 2020-2021 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 (2017 - 2019) across all counties for all properties.

Similar data is shown just for the counties in the 2020-2021 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.

### **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 17 indicates that of the six counties studied in 2020-2021, regressivity is present for both Vacant and Improved Land and Multi-Family Residences in Elko County. Conversely, progressivity is present for Commercial/Industrial in Elko County and Multi-Family Residences in Carson City. Where progressivity or regressivity occurred, statewide, over the past three-year period, are listed on page 15. The Department recommends reviewing stratifications of property and neighborhoods to ensure sufficient sales data is available or use alternate methods of land valuation in Elko County.

### **Aggregate Ratio**

The data for the Aggregate (Overall) Ratio, or Weighted Mean, shown on page 16 are within the acceptable standard range of 32% to 36% on a composite basis for the six counties studied in 2020-2021, with the following exceptions noted: Elko County Vacant Land at 28.5%, Improved Land at 29.9% and Multi-Family Residence at 31.4%, both a result of a 22.2% Overall Multi-Family Land Ratio and Carson City Multi-Family Residence at 36.2% as a result of a 41.5% Overall Multi-Family Land Ratio. However, the Aggregate Ratio for all six counties produced a total ratio of 34.4% which is within the acceptable standard range. Statewide Aggregate Ratios, over the past three-year period, are listed on page 12.

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

## **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 16 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 13.

## **Coefficient of Dispersion (COD)**

The COD ratios, shown on page 17, for the six counties studied in 2020-2021, indicate the ratios for all property, and each class of property, within the jurisdictions are relatively uniform with the exception of Elko County Vacant Land and Pershing County Improved Land, which was higher than the other counties as a whole, but still within 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**

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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 2020-2021 Ratio Study, the Department reviewed assessors' procedures as part of the ratio study process.

## **LAND AND IMPROVEMENT FACTORS**

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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 2020-2021 tax year are available on the Taxation website at <https://tax.nv.gov/>.



2020-2021

REPORT OF ASSESSMENT RATIO STUDY

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STATISTICAL TABLES

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# NEVADA DEPARTMENT OF TAXATION

## 2020-2021 RATIO STUDY

### AGGREGATE RATIOS

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY	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	2018	34.0%	34.1%	34.0%	34.1%	33.9%	34.5%	34.0%	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	2018	33.0%	32.1%	35.0%	35.0%	31.9%	34.1%	32.1%	35.0%
EUREKA	2018	33.6%	33.5%	34.1%	34.1%	33.6%	33.3%	33.8%	35.0%
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	2018	33.7%	34.2%	31.7%	34.2%	32.9%	34.1%	34.4%	35.0%
LYON	2019	33.8%	33.7%	33.4%	39.1%	33.6%	33.6%	33.6%	35.0%
MINERAL	2018	36.1%	34.7%	34.7%	57.7%	34.3%	33.9%	35.2%	35.0%
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	2018	39.2%	39.7%	35.6%	34.9%	34.2%	35.2%	39.4%	35.0%
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	2020	35.4%	35.9%	34.1%	34.2%	34.2%	34.1%	36.1%	35.0%

# NEVADA DEPARTMENT OF TAXATION

## 2020-2021 RATIO STUDY

### MEDIAN RATIOS

SUBJECT COUNTY	STUDY YEAR	ALL PROPERTY IMPROVEMENTS	IMPROVED LAND	VACANT LAND	SINGLE FAMILY	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	2018	34.5%	34.2%	34.8%	34.7%	34.1%	34.5%	34.0%	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	2018	34.8%	33.7%	35.0%	35.0%	34.2%	34.0%	33.8%	35.0%
EUREKA	2018	34.1%	33.6%	34.4%	34.2%	33.9%	33.7%	33.7%	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	2018	34.4%	33.8%	35.0%	34.4%	34.4%	34.0%	34.2%	35.0%
LYON	2019	34.3%	33.9%	33.8%	34.5%	34.6%	33.9%	32.9%	35.0%
MINERAL	2018	34.3%	31.1%	35.4%	34.5%	34.3%	31.1%	31.2%	34.9%
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	2018	34.8%	34.5%	35.0%	34.8%	34.1%	34.6%	34.5%	35.0%
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	2020	34.5%	34.4%	34.6%	34.4%	34.4%	34.3%	34.2%	35.0%

**NEVADA DEPARTMENT OF TAXATION**  
**2020-2021 RATIO STUDY**  
**COEFFICIENTS OF DISPERSION**

<b>SUBJECT COUNTY</b>	<b>STUDY YEAR</b>	<b>ALL PROPERTY IMPROVEMENTS</b>	<b>IMPROVED LAND</b>	<b>VACANT LAND</b>	<b>SINGLE FAMILY</b>	<b>MULTI FAMILY RESIDENCE</b>	<b>COMMERCIAL INDUSTRIAL</b>	<b>RURAL LAND &amp; IMPROVEMENTS</b>	
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	2018	2.4%	3.4%	2.7%	2.2%	2.4%	2.3%	2.6%	0.0%
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	2018	2.1%	3.1%	0.3%	0.3%	3.7%	1.3%	2.5%	0.0%
EUREKA	2018	2.4%	3.6%	2.4%	1.8%	3.2%	2.1%	2.0%	0.0%
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	2018	3.0%	5.3%	2.5%	1.7%	4.6%	4.2%	2.5%	0.1%
LYON	2019	6.8%	7.3%	5.0%	15.8%	4.1%	3.4%	8.2%	0.6%
MINERAL	2018	17.8%	34.0%	16.1%	29.9%	13.7%	21.1%	13.0%	0.1%
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	2018	2.9%	3.7%	4.0%	1.7%	2.9%	4.5%	5.8%	0.0%
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	2020	4.3%	5.1%	5.1%	6.0%	3.6%	4.0%	4.5%	0.8%

