

November 2023

# RENO-TAHOE AIRPORT AUTHORITY

## Fiscal, Economic, and Industry Impacts



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## Executive Summary

Ekay Economic Consultants, Inc. (EEC) was retained to conduct a fiscal, economic, and industry impact of the Reno-Tahoe Airport Authority (RTAA), in partnership with the Center for Regional Studies at the University of Nevada, Reno. Key findings of the report are:

- The total economic impact of RTAA operations and airport-related industries and visitors is estimated at \$3.6 billion per year.
- RTAA operations and airport-related industries and visitors support 24,000 jobs in Northern Nevada.
  - Of these, 6,308 jobs are direct jobs located at Reno-Tahoe International and Reno-Stead airports and in airport-related industries.
- RTAA operations and airport-related industries and visitors are estimated to generate over \$82.3 million per year in revenues for governments in Nevada (fiscal impact).

The Reno-Tahoe Airport Authority is the owner and operator of the Reno-Tahoe International (RNO) and Reno-Stead (RTS) Airports. The two airports have a significant impact on the Reno-Sparks area, as well as much of Northern Nevada and portions of California. As RTAA operates both the area's only international airport (Reno-Tahoe International) and largest reliever airport (Reno-Stead), RTAA's operations impact a larger region than the Reno-Sparks area where it is located. As a result, the analysis focuses on two geographic regions.

The Reno-Sparks Metropolitan Statistical Area (Reno MSA), which includes Washoe and Storey counties, is used to describe the relationship between RTAA, its related industries, and the economic activity in the region. The larger Northern Nevada region (Washoe, Storey, Carson City, Churchill, Douglas, Lyon, Pershing, Humboldt, Lander, and Mineral counties), the service area for the Reno-Tahoe International Airport, is used to estimate economic and fiscal impacts of RTAA and its related industries on this larger region. Eastern Sierra communities in California are also served by the Reno-Tahoe International Airport, but the airport's economic significance in California is mainly a result of visitation to the Lake Tahoe Basin. Economic

metrics related to this activity are identified and calculated within the discussion of deplaned passengers.

The Reno MSA has and is expected to continue to experience a high level of economic growth as new companies move to the area and existing unemployment rates are below natural unemployment levels, indicating new residents will be moving to the region to fill new employment opportunities. The Reno MSA 2022 population of 500,969 persons is projected to increase to 536,842 by 2027 (1.4% per year). For the Northern Nevada region, population is projected to increase by 1.1% per year from 729,842 residents in 2022 to 771,308 residents in 2027. (It should be noted that the US Census Bureau reported that only 2,464 new persons were added to Washoe County in 2022 after averaging 8,252 new persons per year between 2015 and 2021. The reason for the low population growth estimate in 2022 is a significant decrease in net migration, an increase in local deaths, and a slight decrease in local births. Housing affordability may also be impacting in-migration trends).

Between 2017 and 2022, employment in the Reno MSA increased by 8.8% and average weekly wages increased 32.3%. In 2022, industries in the Reno MSA with the highest job gains included Manufacturing (10,900 jobs), Construction (4,200), and Transportation and Warehousing (2,800). Nevada Governor's Office of Economic Development (GOED) projects 19,100 new jobs for the Reno MSA and 24,100 new jobs for the Northern Nevada region between 2022 and 2027.

Employment and resulting population growth, especially in the Reno MSA, coupled with limited home construction due to lack of labor and increasing costs of construction, created significant housing shortages in the region, driving up housing prices and rents. Recent increases in mortgage rates, which increased housing costs, have shifted demand for housing from ownership to rent product, while lack of supply and new household creation continue to drive up housing prices.

While the region has not recovered to its pre-COVID-19 pandemic visitor levels, visitors coming to the region are wealthier and more diverse in their interests than ever before. While these visitor counts are slow to recover, airport passenger levels are projected to reach the highest levels in fifteen years, exceeding levels seen in the region prior to the Great Recession.

The Leading Economic Index, published monthly by Ekay Economic Consultants, Inc., shows the economy is expected to continue to grow, though at a reduced rate than seen in the last few years. The region is expected to continue to attract new companies to the region, but will be impacted by the coming national economic downturn.

RNO is expected to provide services to over 4.6 million passengers in 2023 through twelve airlines. RNO is also served by three major air cargo carriers (DHL, FedEx, and UPS). Operating revenues for Reno-Tahoe Airport Authority are expected to continue to increase by 17.9% between FY 2022-23 and 24.8% in FY 2023-24, while operating costs are expected to increase by much lower levels, resulting in significant net operating revenues for the RTA. Gross sales for parking, car rental, and terminal services providers are also experiencing strong revenue growth.

Growth in overall RNO and RTS operations is also driving the need for capital expenditures. Four major multi-million-dollar projects have been planned for RNO in 2018, with two runway-related projects completed, improvements to the ticketing hall currently under construction, and the expansion of the concourse area currently under design, expected to be completed in 2029.

Performance of airport-related industries is analyzed using econometric tools, including location quotients, shift-share, and industry linkage analyses. Upon combining the three analyses, industries within the construction, manufacturing, and arts/entertainment/recreation sectors are identified as key industries related to RTAA operations in our region, and is recommended that these industries be prioritized for targeted economic development efforts. These are the same industries that have shown significant growth in the region in the last five years.

Several airport-related industries contribute to Reno-Tahoe Airport Authority's total economic impact, including commercial airlines and general aviation, airport terminal services, government agencies, freight carriers, miscellaneous aviation and aviation services, Nevada National Guard, car rentals and ground transportation, travel related services, non-airport-related tenants leasing RTAA-owned land, and visitors traveling to the region using RNO.

The total economic impact of RTAA operations and airport-related industries and visitors are measured in terms of output, employment, and labor income. The total economic impact of RTAA operations and airport-related industries and visitors in 2023 dollars amounted to \$3.6 billion in output through direct expenditures, secondary spending by impacted industries (indirect impact), and household spending of wages (induced impact). The total economic impact of output generated by RTAA operations and airport-related industries and visitors is estimated to be 8% of the Northern Nevada region's gross domestic output.

The cycle of economic activity generated by RTAA operations and airport-related industries and visitors also supported 24,000 jobs in 2023, or 6% of the Northern Nevada region's total employment. Labor income accounted for \$1.3 billion of the total economic impact (included in output impacts). The total economic impacts are annual, ongoing impacts. One-time impacts in the form of capital improvements at RNO for four major projects, will contribute \$1.05 billion to the Northern Nevada economy in 2023 dollars.

The significant economic activity generated by RTAA operations and airport-related industries and visitors also benefits local and state government revenues in the form of property taxes, sales taxes, employment taxes, business license revenues, gas taxes, building permit fees, and more. Properties owned by RTAA are exempt from property tax payments, and due to the difficulty in quantifying the myriad of local government revenue streams, only sales taxes, lodging taxes, and Modified Business Taxes are analyzed. On an annual basis, local and state government jurisdictions, including Washoe County School District, receive over \$82.3 million in revenues from these three tax sources as a result of RTAA and related activities.

The RTAA contributes significant employment and expenditures in the Northern Nevada economy, provides building space for tenants, promotes aviation-related activities, and supports visitor and business travel activities and impacts. These activities provide a robust impact for Northern Nevada's economy, businesses, residents, and governments.

## Introduction

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Ekay Economic Consultants, Inc. (EEC) was retained to conduct a fiscal, economic, and industry impact of the Reno-Tahoe Airport Authority (RTAA), in partnership with the Center for Regional Studies at the University of Nevada, Reno.

The Reno-Tahoe Airport Authority is the owner and operator of the Reno-Tahoe International (RNO) and Reno-Stead (RTS) Airports. It is governed by a nine-member Board of Trustees, operates as a business, and receives no local tax dollars.

Two international airports operate in Nevada, the Reno-Tahoe International Airport in Reno, serving Northern Nevada, and Harry Reid (formerly McCarran) International Airport in Las Vegas, serving Southern Nevada. In addition, three regional airports operate in the State, including Boulder City Municipal Airport and North Las Vegas Airport in Southern Nevada and Elko Regional Airport in the eastern part of the State. Numerous small general aviation and reliever airports also operate in Nevada, including the Reno-Stead Airport in Reno, as well as airports and airfields in Carson City, Henderson, and many of the smaller towns across the State.

The RTAA contributes significant employment and expenditures in the Northern Nevada economy, provides building space for tenants, promotes aviation-related activities, and supports visitor and business travel activities and impacts. These activities provide a robust economic impact for Northern Nevada's economy, businesses, residents, and governments. These impacts are measured in this report through the following analyses:

Section I provides an overview of RTAA operations and impacted industries. This section includes an overview of the regional economy, analysis of the RTAA operations performance, and summary of industries impacted by RTAA operations.

Section II provides an analysis of the performance of industries related to RTAA operations. This includes location quotient and shift-share analyses to determine the Northern Nevada region's impact on industry performance. A linkage analysis is also included to show the

relationship between airport-related industries and other industries in the Northern Nevada region.

Section III estimates the economic impact of RTAA operations on Northern Nevada. Using the IMPLAN input-output model, the analysis estimates the direct, indirect, and induced impact (output and employment) of RTAA operations, property leases, capital construction, visitors, and aviation-related industries.

Section IV estimates the fiscal impact of RTAA operations on various public entities within the State of Nevada. Using findings of the economic impact analysis, the fiscal impact analysis estimates revenues generated by RTAA operations, property leases, capital construction, visitors, and aviation-related industries for the Cities of Reno and Sparks, Washoe County, and State of Nevada.

As RTAA operates both the area's only international airport (Reno-Tahoe International) and largest reliever airport (Reno-Stead), RTAA's operations impact a larger region than the Reno-Sparks area, where it is located. As a result, the analysis focuses on two geographic regions. To describe the economic and employment situation impacting RTAA operations, the analysis focuses on the Reno-Sparks Metropolitan Statistical Area (Reno MSA), which includes Washoe and Storey counties. This is because the majority of RTAA employment and supplier/customer linkages are located in the MSA. Sections I and II focus on the Reno MSA to determine the relationship between RTAA and its related industries and the economic situation in the region.<sup>1</sup>

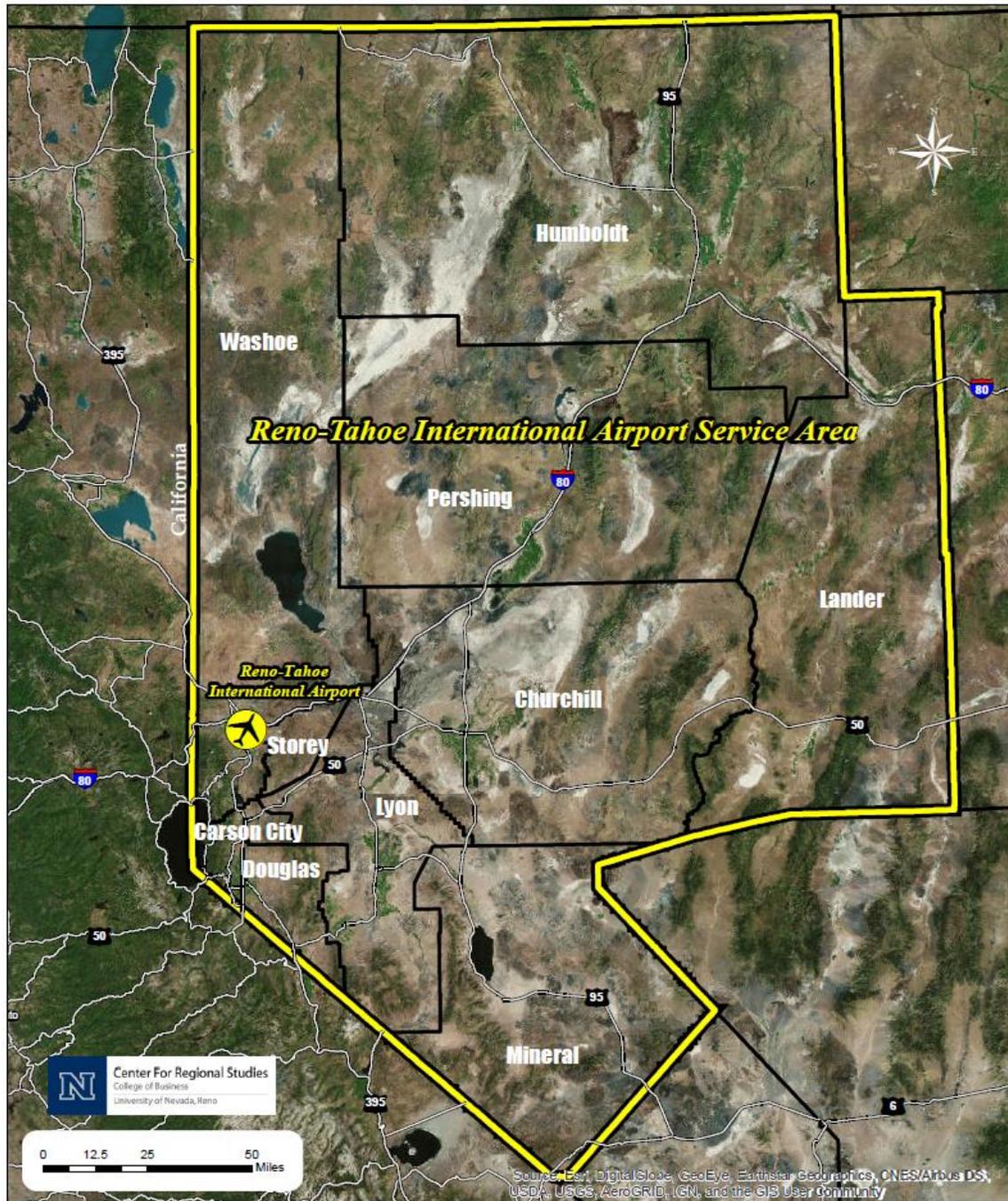
However, RNO and, in some part RTS, operations impact not only the primary Reno MSA, but also the larger region, referred to as the Northern Nevada region. For the purposes of this analysis, the Northern Nevada region includes Washoe (where RTAA and its airports are located), Storey, Carson City, Churchill, Douglas, Lyon, Pershing, Humboldt, Lander, and Mineral counties. This region is considered to be the service area for the Reno-Tahoe International Airport. Although the Reno-Tahoe International Airport also serves a large

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<sup>1</sup> It should be noted some economic data are not available for the Reno MSA, such as data available for Washoe County only. Other data are available for a larger area than Reno MSA, including Carson City MSA. The analysis provides a description of each data region, if different from Reno MSA.

portion of eastern Sierra communities located in California, economic impacts focus on the Nevada service area only. This region is considered in Sections III and IV of the report, which estimates the economic and fiscal impacts of RTAA and its related industries on this larger region. Figure 1 shows the Reno-Tahoe International Airport’s service area, including the Nevada portion only.

**Figure 1. Reno-Tahoe International Airport Service Area – Northern Nevada**



# I. Overview of RTAA Region, Operations and Industries

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This section provides an overview of RTAA operations and impacted industries. It includes an overview of the regional economy, analysis of the RTAA operations performance, and summary of industries impacted by RTAA operations.

## REGIONAL ECONOMY OVERVIEW

### A. Population and Employment Projections

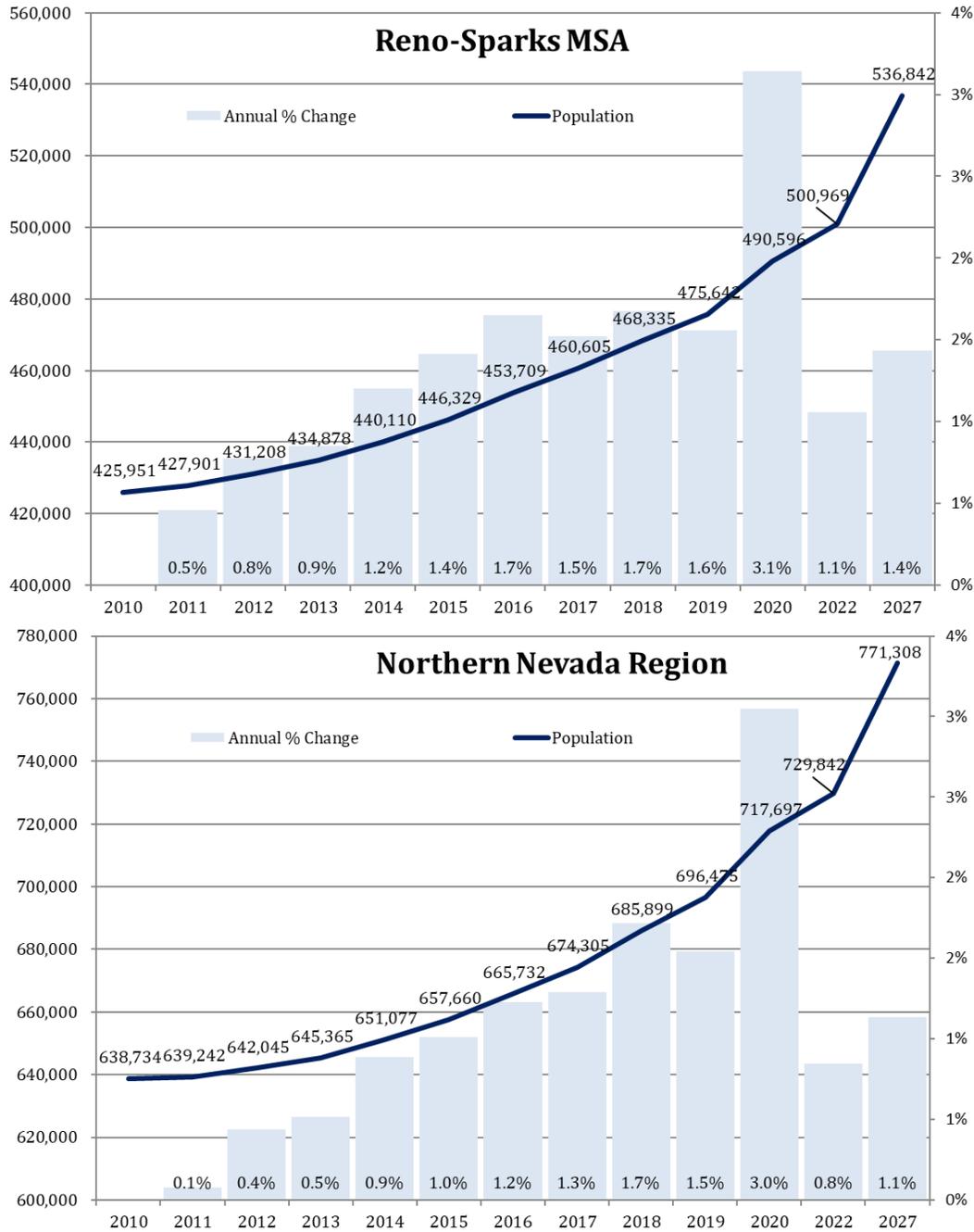
The Reno MSA is expected to experience a high level of growth as new companies move to the area and existing unemployment rates are below natural employment levels. This means that new residents will be moving to the region to fill new employment opportunities. This growth in the overall region is discussed below. It should be noted that for the purposes of this analysis, the direct economic region for the RTAA is defined as the Reno-Sparks Metropolitan Statistical area (Reno MSA). The Reno MSA includes Washoe and Storey counties. Storey County is important to include in all growth discussions in the region as it is home to the Tahoe-Reno Industrial Center, one of the largest and fastest growing employment centers in the area.

According to the 2020 Decennial Census, which is the most accurate available population estimate, the Reno MSA had a population of 490,596 persons, an increase of 64,645 or 15.2% from the 2010 Decennial Census. This is an average of 1.4% growth per year, with a 3.1% increase in population in 2020, though some of this increase may be due to underestimation in previous years and catch-up to 2020 data. Annual population information is shown in Figure 2. MSA population is estimated to have reached 500,969 persons in 2022, an average annual growth of 1.1%. Over the next five years, to 2027, MSA population is expected to reach 536,842 persons, with an average annual growth of 1.4%.

For the Northern Nevada region (including Reno MSA), population increased by an average of 1.2% per year between 2010 and 2020, driven primarily by population growth in the MSA.

Between 2020 and 2022, population growth is estimated to have declined to 0.8% per year and is expected to increase to 1.1% per year between 2022 and 2027.

**Figure 2. Reno MSA & Northern Nevada Region Historical and Projected Population<sup>2</sup>**



<sup>2</sup> Population data for 2010-2020 from American FactFinder, US Census Bureau. Data for Washoe County in 2022 from US Census American FactFinder, data for remaining counties from Gale Business: DemographicsNow, Complete Demographic Summary Report. Projected 2027 population for all counties from Gale Business: DemographicsNow, Complete Demographic Summary Report.

Not only is the regional population expected to grow, resident age, income, and education levels are also expected to increase, as shown in Table 1.

**Table 1. Reno MSA & Northern Nevada Region Select Demographic Characteristics <sup>3</sup>**

	RENO-SPARKS MSA		NORTHERN NV REGION	
<b>Population by Age</b>				
% Of Total	2022 Estimates	2027 Projections	2022 Estimates	2027 Projections
0 to 4	5.7%	5.9%	5.5%	5.7%
5 to 14	11.9%	11.5%	11.8%	11.4%
15 to 19	5.8%	5.8%	5.7%	5.7%
20 to 24	6.4%	6.0%	6.0%	5.7%
25 to 34	15.2%	14.1%	14.4%	13.4%
35 to 44	12.7%	13.5%	12.3%	13.0%
45 to 54	12.0%	11.5%	11.8%	11.2%
55 to 64	13.0%	11.7%	13.6%	12.1%
65 to 74	10.8%	11.6%	11.7%	12.5%
75 to 84	5.0%	6.6%	5.7%	7.3%
85+	1.5%	1.7%	1.7%	1.9%
Median Age	38.7	39.7	40.4	41.3
<b>Households by Income</b>				
% Of Total	2022 Estimates	2027 Projections	2022 Estimates	2027 Projections
\$0 - \$15,000	7.3%	6.1%	7.9%	6.5%
\$15,000 - \$24,999	7.5%	6.5%	7.5%	6.5%
\$25,000 - \$34,999	6.9%	6.1%	7.3%	6.5%
\$35,000 - \$49,999	10.8%	9.5%	11.4%	10.0%
\$50,000 - \$74,999	17.3%	14.6%	17.8%	15.0%
\$75,000 - \$99,999	15.8%	15.2%	16.2%	16.0%
\$100,000 - \$149,999	19.6%	23.7%	18.7%	23.0%
\$150,000 +	14.8%	18.2%	13.2%	16.5%
Average Hhld Income	\$ 101,770	\$ 115,336	\$ 96,432	\$ 109,743
Median Hhld Income	\$ 75,397	\$ 86,735	\$ 72,846	\$ 84,108
Per Capita Income	\$ 39,945	\$ 45,476	\$ 38,159	\$ 43,626
<b>Educational Attainment</b>				
% of Total	2022 Estimates	2027 Projections	2022 Estimates	2027 Projections
Grade K - 8	3.5%	3.3%	3.2%	3.2%
Grade 9 - 11	6.8%	6.7%	7.3%	7.2%
High School Graduate	23.5%	23.3%	25.5%	25.2%
Some College, No Degree	25.9%	25.7%	26.6%	26.5%
Associates Degree	8.7%	8.8%	8.9%	9.1%
Bachelor's Degree	19.0%	19.2%	17.1%	17.5%
Graduate Degree	11.5%	11.8%	10.1%	10.3%
No Schooling Completed	1.2%	1.2%	1.1%	1.1%

<sup>3</sup> Gale Business: DemographicsNow, Complete Demographic Summary Report.

Interestingly, despite the growth in employment in the region, Reno MSA population is expected to age between 2022 and 2027, with increases in the ratios of persons in the oldest age groups, 65 and over, groups typically associated with post-employment populations. Similar increases are projected for the overall Northern Nevada region.

Household income in the MSA and larger region is expected to increase across all three measures, average and median household income and per capita income. Incomes are expected to continue to be higher in the MSA than in the region. This is mainly due to the higher wages in the MSA than in the remainder of the region, as discussed later in the analysis.

Finally, Table 1 shows educational levels are expected to increase in both the MSA and overall region, with ratios of residents with Associate Degree and higher growing from 39.1% of MSA population in 2022 to 39.8% in 2027, and 36.2% of 2022 population in Northern Nevada region to 36.9% in 2027. This is consistent with increased emphasis, especially in the Reno MSA, on research and development and technology industries and employment.

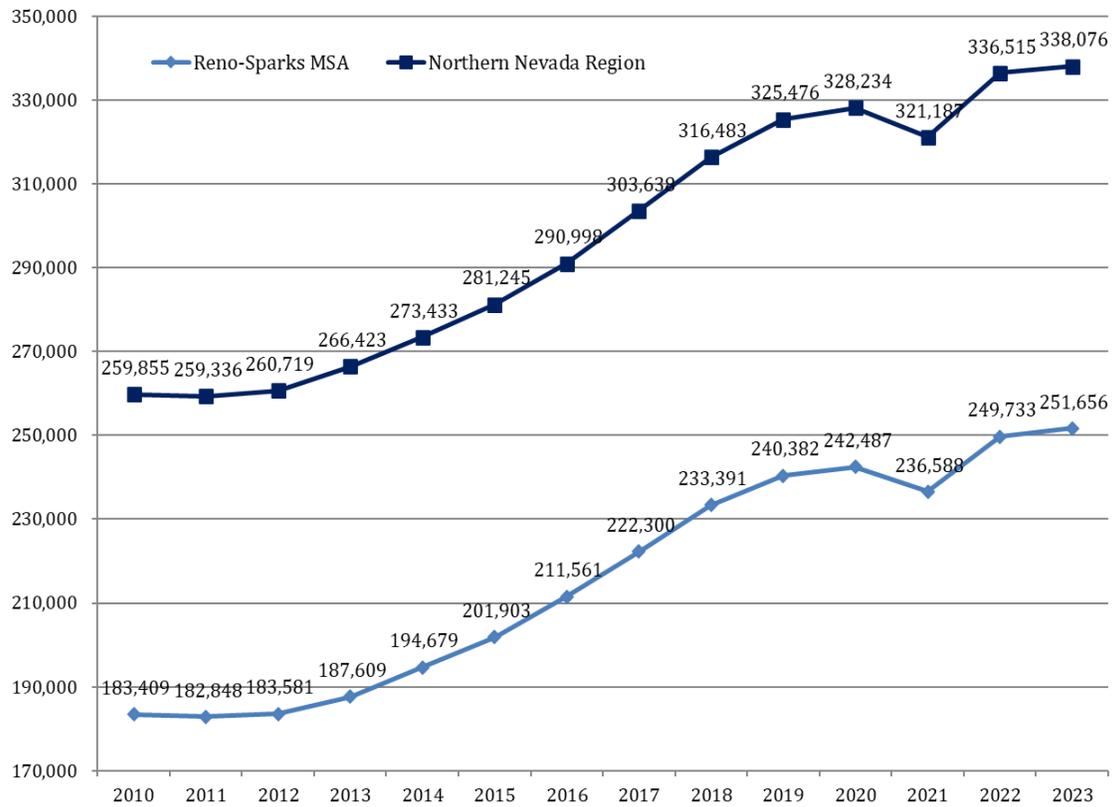
The driving force behind population growth and demographic improvements in the region is growth in high-wage employment, as new companies stream into the region following the recession and changes in the industry make-up. Figure 3 shows historical employment data for the Reno MSA and Northern Nevada region. Data in the figure is shown as of March of each year, as this is the latest month for which 2023 data is available, due to high levels of seasonality in employment data.