**NEVADA DEPARTMENT OF TAXATION**  
**2020-2021 RATIO STUDY**  
**MEDIAN RELATED DIFFERENTIALS**

<b>SUBJECT COUNTY</b>	<b>STUDY YEAR</b>	<b>ALL PROPERTY IMPROVEMENTS</b>	<b>IMPROVED LAND</b>	<b>VACANT LAND</b>	<b>SINGLE FAMILY</b>	<b>MULTI FAMILY RESIDENCE</b>	<b>COMMERCIAL INDUSTRIAL</b>	<b>RURAL LAND &amp; IMPROVEMENTS</b>	
CARSON CITY	2020	99.6%	99.6%	98.3%	97.8%	99.9%	95.1%	100.2%	100.0%
CHURCHILL	2020	101.0%	101.0%	100.3%	107.4%	100.2%	100.1%	100.4%	99.4%
CLARK	2018	101.4%	100.4%	102.4%	101.7%	100.7%	100.0%	100.1%	100.0%
DOUGLAS	2019	100.5%	100.2%	99.7%	101.5%	100.1%	100.0%	101.0%	99.1%
ELKO	2020	101.2%	98.4%	115.1%	119.3%	99.5%	108.3%	98.3%	100.0%
ESMERALDA	2018	105.4%	105.0%	100.1%	100.1%	107.1%	99.8%	105.3%	100.0%
EUREKA	2018	101.3%	100.3%	100.6%	100.5%	100.9%	101.3%	100.0%	100.0%
HUMBOLDT	2019	100.4%	101.2%	98.6%	100.1%	100.8%	99.8%	99.5%	99.9%
LANDER	2020	98.7%	99.3%	100.3%	98.0%	100.8%	100.8%	96.3%	99.9%
LINCOLN	2018	102.1%	98.9%	110.2%	100.5%	104.6%	99.9%	99.3%	100.0%
LYON	2019	101.5%	100.8%	101.3%	88.2%	103.0%	100.9%	97.9%	99.9%
MINERAL	2018	94.9%	89.5%	101.8%	59.8%	100.1%	91.8%	88.7%	99.8%
NYE	2019	99.4%	97.3%	101.5%	101.2%	99.9%	102.1%	98.9%	100.0%
PERSHING	2020	100.8%	101.5%	99.6%	98.5%	101.4%	102.1%	99.9%	100.0%
STOREY	2018	88.8%	87.0%	98.3%	99.8%	99.8%	98.3%	87.6%	100.0%
WASHOE	2019	100.3%	99.6%	102.3%	99.4%	100.1%	100.5%	98.5%	103.9%
WHITE PINE	2020	100.7%	101.0%	100.3%	100.0%	101.2%	100.3%	100.6%	100.0%
STATEWIDE	2020	97.4%	95.8%	101.3%	100.5%	100.4%	100.5%	94.8%	100.0%

NEVADA DEPARTMENT OF TAXATION  
2020-2021 RATIO STUDY  
ALL APPRAISAL AREAS

OVERALL (AGGREGATE) RATIO

Subject County	All Property
CARSON CITY	34.5
CHURCHILL	34.3
ELKO	34.2
LANDER	34.9
PERSHING	34.6
WHITE PINE	33.8
ALL COUNTIES	34.4

Class of Property							
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements	
34.2	35.2	33.9	34.1	36.2	34.3	35.0	
34.2	34.3	32.0	34.6	34.3	34.5	35.2	
35.4	29.9	28.5	34.8	31.4	35.3	35.0	
35.3	33.8	34.5	34.6	34.0	35.9	35.0	
34.2	34.7	35.2	34.2	34.0	35.3	35.0	
33.9	33.8	33.4	33.6	34.0	34.0	35.0	
34.5	33.8	33.5	34.4	33.8	34.7	35.1	

MEDIAN RATIO

Subject County	All Property
CARSON CITY	34.3
CHURCHILL	34.7
ELKO	34.6
LANDER	34.5
PERSHING	34.9
WHITE PINE	34.1
ALL COUNTIES	34.4

Class of Property							
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements	
34.0	34.6	33.1	34.0	34.5	34.4	35.0	
34.5	34.4	34.4	34.7	34.3	34.6	35.0	
34.9	34.4	34.1	34.6	34.0	34.7	35.0	
35.1	33.9	33.9	34.9	34.3	34.6	35.0	
34.7	34.5	34.6	34.7	34.7	35.2	35.0	
34.2	33.9	33.4	34.0	34.1	34.2	35.0	
34.6	34.3	34.1	34.4	34.3	34.6	35.0	

NEVADA DEPARTMENT OF TAXATION  
 2020-2021 RATIO STUDY  
 ALL APPRAISAL AREAS  
 COEFFICIENT OF DISPERSION (COD)

Subject County	All Property
CARSON CITY	4.7
CHURCHILL	3.3
ELKO	7.5
LANDER	3.0
PERSHING	4.8
WHITE PINE	2.8
ALL COUNTIES	4.5

Class of Property							
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements	
3.2	6.3	7.6	2.3	9.1	2.1	0.4	
2.5	2.1	7.2	2.0	1.7	1.5	0.2	
4.0	9.8	15.4	5.9	6.4	4.1	0.0	
4.3	2.6	2.2	2.1	2.4	6.5	0.1	
6.1	11.4	6.2	3.4	3.8	7.2	0.0	
3.5	2.0	2.2	3.2	1.4	3.0	0.2	
4.0	5.9	6.9	3.4	4.4	4.0	0.2	

MEDIAN RELATED DIFFERENTIAL

Subject County	All Property
CARSON CITY	1.00
CHURCHILL	1.01
ELKO	1.01
LANDER	0.99
PERSHING	1.01
WHITE PINE	1.01
ALL COUNTIES	1.00

Class of Property							
Improvements	Improved Land	Vacant Land	Single Family Residence	Multi-Family Residence	Commercial Industrial	Rural Land & Improvements	
1.00	0.98	0.98	1.00	0.95	1.00	1.00	
1.01	1.00	1.07	1.00	1.00	1.00	0.99	
0.98	1.15	1.19	0.99	1.08	0.98	1.00	
0.99	1.00	0.98	1.01	1.01	0.96	1.00	
1.02	1.00	0.98	1.01	1.02	1.00	1.00	
1.01	1.00	1.00	1.01	1.00	1.01	1.00	
1.00	1.01	1.02	1.00	1.02	1.00	1.00	

**CARSON CITY**  
**2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	34.5%	34.3%	4.7%	101
COUNTYWIDE IMPROVEMENTS	34.2%	34.0%	3.2%	75
COUNTYWIDE IMPROVED LAND	35.2%	34.6%	6.3%	77
COUNTYWIDE VACANT LAND	33.9%	33.1%	7.6%	23
SINGLE FAMILY IMPROVEMENTS	34.0%	33.6%	2.9%	30
SINGLE FAMILY LAND	34.3%	35.0%	5.4%	30
SINGLE FAMILY TOTAL PROPERTY	34.1%	34.0%	2.3%	30
MULTIPLE FAMILY IMPROVEMENTS	32.9%	34.6%	3.5%	18
MULTIPLE FAMILY LAND	41.5%	34.7%	13.3%	18
MULTIPLE FAMILY TOTAL PROPERTY	36.2%	34.5%	9.1%	18
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.5%	34.3%	2.8%	25
COMMERCIAL/INDUSTRIAL LAND	34.0%	34.2%	3.1%	24
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.3%	34.4%	2.1%	25
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.4%	5
RURAL TOTAL PROPERTY	35.0%	35.0%	0.4%	5
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.3%	8
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	1
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.1%	3
MOBILE HOMES	34.9%	35.0%	0.6%	4
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	0.4%	18
AIRCRAFT	35.0%	35.0%	0.0%	3
AGRICULTURAL	35.1%	35.1%	0.0%	1
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.8%	8
MOBILE HOMES	35.0%	35.0%	0.0%	6
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>0.4%</b>	<b>26</b>



**CHURCHILL COUNTY  
2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	34.3%	34.7%	3.3%	91
COUNTYWIDE IMPROVEMENTS	34.2%	34.5%	2.5%	60
COUNTYWIDE IMPROVED LAND	34.3%	34.4%	2.1%	66
COUNTYWIDE VACANT LAND	32.0%	34.4%	7.2%	25
SINGLE FAMILY IMPROVEMENTS	34.7%	34.6%	2.6%	30
SINGLE FAMILY LAND	34.3%	34.5%	2.2%	30
SINGLE FAMILY TOTAL PROPERTY	34.6%	34.7%	2.0%	30
MULTIPLE FAMILY IMPROVEMENTS	34.4%	34.4%	2.1%	15
MULTIPLE FAMILY LAND	33.9%	34.0%	2.2%	15
MULTIPLE FAMILY TOTAL PROPERTY	34.3%	34.3%	1.7%	15
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.6%	34.6%	2.6%	15
COMMERCIAL/INDUSTRIAL LAND	34.3%	34.4%	1.8%	15
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.5%	34.6%	1.5%	15
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.2%	35.0%	0.2%	6
RURAL TOTAL PROPERTY	35.2%	35.0%	0.2%	6
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.1%	12
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.1%	4
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.1%	5
MOBILE HOMES	35.0%	35.0%	0.0%	3
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	0.2%	19
AIRCRAFT	35.0%	35.0%	0.0%	5
AGRICULTURAL	35.0%	35.0%	0.4%	4
BILLBOARDS	35.0%	35.0%	0.0%	1
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	6
MOBILE HOMES	35.0%	35.0%	0.1%	3
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>0.1%</b>	<b>31</b>

**ELKO COUNTY**  
**2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	34.2%	34.6%	7.5%	102
COUNTYWIDE IMPROVEMENTS	35.4%	34.9%	4.0%	71
COUNTYWIDE IMPROVED LAND	29.9%	34.4%	9.8%	79
COUNTYWIDE VACANT LAND	28.5%	34.1%	15.4%	23
SINGLE FAMILY IMPROVEMENTS	35.1%	34.8%	3.7%	33
SINGLE FAMILY LAND	33.5%	34.2%	16.0%	34
SINGLE FAMILY TOTAL PROPERTY	34.8%	34.6%	5.9%	34
MULTIPLE FAMILY IMPROVEMENTS	35.4%	35.0%	3.8%	19
MULTIPLE FAMILY LAND	22.2%	33.8%	8.8%	19
MULTIPLE FAMILY TOTAL PROPERTY	31.4%	34.0%	6.4%	19
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.6%	34.9%	4.7%	19
COMMERCIAL/INDUSTRIAL LAND	34.0%	35.0%	1.9%	19
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	35.3%	34.7%	4.1%	19
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.0%	7
RURAL TOTAL PROPERTY	35.0%	35.0%	0.0%	7
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.0%	7
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	4
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.1%	3
MOBILE HOMES	n/a	n/a	n/a	-
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	1.2%	26
AIRCRAFT	35.0%	35.0%	0.0%	3
AGRICULTURAL	35.0%	35.0%	0.0%	2
BILLBOARDS	35.0%	35.0%	0.0%	1
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	12
MOBILE HOMES	34.5%	35.0%	3.5%	8
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>0.9%</b>	<b>33</b>

**LANDER COUNTY  
2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	34.9%	34.5%	3.0%	94
COUNTYWIDE IMPROVEMENTS	35.3%	35.1%	4.3%	59
COUNTYWIDE IMPROVED LAND	33.8%	33.9%	2.6%	65
COUNTYWIDE VACANT LAND	34.5%	33.9%	2.2%	29
SINGLE FAMILY IMPROVEMENTS	34.8%	35.2%	2.2%	29
SINGLE FAMILY LAND	33.9%	33.8%	2.5%	29
SINGLE FAMILY TOTAL PROPERTY	34.6%	34.9%	2.1%	29
MULTIPLE FAMILY IMPROVEMENTS	34.1%	34.3%	4.0%	14
MULTIPLE FAMILY LAND	34.0%	34.3%	2.5%	14
MULTIPLE FAMILY TOTAL PROPERTY	34.0%	34.3%	2.4%	14
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	36.5%	34.8%	8.3%	15
COMMERCIAL/INDUSTRIAL LAND	33.5%	33.1%	1.7%	15
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	35.9%	34.6%	6.5%	15
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.1%	7
RURAL TOTAL PROPERTY	35.0%	35.0%	0.1%	7
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.1%	13
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	4
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	3
MOBILE HOMES	35.0%	35.0%	0.0%	6
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	34.9%	35.0%	4.5%	21
AIRCRAFT	35.4%	35.4%	0.0%	1
AGRICULTURAL	35.0%	35.0%	0.0%	4
BILLBOARDS	35.0%	35.0%	0.0%	2
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	9
MOBILE HOMES	32.8%	35.0%	18.0%	5
<b>TOTAL PERSONAL PROPERTY</b>	<b>34.9%</b>	<b>35.0%</b>	<b>2.8%</b>	<b>34</b>

**PERSHING COUNTY**  
**2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	34.6%	34.9%	4.8%	94
COUNTYWIDE IMPROVEMENTS	34.2%	34.7%	6.1%	60
COUNTYWIDE IMPROVED LAND	34.7%	34.5%	11.4%	69
COUNTYWIDE VACANT LAND	35.2%	34.6%	6.2%	25
SINGLE FAMILY IMPROVEMENTS	34.1%	34.7%	4.6%	30
SINGLE FAMILY LAND	34.8%	34.3%	9.4%	30
SINGLE FAMILY TOTAL PROPERTY	34.2%	34.7%	3.4%	30
MULTIPLE FAMILY IMPROVEMENTS	33.8%	34.6%	4.0%	15
MULTIPLE FAMILY LAND	34.7%	34.3%	29.7%	15
MULTIPLE FAMILY TOTAL PROPERTY	34.0%	34.7%	3.8%	15
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	35.5%	37.1%	9.8%	15
COMMERCIAL/INDUSTRIAL LAND	34.5%	34.7%	2.9%	18
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	35.3%	35.2%	7.2%	18
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
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.0%	8
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	1
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.1%	3
MOBILE HOMES	35.0%	35.0%	0.0%	4
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	0.4%	20
AIRCRAFT	35.0%	35.0%	0.1%	2
AGRICULTURAL	35.0%	35.0%	0.0%	1
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.8%	10
MOBILE HOMES	35.0%	35.0%	0.0%	7
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>0.3%</b>	<b>28</b>

**WHITE PINE COUNTY  
2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
COUNTYWIDE TOTAL PROPERTY	33.8%	34.1%	2.8%	102
COUNTYWIDE IMPROVEMENTS	33.9%	34.2%	3.5%	75
COUNTYWIDE IMPROVED LAND	33.8%	33.9%	2.0%	82
COUNTYWIDE VACANT LAND	33.4%	33.4%	2.2%	20
SINGLE FAMILY IMPROVEMENTS	33.6%	34.0%	3.8%	32
SINGLE FAMILY LAND	33.8%	33.7%	1.7%	32
SINGLE FAMILY TOTAL PROPERTY	33.6%	34.0%	3.2%	32
MULTIPLE FAMILY IMPROVEMENTS	34.0%	34.1%	1.8%	17
MULTIPLE FAMILY LAND	33.9%	34.0%	2.0%	17
MULTIPLE FAMILY TOTAL PROPERTY	34.0%	34.1%	1.4%	17
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.0%	34.7%	4.0%	26
COMMERCIAL/INDUSTRIAL LAND	33.8%	33.8%	2.1%	27
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.0%	34.2%	3.0%	27
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.0%	35.0%	0.2%	6
RURAL TOTAL PROPERTY	35.0%	35.0%	0.2%	6
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	34.9%	34.9%	0.7%	11
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%	34.9%	0.5%	9
MOBILE HOMES	34.7%	34.3%	1.9%	2
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	1.2%	24
AIRCRAFT	35.0%	35.0%	0.0%	3
AGRICULTURAL	n/a	n/a	n/a	-
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	1.9%	15
MOBILE HOMES	35.0%	35.0%	0.0%	6
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>1.1%</b>	<b>35</b>