Employment in the MSA and larger region reached its lowest levels in 2010, with the MSA losing 34,391 employees from its 2007 peak. The Reno MSA employment has since increased significantly from its 2010 lows, gaining 68,000 employees between 2010 and 2023, well surpassing the 2007 peak levels.

Northern Nevada region's employment also increased significantly since the 2010 levels, also now exceeding 2007 peak levels. While the smaller counties did not experience the

same degree of employment growth as the MSA, the region gained over 78,000 employees between 2010 and 2023.

**Figure 3. Reno MSA and Northern Nevada Region Annual Employment<sup>4</sup>**



Appendix 1 shows detailed number of establishments, employment, and wage information for the Reno MSA and Northern Nevada region, by industry in 2017 and 2022, a five-year change. The number of establishments in the Reno MSA increased by 12.0% between 2017 and 2022 and by 9.8% in the Northern Nevada region. Employment for Reno MSA increased by 8.8% and weekly wages, by 32.3%. For the Northern Nevada region, employment increased by 7.8% between 2017 and 2022, and average weekly wage, by 30.2%.

In 2022, industries in the Reno MSA and Northern Nevada region with the highest job gains since 2017 included Manufacturing (10,877 and 11,637 jobs, respectively), Construction (4,182 and 4,753 jobs), and Transportation & Warehousing (2,817 and 3,193 jobs). A number of industries lost jobs during this period, both in the MSA and the Region. This

<sup>4</sup> Nevada Department of Employment, Training, and Rehabilitation, QCEW. Data for March of each year.

included 2,158 (MSA) and 3,055 (Region) jobs in the Accommodation and Food Services industry, which has yet to recover from major layoffs during the COVID-19 pandemic. This is followed by a loss of 1,431 jobs in the MSA in the Educational Services industry, while this loss is reduced to 702 jobs at the regional level, indicating the Region added a significant number of jobs in this industry compared to the MSA. Similarly, while the MSA gained 76 employees in the Mining industry, the Region lost a total of 1,412 jobs in this industry between 2017 and 2022, as many of the Region’s counties have a strong presence in this industry and the industry is significantly impacted by resource pricing.

The Reno MSA and entire Northern Nevada region is expected to continue to grow, as new jobs drive population growth in the area. Nevada Governor’s Office of Economic Development provides economic overview reports for all counties in the state. Table 2 shows this information for each county in the study area, Reno MSA, and Northern Nevada Region.

**Table 2. GOED Employment Projections by County, Reno MSA, and Northern Nevada Region<sup>5</sup>**

Location	Base Employment (2022)	Projected Employment (2027)	Numeric Change	Percent Change
Carson City	31,195	32,153	958	3.1%
Churchill County	10,731	11,481	750	7.0%
Douglas County	20,826	21,743	917	4.4%
Humboldt County	8,063	8,421	358	4.4%
Lander County	3,585	3,820	235	6.6%
Lyon County	14,624	16,350	1,726	11.8%
Mineral County	1,558	1,499	(59)	-3.8%
Pershing County	2,076	2,164	88	4.2%
Storey County	19,874	24,569	4,695	23.6%
Washoe County	252,152	266,604	14,452	5.7%
<b>Reno-Sparks MSA</b>	<b>272,026</b>	<b>291,173</b>	<b>19,147</b>	<b>7.0%</b>
<b>Northern Nevada Region</b>	<b>364,684</b>	<b>388,804</b>	<b>24,120</b>	<b>6.6%</b>

The table shows the MSA is expected to gain 19,147 jobs between Storey and Washoe counties making up the MSA, over the five-year period between 2022 and 2027. The

<sup>5</sup> Economy Overview, Nevada Governor’s Office of Economic Development, Q2 2023. It should be noted employment counts shown in Table 2 for 2022 for the MSA and region are different than the counts for the same locations shown in Appendix 1. This is due primarily to differences in measuring employment, including whether employment is reported as “place of work” or “place of residence.”

Northern Nevada Region is expected to gain 24,120 jobs. The highest number of jobs in the remaining counties are expected to be added in Lyon County and Carson City. Mineral County is the only location expected to lose employment during this period.

As discussed throughout this report, much of the employment in the region has been in the industrial sectors of Manufacturing, Transportation and Warehousing, and Construction. These industries are expected to continue to grow in the region with the addition of two major industrial parks with approved developer agreements in the market area, and a potential sequel to the highly successful TRI Center (TRI II).

Improvements in the existing TRI Center is expected to continue through the development of the Comstock Commerce Center (C<sup>3</sup>), an 850-Acre, “Advanced Manufacturing Datacenter & Logistics Park.” According to the project’s website,<sup>6</sup> C3 is expected to be constructed on both sides of USA Parkway, south of Innovation Way and north of the Google facilities. The project surrounds the Redwood Materials and Microsoft projects. According to the site plan, upon completion the project is expected to add over 5.4 million square feet of industrial space, excluding the four buildings sold, but not yet developed.

The timing of the completion of the project is difficult to determine, as much of the project is yet to be sold. The fully entitled project offers build-to-suit and ground leases, and is in the process of mass grading, which will speed up construction upon sale.

An analysis by the Center for Regional Studies at the University of Nevada, Reno, which compared the number of building square feet constructed and employees at the TRI Center between 2002 and 2016, the period of strong growth in the Center, including the Tesla Gigafactory, found an average of 1,500 square feet of building space per employee.<sup>7</sup> Using this information, upon completion the 5.4 million square feet proposed for the C<sup>3</sup>, the development is expected to include 3,600 employees.

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<sup>6</sup> <https://c3tric.com/#>.

<sup>7</sup> Based on employment data from Nevada Department of Employment, Training, and rehabilitation and square footage from Storey and Washoe County Assessor’s Offices.

The C<sup>3</sup> project is also home to the Redwood Materials facility, currently under construction, which will recycle and produce sustainable battery components. Project construction is estimated to require 3,400 temporary jobs in the region. Upon completion in 2027, the project is expected to require 1,600 full-time employees across four shifts.<sup>8</sup>

In December 2022, Microsoft also purchased 274 acres of land in Lyon County, north of the Silver Springs Airport. While no specific information regarding the building size or number of employees is not yet available, the “tech center planned there ‘will be very similar to what Apple and Google have built within the region,’ Microsoft executives said in January.”<sup>9</sup> The existing Apple data center, located north of TRI Center in Washoe County had 50 original employees, with a proposed expansion expected to increase the employment base to 100 employees.<sup>10</sup> The number of jobs at the Google facility is unknown. Other smaller buildings may also be constructed in the TRI Center, in addition to those described above. However, the above estimates make up the majority of the expected future growth in the Center.

The nearby 20,000-acre Northern Nevada Industrial Center (NNIC) is located in Lyon County, adjacent to the TRI Center. The project was approved by Lyon County Commissioners in 2017 and is located within an opportunity zone, with multiple lots from the 1,100-acre Phase I currently listed for sale.<sup>11</sup> A master site plan provided for the project by Reno Engineering shows Phase 1 of the project is expected to include 18.9 million square feet of buildings upon completion.<sup>12</sup>

Though the timeline of NNIC project development is currently unavailable, using the ratio of 1,500 square feet per employee, this phase of the project is expected to generate 12,600 employees. Table 3 shows a total of 17,900 employees are expected to be added by the development of the future projects upon completion.

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<sup>8</sup> Environmental Assessment, Redwood Materials, Inc. DOE/EA-2228, United States Department of Energy, August 2023.

<sup>9</sup> Hagar, Ray. Gilman touts ‘TRI-II’ in Fernley as Future Data-Storage Hub. Nevada Appeal. August 8, 2023.

<sup>10</sup> Sonner, Scott. Apple CEO Goes to Reno for Groundbreaking of Warehouse. Manufacturing.net. January 19, 2019.

<sup>11</sup> Northern Nevada Industrial Center offering documents. LDA Realty. Fourth Quarter 2022.

<sup>12</sup> NNIC Master Site Plan, MSP 1.1. Reno Engineering.

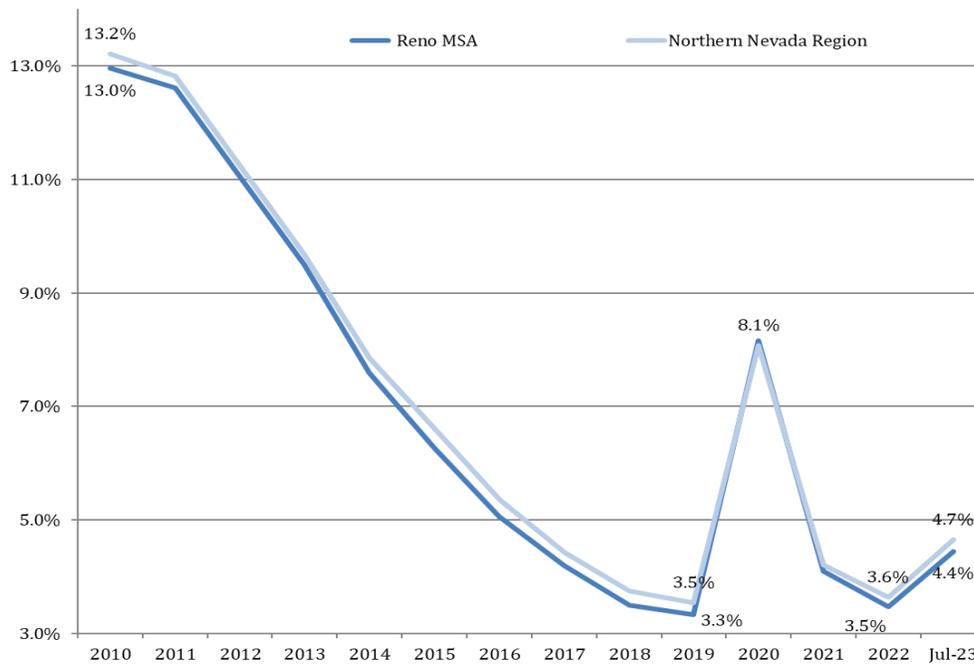
As discussed above, the timeframe for the development of these projects is currently unknown and, given their major size, is expected to take years to fully develop. The 1,600 jobs expected for the Redwood Materials project are expected to occur in 2027 at the earliest.

**Table 3. Estimated Future TRI Center/C<sup>3</sup>, NNIC, & Microsoft Employment**

Project	Sq.Ft.	Employees
C3-Redwood Materials	-	1,600
Remainder of C3	5,412,000	3,600
Microsoft	-	100
Northern Nevada Industrial Center	18,861,000	12,600
<b>Total</b>		<b>17,900</b>

Future employment growth will require significant growth of in-migration to the region as few unemployed persons are currently living in the region and available to be employed in the new jobs. According to the Nevada Department of Employment, Training, and Rehabilitation, as of July 2023 (the latest data available) the Reno MSA had an unemployment rate of 4.4% and Northern Nevada region, 4.7%. This, as well as historical changes in the rates, are shown in Figure 4.

**Figure 4. Reno MSA and Northern Nevada Region Unemployment Rates<sup>13</sup>**



<sup>13</sup> “Local Area Unemployment Statistics (LAUS).” Nevada Department of Employment, Training, and Rehabilitation (DETR).

The Reno MSA had approximately 11,781 unemployed persons, with 16,867 unemployed persons in the Northern Nevada region as of July 2023. Not all of these persons are able to participate in employment or have skills for jobs in demand. These unemployment rates are in line with the estimated natural national unemployment rate of 4.4% (Federal Reserve Bank of St. Louis). This indicates that in the Reno MSA, all persons who are able and willing to be employed, are employed. In the Northern Nevada region, approximately 750 unemployed persons are available to work, significantly below employment predictions for the region.

## **B. Housing Overview**

While employment gains in the Reno MSA have been robust over the last few years, the amount of new housing units has not kept pace with historical rates. Coupled with recent high interest rates, this housing shortage has created significant affordability issues in the Reno MSA region. This section focuses primarily on the Reno MSA as housing markets in other counties exist, but are not significantly expanding, compared to the metropolitan area.

Figure 5 shows the new single-family market was growing strongly, spurred by the psychological effects of the COVID-19 pandemic, which increased demand for single family housing. However, rising prices and increasing housing costs, caused by increasing interest rates, have impacted home sales in 2023, reducing average monthly home sales from 152 in 2022 to 104 homes per month in 2023.

At the same time, supply of new homes slowed as construction costs amplified strongly with increasing financing, materials, land, and wage costs. The decreasing demand for home ownership due to affordability, while the availability of single-family homes has contracted due to lack of existing home listings and builders adjusting to current market trends, has continued to put upward pressure on single-family home prices. After a brief dip in new home prices, the median sales value for August 2023 has returned to 2022 levels.

Figure 5. Washoe County NEW Single-Family (Detached) Sales and Median Prices<sup>14</sup>

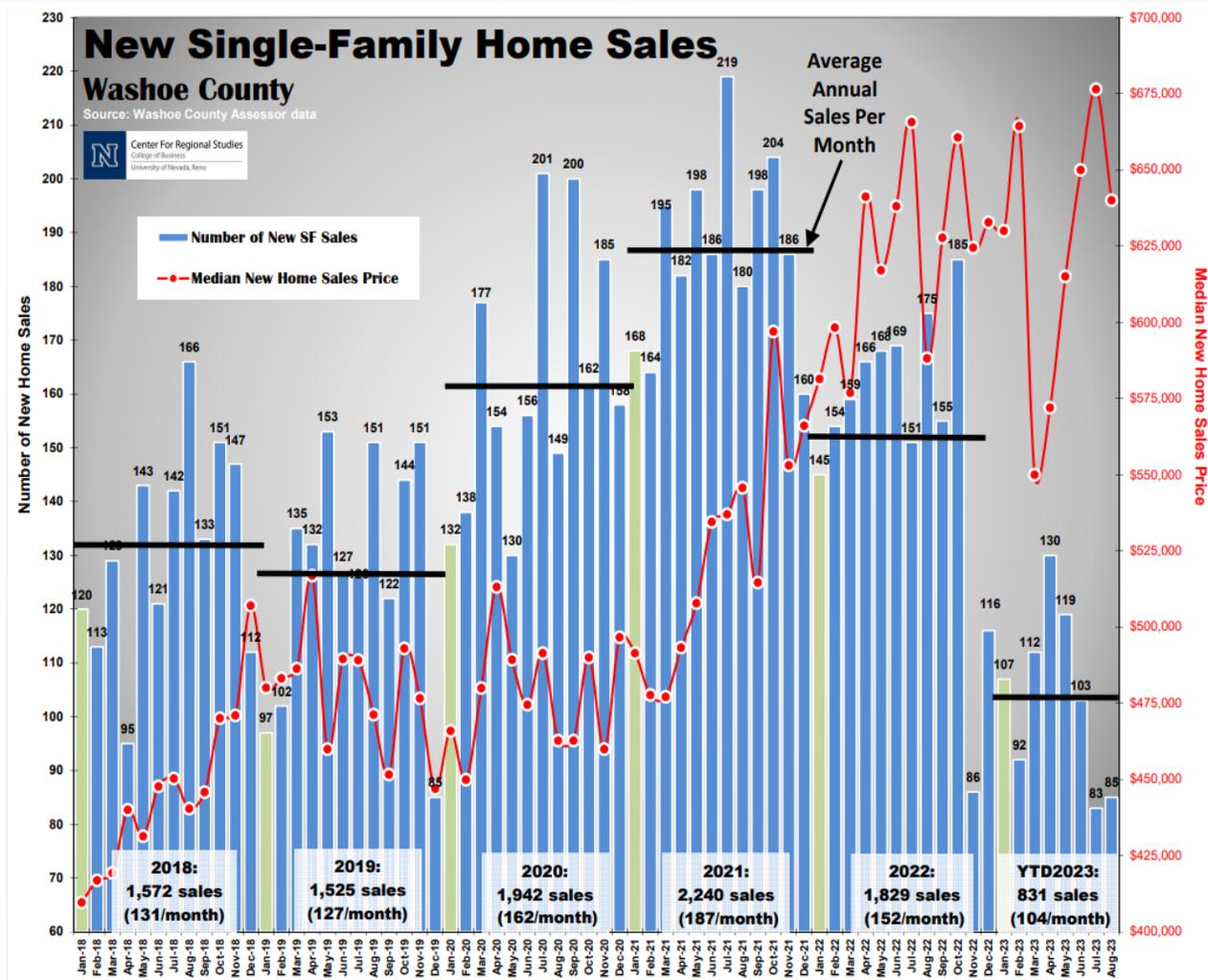
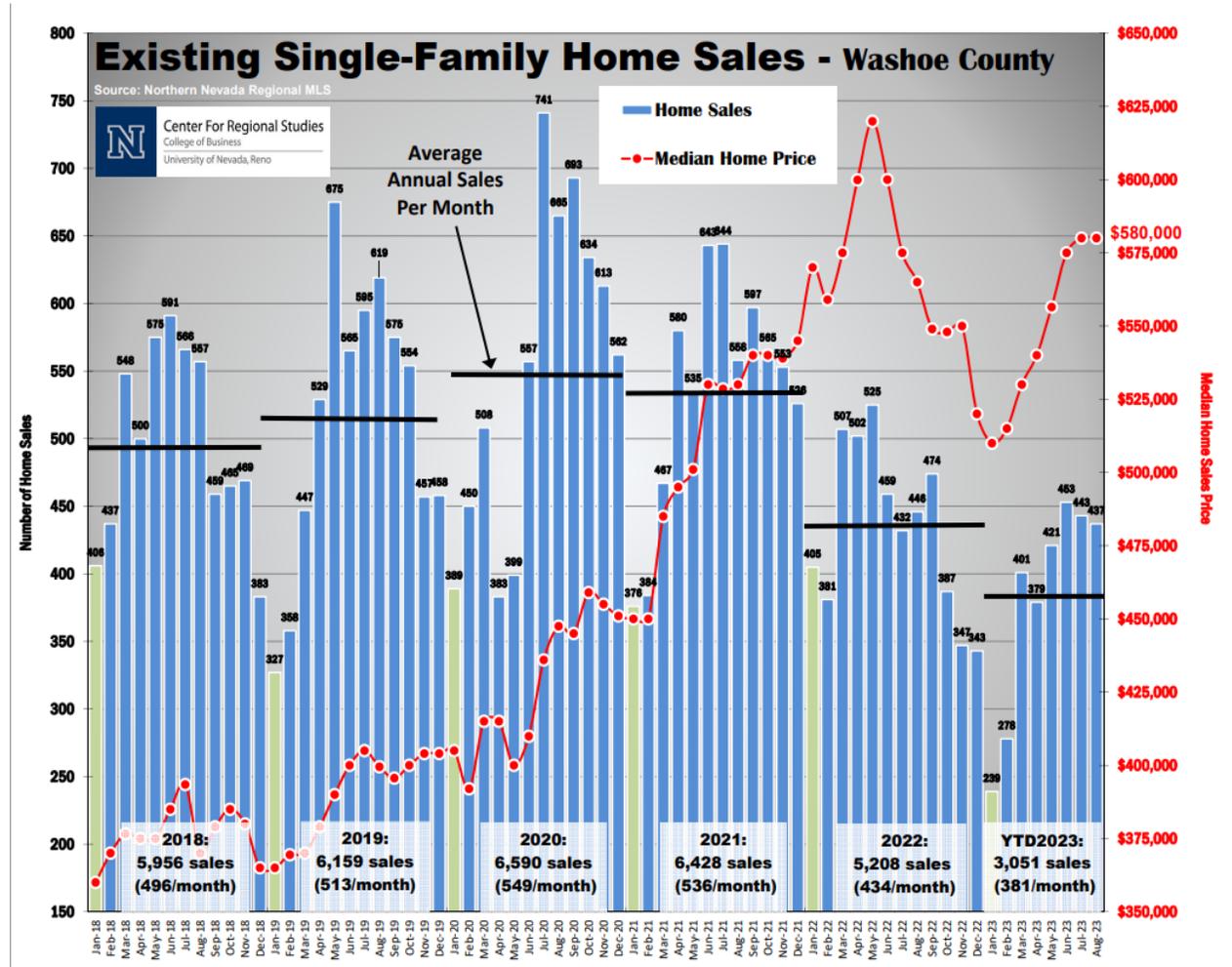


Figure 6 shows the same data for existing single-family homes. The figure also shows a decline in the number of sales of existing homes in 2023, driven not only by declining demand but also by a significant drop in supply of homes as sellers are reluctant to list their homes that enjoy much lower mortgage rates. Nationally, 82.4% of owner-occupied homes have a mortgage rate under 5% (Redfin.com). As with new home product, existing home prices dropped at the beginning of 2023 from their 2022 peak levels, but median sales values steadily increased in 2023 while the last three months show prices plateauing.

<sup>14</sup> Washoe County assessor data as analyzed by the Center for Regional Studies, UNR.

Figure 6. Washoe County EXISTING Single-Family (Detached) Sales and Median Prices



As people are unable to either afford to purchase homes or find homes available for purchase, they are turning to rental properties for housing. As a result, the apartment market is also experiencing a shortage of units as defined by stubbornly low vacancy rates and increasing rental rates. Most widely reported and locally sourced apartment statistics available in the region are from Johnson Perkins Griffin, a local appraisal firm. The quarterly Apartment Survey tracks 105 apartment complexes with more than 80 units each. The survey results do not include affordable housing properties, small complexes, or senior and student apartments. The survey includes data for the cities of Reno and Sparks only (Reno-Sparks).

<sup>15</sup> Washoe County assessor data as analyzed by the Center for Regional Studies, UNR.

Figure 7. Reno-Sparks Apartment Vacancies and Rents<sup>16</sup>

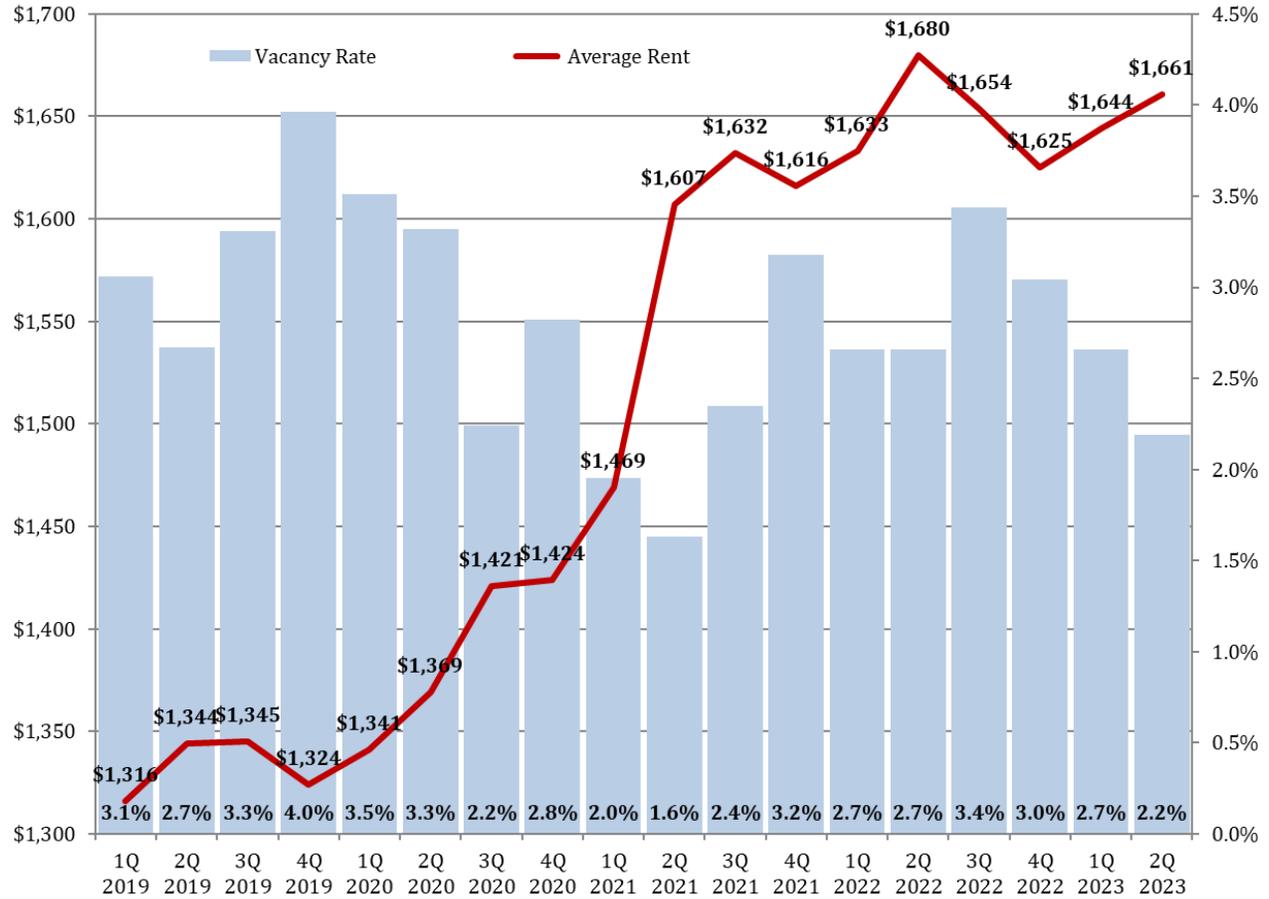


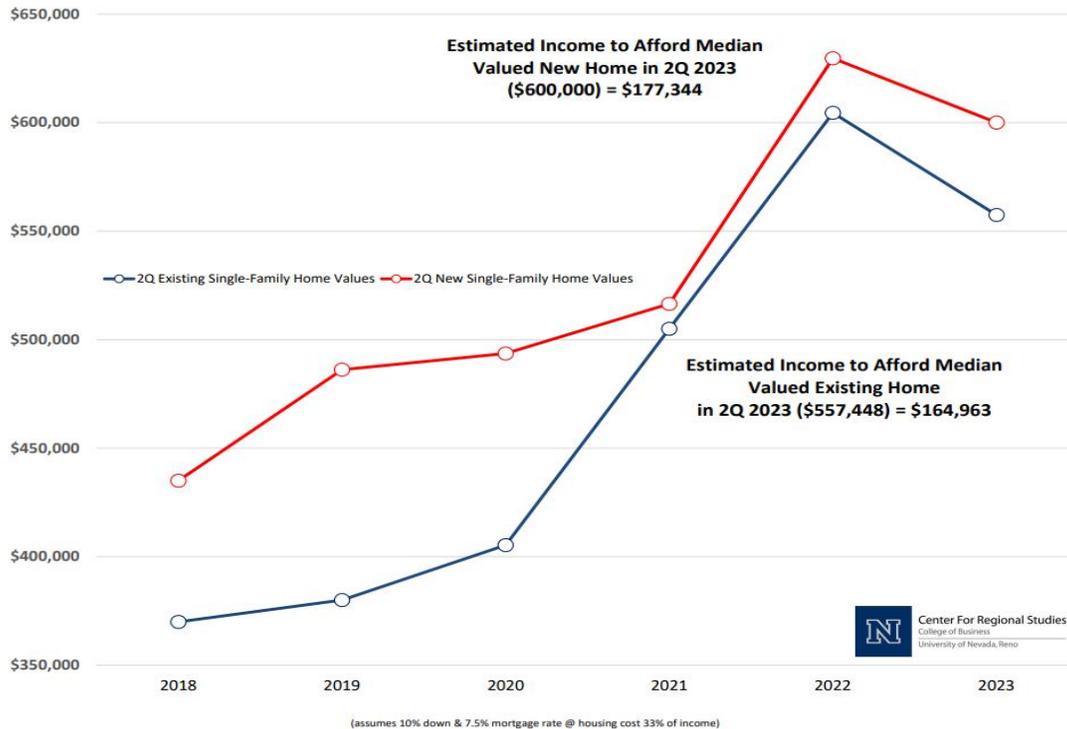
Figure 7 shows the trend of very tight vacancies by quarter within the large-scale apartments that Reno-Sparks has experienced since 1<sup>st</sup> quarter 2013. Vacancy rates for area apartments declined from 5.12% in the 1<sup>st</sup> quarter of 2013 (not shown in above figure) to 2.2% in the 2<sup>nd</sup> quarter 2023. As vacancy rates declined, monthly rental rates in the region have grown steadily, reaching \$1,661 by the 2<sup>nd</sup> quarter of 2023.