**ALL COUNTIES INCLUDED IN  
2020-2021 RATIO STUDY**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
ALL COUNTIES TOTAL PROPERTY	34.4%	34.4%	4.5%	584
ALL COUNTIES IMPROVEMENTS	34.5%	34.6%	4.0%	400
ALL COUNTIES IMPROVED LAND	33.8%	34.3%	5.9%	438
ALL COUNTIES VACANT LAND	33.5%	34.1%	6.9%	145
SINGLE FAMILY IMPROVEMENTS	34.5%	34.5%	3.6%	184
SINGLE FAMILY LAND	34.1%	34.0%	6.5%	185
SINGLE FAMILY TOTAL PROPERTY	34.4%	34.4%	3.4%	185
MULTIPLE FAMILY IMPROVEMENTS	34.3%	34.5%	3.4%	98
MULTIPLE FAMILY LAND	32.7%	34.1%	9.9%	98
MULTIPLE FAMILY TOTAL PROPERTY	33.8%	34.3%	4.4%	98
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	34.9%	34.8%	5.2%	115
COMMERCIAL/INDUSTRIAL LAND	34.0%	34.2%	2.7%	118
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	34.7%	34.6%	4.0%	119
RURAL IMPROVEMENTS	n/a	n/a	n/a	-
RURAL LAND	35.1%	35.0%	0.2%	37
RURAL TOTAL PROPERTY	35.1%	35.0%	0.2%	37
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.2%	59
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.0%	14
BILLBOARDS	n/a	n/a	n/a	-
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.2%	26
MOBILE HOMES	34.9%	35.0%	0.3%	19
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	1.3%	128
AIRCRAFT	35.0%	35.0%	0.1%	17
AGRICULTURAL	35.0%	35.0%	0.2%	12
BILLBOARDS	35.0%	35.0%	0.0%	4
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.8%	60
MOBILE HOMES	34.5%	35.0%	3.4%	35
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>1.0%</b>	<b>187</b>

**STATEWIDE  
2018-2021 RATIO STUDIES**

**ALL APPRAISAL AREAS**

<b>REAL PROPERTY</b>	<b>AGGREGATE RATIO</b>	<b>MEDIAN RATIO</b>	<b>COD MEDIAN</b>	<b>SAMPLE SIZE</b>
STATEWIDE TOTAL PROPERTY	35.4%	34.5%	4.3%	1,273
STATEWIDE IMPROVEMENTS	35.9%	34.4%	5.1%	852
STATEWIDE IMPROVED LAND	34.1%	34.6%	5.1%	953
STATEWIDE VACANT LAND	34.2%	34.4%	6.0%	316
SINGLE FAMILY IMPROVEMENTS	34.3%	34.4%	4.4%	381
SINGLE FAMILY LAND	34.0%	34.4%	5.8%	381
SINGLE FAMILY TOTAL PROPERTY	34.2%	34.4%	3.6%	383
MULTIPLE FAMILY IMPROVEMENTS	34.3%	34.4%	5.5%	219
MULTIPLE FAMILY LAND	33.8%	34.3%	6.4%	219
MULTIPLE FAMILY TOTAL PROPERTY	34.1%	34.3%	4.0%	219
COMMERCIAL/INDUSTRIAL IMPROVEMENTS	36.7%	34.3%	6.0%	240
COMMERCIAL/INDUSTRIAL LAND	34.3%	34.3%	4.2%	247
COMMERCIAL/INDUSTRIAL TOTAL PROPERTY	36.1%	34.2%	4.5%	249
RURAL IMPROVEMENTS	32.5%	33.6%	4.1%	2
RURAL LAND	35.1%	35.0%	0.7%	106
RURAL TOTAL PROPERTY	35.0%	35.0%	0.8%	106
<b>SECURED PERSONAL PROPERTY</b>				
ALL SECURED	35.0%	35.0%	0.9%	167
AIRCRAFT	n/a	n/a	n/a	-
AGRICULTURAL	35.0%	35.0%	0.2%	37
BILLBOARDS	20.3%	26.6%	31.6%	2
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	1.4%	53
MOBILE HOMES	35.0%	35.0%	0.2%	75
<b>UNSECURED PERSONAL PROPERTY</b>				
ALL UNSECURED	35.0%	35.0%	1.0%	380
AIRCRAFT	35.0%	35.0%	0.1%	49
AGRICULTURAL	35.0%	35.0%	0.8%	36
BILLBOARDS	35.0%	35.0%	0.1%	19
COMMERCIAL/INDUSTRIAL	35.0%	35.0%	0.9%	143
MOBILE HOMES	34.9%	35.0%	1.5%	133
<b>TOTAL PERSONAL PROPERTY</b>	<b>35.0%</b>	<b>35.0%</b>	<b>0.9%</b>	<b>547</b>

2020-2021

REPORT OF ASSESSMENT RATIO STUDY

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COUNTY ABSTRACTS  
AND FINDINGS

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**CARSON CITY RATIO STUDY 2020-2021  
NARRATIVE**

All improvements are revalued, and land reappraised annually in Carson City. The Assessor<sup>1</sup> continues to physically inspect 1/5 of the county each year to capture any new improvements added without a permit within the previous five years.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND (Note 1)</b>				
Vacant Land	24	20	4	17%
Single-Family Residential Land	30	28	2	7%
Multi-Family Residential Land	18	17	1	6%
Commercial and Industrial Land	25	25	0	0%
Agricultural Land	5	5	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Note 2)	30	29	1	3%
Multi-family Residential Improvements (Note 3)	18	16	2	11%
Commercial and Industrial Improvements (Note 4)	25	24	1	4%

**Note 1: Land:** The Multi-Family land outlier was caused by a clerical error. The remaining land outliers were a result of values in pocket areas around the county not increasing in relation to market increases. These areas will be addressed during the 2020 work year.

**Note 2: Single Family Residential Improvements:** The outlier listed above was found in the area of the county which was not *physically* inspected during the 2020-2021 tax

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<sup>1</sup> All references to the Assessor means the Assessor or the Assessor’s staff

year.

**Note 3: Multi-Family Residential Improvements:** The two outliers listed above were found in the area of the county which was not *physically* inspected during the 2020-2021 tax year.

**Note 4: Commercial and Industrial Improvements:** The outlier listed above was found in the 4/5 of the county which was not *physically* inspected during the 2020-21 tax year.

<b>Property Type</b>	<b>Sample Size Accounts Reviewed</b>	<b>Total Property Records Examined</b>	<b>Records Out of Ratio</b>	<b>Exception Rate</b>
Personal Property	26	380	0 (Notes)	0%

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

### **Observations and Summary**

**Transition:** Carson City is among the counties transitioning from ADS to DevNet. Carson City calculated their real property, not within the 2019 reappraisal area, in ADS and compared the results with those calculated in DevNet. After troubleshooting and correcting discrepancies, the Real Property Tax Roll was closed within the DevNet system. During the Ratio Study, they were still processing Personal Property within ADS and preparing to transition to DevNet (see **Personal Property:** for more information).

**Staffing:** In 2019, Carson City replaced two of three members of the Real Property appraisal staff. One has been certified in Real Property and the other is valuing under a temporary certification. The current staff is working to further improve procedures within the new data system to allow for more transparency and the most efficient and accurate valuations.

**Land Valuation:** After major changes within the Real Property staff, the Assessor is reviewing all land values across the county to ensure equalization and adjusting where needed. The staff, now valuing land, is working to put processes in place, should assigned appraisal responsibilities change, so that all staff members, present and future, can review and understand previous valuations and the methodologies used. This will allow for better cross knowledge of the various market areas and challenges faced countywide. Staff will be closely analyzing all land values completed in 2019 by previous staff to ensure accuracy during the 2020 work year. The Department has provided additional tools to assist in that process until the land valuation module in the new system is fully implemented.

**Personal Property:** For the 2019 work year, personal property was entered into both the ADS and DevNet systems. The Assessor's Office chose to value and bill out of ADS until such a time as the Devnet data is ready for full implementation. Secured values shown on the Assessor's website may not be displaying accurately as a result, but taxpayer billing is correct.

**CHURCHILL COUNTY RATIO STUDY 2020-2021  
NARRATIVE**

All improvements are re-valued and land reappraised annually in Churchill County. The Assessor<sup>1</sup> 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.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND</b>				
Vacant Land	25	22	3	12%
Single-Family Residential Land	30	30	0	0%
Multi-Family Residential Land	15	15	0	0%
Commercial and Industrial Land	15	15	0	0%
Agricultural Land	6	6	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Note #1)	30	29	1	3%
Multi-family Residential Improvements (Note #2)	15	14	1	7%
Commercial and Industrial Improvements	15	15	0	0%

**Note 1: Single-Family Residential Improvements:** The 1 outlier listed above was found in the 4/5 of the county which was *physically* inspected during the 2020-2021 tax year.

**Note 2: Multi-Family Residential Improvements:** The 1 outlier listed above was found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year.

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<sup>1</sup> All references to the Assessor means the Assessor or the Assessor's staff

<b>Property Type</b>	<b>Sample Size Accounts Reviewed</b>	<b>Total Property Records Examined</b>	<b>Records In Ratio</b>	<b>Records Out of Ratio</b>	<b>Exception Rate</b>
Personal Property	34	511	511	0	0%

**Notes:** *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences. One Missing Item (Pipe Loading Chute System on APN 009-171-11) was identified. It was reported by the taxpayer as noted to be added to real property. The Assessor was notified that the item was not reflected in either location. The Assessor conducted a field inspection where said item was found and subsequently added to the secured roll.

### **Observations and Summary**

**Devnet Transition:** Churchill County, being the pilot county for the DevNet transition, went live with the new CAMA application in April 2019 and the entire application in July. Dual entry was done for personal property exemptions while the Unsecured Roll was processed in Devnet. The 2020-2021 CAMA year will be completed solely in the Devnet application. The land costing module in Devnet is a combination of Devnet’s existing platform and the ADS land module. Churchill used the ADS Land module to calculate land changes for the 2020-2021 secured tax roll with the goal of using the Devnet application in 2021-2022. The Assessor served as the committee chair of the Devnet software project. Staff was involved in the progress of the project and tested the software as the different pieces of the application were delivered. Churchill worked one on one with Devnet to solve many issues in CAMA prior to the application going live.

A sales questionnaire was developed and is now the standard format used in the application for all Devnet counties. It has been very effective in acquiring sales data from recent purchasers that may have otherwise been unknown thus increasing the reliability of sales data used in land valuation.

**Land:** In the valuation of large, vacant, rural parcels with little accessibility, the Assessor currently uses a combination of multi-parcel sales, historical values and limited available single sales in their analysis for valuation. The county is currently developing a land inventory system that can make adjustments for topography, accessibility, water rights, and economies of scale. That tool will be better suited to determine values especially in situations where comparable sales are difficult to find. As more stand-alone arms-length transactions occur, the Department recommends incorporating those sales into the sales analysis, as those sales may be a better reflection of the current market.

## Assessor Responses

### **Vacant Land Outliers**

The vacant land outliers are large, land locked parcel remote parcels located in northern Churchill County. All three parcels are mountainous in topography with minimal vegetation, poor soil qualities, and are unlikely to be used for mineral/aggregate production due to their location. There are minimal development opportunities for these parcels due to lack of railroad, highway or legal access. There have been no recent valid sales of similarly situated parcels. It is a goal of the Churchill County Assessor's Office to utilize the land costing and analysis tools our new software application to help value parcels such as these.

### **Single Family Residential Improvements Outlier**

The single-family residential outlier was reappraised on August 19, 2019 for the 2020-2021 tax year. The accessory dwelling unit on the parcel contains a full basement. Our new software application allows us to more accurately cost the basement as a section of the building with components specific to that section of the building. The basement section was updated during reappraisal, but the appraiser inadvertently overlooked removing the original basement component. The component has been removed to correct the assessment for the 2020-2021 tax year.

### **Multi-family Residential Improvements Outlier**

The multi-family residential outlier was last reappraised on October 7, 2015 and is scheduled for reappraisal in 2020. The corral fencing that the Department identified was cost using an interoffice costing code derived from Marshall & Swift costs. Due to the quality and condition of the fencing, a 20% reduction was applied. The Department appraiser used the lowest value in range to account for the quality and condition of the fence. It is the goal of the Churchill County Assessor's Office to move away from using interoffice costing codes to using the Marshall & Swift costing service in our new software application which will allow us to cost a component according to quality.

**ELKO COUNTY RATIO STUDY 2020-2021  
NARRATIVE**

In 2006, the Assessor<sup>1</sup> began to reappraise land annually. Since then, they began to re-cost improvements annually and physically inspect 1/5 of the county each year, using aerial photography and physical inspections, to capture any new improvements added without permits within the last five years. This is the best practice for discovery of new improvements.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND</b>				
Vacant Land	23	14	9	39%
Single-Family Residential Land	34	27	7	21%
Multi-Family Residential Land	19	16	3	16%
Commercial and Industrial Land	19	18	1	5%
Agricultural Land	7	7	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Note #1)	34	30	4	12%
Multi-family Residential Improvements (Note #2)	19	17	2	11%
Commercial and Industrial Improvements (Note #3)	19	15	4	21%

**Note 1: Single Family Residential Improvements:** Of the 4 outliers listed above, all were found in the 4/5th of the county which was not *physically* inspected during the 2020-2021 tax year.

**Note 2: Multi-family Residential Improvements:** Of the 2 outliers listed above, both were in the 4/5th of the county which was not *physically* inspected during the 2020-2021 tax year. Both outliers are resulting from small improvements in mobile home parks, escaping taxation. See Finding EL 2020-02.

**Note 3: Commercial and Industrial Improvements:** Of the 4 outliers listed above, 2

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<sup>1</sup> All references to the Assessor means the Assessor or the Assessor’s staff

was in the reappraisal area and 2 were in 4/5th of the county which was not *physically* inspected during the 2020-2021 tax year.