Lack of housing supply and growing demand are causing prices to increase in the region, impacting home affordability. Further impacting this affordability are high mortgage rates, which further increase housing costs for non-cash buyers. The Center for Regional Studies at University of Nevada, Reno estimates a family needs an annual income of \$177,344 to

<sup>16</sup> “Regional Real Estate Dynamics May 24, 2018,” May 24, 2018, Center for Regional Studies, UNR. Based on data from Johnson Perkins Griffin Apartment Survey.

afford the median price of a new single-family home at the median price of \$600,000 as of the 2<sup>nd</sup> Quarter 2023, and an annual income of \$164,963 to afford the median price of an existing single-family home at \$557,448 in Washoe County (Figure 8).<sup>17</sup>

**Figure 8. Washoe County New and Existing Home Values and Estimates of Qualifying Income<sup>18</sup>**



At the average rent of \$1,661 for a multifamily unit, a household needs an annual income of \$65,715. US Census Bureau reports Washoe County median household income in 2022 was \$80,125,<sup>19</sup> creating significant affordability issues within Reno-Sparks, especially for home ownership.

The National Association of Realtors considers the real estate market to be healthy (balanced between buyer and sellers) when five to six months of inventory are available for sale. Figure 9 shows only 15 days of inventory were available as of September 2023 for homes priced \$400,000 and below. For homes priced \$400,000-\$700,000, 45 days of inventory were

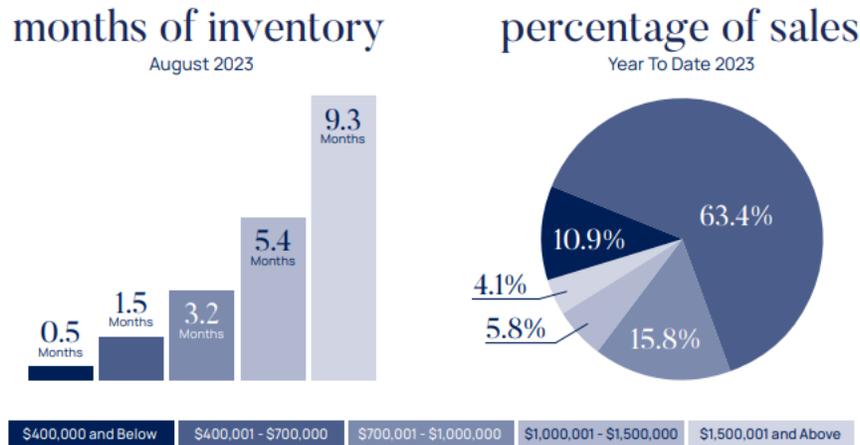
<sup>17</sup> Washoe County includes the cities of Reno and Sparks, along with Incline Village and smaller unincorporated areas. The majority of the data is driven by the large population centers in Reno-Sparks.

<sup>18</sup> Center for Regional Studies, UNR.

<sup>19</sup> American Fact Finder, US Census Bureau.

available. For homes priced \$700,000-\$1,000,000, inventory is at 3.2 months, with 5.4 months for homes priced \$1.0-\$1.5 million, and 9.3 months of inventory for those priced over \$1.5 million. These data indicate a severe shortage in the region of homes priced at below \$1.0 million.

**Figure 9. Reno-Sparks Existing Home Inventory-as of September 2023<sup>20</sup>**



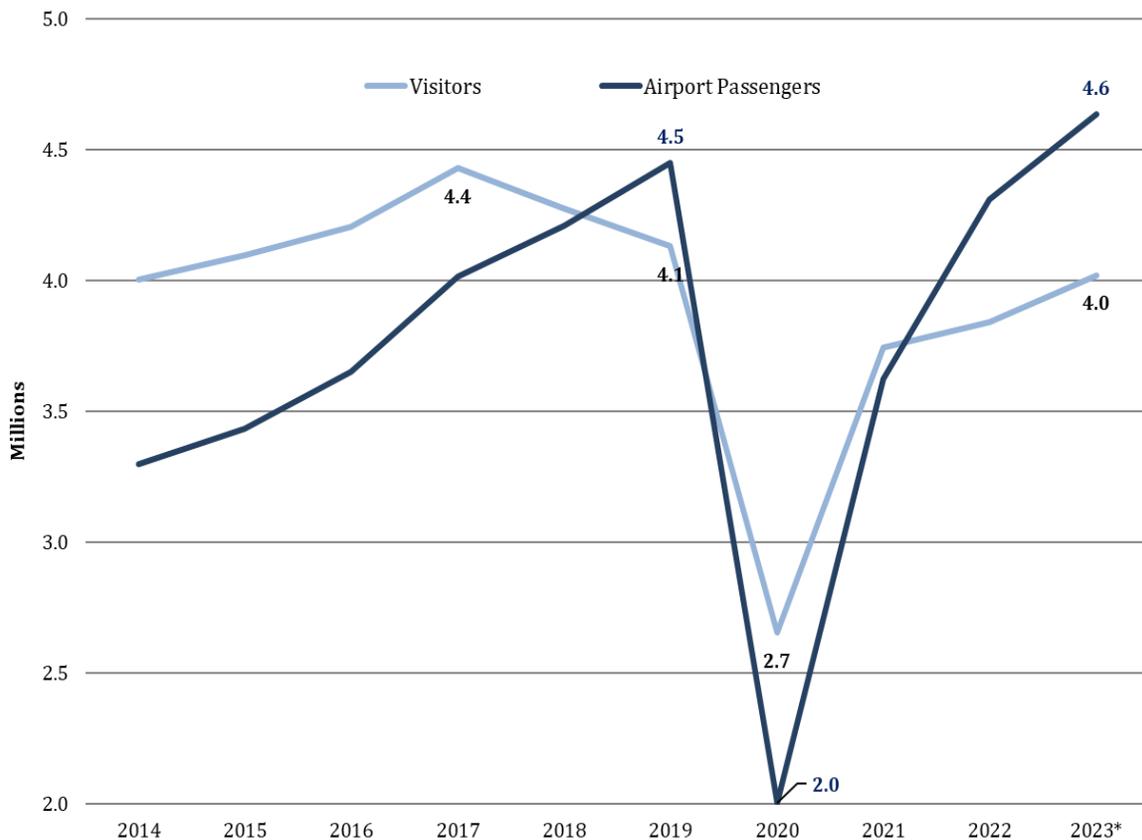
**C. Regional Visitors**

Visitors are an important component of the regional economy; visitors generate additional spending in the region, supporting businesses and employment, while generating local government revenues. This section of the report focuses on the Reno MSA only, as it is the largest source of visitors to the area. Additionally, visitor data for smaller counties and the Lake Tahoe Basin is not always available.

Figure 10 shows visitor counts for Washoe County, which is made up primarily of the cities of Reno and Sparks, as well as a portion of North Lake Tahoe. Visitor counts showed a decline from a high of 4.4 million in 2017 to 2.7 million in 2020 due to the COVID-19 pandemic. Visitor counts have steadily increased since the pandemic, estimated to reach 4.0 million in 2023. This is still below the peak levels of 2017, but showing a steady recovery.

<sup>20</sup> Reno/Sparks Market Report: September 2023, Dickson Realty. Data for Washoe County excluding Incline Village.

**Figure 10. Washoe County Visitor and Reno-Tahoe International Airport Passenger Counts<sup>21</sup>**



\*2023 counts are estimated based on year-to-date growth rates between January-August of 2022 and 2023.

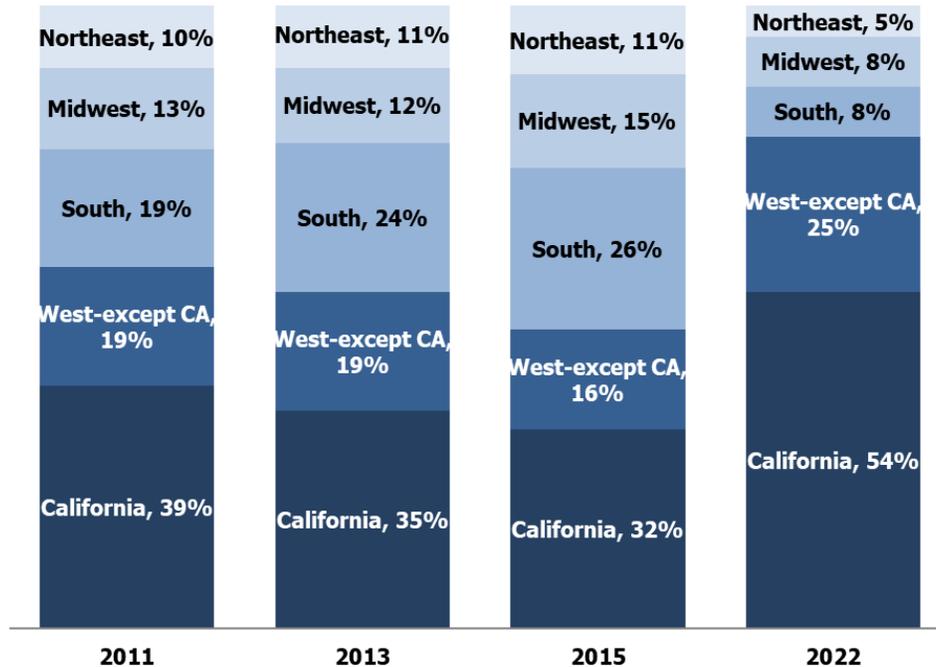
Figure 10 overlays the number of passengers served by the Reno-Tahoe International Airport with overall visitation to the region. The number of passengers was increasing steadily, reaching 4.5 million in 2019 before declining to 2.0 million during the COVID-19 pandemic. Passenger counts have recovered strongly from the pandemic impacts, reaching 4.3 million in 2022 and estimated to exceed pre-pandemic levels at 4.6 million passengers in 2023.

Figure 11 shows historical changes in the area of origin for Reno-Sparks visitors. It should be noted that this and subsequent graphs show information from Visitor Profile Surveys conducted between 2011 and 2022. While the older surveys were based on consistent

<sup>21</sup> Visitors from “Estimated Visitor Counts to Reno-Sparks and Washoe County Area Calendar Year – Trend,” Reno Sparks Convention and Visitors Authority (RSCVA). Passengers from Reno-Tahoe International Airport website, Statistics.

methodology, 2022 survey was conducted by a different company and its methodology may differ. As a result, there may be some differences between reported results outside of economic and demographic changes of visitors.

**Figure 11. Washoe County Visitors by State of Origin-2011, 2013, 2015, & 2022<sup>22</sup>**



The figure shows a large and increasing percentage of overall visitors are California residents, followed by residents from the remainder of West region (Nevada, Arizona, Washington, Oregon, etc.), South (mainly Texas, Florida, Georgia, Maryland, North Carolina, Alabama, South Carolina, Virginia, etc.), Midwest (Illinois, Ohio, Michigan, Indiana, Minnesota, etc.), and Northeast (New York, Pennsylvania, Massachusetts, etc.).

The number of California and other West coast visitors declined between 2011 and 2015, from 39% of visitors coming from California in 2011 to 32% in 2015, and 19% from the remainder of West coast in 2011 to 16% in 2015. However, by 2022 visitors from California made-up 54% of total visitors, with total visitors from the West Coast reaching 79% of total.

<sup>22</sup> 2011-2015 data from “2015 Visitor Profile Survey Summary Presentation.” Conducted for RSCVA by EMC Research. January 2015-February 2016. 2022 data from “Past and Potential Visitor Profile Report 2022,” Destination Analysts for RSCVA.

Figure 12 shows the breakdown of area visitors by mode of travel to Washoe County. In 2011, 41% of visitors traveled to the region by air, decreasing slightly in 2013 to 38%, before increasing to 39% in 2015 and a significant 52% in 2022. While the majority of visitors traveled to the region by car prior to 2022, by 2022 only 45% of visitors arrived by this mode, with air travel now the most frequent mode of transportation to the region.

**Figure 12. Washoe County Visitor Mode of Travel-2011, 2013, 2015 and 2022<sup>23</sup>**

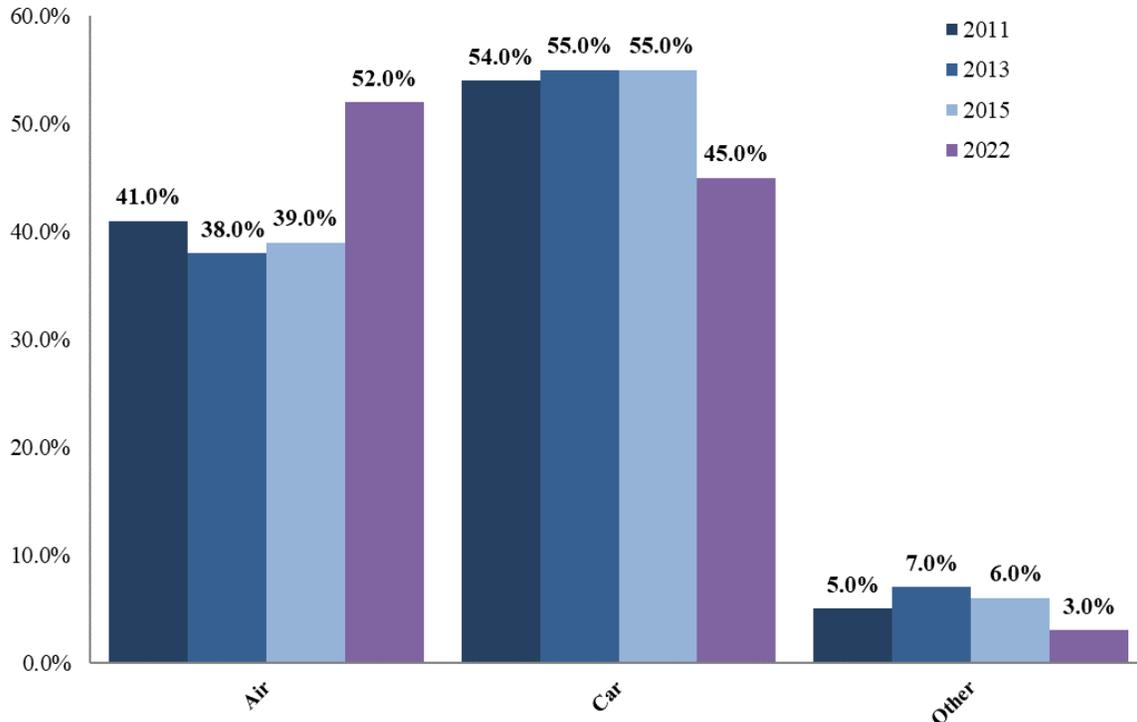
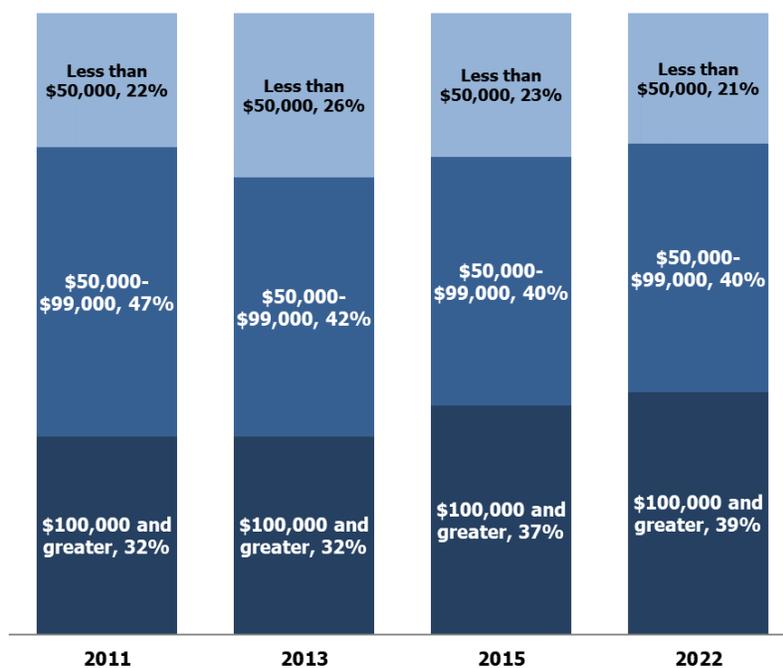


Figure 13 shows the breakdown of area visitors by household income and the change of this breakdown between 2011 and 2015. While the ratio of visitors with an income of less than \$50,000 increased between 2011 and 2015 from 22% to 26%, it declined to 23% in 2015 and to 21% in 2022. The ratio of visitors with income between \$50,000 and \$99,000 decreased from 47% in 2011 to 40% in 2015 and 2022. At the same time, the ratio of visitors with income of \$100,000 and greater increased from 32% in 2011 to 39% in 2022. Average income for visitors in 2022 was reported at \$94,337.

<sup>23</sup> 2011-2015 data from “2015 Visitor Profile Survey Summary Presentation.” Conducted for RSCVA by EMC Research. January 2015-February 2016. 2022 data from “Past and Potential Visitor Profile Report 2022,” Destination Analysts for RSCVA.

**Figure 13. Washoe County Visitor Share by Household Income-2011, 2013, 2015<sup>24</sup>**

To estimate the impact of visitor expenditures on the local economy, Figure 14 shows average spending data by activity per person per day. The figure shows that an average party (2.7 persons) with an average stay (4.2 days or 2.7 nights) had an average per trip expenditure of \$2,313. This results in an average contribution of \$239 per person per day, including \$46 for lodging, \$22 for gaming, \$46 for food and drink, \$21 for entertainment, \$30 for shopping, \$27 for recreation, and \$47 for ground transportation (including car rental and gasoline).

Figure 15 shows the average trip length in days for Washoe County visitors, as well as changes in trip length between 2011, 2013, 2015, and 2022. Trip length peaked for both visitors in 2013 at 4.3, declining to 4.1 days in 2015 before increasing slightly to 4.2 days by 2022. The average number of persons per visiting party also peaked in 2013 at 3.03 persons, before declining slightly to 2.98 persons in 2015. By 2022, the average visiting party was estimated at 2.7 persons.

<sup>24</sup> 2011-2015 data from "2015 Visitor Profile Survey Summary Presentation." Conducted for RSCVA by EMC Research. January 2015-February 2016. 2022 data from "Past and Potential Visitor Profile Report 2022," Destination Analysts for RSCVA. It should be noted 2011-2015 data included "Refused to Answer" responses. These were not included in the 2022 report and 2011-15 data are adjusted to exclude these responses.

Figure 14. Washoe County Visitor Spending per Party per Trip-2022<sup>25</sup>

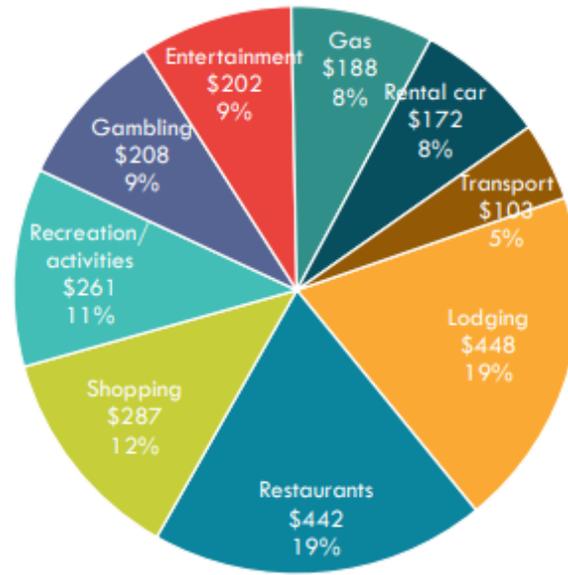
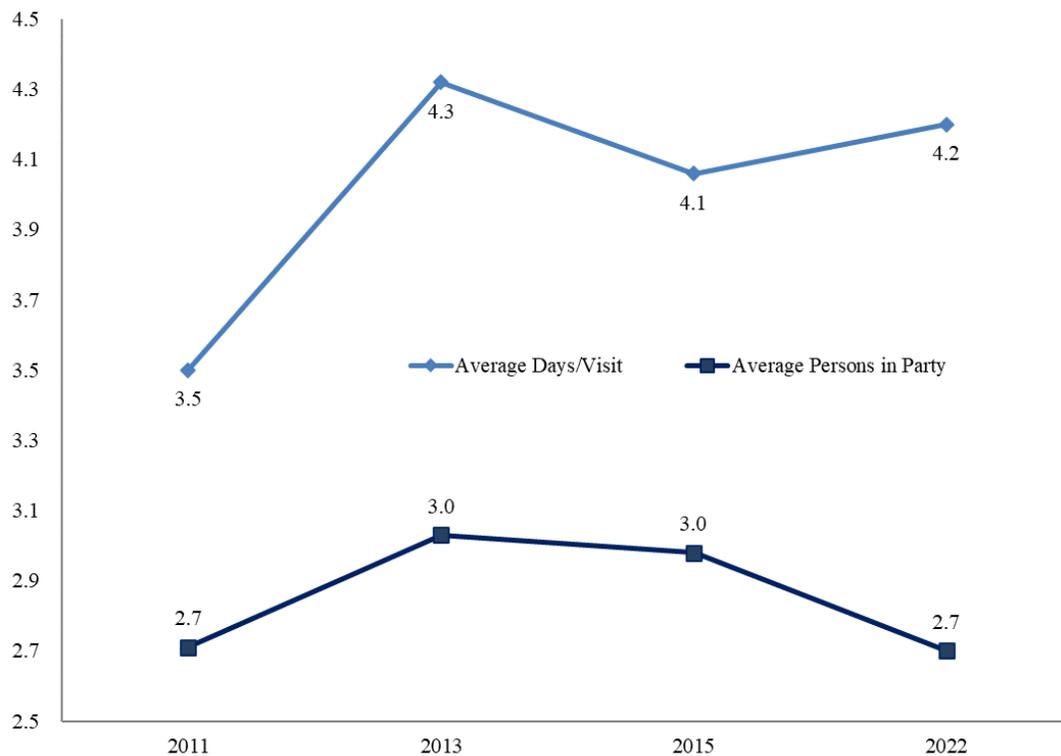


Figure 15. Washoe County Visitor Average Trip Length (Days) and Party Size-2011, 2013, 2015, and 2022<sup>26</sup>



<sup>25</sup> “Past and Potential Visitor Profile Report 2022,” Destination Analysts for RSCVA.

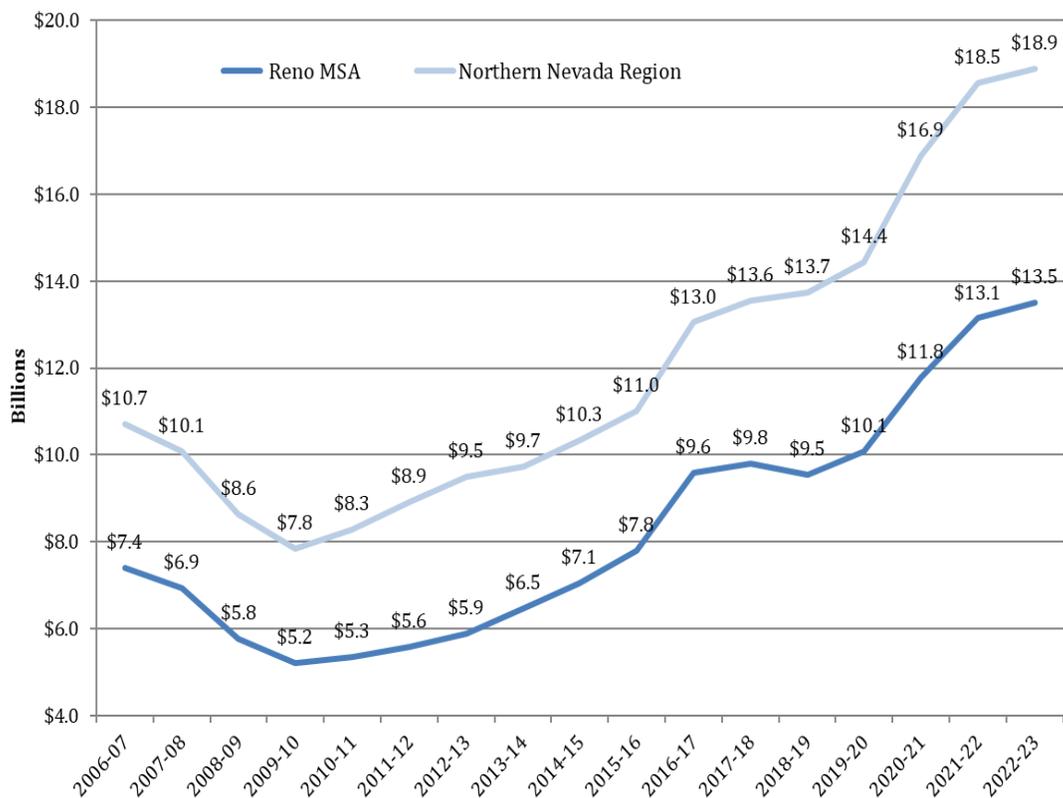
<sup>26</sup> 2011-2015 data from “2015 Visitor Profile Survey Summary Presentation.” Conducted for RSCVA by EMC Research. January 2015-February 2016. 2022 data from “Past and Potential Visitor Profile Report 2022,” Destination Analysts for RSCVA.