<b>Property Type</b>	<b>Sample Size Accounts Reviewed</b>	<b>Total Property Records Examined</b>	<b>Records In Ratio</b>	<b>Records Out of Ratio</b>	<b>Exception Rate</b>
Personal Property	34	451	448	3	1%

**Notes:** Records Out of Ratio reflect outliers after adjusting for rounding differences. Three records had incorrect lives. The Assessor was made aware and corrections complete.

### **Observations and Summary**

**Transition:** Elko County is among the counties transitioning from ADS to DevNet. Elko closed their 2020/21 tax roll in DevNet. The assessor currently maintains the various Exemption Programs in DevNet as well as ADS. The Department of Motor Vehicles requires access to exemption records. Once DevNet can offer access to the Department of Motor Vehicles, Elko will no longer maintain these records in the ADS system.

**Marshall and Swift:** The Assessor implemented the Department changes noted regarding the use of Marshall and Swift Seismic Zone 3 from the 2017-18 Ratio Study.

**Staffing:** Elko currently operates with an adequate staff to meet N.R.S requirements and deadlines. They have replaced/added two appraiser trainees to their staff who are operating under temporary certificates issued by the Department. The Assessor is monitoring their progress closely to ensure success in completing future testing dates and education requirements in a timely manner.

**Land Valuation:** Elko 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 implementing and fine-tuning different appraisal methodologies moving forward to assess market changes. The Department will be available to assist the Assessor as they modify current practices using different land appraisal techniques as outlined in NAC 361.122. Requested information related to the justification of existing land values set in previous years, as well as the current year analysis was requested by the Department. Given three weeks to reply, the Assessor was unable to respond.

**Personal Property:** The Assessor's office will be using DevNet to value and bill personal property while addressing issues as they come up.



## **Findings and Recommendations**

### **Finding No. EL 2020-1**

#### **Criteria**

The replacement cost of the improvement must be calculated in accordance with Nevada Administrative Code (N.A.C.) 361.128 (1) The standards and modifiers of local costs published in the version of the Residential Cost Handbook, Marshall Valuation Service, Residential Estimator software or Commercial Estimator software, as appropriate, adopted by reference pursuant to [NAC 361.1177](#) as of January 1 of the year immediately preceding the lien date for the current year; or (2) With the prior approval of the Executive Director, other computer programs for determining cost which are based on costs published by Marshall & Swift.

#### **Condition**

The assessor is using unapproved localized costs to calculate the replacement cost of mobile home foundations in place of the cost from the Residential Cost Handbook, as approved by the Nevada Tax Commission.

#### **Cause**

The Assessor is applying, significantly higher, localized, unapproved costs on manufactured home concrete foundations throughout the county. This caused mobile home dwellings on concrete foundations to be overvalued.

#### **Effect**

As it relates to the 2020-21 tax roll year, applying the average cost of \$115.00 per linear foot, as opposed to the Residential Cost Handbook, Section MFG-19, cost of \$16.95 per linear foot, results in a difference of \$98.05 per linear foot. Assuming an average home size of 24x42 (132 linear foot), an average overvaluation of \$12,942, before depreciation, occurs per concrete foundation throughout the county. All parcels, within the sample, with concrete foundations resulted in total improvement ratios outside the 32%-36% statutory range per N.R.S. 361.333.

#### **Recommendation**

As the fiscal impact is significant to parcels with mobile/manufactured home concrete foundations, the Department's guidance is that, beginning with the 2021-22 tax roll, the Elko County Assessor begin costing all concrete foundations, related to mobile/manufactured homes, from the Residential Cost Handbook Section MFG. Doing so will improve the overall equality in the relationship between how foundations are valued for these homes compared to more common site-built homes valued using Marshall & Swift costs.

## **Finding No. EL 2020-2**

### **Criteria**

NRS 361.045 Taxable property states, "Except as otherwise provided by law, all property of every kind and nature whatever within this state shall be subject to taxation." In addition, NRS 361.035 "Real estate" and "real property" is defined as follows

1. "Real estate" or "real property" means:

(a) All houses, buildings, fences, ditches, structures, erections, railroads, toll roads and bridges, or other improvements built or erected upon any land, whether such land is private property or property of this state or of the United States, or of any municipal or other corporation, or of any county, city or town in this state.

### **Condition**

Real property improvements related to personal property mobile/manufactured homes in Mobile/Manufactured Home Parks are not being valued in accordance with NRS 361.045.

### **Cause**

The Assessor is not valuing small improvements in Manufactured Home Parks. The county assessor has been aware that these improvements are currently, and have been, property escaping taxation.

### **Effect**

Since each individual site within a park varies as to the quantity and value of real property improvements the renter has erected, and the depreciation, related to the age of the improvements, are unknown at this time, it is impossible for the Department to quantify the current impact to the county tax base. The number of parks within the county, the number of spaces within each of those parks, and the square footage of the spaces lending to the ability to add improvements has an effect on the current and future capacity for the addition of real property improvements. The failure to value and tax real property improvements in parks has created inequity in the treatment of real property improvements between personal property owners of mobile/manufactured homes within parks in relation to personal property owners of mobile/manufactured homes on individually owned parcels of land, whose real property improvements are being captured and taxed.

### **Recommendation**

The Department's guidance is that, beginning with the 2021-22 tax roll, the Elko County Assessor begin costing all small improvements in Manufactured Home Parks as they come up within the reappraisal cycle, using aerial photography and site visits. Doing so will improve overall equity throughout the county and state. The Assessor affirmed that they will begin correcting this using aerial photography and field site visits in each area, during each of the annual reappraisal cycles, to insure consistency and equalization countywide.

## **Finding No. EL 2020-3**

### **Criteria**

Pursuant to Nevada Revised Statute (NRS) 361.260, each year the county assessor shall determine the taxable value of all real property. For any property not reappraised in the current assessment year, the county assessor shall determine its assessed value for that year by applying a factor for land to the assessed value for the preceding year developed by the county assessor and approved by the Commission.

### **Condition**

In 2006, the Assessor requested to re-cost all land values annually in lieu of using land factors, as allowed by NRS 361.260(5)(b). In several areas of the county, the Assessor did not adjust land values in 2019, to reflect market changes per NRS 361.260.

### **Cause**

In many areas where outliers were found, the assessor recognized values needed to be adjusted. The Assessor stated land values were not completed prior to the 2020-21 tax roll close, due to the transition to DevNet.

### **Effect**

Market data indicates that land values should be increased in some areas and decreased in others. As a result, it is unknown the fiscal impact not changing land values to reflect the current market will have on the county. In addition, not adjusting +/- for market changes countywide creates inaccurate land values and inequity throughout the county.

### **Recommendation**

The Assessor stated that all land values will be completed in the 2020 work year to reflect the current market. In addition, they will be modifying their usage of different techniques and methods allowed by law to ensure the most accurate values. In order to maintain compliance with NRS 361.260 the Assessor must ensure land is analyzed and values are applied every year. The Assessor indicated incomplete land values for the 2020-21 tax year will be added on the re-opened tax roll. This is not standard practice for Elko County. Typically, land is reappraised annually.