**D. Other Economic Factors**

The Reno MSA economy is growing at a fast pace, as witnessed by employment and population growth in the region. This growth is also impacting other economic factors in the region, including taxable sales, gaming revenue, and gasoline sales.

Figure 16 shows taxable sales for the Reno MSA and Northern Nevada region. The figure shows taxable sales declined from their peak in fiscal year 2006-07 before reaching bottom in FY 2010. Since then, taxable sales for both regions increased at a high rate, exceeding the peak level of pre-recession sales by FY 2016. Taxable sales declined slightly in FY 2020, due to the closures related to the COVID-19 pandemic, but the decline was temporary and by FY 2023, taxable sales in the MSA reached a historic \$13.5 million, with \$18.9 million for the region.

**Figure 16. Reno MSA and Northern Nevada Region Taxable Sales<sup>27</sup>**

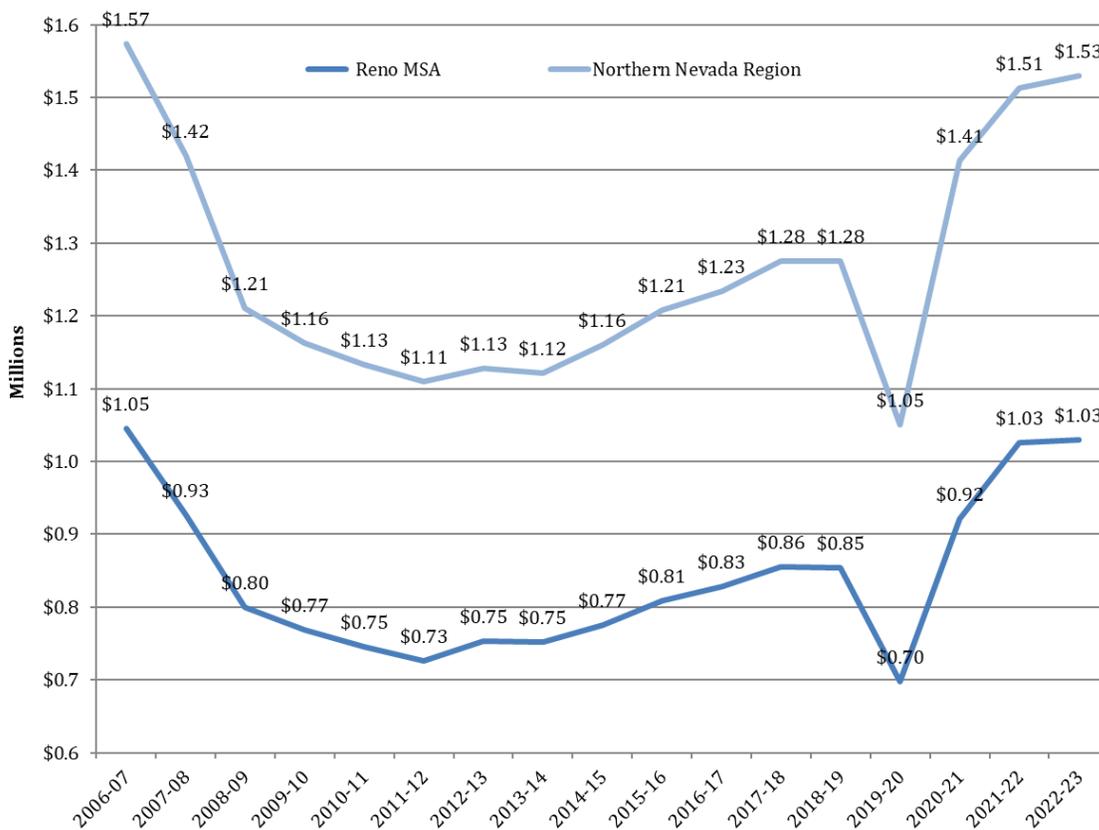


<sup>27</sup> Nevada Department of Taxation. Combined Sales & Use Statistical Report. Data shown for fiscal year July 1 to June 30. Fiscal year years are referred to in fiscal year end terms, for example 2006-07 is referred to as FY 2007.

Figure 17 shows gaming revenue for the Reno MSA and Northern Nevada region. Not all counties in the Northern Nevada region have significant gaming operations. As a result, only data for Carson City, Churchill, Douglas, Humboldt, Lyon, and Washoe counties, as reported by the Nevada Gaming Control Board are included for the Northern Nevada Region.

The figure shows gaming revenues are growing after a significant drop in revenues during the recent recession, following by another decline during the COVID-19 pandemic. By fiscal year 2022-23, gaming revenue far exceed pre-pandemic levels of FY 2020 and was nearing pre-recession peaks seen in FY 2007.

**Figure 17. Reno MSA and Northern Nevada Region Gaming Revenue<sup>28</sup>**



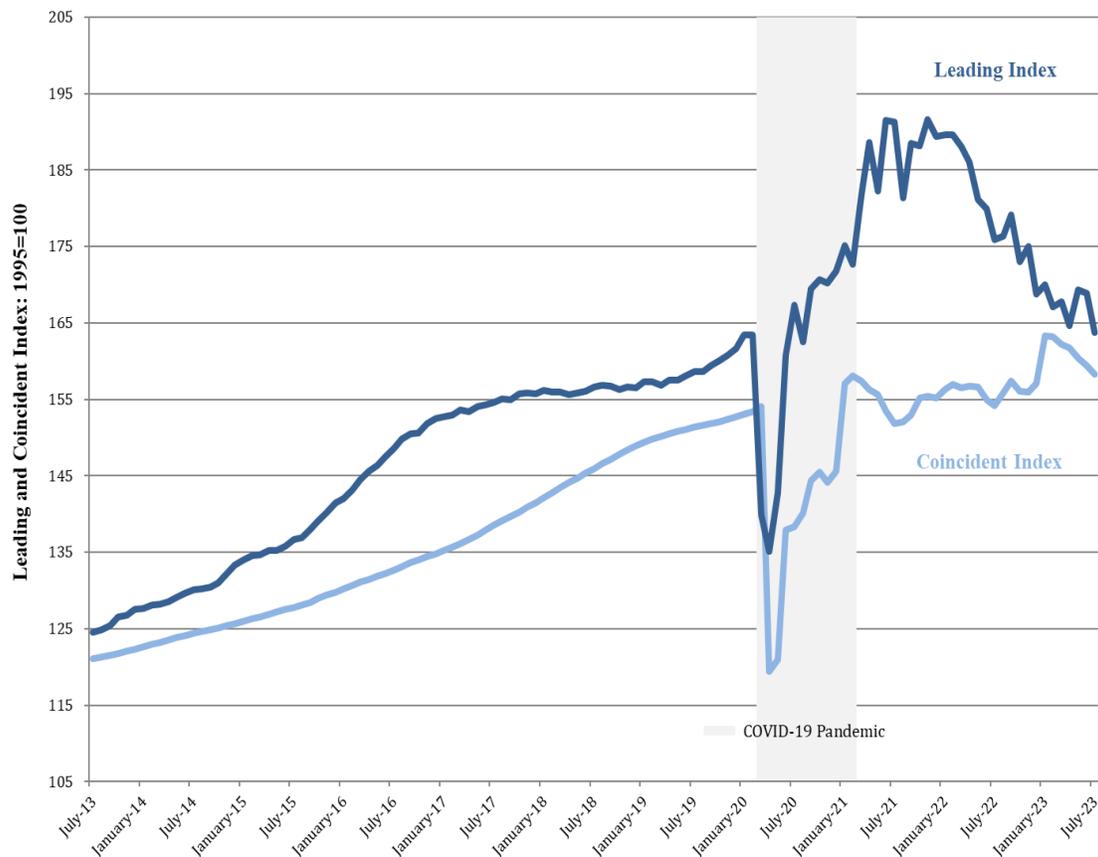
Since 2015, Ekay Economic Consultants, Inc. published a monthly Reno MSA Economic Overview report, which includes two indices for the Reno MSA. The Coincident Index

<sup>28</sup> Nevada Gaming Control Board. Gaming Revenue Report. Data shown for fiscal year July 1 to June 30. Fiscal year years are referred to in fiscal year end terms, for example 2006-07 is referred to as FY 2007.

combines the Local Area Unemployment Statistics (household survey) and Current Employment Statistics (establishment survey) employment in the area to represent the local economy and its performance.

The Leading Index combines eight national, statewide, and local series to attempt to forecast changes in the Reno MSA economy in the next six to twelve months. Leading Index series include Washoe County Taxable Sales, Washoe County Taxable Gaming Revenue, Washoe County # of Single-Family Homes Sold, Reno-Tahoe International Airport Passengers and Airport Cargo Lbs. Shipped, Nevada Initial Claims for Unemployment, US S&P 500 Index, and US M2 Money Supply. These series are combined to arrive at a single number, which can be compared monthly to track changes in the local economy. The results of the Coincident and Leading indices for the Reno MSA as of July 2023 are summarized in Figure 18.

**Figure 18. Leading and Coincident Indices<sup>29</sup>**



<sup>29</sup> Ekay Economic Consultants and Center for Regional Studies.

The figure shows the economy, as represented by the Coincident Index has been growing at a fast rate since the recession. The index did show a significant decline during the pandemic, but recovered strongly. Employment in the region (Coincident Index) does appear to be slowing, especially as shown by declines in the index in July 2023. The Leading Index has been predicting a decline in the regional economy for approximately the past year, impacted much more by national effects of increasing interest rates and stock market fluctuations, than by local effects. However, both indices are showing a coming slowdown to the significant growth experienced by the region over the past decade, expected by economists to last through 2024 at the national level.

### **RENO-TAHOE AIRPORT AUTHORITY OPERATIONS OVERVIEW AND PERFORMANCE ANALYSIS**

The Reno-Tahoe Airport Authority is the owner and operator of the Reno-Tahoe International and Reno-Stead Airports. It is governed by a nine-member Board of Trustees, operates as a business, and receives no local tax dollars.

As the 62nd busiest commercial airport in the nation and seventh busiest airport for holiday travel (2022), Reno-Tahoe International Airport (RNO) serves over 4.0 million passengers per year. Located only 5 minutes from downtown Reno and 40 minutes from some of the finest ski resorts and outdoor recreation in the world, Reno-Tahoe International is the Gateway to Lake Tahoe and the entire region.

The Reno-Tahoe International Airport functions like a small city with over 2,400 employees working for a variety of companies. Twelve airlines offer service at Reno-Tahoe International to over 20 nonstop destinations. RNO offers more than air transportation, it provides air freight with three cargo carriers; movement of business and personal travelers; food, beverage, and retail services; rental car and nearby lodging; ground transportation and security services; space for Nevada National Guard operations; as well as hangars and commercial lease space for airport and non-airport related tenants.<sup>30</sup>

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<sup>30</sup> <https://www.renoairport.com/airport-authority>

A detailed discussion of the operations and impacts of major RTAA participants is provided below. These participants include RTAA Operations, Airlines and General Aviation, Airport Terminal Services, Government Agencies, Freight and Couriers, Miscellaneous Aviation & Aviation Services, Nevada National Guard, Outside Commercial Property Tenants, Rentals and Ground Transportation, and Travel Related Services. A discussion of airport-related visitors is also provided.

### **A. RTAA Operations**

As discussed above, the Reno-Tahoe Airport Authority (RTAA) operates two major airports in Northern Nevada, the Reno-Tahoe International Airport and Reno-Stead Airport. RTAA is responsible for all aspects of airport operations, including emergency personnel, canine units, facility cleaning and maintenance, parking services, snow removal, and building & road maintenance.

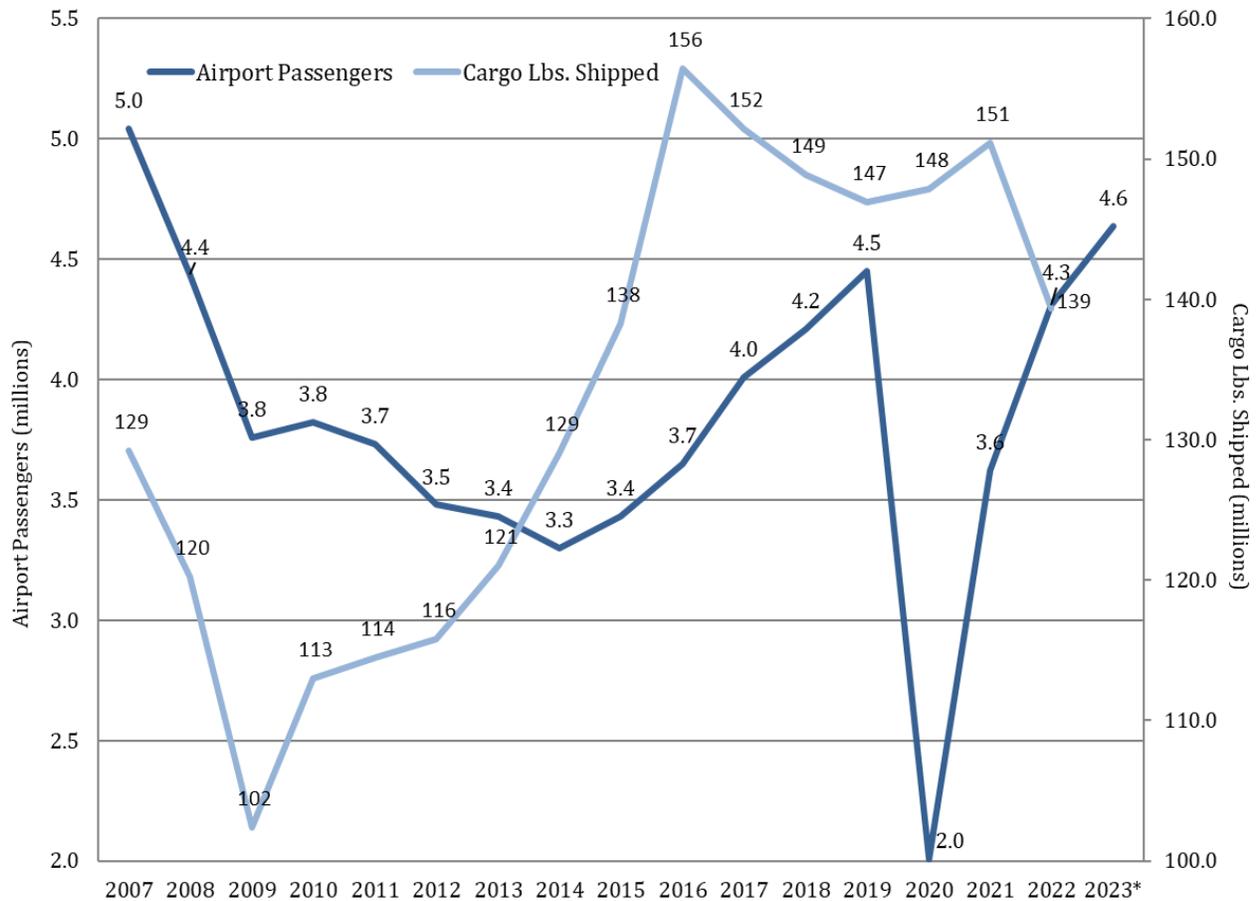
The Reno-Tahoe International Airport (RNO) is estimated to provide services to 4.6 million passengers in 2023. The following twelve airlines provide scheduled flight services to RNO passengers: Allegiant, Alaska, American, Delta, Jet Blue, JSX, New Pacific Airlines, Southwest, Sun Country, Spirit, United, and Volaris.

Figure 19 shows passenger numbers for RNO reached a peak of 5.2 million in 2005 (not shown) before falling to 3.3 million in 2014 as the region experienced severe impacts of the Great Recession. Passenger numbers grew quickly after 2014, reaching 4.5 million passengers by 2019. Passenger counts dropped sharply in 2020 due to the COVID-19 pandemic. However, the airport recovered quickly, and in 2023 is expected to reach its highest passenger counts (exceeding 4.6 million) in fifteen years, since 2007.

RNO is also served by three major air cargo carriers (DHL, FedEx, and UPS), bringing cargo in and out of RNO. Figure 19 shows air cargo shipped weight peaked at 129.2 million pounds in 2007 before falling to 102.4 million pounds in 2009. Cargo shipments grew rapidly through 2016, reaching 156.4 million pounds in 2016, the highest level of cargo weight in history. Since then, cargo weights fluctuated, dropping to 139.4 million pounds in 2022. Due to lack of stable seasonality for this measure, full-year 2023 data is difficult to estimate, and

is, therefore, not shown in the figure. It should be noted that despite the decline in 2022, cargo shipments remain significantly above pre-Great Recession levels.

**Figure 19. Reno-Tahoe International Airport Passengers and Cargo Shipped<sup>31</sup>**



\*2023 counts are estimated based on year-to-date growth rates between January-July of 2022 and 2023.

Operating cost and revenue information for RTAA is summarized in Table 4. The table shows operating revenues for RTAA (including operations of the Reno-Tahoe International and Reno-Stead Airports) are expected to continue to increase. Revenues in FY 2018-19 (not shown) reached \$52.6 million, before declining by 3.6% in FY 2019-20 and another 13.8% in FY 2020-21 due to the impacts of the COVID-19 pandemic. This decline was short-lived, and revenues increased by 33% in FY 2021-22, and are budgeted to increase by another 17.9% in FY 2022-23 and 24.8% in FY 2023-24. Revenues exceeded pre-pandemic levels in

<sup>31</sup> RTAA website. <https://www.renoairport.com/airport-authority/about/>

2021-22 and are expected to be almost double of the amount received in FY 2020-21 by FY 2023-24.

**Table 4. RTAA Operating Revenue and Cost Comparison<sup>32</sup>**

	Actual FY 2019-20	Actual FY 2020-21	Actual FY 2021-22	Budgeted FY 2022-23	Projected FY 2023-24
Airline Revenue			\$ 15,578,356	\$ 21,209,355	\$ 34,223,253
Non-Airline Revenue			42,486,825	47,239,103	51,232,966
<b>Total Op. Revenue</b>	<b>\$ 50,669,725</b>	<b>\$ 43,662,916</b>	<b>\$ 58,065,181</b>	<b>\$ 68,448,458</b>	<b>\$ 85,456,219</b>
Personnel Services	\$ 32,120,112	\$ 30,923,994	\$ 30,348,607	\$ 38,057,907	\$ 42,186,109
Utilities and Comms.	2,881,068	2,454,099	3,156,581	3,133,050	4,543,050
Purchased Services	5,418,705	4,887,352	7,405,170	9,765,000	9,992,704
Materials and Supplies	2,340,685	2,259,926	2,575,145	2,984,990	3,674,957
Admin. Expenses	2,431,355	2,086,926	2,854,518	3,991,021	4,747,930
<b>Total Op. Expenses</b>	<b>\$ 45,191,925</b>	<b>\$ 42,612,297</b>	<b>\$ 46,340,021</b>	<b>\$ 57,931,968</b>	<b>\$ 65,144,750</b>
<b>Net Op. Revenues</b>	<b>\$ 5,477,800</b>	<b>\$ 1,050,619</b>	<b>\$ 11,725,160</b>	<b>\$ 10,516,490</b>	<b>\$ 20,311,469</b>

Operating costs also declined in FY 2019-20 (-206.8%) and FY 2020-21 (-5.7%), increased by 8.7% in FY 2021-22, and are expected to increase by 25% and 12.5% in FY 2022-23 and FY 2023-24, respectively. As costs are expected to increase at a slower rate than revenues, net operating revenues (operating revenues over costs) are expected to reach a significant \$20.3 million in FY 2023-24.

The FY 2023-24 budget includes 292 full-time equivalent employees for the RTAA, an increase from 267 employees in 2018 and 256 employees in 2014, increasing by approximately 36 full-time equivalent employees in the 10-year period.

Table 5 shows gross sales for parking, car rental, and terminal services provided at the Reno-Tahoe International Airport. These are sales received by operators of these services and RTAA receives a portion of these revenues through its contracts with service providers (shown as Non-Airline Revenue in Table 4).

Similar to RTAA operations, service providers are also experiencing strong revenue growth, following COVID-19 pandemic declines. The table shows total revenues also declined in FY

<sup>32</sup> RTAA Annual Budget and Financial Reports, <https://www.renoairport.com/airport-authority/about/>.

2019-20 and 2020-21 due to the COVID-19 pandemic. Revenues have increased significantly in the past two years (FY 2021-22 and 2022-23), exceeding FY 2018-19 levels in gaming, food and beverage, and rental car categories.

**Table 5. RTAA Gross Sales from Rental Car and Terminal Concessions<sup>33</sup>**

	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
Gaming	\$ 3,040,452	\$ 2,261,772	\$ 1,954,891	\$ 3,356,355	\$ 3,673,834
Food & Beverage	13,721,681	12,301,073	7,275,646	16,375,350	20,394,460
Retail	8,835,031	5,607,581	3,508,217	6,696,133	7,797,232
Advertising	1,424,262	1,551,879	1,147,224	1,344,223	1,417,185
Rental Car*	75,883,799	62,743,795	60,416,717	99,958,569	99,125,918
<b>Total</b>	<b>\$102,905,226</b>	<b>\$84,466,100</b>	<b>\$74,302,696</b>	<b>\$127,730,630</b>	<b>\$132,408,629</b>
% Change-Total		-17.9%	-12.0%	71.9%	3.7%
% Change Excl. Rental Car		-19.6%	-36.1%	100.0%	19.8%
*includes Off-Site Revenue Starting November 2020					

Table 6 shows significant growth in average weekly wages for various airport-related industries in the Reno MSA. Data for the MSA is used as the RTAA is located within the MSA and its employment and wages are reported for the business location.

**Table 6. Historical Growth in Airport-Related Average Weekly Wages-Reno MSA<sup>34</sup>**

NAICS	Description	2017	2022	% Change
<b>Ave. Weekly Wages</b>				
481110	Scheduled Air Transportation	\$ 951	\$ 1,157	21.7%
485320	Limosine Service	\$ 593	\$ 978	64.9%
485990	Other Ground Passenger Transportation	\$ 655	\$ 898	37.1%
488110	Airport Operations	\$ 958	\$ 1,232	28.6%
488190	Other Support Activities, Air Transport	\$ 1,427	\$ 1,690	18.4%
492110	Couriers	\$ 867	\$ 1,143	31.8%
532111	Passenger Car Rental and Leasing	\$ 617	\$ 807	30.8%

Growth in RTAA operations is also driving the need for capital expenditures. RTAA is currently in the process of working through a four-project Master Plan process at RNO, which includes improvements to existing runways, improvements to the ticketing hall, and concourse redevelopment. This is discussed in more detail below:<sup>35</sup>

<sup>33</sup> RTAA representatives.

<sup>34</sup> "Quarterly Census of Employment & Wages," Nevada Department of Employment, Training, and Rehabilitation.

<sup>35</sup> Reno-Tahoe Airport Authority website, <https://www.renoairport.com/airport-authority/airport-plans/>.

### **1. Project 1: Runway 17R/35L Reconstruction, Phase 1**

Near the intersection of Taxiway Charlie and Taxiway Lima, south of the Atlantic Aviation apron, the FAA has identified a Runway Incursion site, requiring mitigation for safety purposes. This small airfield project has been included in a much larger airfield reconstruction project also known as the Runway 17R/35L Reconstruction project. The Runway Incursion Mitigation (RIM) work involves the replacement of an existing taxilane connection to the Atlantic Aviation apron with a new taxilane connection between Taxiway Lima and the apron.

*Project Timeline:* June 2018 to December 2020 (Completed)

*Project Cost:* \$17,750,000

### **2. Project 2: Runway 17R/35L Reconstruction, Phase 2**

At the far south end of Taxiway Alpha, the FAA has identified a Runway Incursion site, requiring mitigation for safety purposes. This small airfield project has been included in much larger airfield reconstruction project also known as the Runway 16R/34L Reconstruction project. The Runway Incursion Mitigation (RIM) work involves the rounding off of a squared-off portion of pavement.

*Project Timeline:* June 2018 to March 2022 (Completed)

*Project Cost:* \$49,600,000

### **3. Project 3: Terminal Development – Ticketing Hall Improvements**

Planned Ticketing Hall Improvements include a westerly expansion of the building to the existing roofline, adding approximately 10,000 square feet to the Ticketing Hall. The improvements have the potential to dramatically and positively change the passenger experience, by moving the circulation hallway and seating into the new frontage, thereby allowing airline ticketing functions to expand into the area currently utilized for circulation. Additional space and volume will be created by removing the floating clouds, relocating the

lighting and some of the overhead utilities, and removing the feature walls enclosing the structural braces.

*Project Timeline:* January 2020 to April 2024 (In-Progress)

*Project Cost:* \$33,000,000

#### **4. Project 4: Terminal Development – Concourse Redevelopment (New Gen B & C)**

The development of replacement concourses was identified in the 2018 RNO Airport Master Plan Update as a critical project to improve functional performance, operational efficiency, address the forecasted passenger demand, address changing fleet mixes, and provide adequate passenger and airline spaces. Issues identified include:

- Narrowness of the existing passenger circulation hallways on the concourses,
- Long walking distances from the consolidated checkpoint to the airline gates,
- Small passenger holdrooms and constrained aircraft gate envelopes,
- Lack of available leasable space, especially back-of-the-house space, for tenants,
- Lack of available back-of-the-house space for airport functions,
- Confusing wayfinding due to existing signage and limited line-of-sight between hallways and holdrooms.
- Remaining useful life of several building systems, and a Customs & Border Protection facility located outside of the terminal facility.

The 2018 RNO Airport Master Plan Update recommended a three-phase concourse redevelopment program, starting with a replacement Concourse C, followed by a replacement Concourse B, and concluding with the development of a new Concourse D.

*Project Timeline:* January 2021 to 2029 (In-Progress)

*Project Cost:* \$570,000,000

At the RTS, RTAA owns thousands of acres of vacant land zoned for industrial or mixed use and has entered into a development agreement with Dermody Properties to develop 1,700

acres of land into an airport-focused business park, AirLogistics Park, focusing on industrial, commercial, retail, and airport-centric uses.

The development will be in a phased approach and is currently in the first phase of development. The Phase I leasehold is roughly 56 acres and consists of the extension of Moya Blvd for access to two industrial buildings that are included in Phase I. One building will be approximately 526,000 square feet and the other 441,000 square feet. The developer anticipates to begin grading the site in late fall 2023. On-site and off-site infrastructure costs for the project are expected to be significant.

## **B. Airlines and General Aviation**

As discussed above, twelve airlines are operating through the RNO: Allegiant, Alaska, American, Delta, Jet Blue, JSX, New Pacific Airlines, Southwest, Sun Country, Spirit, United, and Volaris. These airlines are responsible for scheduling and monitoring arrival and departure of its flights, operating baggage claim and curbside check-in services, provision of wheelchairs, setting ticket prices, and providing various customer services.

In addition, multiple charter airplane companies operate from RNO and RTS, along with multiple general aviation companies, including air ambulance services and air surveying. Some general and corporate aviation companies include Tactical Air, Aviation Classics, Airlift Helicopters, Mindwinder Aviation, Coulson Aviation, Heli-1 Corporation, Elevate Aviation, Falcon Express Aviation, and more. Additionally, RNO offers hangars for rent for private uses, such as to store personal or business airplanes and equipment. These uses do not typically have employees and are, therefore not included in the analysis, other than as lease revenues, which are included in the RTAA operating impacts.

Our analysis estimates these airlines, corporate aviation, and general aviation companies at RNO employ approximately 631 employees.<sup>36</sup> At RTS, an additional 22 employees are

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<sup>36</sup> It should be noted that employment for Airlines and General Aviation and all following operations (Terminal Services, Government Agencies, Freight and Couriers, Miscellaneous Aviation, Off-site Tenants, Rental/Transportation, and Travel Services) were reported by the Center for Regional Studies based on data from the Nevada Department of Employment, Training, and Rehabilitation as of first quarter 2023.

included. This amount may not include all employees as some sole-proprietor companies do not report employment. As a result, the employment estimates may be lower than actual.

### **C. RNO Terminal Services**

RTAA operates and leases space providing food and beverage and retail services to RNO customers. At RNO, this includes the Escape Lounge, Timber Ridge, McDonald's, La Brea Bakery, Wild Garlic Pizza & Pub, Mountain House Diner, Tap & Pour, Peet's Coffee & Tea, Brighton, No Boundaries, CNBC, In Motion, Tahoe Taphouse, IGT, Smarte Cartes and retail vending machines.

Employees related to airport terminal services are estimated at 496 employees. Recent gross revenues associated with terminal services are shown in Table 5.

### **D. Government Agencies**

Three main federal agencies operate within the RNO: Federal Aviation Administration (FAA), Transportation Security Administration (TSA), and US Customs and Border Protection (CBP). Additionally, one state agency, Nevada Transportation Authority, operates out of RNO. These agencies provide security, baggage screening, checkpoint screening, licensing and regulations of ground transportation (taxis, limousines, buses, etc.), and immigration and international travel screening and services.

The analysis estimates 410 employees associated with these agencies, although the number of FAA staff is unknown due to sensitivity of the information.

### **E. Freight and Couriers**

Three freight carriers have airfreight operations in RNO (DHL, FedEx, and UPS). These operations employ 239 persons directly at RNO. Additionally, airfreight provided by RNO impacts not only these operators, but also the United States Postal Service (USPS) and many smaller couriers in the area, including Sierra Airfreight Express, Aero Speed Delivery, etc. There are over 3,400 jobs associated with freight and courier companies in Washoe County alone, with many of these jobs depending on airfreight. As a result, the analysis is

conservative in estimating the impact of only the 239 direct jobs associated with RNO operations.

#### **F. Miscellaneous Aviation & Aviation Services**

RNO and RTS provide space to various air-related companies. These companies provide various goods and services to RNO and RTS and airline operations and benefit from their proximity to the airports. Some of these companies include Pacific Aerospace, Aircraft Parts Warehouse, Quality Aero Services, Airline Consulting, ABM Aviation, ASN, Dassault Aircraft Services, and more.

The analysis estimates 501 employees associated with companies operating in this sector at RNO and an additional 119 employees at RTS. It should be noted that, as with other sectors, this job estimate may not include employment associated with sole-proprietor companies that do not report their employment to the Nevada Department of Employment, Training, and Rehabilitation.

#### **G. Nevada National Guard**

The Nevada National Guard, including Air and Army, operates facilities at the RNO and RTS airports. A total of 991 uniformed and civilian employees were reported for Air Nevada National Guard operations for the 2021-22 biennium, along with 845 employees in the Army National Guard. For ease of reporting, Air National Guard employment is shown in Table 7 below under RNO operations and for Army, under RTS operations. Total National Guard employees are estimated at 1,836.<sup>37</sup>

#### **H. Outside Commercial Property Tenants**

RTAA owns a number of properties surrounding RNO and RTS leased to third party businesses. Many of these businesses are not directly related to airport operations, but benefit from close proximity to air shipping and central location of RNO in the community or the additional space offered at RTS. Some of RTAA's outside commercial property tenants

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<sup>37</sup> Nevada National Guard, Biennial Report 2021-2022. Nevada Office of the Military Public Affairs. <http://epubs.nsla.nv.gov/statepubs/epubs/470325-2021-2022.pdf>

include A-Pro Collision, Great Basin Brewery, Hyatt Place Hotel, Tu Casa Latina, AMH Services, Academy for Career Education, Albitas Mexican Restaurant, California Generator Service, Kane Klassics, and more.

This list includes over 60 companies and 712 jobs at RNO and 387 jobs at RTS. As with other sectors, employment for some sole-proprietor tenants may not be reported to the State of Nevada and, therefore, not included in this study.

### **I. Rentals and Ground Transportation**

RTAA has six on-airport concession agreements for rental cars: Avis/Budget Car Rental, DTG Operations (Dollar and Thrifty), Enterprise, Hertz, Payless, and Vanguard (Alamo and National). Recent gross revenues associated with concession car rental services are shown in Table 5.

In addition, multiple ground transportation companies, including airport shuttles, taxis, and limousine providers, operate from RNO. This includes Yellow Cab of Reno, Reno Sparks Cab Company, Sunset Limousine Services, Executive Limousine Services, Reno Tahoe Limousine, Amador Stage Lines, All West Coachlines, and more. The analysis estimates 579 employees associated with these companies and operations.

### **J. Travel Related Services**

The analysis also considers employment associated with companies providing travel related services, as many of these services depend on air travel. The analysis includes various travel agencies in the region, including Perform America, Alphorn Tours & Incentives, Get Wild Gear, Travel Services, Welcome Aboard Travel Agency, Alabed Enterprises, The Travel Center, and more. This sector is estimated to include 84 jobs.

Table 7 summarizes employment estimates by sector. These estimates are used as inputs into the IMPLAN input-output model to estimate the economic and fiscal impacts of RTAA and related operations as described in Sections III and IV of this report.

**Table 7. RNO/RTS Employment Estimates for RTAA and Airport-Related Operations-Washoe County<sup>38</sup>**

Airport Sector	RNO	RTS	Total
	Employees	Employees	
Airport Operations	292		292
Airlines/Corporate/General Aviation	631	22	653
Airport Terminal Services	496	-	496
Federal Agency	410	-	410
Freight and Couriers	239	-	239
Misc. Aviation & Aviation Services	501	119	620
Nevada National Guard	991	845	1,836
Off-Airport Tenants	712	387	1,099
Rentals and Ground Transportation	579	-	579
Travel Related Services	84	-	84
<b>Total</b>	<b>4,935</b>	<b>1,373</b>	<b>6,308</b>

**K. Airport-Generated Visitation to the RNO Service Area**

Between January-August 2022 and 2023, deplaned RNO passenger counts increased by 7.4%, resulting in an estimated 2,315,300 passengers for the full year 2023. According to the US Department of Transportation, 55% of passengers that deplaned at RNO between 2016 and 1Q 2023 were non-residents. The total visitation to RNO's service area, therefore, was 1.27 million non-local passengers in 2023.

Expenditures by the visitors using RNO is estimated using visitor profile surveys and results conducted by Reno-Sparks Convention & Visitors Authority (RSCVA). The most current 2022 Visitor Profile Survey provides average expenditures for lodging, gaming, food & drink, shopping, recreation, and more per person per trip. Applying the average daily expenditures to the 1.27 million visitors that traveled through RNO results in an estimated \$1.2 billion in total visitor expenditures. As impacts of ground transportation and rental vehicle spending are estimated separately through the above Rentals and Ground Transportation impacts, the analysis excludes expenditures for these services, as shown in Table 8.

<sup>38</sup> List of companies and tenants from RTAA, employment from Nevada Department of Employment, Training, and Rehabilitation.

**Table 8. Reno-Tahoe International Airport Visitor Expenditures-2023 Estimate<sup>39</sup>**

Reno-Sparks Visitor Expenditures (per person per trip)	2022 Avg. Expenditures <sup>1</sup>	Deplanned (Commercial) Visitor Expenditures
Lodging	\$ 196	\$ 249,589,340
Gaming	91	115,880,765
Food & Drink	193	245,769,095
Rental Car	75	-
Shopping & Gifts	126	160,450,290
Recreation & Entertainment	202	257,229,830
Ground Transportation	45	-
Gasoline	82	104,420,030
<b>Total</b>	<b>\$ 1,010</b>	<b>\$1,133,339,350</b>

	Participation <sup>1</sup>
Deplanned Passengers (2023) <sup>2</sup>	2,315,300
% of Deplanned Passengers = Non-Locals <sup>3</sup>	55%
<b>Non-Local Deplanned Passengers</b>	<b>1,273,415</b>

**CONCLUSION**

After the COVID-19 pandemic created a small slowdown in the rapidly growing Reno-Sparks MSA economy, growth resumed quickly once pandemic-related closures were lifted, exceeding pre-closure levels in most measures. Regional employment is growing strongly, as companies stream to the area, creating diversity in industry sectors and increasing wages. Employment growth is resulting in unemployment levels in the region that are at or below natural levels, with new employees coming from residents moving to the area, creating additional population. Demand for housing, coupled with supply-side issues like rising construction costs, increasing mortgage rates, and delays in governmental approvals, are driving up housing prices, creating affordability issues in the region.

As the number of businesses and residents in the region grows, visitors to the region are also increasing. The leading index for the region shows some softening in expected future growth

<sup>39</sup> 1. 2022 Visitor Profile, RSCVA.

2. Reno-Tahoe Airport Authority, estimated for 2023 based on actual growth between YTD January-August 2022 to 2023.

3. US Department of Transportation, average 2016 to first quarter 2023.

in the region due to national factors, but continued growth in the local region based on significant developments on the horizon.

This economic activity is also driving growth in the Reno-Tahoe Airport Authority's revenues, RNO passengers, and cargo shipments. Cargo shipment data declined slightly in recent years as logistics pressures created by increased online shopping during the pandemic are easing but remain at high levels. Passenger counts in 2023 are expected to be highest since the Great Recession.

The Reno-Tahoe Airport Authority's economic "umbrella" covers airport operations and services, commercial and charter aviation, aviation support, government and military agencies, transportation services, airfreight services, passenger concessions, travel agencies, and building, land, and hangar lessors.

Additional businesses and employment are indirectly supported by the million-plus visitors that deplane at RNO. Local visitor surveys of average length of stay and expenditures estimate that over a billion dollars was pumped into the local economy by visitors in 2023.

## II. Industrial Performance Analyses

Section II provides an analysis of the performance of industries related to RTAA operations. This includes location quotient and shift-share analyses to determine the Reno MSA’s impact on industry performance. A linkage analysis is also included to show the relationship between airport-related industries and other industries in the Reno MSA.

The data from this section provides knowledge of industry performance in the region, by type and size of industry, using econometric methods and tools. The analyses determine the most successful industries operating in the region as they relate to RTAA operations, the drivers of success, and industry linkages associated with the successful industries, as well as the implications of the growth of these industries on RTAA. Due to their close connections, growth in these RTAA-related industries will increase demand for RTAA services and RTAA operations. This analysis will not only help RTAA in showing the importance of its operations to economic development efforts in the region, but also show successful growth patterns to airlines interested in participating in the Reno MSA and Northern Nevada markets.

### LOCATION QUOTIENTS

Location quotients (LQ) show which industries within a region are more strongly represented (specialized) than they are in the nation as a whole. A location quotient is defined as the ratio:

$$LQi = \frac{\left(\frac{ei}{e}\right)}{\left(\frac{Ei}{E}\right)} \quad \begin{array}{l} \textit{Regional} \\ \textit{National} \end{array}$$

where  $e_i$  is area employment in industry  $i$ ,  $e$  is total employment in the area,  $E_i$  is employment in the national economy in industry  $i$ , and  $E$  is total employment in the national economy.

A location quotient (LQ) of greater than 1.0 indicates that this is a “basic” industry—local production can satisfy local consumption and excess may be exported (bringing in new

dollars). A location quotient of less than 1.0 indicates that the industry cannot satisfy local consumption and the difference must be imported (local dollars leave the community). A location quotient equal to 1.0 indicates production can just meet the local consumption demand. This analysis, therefore, allows for an understanding of which industries in the region are basic and should be encouraged to grow, and non-basic and should be maintained at levels sufficient to provide local services.

Industry specialization is also measured by comparing five-year trends of changes in location quotients. The specialization of industries changes over time and it is possible that highly specialized industries may be decreasing in their specialization. Likewise, non-specialized industries may become more specialized over time.

Appendix 2 attached to this report summarizes the location quotient results by North American Industry Classification System (NAICS)<sup>40</sup> code for all industries in the Reno MSA. Results are shown for the MSA only, not the entire Northern Nevada region as the RTAA operates in the MSA, with the majority of operating impacts located in the MSA. RTAA visitors impact the entire Northern Nevada region, but this section of the report only focuses on industry impacts and therefore, are limited to the Reno MSA. Results are provided by 2-digit NAICS codes, showing major industries only.

Appendix 3 summarizes location quotient results for only the airport-related industries in the Reno MSA. The list of industries includes all industries corresponding to the sectors discussed in Section I of the report: Airport Operations (RTAA), Airlines and General Aviation, Airport Terminal Services, Government Agencies, Freight and Couriers, Miscellaneous Aviation & Aviation Services, Nevada National Guard, Rentals and Ground Transportation, and Travel Related Services.

The analysis does not include Outside Commercial Property Tenants as the majority of these tenants are not directly related to airport operations. Location quotients for airport-related industries are provided at the 3-digit NAICS level, which is less detailed than the 6-digit

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<sup>40</sup> NAICS classifies business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. economy. The NAICS industry codes define establishments based on the activities in which they are primarily engaged. Source: sba.gov.

NAICS industries, but result in a manageable 38 industries, rather than complicating the analysis with hundreds of more detailed industries. A list of these industries is provided in Table 9. A more detailed list, showing the 6-digit industries within the major industry is shown in Appendix 4.

**Table 9. Airport-Related Industries-NAICS<sup>41</sup>**

Airport Related Industries	
236-Construction of Buildings	481-Air Transportation
237-Heavy and Civil Engineering Construction	484-Truck Transportation
238-Specialty Trade Contractors	485-Transit and Ground Passenger Transportation
314-Textile Product Mills	488-Support Activities for Transportation
326-Plastics and Rubber Products Manufacturing	492-Couriers and Messengers
331-Primary Metal Manufacturing	493-Warehousing and Storage
332-Fabricated Metal Product Manufacturing	512-Motion Picture and Sound Recording Industries
333-Machinery Manufacturing	531-Real Estate
334-Computer and Electronic Product Manufacturing	532-Rental and Leasing Services
335-Electrical Equipment, Appliance, & Component Manufacturing	561-Administrative and Support Services
336-Transportation Equipment Manufacturing	611-Educational Services
423-Merchant Wholesalers, Durable Goods	621-Ambulatory Health Care Services
424-Merchant Wholesalers, Nondurable Goods	711-Performing Arts, Spectator Sports, and Related Industries
441-Motor Vehicle and Parts Dealers	721-Accommodation
445-Food and Beverage Retailers	722-Food Services and Drinking Places
456-Health and Personal Care Retailers	811-Repair and Maintenance
457-Gasoline Stations and Fuel Dealers	921-Executive, Legislative, and Other General Government Support
458-Clothing, Clothing Accessories, Shoe, and Jewelry Retailers	926-Administration of Economic Programs
459-Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers	928-National Security and International Affairs

In addition to showing employment data by industry, the Appendices estimate 2017 and 2022 location quotients for these industries, percent change in these estimates between 2017 and 2022, and the industry’s growth-share category. The growth-share category is based on each industry’s 2022 location quotient and the percent change in the location quotient between 2017 and 2022. These categories are defined as follows:

- **Stars**-Star industries are those whose ratio of employment in the region is larger than that in the nation (2022 LQ>1.0) and whose ratio of employment has increased over the five-year period relative to the nation (% Change in LQ>0). Star industries are specialized compared to the nation and are becoming more specialized.

<sup>41</sup> It should be noted the Reno-Sparks MSA does not show any employment for the 331-Primary Metal Manufacturing industry, as a result, the following analyses include 37 industries.

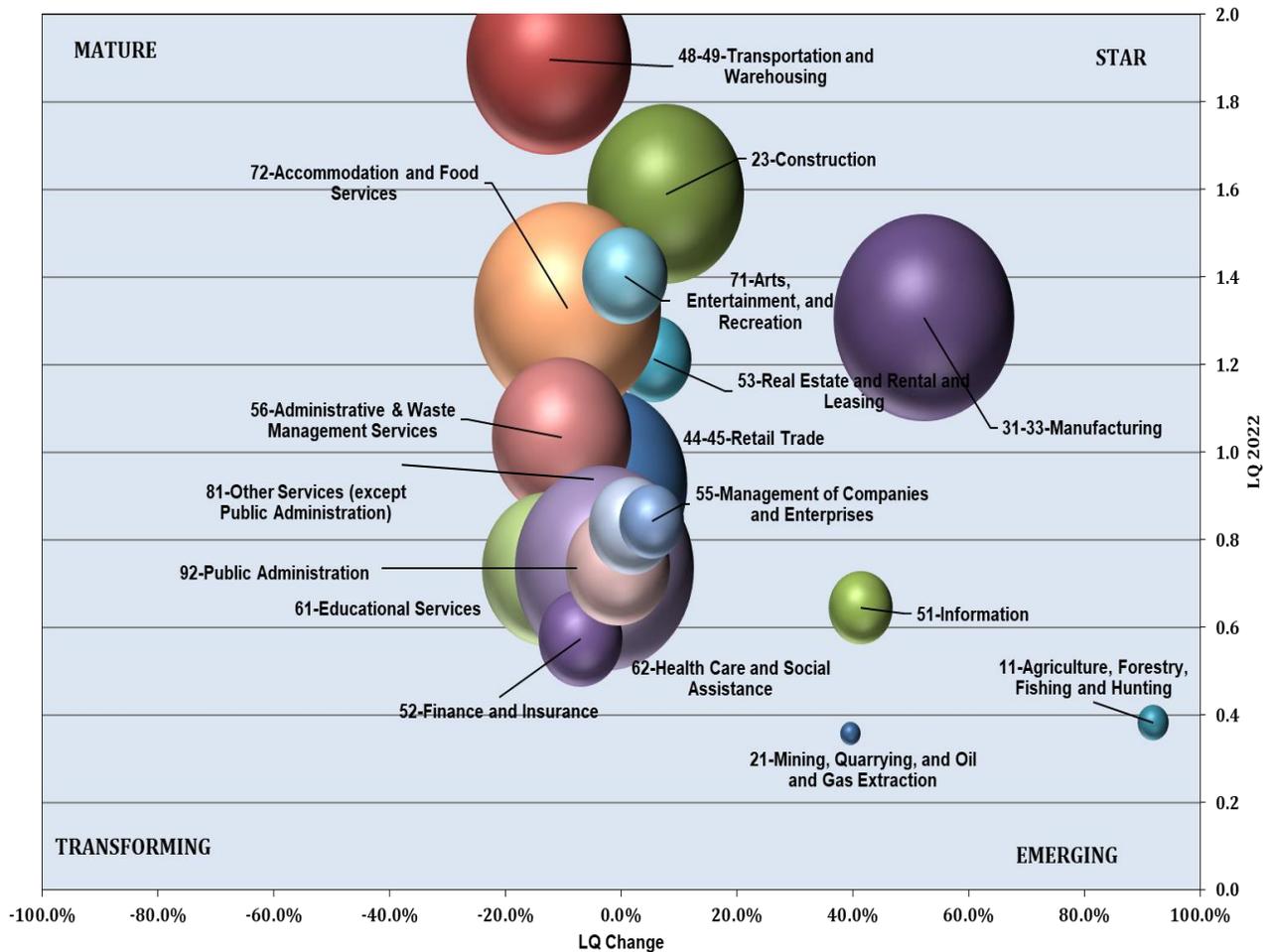
- **Mature**-Mature industries are those whose ratio of employment in the region is larger than that in the nation (2022  $LQ > 1.0$ ) and whose ratio of employment has decreased over the five-year period relative to the nation (% Change in  $LQ < 0$ ). Mature industries are still specialized compared to the nation, but are becoming less specialized.
- **Emerging**-Emerging industries are those whose ratio of employment in the region is less than that in the nation (2022  $LQ < 1.0$ ), but whose ratio of employment has increased over the five-year period relative to the nation (% Change in  $LQ > 0$ ). These clusters are less specialized compared to the nation, but some of the emerging industries may become specialized in the future.
- **Transforming**-Transforming industries are those whose ratio of employment in the region is less than that in the nation (2022  $LQ < 1.0$ ) and whose ratio of employment has decreased over the five-year period relative to the nation (% Change in  $LQ < 0$ ). These clusters are less specialized in the region, and are unlikely to become specialized in the future.

Figures 20 and 21 show the growth-share matrix for all industries in the Reno MSA in terms of employment. Due to difficulties in showing wide ranges of LQ values visually in a single graph, Figure 20 shows all industries with the major industries identified, while Figure 21 shows the remaining industries, excluding outlying industries.

On the x-axis (2017-2022 LQ Change), the dividing line between Mature/Transforming (negative change) and Stars/Emerging (positive change) industries is the zero percent line. On the y-axis (LQ 2022), the dividing line between Mature/Stars (not specialized) and Transforming/Emerging (specialized) industries is the 1.0 line. The size of the bubble for each industry corresponds to the industry's 2022 employment. Appendix 2 also shows the Growth-Share designation for each industry.

Of all industries in the Reno MSA, four are considered Star industries. These industries are highly specialized and are growing. This includes the Construction; Manufacturing; Real Estate and Rental and Leasing; and Arts, Entertainment, and Recreation industries. RTAA operations impact all of these industries, whether through freight shipment or visitor transportation. These industries found their niche in the MSA and require no additional economic development efforts.

Figure 20. Reno MSA Growth-Share Matrix-All Industries



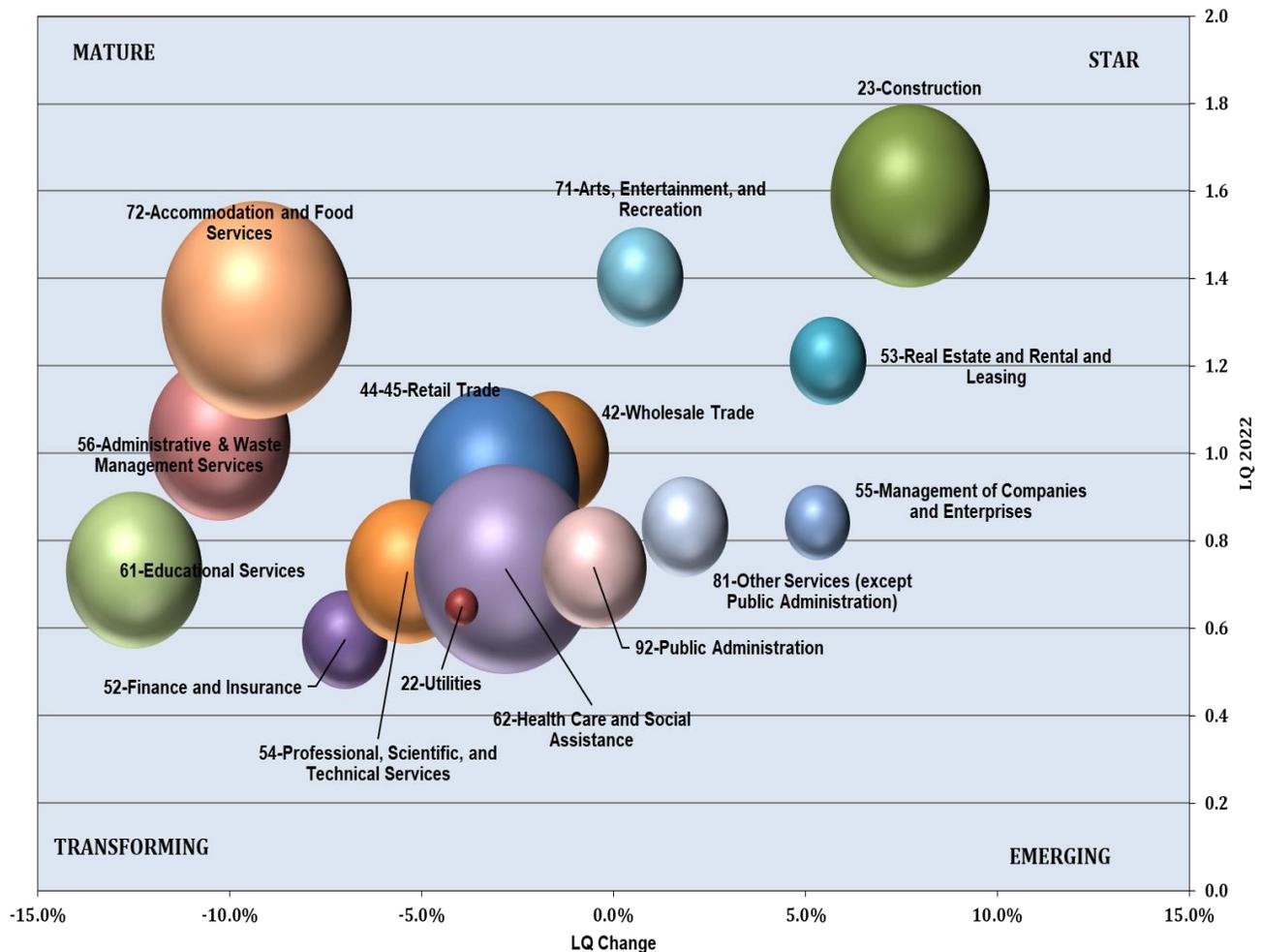
There are four Mature industries, which are highly specialized industries, but which lost employment in the past five years.<sup>42</sup> These industries include Wholesale Trade; Transportation and Warehousing; Administrative and Waste Management Services; and Accommodation and Food Services. The reason for the declines in these industries need further analysis to determine whether these industries can be turned into Star industries or if they have reached their maturity and will continue to decline.