## Assessor's Response

### **Response Land Valuation:**

*The assessor's office does implement the various appraisal methods when reviewing land values. Due to the number of entities, subdivisions, planned unit development, divisions of large parcels and the rural areas in Elko County, we have become very versatile in our methodology to assess land sales in our market following NAC 361.1192. The internet has created additional challenges in determining if sales were informed sales, arms-length transactions etc. In areas where there are minimal vacant land sales, we have incorporated abstraction/allocation, single property/mass property techniques for patterns that will help determine what those values are.*

*-The Covid-19 virus has brought the County offices to minimal staffing where our staff was reduced to 1 to 2 people in the office per day just to cover the basic operation, therefore that verification was not sent before March 30<sup>th</sup>.*

*The general requirements as per NAC 361.1192 are what we try to follow when reviewing those sales to set our land values. We keep this information on a MS Access spreadsheet and it is readily available to provide to the taxpayer and/or other agencies upon request.*

**Response Finding 1:** *It is my understanding that we are out of ratio on the improvement statutory range due to the fact that we use the local costs in our county. For the last twenty years, we have completed a cost survey on all local general contractors that do mobile home foundations in the local entities in our county. We also contact all five local building departments in regards to the permit costs that are issued for the various types of foundations built within the county. Those costs are in line with the contractors. We feel this is a more accurate representation of the building market here. If we were to use the cost as recommended by the Department, it would take the total value of the property out of the recommended assessment ratio as required by the Department. Our local market values are a better indicator of what the replacement cost should be. We have been made aware that we will need to get this approved by the Executive Director each year and will start doing so.*

**Response Finding 2:** *The Assessor's office will comply with the Departments recommendation to begin costing all the small improvements in the Manufactured Home Parks as they come up in the re-appraisal cycle. A large portion of these improvements are not "permanent" and belong to the owner of the mobile home, which is migratory. We follow NRS 489.261 Regulations pertaining to accessory structures so if the improvements exceed the 120 sq ft in total area and are permanently fixed, we will add them to the parcel that the mobile home is located on.*

***Response Finding 3:*** *The Assessor's office will continue to finish updating the necessary value changes that need to be made for the 2020-21 fiscal year on the Re-open Roll. We were not able to finish entering the updated values prior to the conversion to DevNet due to time constraints and conversion issues.*

***Summary Response:*** *I would like to commend both Lorna and Shannon on their patience and willingness to work with us on the ratio study during this stressful time. They are both new to their current positions and are doing very well as they learn and adapt to the ever-changing challenges. Not only with our transition to the new software, in which I was on the design committee and working on additional issues that came up in the conversion process but also during the COVID-19 quarantine.*

**LANDER COUNTY RATIO STUDY 2020-2021  
NARRATIVE**

All land is reappraised each year in Lander County. Improved properties are reappraised according to a maximum statutory 5-year appraisal cycle. This results in the application of the improvement factor, approved by the Nevada Tax Commission, in non-reappraisal areas. The Assessor<sup>1</sup> will continue to “physically” re-inspect no less than one-fifth of the county each year (i.e. one “appraisal group” each year) based on the reappraisal area rotation until the county transitions to a new assessment system.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND</b>				
Vacant Land	29	29	0	0%
Single-Family Residential Land	29	29	0	0%
Multi-Family Residential Land	14	14	0	0%
Commercial and Industrial Land	15	15	0	0%
Agricultural Land	7	7	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Note 1)	29	28	1	3%
Multi-family Residential Improvements (Note 2)	14	12	2	14%
Commercial and Industrial Improvements (Note 3)	15	11	4	27%

**Note 1: Single Family Residential Improvements:** The outlier listed above was found in the area of the county which was not *physically* inspected during the 2020-2021 tax year and was the result of the improvement factor exceeding current costs.

**Note 2: Multi-family Residential Improvements:** The two outliers listed above were found in the areas of the county which were not *physically* inspected during the 2020-2021 tax year. One outlier was the result of current costs differing from the improvement factor.

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<sup>1</sup> All references to the Assessor means the Assessor or the Assessor’s staff.

**Note 3: Commercial and Industrial Improvements:** The outliers listed above were found in the 4/5 of the county which was not *physically* inspected during the 2020-21 tax year. Two of the four outliers were the result of incorrect occupancy codes and two included the improvement factor exceeding current costs.

<b>Property Type</b>	<b>Sample Size Accounts Reviewed</b>	<b>Total Property Records Examined</b>	<b>Records In Ratio</b>	<b>Records Out of Ratio</b>	<b>Exception Rate</b>
Personal Property	35	452	451	1 (Notes)	0%

**Notes:** Records Out of Ratio reflect outliers after adjusting for rounding differences. There was one MH account where the base value was reduced to \$1 due to the mobile home being burned down. The owner is deceased and back taxes are still owed so the account can not be deactivated.

### **Observations and Summary**

**Transition:** Lander County was among the counties transitioning from ADS to DevNet. After running the two systems side by side and running into complications with DevNet, Lander decided to not move forward with DevNet. They closed the Real Property tax roll in ADS and will remain with ADS over the next two years until they are able to transition to a new system provider.

**Staffing:** Lander has staff dedicated to both real property and personal property. The staff continuously works to improve procedures internally and are open to assistance from the State. They are currently using an outside, contracted, land specialist

**Land Valuation:** Lander performs annual reappraisal of land throughout the county. Some areas of the county have remained unchanged for numerous years due to zero or limited number of sales. The county has subcontracted with Assessed Valuation Specialists to assist them with analyzing and updating land valuations where needed. The entire county will be reevaluated over the next two years.

**PERSHING COUNTY RATIO STUDY 2020-2021  
NARRATIVE**

All improvements are revalued, and land is reappraised annually in Pershing County. The Assessor<sup>1</sup> 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.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND (Note #1)</b>				
Vacant Land	25	23	2	8%
Single-Family Residential Land	30	28	2	7%
Multi-Family Residential Land	15	14	1	7%
Commercial and Industrial Land	18	18	0	0%
Agricultural Land	6	6	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Notes 2)	30	24	6	20%
Multi-family Residential Improvements (Notes 3)	15	11	4	27%
Commercial and Industrial Improvements (Note 3)	18	14	4	22%

**Note 1: Land:** The Assessor subcontracted part of the county’s land valuation, none of the outliers were in these areas. The outliers were in areas where the Assessor was not able to determine the assessed values and therefore left the values the same, (See **Finding No. PE 2020-21**).

**Note 2: Single-Family Residential Improvements:** The 6 outliers listed above were found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year. 1 out the 5 were due to DevNet, (see **Transition**). The remainder were a result of property escaping taxation and/or quality class differences.

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<sup>1</sup> All references to the Assessor means the Assessor or the Assessor’s staff



**Note 3: Multi-Family Residential Improvements:** The 4 outliers listed above were found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year. 1 out of the 4 outliers were due to missing the subfloor, this was previously an issue captured in the 2017/2018 Ratio Study. The remainder of the outliers were due to property escaping taxation and differences quality class.

**Note 4: Commercial and Industrial Improvements:** The 4 outliers listed above were found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year. 1 out of the 4 outliers was due to incorrect occupancy code. The remainder of were due to property escaping taxation.