There are five Emerging industries, industries which are not specialized, but which grew employment over the five-year analysis period. These industries include Agriculture,

<sup>42</sup> The Unclassified industry is also shown as a Mature industry. However, this industry includes employees in companies which are difficult to classify into any of the other named industries.

Forestry, Fishing, and Hunting; Mining, Quarrying, and Oil/Gas Extraction; Information; Management of Companies and Enterprises; and Other Services.

**Figure 21. Reno MSA Growth-Share Matrix-All Industries (Figure 20 Unpacked)**

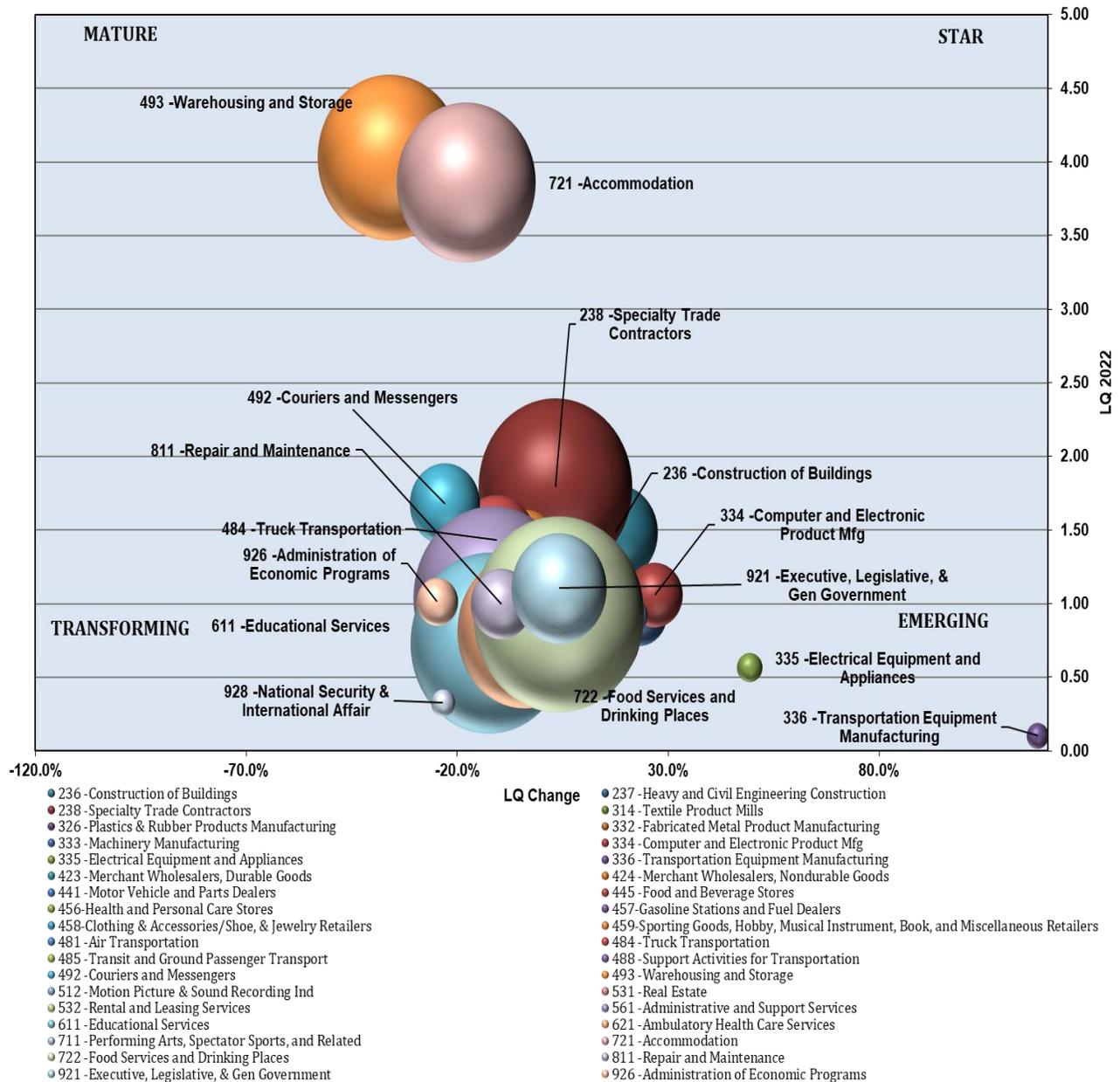


Finally, there are seven Transforming industries in the Reno MSA. These industries are not specialized and lost employment during the five-year analysis period. These industries include Utilities; Retail Trade; Finance and Insurance; Professional, Scientific, and Technical Services; Educational Services; Health Care and Social Assistance; and Public Administration.

Figures 22 and 23 show the growth-share matrix for airport-related industries in the Reno MSA in terms of employment, using slightly more detailed three-digit industry codes. Due to difficulties in showing wide ranges of LQ values visually in a single graph, Figure 22 shows

all industries with the major industries identified, while Figure 23 shows the remaining industries, excluding outlying industries.

Figure 22. Reno MSA Growth-Share Matrix-Airport Related Industries

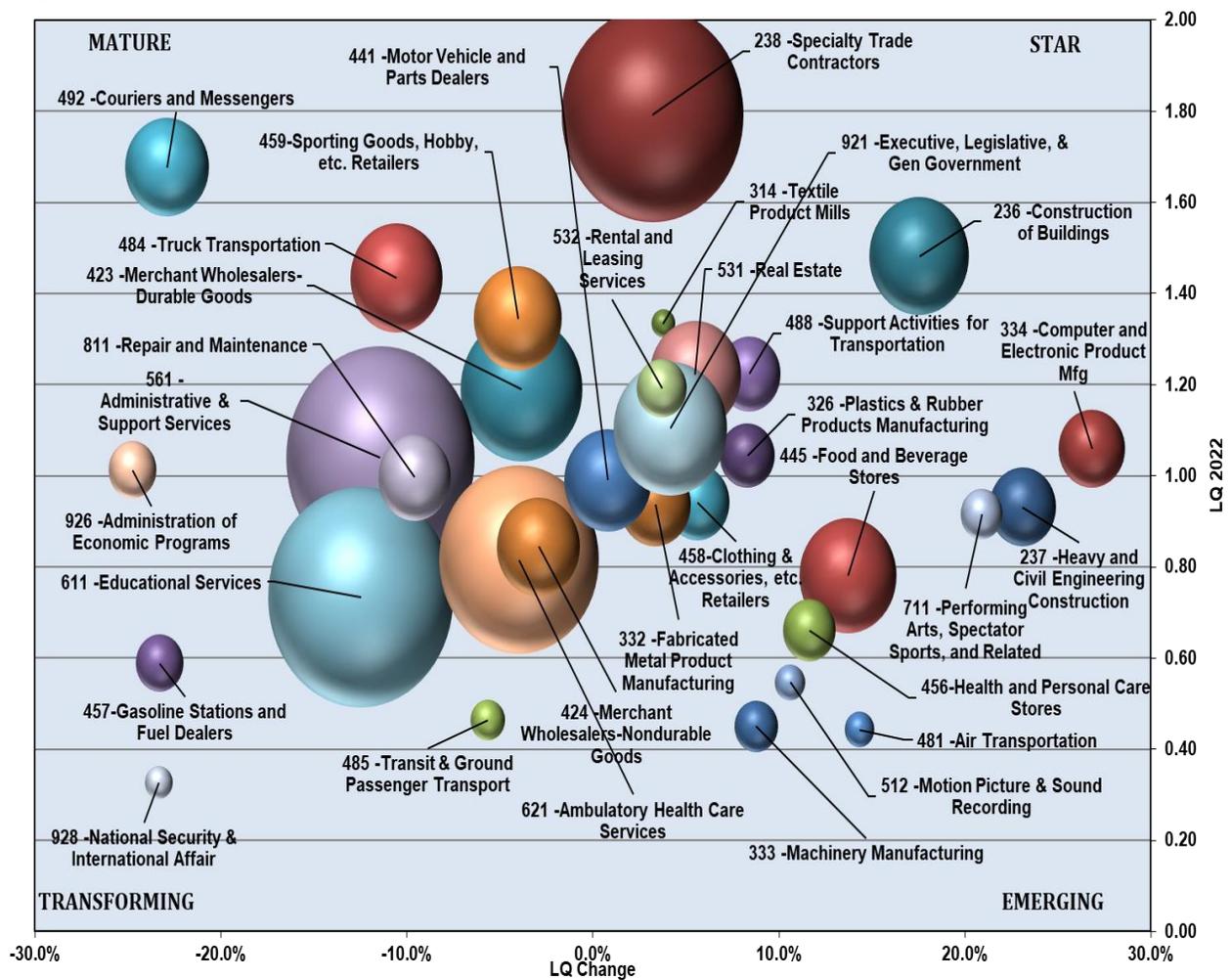


Of these airport-related industries in the Reno MSA, nine are considered Star industries. These industries are highly specialized and are growing. These include Construction of Buildings; Specialty Trade Contractors; Textile Product Mills; Plastics & Rubber Products Manufacturing; Computer and Electronic Product Manufacturing; Support Activities for

Transportation; Real Estate; Rental and Leasing Services; and Executive, Legislative, and General Government.

There are also nine Mature industries, which are highly specialized industries, but which lost employment in the past five years. These industries include Merchant Wholesalers-Durable Goods; Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers; Truck Transportation; Couriers and Messengers; Warehousing and Storage; Administrative and Support Services; Accommodation; Repair and Maintenance; and Administration of Economic Programs.

**Figure 23. Reno MSA Growth-Share Matrix-Airport-Related Industries (Figure 22 Unpacked)**



There are 13 Emerging industries, industries which are not specialized, but which grew employment over the five-year analysis period. These include Heavy and Civil Engineering Construction; Fabricated Metal Product Manufacturing; Machinery Manufacturing; Electrical Equipment and Appliances; Transportation Equipment Manufacturing; Motor Vehicle and Parts Dealers; Food and Beverage Stores; Health and Personal Care Stores; Clothing & Accessories/Shoe, & Jewelry Retailers; Air Transportation; Motion Picture & Sound Recording Industries; Performing Arts, Spectator Sports, and Related; and Food Services and Drinking Places.

Finally, there are six Transforming industries. These industries are not specialized and lost employment during the five-year analysis period. These industries include Merchant Wholesalers, Nondurable Goods; Gasoline Stations and Fuel Dealers; Transit and Ground Passenger Transport; Educational Services; Ambulatory Health Care Services; and National Security & International Affairs.

### **SHIFT SHARE ANALYSIS**

While the location quotient analysis focuses on industry specialization within a region, a shift-share analysis looks at components of industry growth, specifically focusing on the importance of regional factors. Shift-share analysis is a tool used to account for the competitiveness of a region's industries and to analyze the local economic base. This analysis is primarily used to decompose employment changes within an economy over a specific period of time into mutually exclusive factors. It paints a picture of how well the region's industries are performing by systematically examining the national, local, and industrial components of employment change by dividing the change in local industry employment into three components: national growth, industrial growth, and regional/local growth.

The regional/local growth component is the most important as it describes the extent to which factors unique to the local area have caused growth or decline in regional employment of an industry. Even during periods of general prosperity, some regions and industries grow faster than others. This is usually attributed to some local comparative advantage such as

natural resources, linked industries, or favorable local labor situations. The local component aids in identifying a local area's economic strengths. Shift-share, and the regional/local growth component in particular, can point to industries that enjoy local comparative advantage.

In other words, this analysis will allow us to determine why a certain industry is successful in the Reno MSA, whether it is because the overall national economy grew, this particular industry grew across the US, or the industry is well suited for the area. The analysis helps determine which industries are successful in the region due to only local characteristics of the region, not other outside forces. Table 10 provides a summary of shift-share results for all industries in the Reno MSA.

**Table 10. Reno MSA Shift-Share Analysis-All Industries**

NAICS	Change in Employment Due to:				% Change in Employment Due to:				Competitive Position
	National Growth	Industry Growth	Regional Factors	Total	National Growth	Industry Growth	Regional Factors	Total	
11-Agriculture, Forestry, Fishing and Hunting	17	(19)	405	403	4.3%	-4.7%	99.7%	99.3%	0.964
21-Mining, Quarrying, and Oil and Gas Extraction	11	(39)	104	76	4.3%	-15.2%	40.6%	29.7%	0.373
22-Utilities	38	(42)	2	(3)	4.3%	-4.8%	0.2%	-0.3%	(0.032)
23-Construction	721	1,153	2,308	4,182	4.3%	6.9%	13.7%	24.9%	0.104
31-33-Manufacturing	735	(249)	10,391	10,877	4.3%	-1.5%	60.6%	63.4%	0.572
42-Wholesale Trade	411	(284)	261	388	4.3%	-3.0%	2.7%	4.0%	(0.006)
44-45-Retail Trade	1,047	(1,626)	255	(324)	4.3%	-6.7%	1.0%	-1.3%	(0.023)
48-49-Transportation and Warehousing	881	4,151	(2,215)	2,817	4.3%	20.2%	-10.8%	13.7%	(0.141)
51-Information	92	88	1,104	1,284	4.3%	4.1%	51.4%	59.7%	0.480
52-Finance and Insurance	253	93	(187)	159	4.3%	1.6%	-3.2%	2.7%	(0.065)
53-Real Estate and Rental and Leasing	175	115	444	735	4.3%	2.8%	10.9%	18.0%	0.075
54-Professional, Scientific, and Technical Services	483	1,436	(171)	1,748	4.3%	12.7%	-1.5%	15.5%	(0.049)
55-Management of Companies and Enterprises	125	164	316	605	4.3%	5.6%	10.8%	20.7%	0.075
56-Administrative & Waste Management Services	725	140	(1,140)	(274)	4.3%	0.8%	-6.7%	-1.6%	(0.101)
61-Educational Services	722	(679)	(1,474)	(1,431)	4.3%	-4.0%	-8.7%	-8.5%	(0.121)
62-Health Care and Social Assistance	1,109	128	367	1,605	4.3%	0.5%	1.4%	6.2%	(0.019)
71-Arts, Entertainment, and Recreation	257	(397)	294	154	4.3%	-6.6%	4.9%	2.6%	0.016
72-Accommodation and Food Services	1,380	(1,825)	(1,713)	(2,158)	4.3%	-5.7%	-5.3%	-6.7%	(0.087)
81-Other Services (except Public Administration)	251	(295)	363	320	4.3%	-5.0%	6.2%	5.5%	0.029
92-Public Administration	375	(275)	333	433	4.3%	-3.1%	3.8%	4.9%	0.005
99-Unclassified	89	907	(2,343)	(1,347)	4.3%	43.7%	-112.9%	-64.9%	(1.162)
<b>TOTAL</b>	<b>9,898</b>	<b>2,647</b>	<b>7,704</b>	<b>20,249</b>	<b>4.3%</b>	<b>1.1%</b>	<b>3.3%</b>	<b>8.8%</b>	

The table breaks down the change in employment for each industry from 2017 to 2022 between national, industry, and regional/local competitive effects. For example, employment in the Manufacturing industry in the Reno MSA increased by 10,877 employees (63.4%) between 2017 and 2022. National employment for all industries increased 4.3%

between 2017 and 2022. Had the industry increased employment at the national rate (4.3%), Manufacturing employment would have increased by 735 (national growth).

Employment in the Manufacturing industry across the nation declined by 1.5% during the same period (industry growth), after the 4.3% national growth (all industries) is subtracted from total national Manufacturing employment growth. At this rate, the Manufacturing industry should have lost 249 employees. After isolating the national effects (overall economy and Manufacturing industry trends) on Manufacturing employment in Reno MSA, the shift-share analysis determined that the regional factors' effect on the industry between 2017 and 2022 contributed to a 60.6% increase in employment. This indicates that after eliminating the positive impact of overall growth in national employment and negative impact of employment in the national Manufacturing industry, local factors associated with the Manufacturing industry in the Reno MSA contributed to the gain of 10,391 employees.

Combined, these three factors created a gain of 10,877 employees in the Manufacturing industry between 2017 and 2022 in the Reno MSA. The final objective of the shift-share analysis (to calculate the region's impact on industry success), therefore, determined that regional factors (represented by the 60.6% change) had the most impact in the Manufacturing industry in the Reno MSA. This indicates that beyond the general economic growth in the US economy and growth in the national Manufacturing industry, regional factors favorable to the industry's operations accounted for the growth in industry employment in the MSA over the five-year period of 60.6%.

Reno MSA industries most affected by regional growth factors are identified using "competitive position" scores (last column in Table 10). The competitive position score compares the regional effect on employment growth for each MSA industry against the regional effect on all industries in the region by subtracting the overall regional-factor growth from each industry's growth. Industries with positive competitive position scores include the Public Administration; Arts, Entertainment, and Recreation; Other Services (except Public Administration); Management of Companies and Enterprises; Real Estate and Rental and Leasing; Construction; Mining, Quarrying, and Oil and Gas Extraction; Information; Manufacturing; and Agriculture, Forestry, Fishing and Hunting. These

industries are well suited for the Reno MSA, growing their employment due to various local factors.

**Table 11. Reno MSA Shift-Share Analysis-Airport-Related Industries**

NAICS	Change in Employment Due to:				% Change in Employment Due to:				Competitive Position
	National Growth	Industry Growth	Regional Factors	Total	National Growth	Industry Growth	Regional Factors	Total	
236 -Construction of Buildings	134	282	800	1,216	4.3%	9.0%	25.6%	38.9%	0.243
237 -Heavy and Civil Engineering Construction	60	37	426	524	4.3%	2.7%	30.4%	37.3%	0.290
238 -Specialty Trade Contractors	525	883	1,044	2,452	4.3%	7.2%	8.5%	20.0%	0.072
314 -Textile Product Mills	10	(32)	18	(4)	4.3%	-13.4%	7.5%	-1.7%	0.061
326 -Plastics & Rubber Products Manufacturing	47	3	150	200	4.3%	0.3%	13.5%	18.1%	0.122
332 -Fabricated Metal Product Manufacturing	89	(86)	162	165	4.3%	-4.1%	7.8%	8.0%	0.065
333 -Machinery Manufacturing	31	(10)	99	119	4.3%	-1.4%	13.8%	16.7%	0.125
334 -Computer and Electronic Product Mfg	60	0	470	530	4.3%	0.0%	33.7%	38.0%	0.323
335 -Electrical Equipment and Appliances	10	2	137	149	4.3%	0.7%	58.4%	63.4%	0.571
336 -Transportation Equipment Manufacturing	5	(3)	165	167	4.3%	-2.7%	128.9%	130.5%	1.276
423 -Merchant Wholesalers, Durable Goods	252	421	20	693	4.3%	7.2%	0.3%	11.8%	(0.010)
424 -Merchant Wholesalers, Nondurable Goods	122	37	38	197	4.3%	1.3%	1.3%	6.9%	(0.000)
441 -Motor Vehicle and Parts Dealers	135	(123)	163	175	4.3%	-3.9%	5.2%	5.6%	0.038
445 -Food and Beverage Stores	147	(60)	654	741	4.3%	-1.7%	19.1%	21.6%	0.177
456-Health and Personal Care Stores	43	(12)	172	203	4.3%	-1.2%	16.9%	20.0%	0.156
457-Gasoline Stations and Fuel Dealers	49	72	(254)	(133)	4.3%	6.3%	-22.1%	-11.6%	(0.235)
458-Clothing & Accessories etc. Retailers	85	(430)	166	(180)	4.3%	-21.8%	8.4%	-9.1%	0.070
459-Sporting Goods, Hobby, etc. Retailers	138	64	3	205	4.3%	2.0%	0.1%	6.4%	(0.012)
481 -Air Transportation	13	(3)	61	71	4.3%	-1.0%	19.9%	23.1%	0.185
484 -Truck Transportation	160	129	(271)	18	4.3%	3.5%	-7.3%	0.5%	(0.086)
485 -Transit and Ground Passenger Transport	25	(86)	(8)	(69)	4.3%	-14.7%	-1.4%	-11.9%	(0.028)
488 -Support Activities for Transportation	59	93	200	352	4.3%	6.8%	14.5%	25.5%	0.132
492 -Couriers and Messengers	100	1,401	(750)	751	4.3%	60.2%	-32.2%	32.3%	(0.336)
493 -Warehousing and Storage	445	8,523	(6,449)	2,519	4.3%	82.0%	-62.1%	24.2%	(0.634)
512 -Motion Picture & Sound Recording Ind	14	(3)	53	65	4.3%	-0.9%	15.9%	19.3%	0.145
531 -Real Estate	131	197	339	667	4.3%	6.4%	11.1%	21.8%	0.098
532 -Rental and Leasing Services	44	(75)	81	50	4.3%	-7.3%	7.9%	4.9%	0.066
561 -Administrative and Support Services	702	84	(1,309)	(523)	4.3%	0.5%	-8.0%	-3.2%	(0.093)
611 -Educational Services	722	(679)	(1,474)	(1,431)	4.3%	-4.0%	-8.7%	-8.5%	(0.101)
621 -Ambulatory Health Care Services	433	732	16	1,181	4.3%	7.2%	0.2%	11.7%	(0.012)
711 -Performing Arts, Spectator Sports, & Related	26	(9)	161	178	4.3%	-1.5%	26.8%	29.6%	0.255
721 -Accommodation	667	(2,279)	(2,001)	(3,612)	4.3%	-14.6%	-12.9%	-23.2%	(0.142)
722 -Food Services and Drinking Places	713	(677)	1,419	1,454	4.3%	-4.1%	8.5%	8.7%	0.072
811 -Repair and Maintenance	100	45	(141)	4	4.3%	1.9%	-6.0%	0.2%	(0.074)
921 -Executive, Legislative, & Gen Government	222	(201)	449	470	4.3%	-3.9%	8.7%	9.1%	0.073
926 -Administration of Economic Programs	55	(45)	(281)	(270)	4.3%	-3.4%	-21.7%	-20.9%	(0.230)
928 -National Security & International Affairs	17	4	(83)	(62)	4.3%	1.1%	-21.2%	-15.7%	(0.225)
Remaining Industries	3,305	(928)	8,640	11,017	4.3%	-1.2%	11.2%	14.3%	0.099
<b>TOTAL</b>	<b>9,898</b>	<b>7,267</b>	<b>3,084</b>	<b>20,249</b>	<b>4.3%</b>	<b>3.1%</b>	<b>1.3%</b>	<b>8.8%</b>	

Table 11 provides a summary of shift-share results for airport-related industries in the Reno MSA using slightly more detailed industry codes. Twenty-two airport-related industries have positive competitive positions, including Motor Vehicle and Parts Dealers; Textile Product Mills; Fabricated Metal Product Manufacturing; Rental and Leasing Services;

Clothing & Accessories etc. Retailers; Specialty Trade Contractors; Food Services and Drinking Places; Executive, Legislative, & Gen Government; Real Estate; Plastics & Rubber Products Manufacturing; Machinery Manufacturing; Support Activities for Transportation; Motion Picture & Sound Recording Industry; Health and Personal Care Stores; Food and Beverage Stores; Air Transportation; Construction of Buildings; Performing Arts, Spectator Sports, & Related; Heavy and Civil Engineering Construction; Computer and Electronic Product Manufacturing; Electrical Equipment and Appliances; and Transportation Equipment Manufacturing. The results indicate that these industries are well suited for the Reno MSA and will continue to expand as long as the local economy expands.

### **INDUSTRY LINKAGES ANALYSIS**

Economic sectors supplying inputs to or purchasing outputs from airport-related industries may be good candidates for industry expanding, relocation, and targeting by RTAA. Industries linked by trade to the RTAA may find the area a competitive location if proximity to input supplies and products market is desired. Such proximity is especially valued by (1) manufacturing using “just-in-time” inventory replacement, or (2) firms producing specialized goods in small-batch production runs.

The IMPLAN economic impact software and input-output database was used to identify forward or backward linkages to airport related industries. A backward link of an industry is a sector that supplies the industry with commodities or services. Backward links are counted if a sector supplies at least 2% of the total value of purchases by the industry. A forward link to an industry is a sector that purchases the industry’s output. Forward links are counted if a sector purchases more than 2% of the total value of sales of the industry. Sectors with multiple forward and backward linkages to the major industries are identified as industries that will find the Reno MSA, and proximity to RTAA operations, an attractive location.

Industry classification codes found within the IMPLAN database are different from the NAICS-coded industries. Therefore, all results of the IMPLAN analysis must be converted to NAICS using a classification “bridge” provided by IMPLAN. Table 9 showed the NAICS

industries associated with airport operations. Table 12 shows the IMPLAN version of these industries. It should be noted not all NAICS industries from Table 9 are included, as the IMPLAN database does not have Reno MSA data for some industries.

**Table 12. Airport-Related Industries-IMPLAN**

IMPLAN Code	Description	IMPLAN Code	Description
52	Construction of new power and communication structures	418	Transit and ground passenger transportation
54	Construction of new highways and streets	420	Scenic and sightseeing transportation and support activities for transportation
55	Construction of new commercial structures, including farm structures	421	Couriers and Messengers
290	Industrial truck, trailer, and stacker manufacturing	422	Warehousing and storage
312	Search, detection, and navigation instruments manufacturing	429	Motion picture and video industries
329	Power, distribution, and specialty transformer manufacturing	447	Other real estate
356	Other aircraft parts and auxiliary equipment manufacturing	450	Automotive equipment rental and leasing
395	Wholesale - Machinery, equipment, and supplies	474	Travel arrangement and reservation services
399	Wholesale - Petroleum and petroleum products	482	Other educational services
402	Retail - Motor vehicle and parts dealers	489	Other ambulatory health care services
406	Retail - Food and beverage stores	500	Promoters of performing arts and sports and agents for public figures
407	Retail - Health and personal care stores	507	Hotels and motels, including casino hotels
408	Retail - Gasoline stores	509	Full-service restaurants
409	Retail - Clothing and clothing accessories stores	510	Limited-service restaurants
410	Retail - Sporting goods, hobby, musical instrument and book stores	511	All other food and drinking places
414	Air transportation	516	Personal and household goods repair and maintenance
417	Truck transportation	528	Other federal government enterprises

Appendix 5 shows all backward industry linkages (suppliers) to airport-related industries. These industries provide more than 2% of all goods and services purchased by airport-related industries. Appendix 6 shows all forward industry linkages (customers) of airport-related industries. These industries purchase more than 2% of goods and services produced by airport-related industries. Each appendix shows the airport-related industries (columns) and supplier/customer industries (rows), along with the percentage of total goods and services purchased.

Table 13 provides a list of supplier and customer industries by the number of linkages to the airport-related industries. Industries with the highest number of linkages have the strongest business relationships with airport-related industries and can be targeted for locating in

close proximity to RNO and RTS. RTAA operations and activity will provide these industries with both customers and suppliers, reducing costs of transporting raw materials and finished products.

**Table 13. Reno-MSA Top 30 Industries by Total Linkages**

IMPLAN	Description	Backward Linkages	Forward Linkages	Total Linkages
447	Other real estate	28.0	15.0	43.0
469	Management of companies and enterprises	26.0	6.0	32.0
472	Employment services	24.0	6.0	30.0
417	Truck transportation	14.0	11.0	25.0
422	Warehousing and storage	12.0	6.0	18.0
436	Data processing, hosting, and related services	10.0	7.0	17.0
394	Wholesale - Household appliances and electrical and electronic goods	8.0	7.0	15.0
444	Insurance carriers, except direct life	12.0	3.0	15.0
456	Accounting, tax preparation, bookkeeping, and payroll services	14.0	-	14.0
154	Petroleum refineries	10.0	2.0	12.0
396	Wholesale - Other durable goods merchant wholesalers	7.0	5.0	12.0
421	Couriers and messengers	5.0	7.0	12.0
453	Commercial and industrial machinery and equipment rental and leasing	9.0	2.0	11.0
476	Services to buildings	5.0	6.0	11.0
47	Electric power transmission and distribution	10.0	-	10.0
438	Internet publishing and broadcasting and web search portals	10.0	-	10.0
439	Nondepository credit intermediation and related activities	9.0	1.0	10.0
455	Legal services	7.0	3.0	10.0
457	Architectural, engineering, and related services	4.0	6.0	10.0
60	Maintenance and repair construction of nonresidential structures	4.0	5.0	9.0
490	Hospitals	-	9.0	9.0
393	Wholesale - Professional and commercial equipment and supplies	6.0	2.0	8.0
395	Wholesale - Machinery, equipment, and supplies	8.0	-	8.0
431	Radio and television broadcasting	6.0	2.0	8.0
59	Construction of other new residential structures	-	7.0	7.0
400	Wholesale - Other nondurable goods merchant wholesalers	3.0	4.0	7.0
442	Other financial investment activities	-	7.0	7.0
483	Offices of physicians	-	7.0	7.0
507	Hotels and motels, including casino hotels	-	7.0	7.0
509	Full-service restaurants	3.0	4.0	7.0
Other		95.0	90.0	185.0
<b>TOTAL</b>		<b>349.0</b>	<b>237.0</b>	<b>586.0</b>

The table shows the Other Real Estate industry is a supplier (backward linkage) to 28 of the airport-related industries, and a customer (forward linkage) to 15 industries, for a total of 43 linkages. This industry includes leasing of commercial buildings, self-storage, and property management businesses. Businesses within the Other Real Estate industry depend

heavily on their relationship with the RTAA and should be targeted in economic development efforts to relocate businesses in this industry to the MSA.

Similarly, the Management of Companies and Enterprises industry is a supplier to 26 and customer of 6 airport-related industries, for a total of 32 linkages. This is another industry with strong relationships to airport-related industries in the Reno MSA.

Other industries with a high level of linkages include Employment Services (30); Truck Transportation (25); Warehousing and Storage (18); Data processing, Hosting, and Related Services (17); and Wholesale-Household Appliances (15).

## **CONCLUSION**

Industry performance is analyzed using econometric tools, including location quotients, shift-share, and industry linkage analyses. Location quotients and their trends identified the Construction, Manufacturing, Real Estate, and Arts and Entertainment industries as the most specialized industries in the region, with a healthy growth trend. When focusing on more defined airport-related industries, the more detailed industries also represent the Construction, Manufacturing, and Real Estate sectors. These industries, of course, are highly dependent on RTAA operations.

The shift-share analysis identifies several industries growing employment due to regional factors. Airport-related industries with highest regional competitiveness factors, again, include industries within the construction, manufacturing, and arts/recreation sectors.

The analysis of industry supply chains identifies multiple industries that sell and buy from airport-related industries. Industries with the highest number of linkages to RTAA operations include real estate and business supports, transportation, and storage industries.

Upon combining the three analyses, industries within the construction, manufacturing, and arts/recreation sectors are identified as key industries related to RTAA operations in our region. It is recommended that these industries be prioritized for targeted economic development efforts.

### III. Economic Impact Analysis

This section estimates the economic impact of RTAA operations on its service area in Northern Nevada. Using the IMPLAN input-output model, the analysis estimates the direct, indirect, and induced impact (output and employment) of RTAA operations, capital construction, visitors, tenants, and aviation-related industries. For the purpose of this analysis, the Northern Nevada service area includes the following counties: Washoe (where RTAA and its airports are located), Storey, Carson City, Churchill, Douglas, Lyon, Pershing, Humboldt, Lander, and Mineral. Economic impacts from RTAA operations in California are represented by passenger totals, but California industries linked to RTAA operations are unknown due to data limitations. As a result, the analysis is conservative in focusing only on the Northern Nevada region for its impact analyses.

An economic impact analysis estimates the impact of an industry change on the regional economy, while the fiscal impact analysis estimates the impact of this change on the public sector. Four impacts are considered in this analysis: 1) impact of RTAA operations at the Reno-Tahoe International Airport (RNO)<sup>43</sup>, along with impacts of other airport-related industries at RNO, including Airlines and General Aviation, Airport Terminal Services, Government Agencies, Freight and Couriers, Miscellaneous Aviation & Aviation Services, Nevada National Guard, Outside Commercial Property Tenants, Rentals and Ground Transportation, and Travel Related Services; 2) impacts of Airlines and General Aviation, Miscellaneous Aviation & Aviation Services, Off-Site Tenants, and National Guard at the Reno-Stead Airport (RTS); 3) capital expenditures associated with RNO; and 4) the impact of airport-related visitors to the region.

The economic impact analysis uses the statistical modeling software package IMPLAN (Impact Analysis for Planning) to analyze expenditures associated with each of the five economic activities described above. IMPLAN models are available at the county or zip code

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<sup>43</sup> It should be noted, all RTAA operations are shown under RNO, though some revenues and expenditures are created at RTS, as the exact amount of these impacts is unknown and is expected to be small compared to RNO impacts.

levels only; as a result, the analysis uses the 10-county Northern Nevada model. Information regarding the IMPLAN model, including relevant terms, is summarized in Appendix 7 of this report.

The economic impact analysis measures three impacts of each sector: output, employment, and labor income. A definition of each is provided below.

**Output:** Output represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors, production is equal to sales. For Retail and wholesale trade, output is equal to gross margin and not gross sales.

**Employment:** Represents the total number of people employed by a business as well as the jobs created or supported in the regional economy to support the business' economic activity.

**Labor Income:** All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.

#### **IMPACT OF RTAA OPERATIONS AND RNO AIRPORT-RELATED INDUSTRIES**

For airport operations, economic impacts are estimated using FY 2023-24 budgeted revenues and labor expenditures, and employees as shown in Table 4. Table 7 of this report shows employment estimates for RTAA operations at RNO and airport-related industries. For the airport-related industries, these employment amounts are used to estimate economic impacts for this report.

Table 14 provides the summary of the direct, indirect, and induced impacts of RNO operations and operations of related industries, including output, labor income, and employment. All amounts are shown in 2023 dollars.

**Table 14. Summary of Northern Nevada Region's Annual Output, Labor Income, and Employment Impacts of RNO Operations and Airport-Related Industries**

Reno Tahoe International Airport Operations				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 85,456,219	\$ 22,642,421	\$ 58,388,079	\$ 166,486,719
Multiplier	1.0000	0.2650	0.6833	1.9482
Labor Income	\$ 42,186,109	\$ 5,804,404	\$ 9,957,744	\$ 57,948,257
Multiplier	1.0000	0.1376	0.2360	1.3736
Employment	292.0	54.2	122.3	468.5
Multiplier	1.0000	0.1857	0.4188	1.6045
Airlines/Corporate/General Aviation				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 178,906,426	\$ 88,293,896	\$ 63,005,268	\$ 330,205,591
Multiplier	1.0000	0.4935	0.3522	1.8457
Labor Income	\$ 63,070,703	\$ 31,231,911	\$ 19,599,415	\$ 113,902,029
Multiplier	1.0000	0.4952	0.3108	1.8059
Employment	631.0	446.2	334.7	1,411.9
Multiplier	1.0000	0.7071	0.5305	2.2376
Airport Terminal Services				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 71,855,202	\$ 49,394,552	\$ 23,912,581	\$ 145,162,336
Multiplier	1.0000	0.6874	0.3328	2.0202
Labor Income	\$ 19,359,963	\$ 16,479,762	\$ 7,440,310	\$ 43,280,034
Multiplier	1.0000	0.8512	0.3843	2.2355
Employment	496.0	234.8	127.0	857.8
Multiplier	1.0000	0.4733	0.2561	1.7294
Government Agencies				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 78,128,807	\$ 68,927,510	\$ 25,866,388	\$ 172,922,704
Multiplier	1.0000	0.8822	0.3311	2.2133
Labor Income	\$ 15,805,446	\$ 22,983,970	\$ 8,048,514	\$ 46,837,930
Multiplier	1.0000	1.4542	0.5092	2.9634
Employment	410.0	321.8	137.4	869.1
Multiplier	1.0000	0.7848	0.3351	2.1198
Freight and Couriers				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 28,771,366	\$ 9,253,062	\$ 10,509,423	\$ 48,533,850
Multiplier	1.0000	0.3216	0.3653	1.6869
Labor Income	\$ 12,339,406	\$ 3,451,226	\$ 3,270,301	\$ 19,060,934
Multiplier	1.0000	0.2797	0.2650	1.5447
Employment	239.0	48.1	55.8	342.9
Multiplier	1.0000	0.2011	0.2335	1.4346
Misc. Aviation & Aviation Services				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 85,407,989	\$ 24,444,548	\$ 39,228,462	\$ 149,080,999
Multiplier	1.0000	0.2862	0.4593	1.7455
Labor Income	\$ 49,072,537	\$ 9,736,765	\$ 12,206,281	\$ 71,015,583
Multiplier	1.0000	0.1984	0.2487	1.4472
Employment	501.0	129.0	208.3	838.3
Multiplier	1.0000	0.2574	0.4158	1.6733

**Table 14. Summary of Northern Nevada Region's Annual Output, Labor Income, and Employment Impacts of RNO Operations and Airport-Related Industries (continued)**

Nevada National Guard				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 66,496,945	\$ 1,042,571	\$ 45,684,218	<b>\$ 113,223,733</b>
<i>Multiplier</i>	1.0000	0.0157	0.6870	<b>1.7027</b>
Labor Income	\$ 62,273,132	\$ 382,009	\$ 14,604,600	<b>\$ 77,259,740</b>
<i>Multiplier</i>	1.0000	0.0061	0.2345	<b>1.2407</b>
Employment	991	5.76	242.28	<b>1,239.0</b>
<i>Multiplier</i>	1.0000	0.0058	0.2445	<b>1.2503</b>
Off-Airport Tenants				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 139,504,523	\$ 58,445,074	\$ 47,702,979	<b>\$ 245,652,576</b>
<i>Multiplier</i>	1.0000	0.4189	0.3419	<b>1.7609</b>
Labor Income	\$ 50,708,039	\$ 20,714,449	\$ 14,841,410	<b>\$ 86,263,898</b>
<i>Multiplier</i>	1.0000	0.4085	0.2927	<b>1.7012</b>
Employment	712.0	303.3	253.4	<b>1,268.7</b>
<i>Multiplier</i>	1.0000	0.4260	0.3559	<b>1.7819</b>
Rentals and Ground Transportation				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 139,501,218	\$ 56,773,639	\$ 27,335,937	<b>\$ 223,610,795</b>
<i>Multiplier</i>	1.0000	0.4070	0.1960	<b>1.6029</b>
Labor Income	\$ 21,027,379	\$ 19,753,384	\$ 8,506,432	<b>\$ 49,287,195</b>
<i>Multiplier</i>	1.0000	0.9394	0.4045	<b>2.3440</b>
Employment	579.0	290.6	145.2	<b>1,014.7</b>
<i>Multiplier</i>	1.0000	0.5018	0.2507	<b>1.7525</b>
Travel Related Services				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 9,828,458	\$ 4,777,486	\$ 5,454,977	<b>\$ 20,060,922</b>
<i>Multiplier</i>	1.0000	0.4861	0.5550	<b>2.0411</b>
Labor Income	\$ 6,553,528	\$ 1,619,626	\$ 1,696,962	<b>\$ 9,870,116</b>
<i>Multiplier</i>	1.0000	0.2471	0.2589	<b>1.5061</b>
Employment	84.0	23.6	29.0	<b>136.6</b>
<i>Multiplier</i>	1.0000	0.2811	0.3450	<b>1.6261</b>

Table 15 provides the summary of each impact and sector. The table shows RNO operations generate \$166.5 million in output, \$57.9 million in labor income (included in output estimate), and support 468.5 full-time equivalent jobs in Northern Nevada each year.

Airport-related industries at RNO include Airlines and General Aviation, Airport Terminal Services, Government Agencies, Freight and Couriers, Miscellaneous Aviation & Aviation Services, Nevada National Guard (Air), Off-Airport Tenants, Rental and Ground Transportation, and Travel Related Services operations. These activities generate significant output, labor income, and employment impacts in Northern Nevada. These activities

generate \$1.4 billion in output, \$516.8 million in labor income, and support 7,979.1 jobs across Northern Nevada.

In total, RNO operations and related industries are estimated to generate \$1.6 billion in output, \$574.7 million in labor income, and support 8,447.6 jobs in Northern Nevada per year.

**Table 15. Total Northern Nevada Region's Annual Output, Labor Income, and Employment Impacts of RNO Operations and Airport-Related Industries**

Sector	Output	Labor Income	Employment
Airport Operations	\$ 166,486,719	\$ 57,948,257	468.5
Airlines/Corporate/General Aviation	330,205,591	113,902,029	1,411.9
Airport Terminal Services	145,162,336	43,280,034	857.8
Government Agencies	172,922,704	46,837,930	869.1
Freight and Couriers	48,533,850	19,060,934	342.9
Misc. Aviation & Aviation Services	149,080,999	71,015,583	838.3
Nevada National Guard	113,223,733	77,259,740	1,239.0
Off-Airport Tenants	245,652,576	86,263,898	1,268.7
Rentals and Ground Transportation	223,610,795	49,287,195	1,014.7
Travel Related Services	20,060,922	9,870,116	136.6
<b>Total</b>	<b>\$ 1,614,940,224</b>	<b>\$ 574,725,715</b>	<b>8,447.6</b>

#### IMPACT OF RTS AIRPORT-RELATED INDUSTRIES

Airport-related industry impacts are estimated using employment amounts shown in Table 7. Table 16 shows the detailed economic impact of these operations by source. Table 17 provides the summary of each impact and sector.

Airport-related industries at RTS, including Airlines and General Aviation, Off-Airport Tenants, Miscellaneous Aviation and Aviation Services, and National Guard (Army) generate significant output, labor income, and employment impacts in Northern Nevada.

In total, RTS airport-related industries are estimated to generate \$328.5 million in output, \$101.7 million in labor income, and support 2,010.1 jobs in Northern Nevada per year.

**Table 16. Summary of Northern Nevada Region's Annual Output, Labor Income, and Employment Impacts of RTS Airport-Related Industries**

Airlines/Corporate/General Aviation				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$2,144,088	\$629,465	\$1,337,303	\$ 4,110,856
<i>Multiplier</i>	1.0000	0.2936	0.6237	1.9173
Labor Income	\$1,734,053	\$271,091	\$416,111	\$ 2,421,255
<i>Multiplier</i>	1.0000	0.1563	0.2400	1.3963
Employment	22.0	3.6	7.1	32.7
<i>Multiplier</i>	1.0000	0.1636	0.3227	1.4864
Off-Airport Tenants				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 169,855,047	\$ 47,920,268	\$ 30,605,439	\$ 248,380,754
<i>Multiplier</i>	1.0000	0.2821	0.1802	1.4623
Labor Income	\$ 29,350,005	\$ 16,803,587	\$ 9,523,116	\$ 55,676,709
<i>Multiplier</i>	1.0000	0.5725	0.3245	1.8970
Employment	387.0	215.7	162.6	765.2
<i>Multiplier</i>	1.0000	0.5572	0.4200	1.9773
Misc. Aviation & Aviation Services				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 13,568,753	\$ 3,824,502	\$ 8,924,430	\$ 26,317,685
<i>Multiplier</i>	1.0000	0.2819	0.6577	1.9396
Labor Income	\$ 11,684,037	\$ 1,700,177	\$ 2,776,839	\$ 16,161,053
<i>Multiplier</i>	1.0000	0.1455	0.2377	1.3832
Employment	119.0	24.1	47.4	190.5
<i>Multiplier</i>	1.0000	0.2022	0.3983	1.6005
Nevada National Guard				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 26,134,501	\$ 1,133,211	\$ 22,388,331	\$ 49,656,044
<i>Multiplier</i>	1.0000	0.0434	0.8567	1.9000
Labor Income	\$ 19,901,322	\$ 414,259	\$ 7,157,213	\$ 27,472,794
<i>Multiplier</i>	1.0000	0.0208	0.3596	1.3805
Employment	845.0	3.8	172.9	1,021.7
<i>Multiplier</i>	1.0000	0.0046	0.2046	1.2091

**Table 17. Total Northern Nevada Region's Annual Output, Labor Income, and Employment Impacts of RTS Airport-Related Industries**

Sector	Output	Labor Income	Employment
Airlines/Corporate/General Aviation	\$ 4,110,856	\$ 2,421,255	32.7
Off-Airport Tenants	248,380,754	55,676,709	765.2
Misc. Aviation & Aviation Services	26,317,685	16,161,053	190.5
Nevada National Guard	49,656,044	27,472,794	1,021.7
<b>Total</b>	<b>\$ 328,465,338</b>	<b>\$ 101,731,811</b>	<b>2,010.1</b>

### IMPACT OF RNO CAPITAL EXPENDITURES

Starting on page 31, this report describes the four major capital expenditure projects for RNO. Projects 1 and 2 have been completed, with Project 3 currently under construction, and Project 4 in design and planning phases. Based on this information, economic impacts of these expenditures are estimated, by project, in 2023 dollars, as shown in Table 18.

**Table 18. Summary of Northern Nevada Region's One-Time Output, Labor Income, and Employment Impacts of RNO Capital Expenditures**

RNO Project 1				
Source	Direct Impact	Impact	Impact	Total Impact
Output	\$17,750,000	\$5,633,641	\$6,186,518	\$ 29,570,159
<i>Multiplier</i>	1.0000	0.3174	0.3485	1.6659
Labor Income	\$7,721,227	\$1,555,193	\$1,924,344	\$ 11,200,764
<i>Multiplier</i>	1.0000	0.2014	0.2492	1.4506
Employment	90.9	19.5	32.9	143.3
<i>Multiplier</i>	1.0000	0.2146	0.3616	1.5762
RNO Project 2				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 4,600,000	\$ 1,459,986	\$ 1,603,267	\$ 7,663,252
<i>Multiplier</i>	1.0000	0.3174	0.3485	1.6659
Labor Income	\$ 2,000,994	\$ 403,036	\$ 498,703	\$ 2,902,733
<i>Multiplier</i>	1.0000	0.2014	0.2492	1.4506
Employment	23.6	5.1	8.5	37.1
<i>Multiplier</i>	1.0000	0.2148	0.3616	1.5764
RNO Project 3				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$33,000,000	\$8,939,259	\$13,617,840	\$ 55,557,100
<i>Multiplier</i>	1.0000	0.2709	0.4127	1.6835
Labor Income	\$17,648,929	\$2,764,195	\$4,235,763	\$ 24,648,887
<i>Multiplier</i>	1.0000	0.1566	0.2400	1.3966
Employment	215.1	36.6	72.4	324.0
<i>Multiplier</i>	1.0000	0.1700	0.3365	1.5064
RNO Project 4				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	\$ 570,000,000	\$ 154,405,391	\$ 235,217,238	\$ 959,622,629
<i>Multiplier</i>	1.0000	0.2709	0.4127	1.6835
Labor Income	\$ 304,845,136	\$ 47,745,178	\$ 73,163,180	\$ 425,753,494
<i>Multiplier</i>	1.0000	0.1566	0.2400	1.3966
Employment	3,714.4	631.4	1,249.9	5,595.6
<i>Multiplier</i>	1.0000	0.1700	0.3365	1.5065

Table 19 provides the summary of each impact by project. Upon completion, RNO capital expenditures are expected to generate \$1.05 billion in output, \$464.5 million in labor income (included in output estimate), and support 6,100 full-time equivalent jobs in Northern Nevada.

**Table 19. Total Northern Nevada Region’s One-Time Output, Labor Income, and Employment Impacts of RNO Capital Expenditures**

Sector	Output	Labor Income	Employment
RNO Project 1	\$ 29,570,159	\$ 11,200,764	143.3
RNO Project 2	7,663,252	2,902,733	37.1
RNO Project 3	55,557,100	24,648,887	324.0
RNO Project 4	959,622,629	425,753,494	5,595.6
<b>Total</b>	<b>\$ 1,052,413,140</b>	<b>\$ 464,505,877</b>	<b>6,100.0</b>

Unlike impacts of operations estimated above, impacts of capital expenditures are one-time impacts occurring only while capital expenditures are made and will change with the change in the amount of capital expenditures.

#### IMPACT OF RNO VISITORS

As described in the “Visitor” section of this report, visitors arriving to the region through RNO spend a considerable amount of money in the Northern Nevada region on lodging, food and beverage, gaming, and more. This information is summarized in Table 8. Using these expenditures, the analysis estimates the economic impact of RNO visitor spending in Northern Nevada, as summarized in Table 20. It should be noted, to avoid double counting, the analysis excludes gross sales for food and beverage, retail, and gaming generated by terminal concessions (Table 5) from visitor expenditures estimated in Table 8.

**Table 20. Summary of Northern Nevada Region Annual Output, Labor Income, and Employment Impacts of RNO Visitors**

Reno Tahoe International Airport Visitors				
Source	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Output	962,661,195	356,288,218	356,842,886	<b>\$ 1,675,792,300</b>
<i>Multiplier</i>	1.0000	0.3701	0.3707	<b>1.7408</b>
Labor Income	\$ 418,496,357	\$ 117,151,227	\$ 111,020,476	<b>\$ 646,668,060</b>
<i>Multiplier</i>	1.0000	0.2799	0.2653	<b>1.5452</b>
Employment	9,857.6	1,834.1	1,895.5	<b>13,587.2</b>
<i>Multiplier</i>	1.0000	0.1861	0.1923	<b>1.3783</b>

It should also be noted that visitor expenditure data shown in Table 8 are estimated using 2022 spending data. These amounts are inflated to 2023 levels using inflation factors included in the IMPLAN input-output model.

The analysis shows RNO visitors generate \$1.7 billion in output in Northern Nevada through their expenditures in the region, \$646.7 million in labor income, and support over 13,567.2 full-time equivalent jobs.

**CONCLUSION**

Total output, labor income, and employment impacts of RTAA operations, related industries, and visitors are summarized in Table 21 below. The table shows all airport-related operations and visitors generate Northern Nevada economic impacts of \$3.6 billion per year, with \$1.3 billion in labor income and supporting 24,000 employees. In addition, capital expenditures are expected to generate \$1.05 billion in output, \$464.5 million in labor income, and support 6,100 employees in the periods when these expenditures occur.

**Table 21. Summary of Northern Nevada Region’s Total Output, Labor Income, and Employment Impacts of RTAA and Related Industry Operations, Visitors, and Capital Expenditures**

Sector	Output	Labor Income	Employment
<b>Ongoing Annual Impacts</b>			
RTAA Operations	\$ 166,486,719	\$ 57,948,257	468.5
RNO-Related Industries	1,448,453,506	516,777,459	7,979.1
RNO Visitors	1,675,792,300	646,668,060	13,587.2
RTS-Related Industries	328,465,338	101,731,811	2,010.1
<b>Total</b>	<b>\$ 3,619,197,863</b>	<b>\$ 1,323,125,586</b>	<b>24,044.8</b>
<b>Combined Multipliers</b>	<b>1.7584</b>	<b>1.6066</b>	<b>1.4874</b>
<b>One-Time Impacts</b>			
RNO-Project 1	\$ 29,570,159	\$ 11,200,764	143.3
RNO-Project 2	7,663,252	2,902,733	37.1
RNO-Project 3	55,557,100	24,648,887	324.0
RNO-Project 4	959,622,629	425,753,494	5,595.6
<b>Total</b>	<b>\$ 1,052,413,140</b>	<b>\$ 464,505,877</b>	<b>6,100.0</b>
<b>Combined Multipliers</b>	<b>1.6829</b>	<b>1.3982</b>	<b>1.5084</b>

## **IV. Fiscal Impact Analysis**

This section estimates the fiscal impact of RTAA and airport-related industry operations, capital expenditures, and visitor expenditures on various public entities within the State of Nevada. Using the findings of the economic impact analysis, the fiscal impact analysis estimates revenues generated by the above activities for the Cities of Reno and Sparks, Washoe County, Washoe County School District, and State of Nevada.

RTAA and related industries impact multiple revenue sources for the State and local governments, including property tax, business license revenue, gas tax, building permit fees, and more. However, revenue impacts from these sources are difficult to estimate. As a result, the analysis focuses on three revenue sources only: sales tax, lodging tax, and Modified Business Tax. Properties owned by RTAA are exempt from property tax payments. As a result, no property tax revenue associated with its operations is estimated. However, suppliers and customers of RTAA, related industries, and visitors located off RTAA properties do generate property tax revenue for impacted public entities. This impact is difficult to estimate and is, conservatively, not included in this analysis.