**Personal Property**

Property Type	Sample Size Accounts Reviewed	Total Property Records Examined	Records in Ratio	Records Out of Ratio	Exception Rate
Personal Property	28	313	313	0 (Note)	0%

**Note:** *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences, see Personal Property below.

**Observations and Summary**

**Transition:** Pershing County is among the counties who transitioned from ADS to DevNet. The Assessor discovered an amalgam of issues due to the transition; however, she worked rigorously to fix the issues resulting in being able to successfully close the Real Property Tax Roll using the DevNet system. During the Ratio Study, the county was still processing Personal Property. The Department would like to highlight that the Assessor was proactive in communicating with taxpayers of the transitioning process and the potential issues. Her actions display a great deal of transparency with the county taxpayers.

**Staffing:** The Assessor has been understaffed since September 2019. Staffing issues on top of the transitioning issues resulted in overtime hours for the Office. There has been no change in the Real or Personal Property staff. The Assessor and her team continue to be very receptive of any assistance and constructive criticism offered by the Department.

**Land:** The Assessor has had significant challenges in valuing land. The Department was not provided documentation as to how the values were previously set; making it hard to validate whether historic values were correct. The Assessor feels she was left behind by the Department in the past as she had requested help but feels like she never received it. The previous Department Appraiser and Supervisor provided training tools but no hands-on training with the Assessor, which proved to be unsuccessful. No request for assistance has been requested since new Department staffing changes have occurred. The current

Appraiser and Supervisor are developing land training tools and will visit the Assessor Office this summer to do one on one training with the Real Property Staff and Assessor. The Assessor has stated that the subcontracted land valuation specialist, who valued the Lovelock (Book 1) during the Ratio Study year, will be valuing books 6, 8, and 9. It is the Department's hope that with customized training and the work done by the subcontracted land valuation specialist, the Assessor will be better prepared for the 21-22 valuation year.

## **Findings and Recommendations**

### **Finding No. PE 2020-1**

#### **Criteria**

Pursuant to Nevada Revised Statute (NRS) 361.260, each year the county assessor shall determine the taxable value of all real property. For any property not reappraised in the current assessment year, the county assessor shall determine its assessed value for that year by applying a factor for land to the assessed value for the preceding year developed by the county assessor and approved by the Commission.

#### **Condition**

The Assessor requested to re-cost all land values annually in lieu of using land factors, as allowed by NRS 361.260(5)(b), prior to the current Assessor's employment with the county, as an appraiser, in 2008. Annual re-costing was not done after land factors were requested to be abandoned in lieu of annual re-costing. The current Assessor began attempting land valuation upon appointment. The Assessor subcontracted, to a land valuation specialist, to do land valuation for Lovelock but failed to do an analysis and/or re-valuation of the land in the reappraisal area and the remaining county, not valued by the subcontractor.

#### **Cause**

The Assessor stated that land valuation has been an issue for Pershing County since prior to appointment. As a newly appointed assessor, help was requested from the Department as she did not know how to properly do a land valuation. The then Department Appraiser attempted to provide tools to the Assessor as did the then supervisor after the 17-18 Ratio Study but as no hands-on training was provided, this was not successful.

#### **Effect**

Ratio study data indicates that land in much of the county is overvalued. Market analysis of the vacant sales show support of values decreasing over time. The varying outliers

indicated that overvaluation may not be a valid representation of the population as a whole, so the overall effect countywide is not known at this time.

### **Recommendation**

The Department is currently creating one on one training for the Pershing Assessors Office and will travel to the county this summer for said training. It is recommended that Pershing County, prior to this training, reviews Nevada Administrative Code (NAC) 361.1179 through 361.1218 as it provides accepted appraisal standards to determine land values. The Assessor should also read; *The Standard on Mass Appraisal of Real Property: Land Valuation chapter*, *The Standard on Automated Valuation Models (AVMs)*, and *The Standard on Verification and Adjustment of Sales latest edition* published by the International Association of Assessing Officers (IAOO), which will be provided by the Department. This will allow for the Assessor to have a deeper understanding of what is required for land valuation. DevNet has an Automated Valuation Model within their program which the county can incorporate into the training of their new system. Until such a time as the county is able to incorporate and utilize DevNet's land valuation module into their standard practices, the Department will provide tools and the training to use them, in order to analyze and stratify sales and make a land value determination in accordance to Nevada Statues and Codes. If not provided as part of the subcontractor's work, if needed, the Department will also provide training so the Assessor can create market areas for future analysis.

**WHITE PINE COUNTY RATIO STUDY 2020-2021  
NARRATIVE**

All land is reappraised each year in White Pine County. The Nevada Tax Commission approved the Assessor’s<sup>1</sup> request to reappraise all land, rather than apply a land factor in non-reappraisal areas, on October 2, 2006. The county has been annually re-costing improvements since 2017-2018, but 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.

<b>Property Type</b>	<b>Sample Size</b>	<b>In Ratio</b>	<b>Out of Ratio</b>	<b>Exception Rate</b>
<b>LAND</b>				
Vacant Land	20	20	0	0%
Single-Family Residential Land	30	30	0	0%
Multi-Family Residential Land	15	15	0	0%
Commercial and Industrial Land	25	25	0	0%
Agricultural Land	6	6	0	0%
<b>IMPROVEMENTS</b>				
Single Family Residential Improvements (Note 1)	30	26	4	13%
Multi-family Residential Improvements	15	15	0	0%
Commercial and Industrial Improvements (Note 2)	25	22	3	12%

**Note 1: Single Family Residential Improvements:** Of the 4 outliers listed above, 3 were in the reappraisal area and 1 was found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year.

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<sup>1</sup> All references to the Assessor mean the Assessor or the Assessor’s staff.

**Note 2: Commercial and Industrial Improvements:** Of the 3 outliers listed above, 2 were in the reappraisal area and 1 was found in the 4/5 of the county which was not *physically* inspected during the 2020-2021 tax year.

<b>Property Type</b>	<b>Sample Size Accounts Reviewed</b>	<b>Total Property Records Examined</b>	<b>Records In Ratio</b>	<b>Records Out of Ratio</b>	<b>Exception Rate</b>
Personal Property	35	576	575	1	0%

**Notes:** *Records Out of Ratio* reflect outliers after adjusting for computer system rounding differences. The 1 outlier was a result of incorrectly assigned life and has been corrected.

### **Observations and Summary**

**Transition:** White Pine County closed the 2020-21 tax roll in the DevNet system. Prior to the conversion, some of the re-appraisals were completed in ADS and then transferred to DevNet. Unsecured Mobile Homes were billed in ADS prior to the conversion. All other unsecured Personal Property was processed and billed in DevNet. All work will be completed in DevNet for the 2021-22 tax year.

**Appraisal Records:** White Pine has created a user-friendly system of transparency which not only allows taxpayers to retrieve information anytime but staff to more efficiently address taxpayer questions and concerns.

**Local Cost Multipliers:** White Pine requested and was approved to begin using the Lincoln County Local Cost Multiplier (LCM), for valuing improvements from the Marshall and Swift Costing Manual, beginning FY 2021-22. Previously they were using the Elko County LCMs. Extreme growth and market changes within Elko County, have made White Pine County more comparable to Lincoln than Elko County in market conditions. Therefore, the use of the Lincoln County LCM is more appropriate for White Pine.