### **SALES TAX REVENUE**

The IMPLAN model used to estimate economic impacts of each airport-related expenditure also provides detailed output impacts of each expenditure by industry. Impacts for the Retail industries (industries responsible for the majority of taxable sales in the State) which include Wholesale Trade; Motor Vehicles and Parts; Furniture and Home Furnishings; Electronics and Appliances; Building Material and Garden Supply; Food and Beverage; Health and Personal Care; Gasoline Stations; Clothing and Clothing Accessories; Sporting Goods; Hobby, Book and Music; General Merchandise; Miscellaneous stores; Full and Limited-Service restaurants; and All Other Food and Drinking Places are considered to be taxable impacts. Direct, indirect, and induced impacts on these industries are collected from the IMPLAN model and used to estimate sales tax revenues shown in Tables 22 and 23.

The majority of the taxable sales generated by RTAA, and related impacts will be collected in Washoe County. Taxable sales distributions reported by the Nevada Department of Taxation show 56.2% of taxable sales in the 10-county Northern Nevada region were made in Washoe County.<sup>44</sup> The analysis adjusts taxable sales amounts reported by IMPLAN by this ratio to estimate the portion of these impacts occurring in Washoe County. This is shown in Table 22.

Washoe County’s total sales tax rate of 8.265% is applied to this taxable sales amount to estimate sales tax revenues for all entities. This includes the 6.850% statewide tax rate and additional rates for various entities as shown below.

Basic City County Relief Tax (BCCRT)	0.500%
Supplemental City County Relief Tax (SCCRT)	1.750%
Local School Support Tax (LSST)	2.600%
School Capital Improvements	0.540%
State of Nevada	2.000%
Regional Transportation	0.375%
Local Government Tax Act (AB 104)	0.250%
Flood/Public Safety	0.125%
Railroad Grade Project	<u>0.125%</u>
<b>TOTAL</b>	<b>8.265%</b>

BCCRT and SCCRT revenue is distributed to Washoe County, cities of Reno and Sparks, and other entities based on historical distributions of 51% to Washoe County, 31% to City of Reno, 12.4% to City of Sparks, and 6.0% to other entities. Local Government Tax Act revenues are also distributed to these entities based on historical distributions of 66% to Washoe County, 16% to City of Reno, 8% to City of Sparks, and 10% to other entities.<sup>45</sup> A State of Nevada administrative fee of 0.75% of LSST revenue and 1.75% of remaining revenue sources is estimated for the State. Table 22 shows estimated sales revenue generated by the various impact categories for all major entities receiving sales tax revenue within the County (as well as State of Nevada).

<sup>44</sup> Nevada Department of Taxation, Combined Sales & Use Statistical Report. FY 2022-23.

<sup>45</sup> Nevada Department of Taxation, Consolidated Tax Distribution report and Local Gov’t Tax Act Distribution report. FY 2022-23.

**Table 22. Summary of Estimated Sales Tax Revenue-Washoe County**

Source	Washoe County Taxable Direct Impacts	Washoe County Taxable Indirect Impacts	Washoe County Taxable Induced Impacts	Washoe County Total Taxable Impacts	City of Reno	City of Sparks	Washoe County	Washoe County School District	State of Nevada	Other Entities	Total Revenue
<b>Reno Tahoe International Airport</b>											
Airport Operations	\$ -	\$ 959,440	\$ 7,712,536	\$ 8,671,976	\$ 62,367	\$ 25,379	\$ 164,798	\$ 270,258	\$ 180,224	\$ 13,713	\$ 716,739
Airlines and General Aviation	-	8,655,772	8,282,107	16,937,879	121,813	49,570	321,879	527,861	352,009	26,784	1,399,916
Airport Terminal Services	13,023,017	2,082,970	2,718,202	17,824,189	128,187	52,164	338,721	555,482	370,429	28,185	1,473,169
Government Agencies	-	2,903,534	3,404,624	6,308,157	45,367	18,461	119,877	196,591	131,098	9,975	521,369
Freight and Couriers	-	957,179	1,383,749	2,340,928	16,835	6,851	44,486	72,954	48,650	3,702	193,478
Misc. Aviation & Aviation Services	3,984,238	1,683,741	5,163,516	10,831,494	77,897	31,699	205,836	337,558	225,104	17,128	895,223
Nevada National Guard	-	148,839	6,674,394	6,823,232	49,071	19,969	129,665	212,643	141,803	10,790	563,940
Off-Site Tenants	32,488,716	4,988,408	6,275,194	43,752,318	314,656	128,046	831,446	1,363,519	909,277	69,186	3,616,129
Rentals and Ground Transportation	-	3,664,448	3,599,443	7,263,891	52,240	21,259	138,039	226,376	150,961	11,486	600,361
Travel Related Services	-	270,328	717,169	987,497	7,102	2,890	18,766	30,775	20,523	1,562	81,617
<b>TOTAL</b>	<b>\$ 49,495,970</b>	<b>\$ 26,314,659</b>	<b>\$ 45,930,933</b>	<b>\$ 121,741,562</b>	<b>\$ 875,535</b>	<b>\$ 356,289</b>	<b>\$ 2,313,512</b>	<b>\$ 3,794,015</b>	<b>\$ 2,530,079</b>	<b>\$ 192,511</b>	<b>\$ 10,061,940</b>
<b>Reno-Stead Airport</b>											
Off-Site Tenants	\$ -	\$ 6,939,443	\$ 4,028,424	\$ 10,967,866	\$ 78,878	\$ 32,099	\$ 208,428	\$ 341,808	\$ 227,938	\$ 17,344	\$ 906,494
Airlines and General Aviation	-	31,004	171,769	202,774	1,458	593	3,853	6,319	4,214	321	16,759
Misc. Aviation & Aviation Services	-	150,197	1,174,533	1,324,730	9,527	3,877	25,174	41,285	27,531	2,095	109,489
Nevada National Guard	-	126,911	5,691,082	5,817,993	41,842	17,027	110,562	181,315	120,912	9,200	480,857
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 7,247,555</b>	<b>\$ 11,065,808</b>	<b>\$ 18,313,363</b>	<b>\$ 131,705</b>	<b>\$ 53,596</b>	<b>\$ 348,017</b>	<b>\$ 570,727</b>	<b>\$ 380,595</b>	<b>\$ 28,959</b>	<b>\$ 1,513,599</b>
<b>RNO Visitors</b>											
RNO Visitors	\$ 191,655,414	\$ 23,375,080	\$ 46,939,732	\$ 261,970,225	\$ 1,884,024	\$ 766,682	\$ 4,978,344	\$ 8,164,171	\$ 5,444,363	\$ 414,255	\$ 21,651,839
<b>TOTAL ANNUAL IMPACTS</b>											
<b>TOTAL</b>	<b>\$ 241,151,383</b>	<b>\$ 56,937,294</b>	<b>\$ 103,936,472</b>	<b>\$ 402,025,150</b>	<b>\$ 2,891,263</b>	<b>\$ 1,176,567</b>	<b>\$ 7,639,874</b>	<b>\$ 12,528,913</b>	<b>\$ 8,355,037</b>	<b>\$ 635,724</b>	<b>\$ 33,227,379</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>											
Project 1	\$ -	\$ 637,010	\$ 812,944	\$ 1,449,954	\$ 10,428	\$ 4,243	\$ 27,554	\$ 45,187	\$ 30,133	\$ 2,293	\$ 119,839
Project 2	-	165,084	210,678	375,763	2,702	1,100	7,141	11,710	7,809	594	31,057
Project 3	-	1,272,480	1,789,195	3,061,675	22,019	8,960	58,182	95,416	63,629	4,841	253,047
Project 4	-	21,979,198	30,904,273	52,883,471	380,325	154,769	1,004,970	1,648,087	1,099,044	83,625	4,370,819
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 24,053,772</b>	<b>\$ 33,717,091</b>	<b>\$ 57,770,862</b>	<b>\$ 415,473</b>	<b>\$ 169,072</b>	<b>\$ 1,097,847</b>	<b>\$ 1,800,400</b>	<b>\$ 1,200,616</b>	<b>\$ 91,353</b>	<b>\$ 4,774,762</b>

**Table 23. Summary of Estimated Sales Tax Revenue-Remainder of Region**

Source	Rest of Region Taxable Direct Impacts	Rest of Region Taxable Indirect Impacts	Rest of Region Taxable Induced Impacts	Rest of Region Total Taxable Impacts	Rest of Region Counties/Cities	Rest of Region School Districts	State of Nevada	Total Revenue
<b>Reno Tahoe International Airport</b>								
Airport Operations	\$ -	\$ 747,307.00	\$ 6,007,288.81	\$ 6,754,596	\$ 149,319	\$ 174,302	\$ 139,069	\$ 462,690
Airlines and General Aviation	-	6,741,974	6,450,927	13,192,901	291,646	340,443	271,625	903,714
Airport Terminal Services	10,143,618	1,622,424	2,117,206	13,883,247	306,907	358,257	285,839	951,002
Government Agencies	-	2,261,560	2,651,859	4,913,419	108,617	126,791	101,161	336,569
Freight and Couriers	-	745,546	1,077,801	1,823,347	40,307	47,051	37,540	124,899
Misc. Aviation & Aviation Services	3,103,320	1,311,464	4,021,858	8,436,643	186,503	217,708	173,700	577,910
Nevada National Guard	-	115,931	5,198,680	5,314,611	117,486	137,144	109,421	364,051
Off-Site Tenants	25,305,436	3,885,467	4,887,744	34,078,647	753,351	879,399	701,637	2,334,387
Rentals and Ground Transportation	-	2,854,236	2,803,603	5,657,839	125,074	146,001	116,488	387,562
Travel Related Services	-	210,558	558,602	769,160	17,003	19,848	15,836	52,687
<b>TOTAL</b>	<b>\$ 38,552,373</b>	<b>\$ 20,496,468</b>	<b>\$ 35,775,569</b>	<b>\$ 94,824,410</b>	<b>\$2,096,212</b>	<b>\$2,446,944</b>	<b>\$1,952,316</b>	<b>\$ 6,495,472</b>
<b>Reno-Stead Airport</b>								
Off-Site Tenants	\$ -	\$ 5,405,126.60	\$ 3,137,736.15	\$ 8,542,863	\$ 188,851	\$ 220,449	\$ 175,887	\$ 585,186
Airlines and General Aviation	-	24,149	133,791	157,940	3,491	4,076	3,252	10,819
Misc. Aviation & Aviation Services	-	116,988	914,843	1,031,831	22,810	26,626	21,244	70,680
Nevada National Guard	-	98,851	4,432,780	4,531,631	100,177	116,939	93,301	310,417
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 5,645,115</b>	<b>\$ 8,619,149</b>	<b>\$ 14,264,265</b>	<b>\$ 315,329</b>	<b>\$ 368,089</b>	<b>\$ 293,683</b>	<b>\$ 977,102</b>
<b>RNO Visitors</b>								
RNO Visitors	\$ 149,280,256	\$ 18,206,832	\$ 36,561,321	\$ 204,048,409	\$ 4,510,745	\$ 5,265,469	\$ 4,201,102	\$ 13,977,316
<b>TOTAL ANNUAL IMPACTS</b>								
<b>TOTAL</b>	<b>\$187,832,629</b>	<b>\$ 44,348,415</b>	<b>\$ 80,956,039</b>	<b>\$313,137,084</b>	<b>\$6,922,287</b>	<b>\$8,080,502</b>	<b>\$6,447,101</b>	<b>\$21,449,890</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>								
Project 1	\$ -	\$ 496,166.36	\$ 633,201.55	\$ 1,129,368	\$ 24,966	\$ 29,143	\$ 23,252	\$ 77,362
Project 2	-	128,584	164,097	292,681	6,470	7,553	6,026	20,049
Project 3	-	991,134	1,393,602	2,384,736	52,718	61,538	49,099	163,354
Project 4	-	17,119,581	24,071,315	41,190,896	910,576	1,062,931	848,069	2,821,576
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 18,735,465</b>	<b>\$ 26,262,216</b>	<b>\$ 44,997,681</b>	<b>\$ 994,730</b>	<b>\$1,161,165</b>	<b>\$ 926,446</b>	<b>\$ 3,082,341</b>

The analysis assumes the remaining 43.8% of taxable sales will be made in the remaining nine counties of the Northern Nevada region. As sales tax rates in these counties vary, only the statewide sales tax rate of 6.850% is applied to all estimated taxable sales and resulting revenues are distributed to various jurisdictions receiving sales tax revenue. This tax rate applies to all counties in the State, though additional rates may be added by local jurisdictions.

Basic City County Relief Tax (BRET)	0.500%
Supplemental City County Relief Tax (SCAT)	1.750%
Local School Support Tax (LSST)	2.600%
State of Nevada	<u>2.000%</u>
<b>TOTAL</b>	<b>6.850%</b>

Table 23 summarizes sales taxes generated by direct, indirect, and induced impacts of each airport-related industry and visitors on various jurisdictions in Northern Nevada.

Table 22 shows an estimated \$33.2 million in sales tax revenue is expected to be generated for various governments based on sales made in Washoe County from RTAA operations, related industries, and visitors. An additional \$21.4 million is generated in the remaining counties of Northern Nevada. These are on-going impacts, occurring over the life of the RTAA.

Additionally, a total of \$4.8 million in sales tax revenue for Washoe County entities and \$3.1 million for remaining counties is expected to be generated by the capital expenditures projects at RTAA. This is a one-time impact, occurring only during the construction period.

**MODIFIED BUSINESS TAX REVENUE**

While the RTAA and Nevada National Guard do not directly pay Modified Business tax (MBT) on their payroll, purchases made by RTAA vendors, households receiving wages from the RTAA and vendors, and all impacts of airport-related industries and visitors support employment and resulting payroll, are eligible for the Modified Business Tax. Direct, indirect, and induced labor income amounts for all airport-related industries and visitors, and indirect and induced impacts of RTAA operations are eligible for the MBT.

MBT will not be paid on all labor income estimated by IMPLAN for this analysis. First, MBT is paid on wages only and labor income reported by IMPLAN includes benefits. Benefits are estimated at 29% of labor income and are subtracted to arrive at wage estimates only.<sup>46</sup> Second, MBT is paid by companies with quarterly payroll of \$50,000 or more.

In the first quarter 2023, approximately 43.5% of payroll for companies exceeded the \$50,000 per quarter threshold. This ratio is applied to the estimated labor income, along with the MBT rate of 1.17% to estimate MBT revenue generated by all sectors in this report. It should be noted that the tax rate for financial institutions is higher than other industries.

As it is difficult to determine the portion of estimated labor income from financial institutions, the analysis is conservative in using the lower rate for all estimates. MBT revenue estimates are summarized in Table 24. All MBT revenue is collected by the State of Nevada. RNO operations and related industries are estimated to generate \$1.5 million per year for the State of Nevada, RTS operations and industries generate \$262,000, and RNO visitors generate \$2.0 million. Capital expenditures are estimated to generate \$1.4 million in one-time MBT revenue.

### **LODGING (ROOM) TAX REVENUE**

Impacts of various airport-related industries and visitors on Hotels and Motels industry estimated by the IMPLAN model are considered to be taxable impacts for room tax purposes. These revenues are estimated for the entire Northern Nevada region. However, each region has different lodging room rates and distributions, and some have insignificant room tax revenues.

Using taxable room revenue for the Northern Nevada counties for which data was available, the analysis estimates 70% of all taxable room revenues in Northern Nevada are made in Washoe County. This ratio is applied to all lodging impacts estimated by IMPLAN to arrive at Washoe County impacts only. This is shown in Table 25.

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<sup>46</sup> "Employer Costs for Employee Compensation." Bureau of Labor Statistics, US Department of Labor. Data for All Civilian workers, 3Q 2023.

**Table 24. Summary of Estimated Modified Business Tax Revenue-State of Nevada**

Source	Direct Labor Income	Indirect Labor Income	Induced Labor Income	Total Taxable Labor Income	Estimated Benefits	Taxable Labor Income Net of Benefits	State of Nevada MBT Revenue
<b>Reno Tahoe International Airport</b>							
Airport Operations	\$ 42,186,109	\$ 5,804,404	\$ 9,957,744	\$ 15,762,148	\$ 4,634,071	\$ 11,128,076	\$ 49,047
Airlines and General Aviation	63,070,703	31,231,911	19,599,415	113,902,029	33,487,196	80,414,832	354,431
Airport Terminal Services	19,359,963	16,479,762	7,440,310	43,280,034	12,724,330	30,555,704	134,675
Government Agencies	15,805,446	22,983,970	8,048,514	46,837,930	13,770,351	33,067,579	145,746
Freight and Couriers	12,339,406	3,451,226	3,270,301	19,060,934	5,603,914	13,457,019	59,312
Misc. Aviation & Aviation Services	49,072,537	9,736,765	12,206,281	71,015,583	20,878,581	50,137,002	220,981
Nevada National Guard	62,273,132	382,009	14,604,600	14,986,608	4,406,063	10,580,545	46,634
Off-Site Tenants	50,708,039	20,714,449	14,841,410	86,263,898	25,361,586	60,902,312	268,429
Rentals and Ground Transportation	21,027,379	19,753,384	8,506,432	49,287,195	14,490,435	34,796,760	153,368
Travel Related Services	6,553,528	1,619,626	1,696,962	9,870,116	2,901,814	6,968,302	30,713
<b>TOTAL</b>	<b>\$342,396,241</b>	<b>\$132,157,506</b>	<b>\$100,171,968</b>	<b>\$ 470,266,474</b>	<b>\$ 138,258,343</b>	<b>\$ 332,008,131</b>	<b>\$ 1,463,337</b>
<b>Reno-Stead Airport</b>							
Off-Site Tenants	\$ 29,350,005	\$ 16,803,587	\$ 9,523,116	\$ 55,676,709	\$ 16,368,952	\$ 39,307,756	\$ 173,250
Airlines and General Aviation	1,734,053	271,091	416,111	2,421,255	711,849	1,709,406	7,534
Misc. Aviation & Aviation Services	11,684,037	1,700,177	2,776,839	16,161,053	4,751,350	11,409,704	58,090
Nevada National Guard	19,901,322	414,259	7,157,213	7,571,472	2,226,013	5,345,459	23,560
<b>TOTAL</b>	<b>\$ 62,669,418</b>	<b>\$ 19,189,114</b>	<b>\$ 19,873,279</b>	<b>\$ 81,830,489</b>	<b>\$ 24,058,164</b>	<b>\$ 57,772,326</b>	<b>\$ 262,435</b>
<b>RNO Visitors</b>							
RNO Visitors	\$ 418,496,357	\$ 117,151,227	\$ 111,020,476	\$ 646,668,060	\$ 190,120,409	\$ 456,547,650	\$ 2,012,249
<b>TOTAL ANNUAL IMPACTS</b>							
<b>TOTAL</b>	<b>\$823,562,016</b>	<b>\$268,497,848</b>	<b>\$231,065,723</b>	<b>\$1,198,765,023</b>	<b>\$ 352,436,917</b>	<b>\$ 846,328,106</b>	<b>\$ 3,738,021</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>							
Project 1	\$ 7,721,227	\$ 1,555,193	\$ 1,924,344	\$ 11,200,764	\$ 3,293,024	\$ 7,907,739	\$ 34,854
Project 2	2,000,994	403,036	498,703	2,902,733	853,404	2,049,330	10,434
Project 3	17,648,929	2,764,195	4,235,763	24,648,887	7,246,773	17,402,114	76,700
Project 4	304,845,136	47,745,178	73,163,180	425,753,494	125,171,527	300,581,967	1,324,825
<b>TOTAL</b>	<b>\$332,216,286</b>	<b>\$ 52,467,601</b>	<b>\$ 79,821,990</b>	<b>\$ 464,505,877</b>	<b>\$ 136,564,728</b>	<b>\$ 327,941,149</b>	<b>\$ 1,446,813</b>

**Table 25. Summary of Estimated Lodging Tax Revenue**

Source	Taxable Direct Impacts	Taxable Indirect Impacts	Taxable Induced Impacts	Total Taxable Impacts	Washoe County Tax. Impacts	RSCVA Revenue	City of Sparks	City of Reno	Washoe County	State Education	Nevada Tourism Revenue	Total Revenue
<b>Reno Tahoe International Airport</b>												
Airport Operations	\$ -	\$ 3,208	\$ 15,287	\$ 18,495	\$ 12,947	\$ 1,117	\$ 23	\$ 369	\$ 48	\$ 95	\$ 69	\$ 1,721
Airlines and General Aviation	-	2,609	16,676	19,285	13,500	1,164	24	385	50	99	72	1,795
Airport Terminal Services	-	6,710	6,250	12,960	9,072	782	16	259	34	67	49	1,206
Government Agencies	-	10,401	6,747	17,148	12,004	1,035	21	342	44	88	64	1,596
Freight and Couriers	-	306	2,731	3,037	2,126	183	4	61	8	16	11	283
Misc. Aviation & Aviation Services	-	2,676	10,229	12,905	9,034	779	16	258	33	66	48	1,201
Nevada National Guard	-	292	13,092	13,384	9,369	808	17	267	35	69	50	1,245
Off-Site Tenants	6,663,860	5,381	12,524	6,681,764	4,677,235	403,412	8,332	133,362	17,317	34,310	25,057	621,789
Rentals and Ground Transportation	-	10,818	7,099	17,917	12,542	1,082	22	358	46	92	67	1,667
Travel Related Services	-	1,134	1,441	2,576	1,803	156	3	51	7	13	10	240
<b>TOTAL</b>	<b>\$ 6,663,860</b>	<b>\$ 43,534</b>	<b>\$ 92,077</b>	<b>\$ 6,799,471</b>	<b>\$ 4,759,630</b>	<b>\$ 410,518</b>	<b>\$ 8,479</b>	<b>\$ 135,711</b>	<b>\$ 17,622</b>	<b>\$ 34,914</b>	<b>\$ 25,498</b>	<b>\$ 632,742</b>
<b>Reno-Stead Airport</b>												
Off-Site Tenants	\$ -	\$ 6,839	\$ 7,982	\$ 14,822	\$ 10,375	\$ 895	\$ 18	\$ 296	\$ 38	\$ 76	\$ 56	\$ 1,379
Airlines and General Aviation	-	66	349	415	290	25	1	8	1	2	2	39
Misc. Aviation & Aviation Services	-	505	2,331	2,836	1,985	171	4	57	7	15	11	264
Nevada National Guard	-	249	11,163	11,412	7,988	689	14	228	30	59	43	1,062
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 7,660</b>	<b>\$ 21,825</b>	<b>\$ 29,485</b>	<b>\$ 20,639</b>	<b>\$ 1,780</b>	<b>\$ 37</b>	<b>\$ 588</b>	<b>\$ 76</b>	<b>\$ 151</b>	<b>\$ 111</b>	<b>\$ 2,744</b>
<b>RNO Visitors</b>												
RNO Visitors	\$ 250,246,089	\$ 26,189	\$ 93,729	\$ 250,366,008	\$ 175,256,205	\$ 15,115,848	\$ 312,214	\$ 4,997,064	\$ 648,871	\$ 1,285,587	\$ 938,873	\$ 23,298,456
<b>TOTAL ANNUAL IMPACTS</b>												
<b>TOTAL</b>	<b>\$ 256,909,949</b>	<b>\$ 77,383</b>	<b>\$ 207,631</b>	<b>\$ 257,194,964</b>	<b>\$ 180,036,474</b>	<b>\$ 15,528,146</b>	<b>\$ 320,730</b>	<b>\$ 5,133,363</b>	<b>\$ 666,569</b>	<b>\$ 1,320,652</b>	<b>\$ 964,481</b>	<b>\$ 23,933,942</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>												
Project 1	\$ -	\$ 162	\$ 1,644	\$ 1,806	\$ 1,264	\$ 109	\$ 2	\$ 36	\$ 5	\$ 9	\$ 7	\$ 168
Project 2	-	42	426	468	328	28	1	9	1	2	2	44
Project 3	-	343	3,624	3,967	2,777	239	5	79	10	20	15	369
Project 4	-	5,919	62,598	68,517	47,962	4,137	85	1,368	178	352	257	6,376
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 6,466</b>	<b>\$ 68,292</b>	<b>\$ 74,758</b>	<b>\$ 52,330</b>	<b>\$ 4,513</b>	<b>\$ 93</b>	<b>\$ 1,492</b>	<b>\$ 194</b>	<b>\$ 384</b>	<b>\$ 280</b>	<b>\$ 6,957</b>

Lodging tax rates for various districts within Washoe County are summarized below. These rates are applied to Washoe County taxable impacts using the distribution of taxable room revenues for each Washoe County district.<sup>47</sup> Revenue for the Nevada Commission on Tourism is estimated for all room sales, including those made outside of Washoe County, as this is a statewide rate.

		Downtown		Washoe
	City of Sparks	Reno	Other Reno	County
RSCVA	8.625%	8.625%	8.625%	8.625%
City of Sparks	2.500%	0.000%	0.000%	0.000%
National Bowling Stadium-Reno	1.000%	1.000%	1.000%	1.000%
Events Center-Reno	0.000%	1.500%	0.000%	0.000%
City Center-Reno	1.000%	0.000%	1.000%	1.000%
Railroad-Reno	0.000%	1.000%	0.000%	0.000%
Parks and Recreation-Reno	0.000%	1.000%	1.000%	0.000%
Washoe County	0.000%	0.000%	0.000%	1.000%
Education-State	0.000%	0.000%	1.000%	1.000%
Nevada Commission on Tourism	<u>0.375%</u>	<u>0.375%</u>	<u>0.375%</u>	<u>0.375%</u>
<b>TOTAL</b>	<b>13.50%</b>	<b>13.50%</b>	<b>13.00%</b>	<b>13.00%</b>

RNO operations and related industries are estimated to generate \$632,700 in room tax revenue for various jurisdictions per year. RTS and related operations are estimated to generate \$2,700 in room tax revenue, and RNO visitor expenditures, \$23.3 million. Capital expenditures are estimated to generate \$6,900 in one-time revenues.

## CONCLUSION

Total quantifiable revenue generated by RTAA, airport-related industries, and visitors for sales tax, Modified Business Tax, and lodging tax revenue sources is summarized in Table 26. Table 27 provides a summary of all revenue impacts. RTAA operations, related industries, and visitors are estimated to generate \$82.3 million per year in sales tax, room tax, and MBT revenue for the City of Reno, City of Sparks, Washoe County, Washoe County School District, State of Nevada, and other entities. Capital expenditures are estimated to generate an additional \$9.3 million during the period of capital expenditures.

<sup>47</sup> Reno Sparks Convention and Visitors Authority, FY 2022 Annual Comprehensive Financial Report (ACFR).

**Table 26. Summary of Total Estimated Public Sector Revenue by Source**

Source	City of Reno			City of Sparks			Washoe County		
	Sales Tax Revenue	Lodging Tax Revenue	Total Revenue	Sales Tax Revenue	Lodging Tax Revenue	Total Revenue	Sales Tax Revenue	Lodging Tax Revenue	Total Revenue
<b>Reno Tahoe International Airport</b>									
Airport Operations	\$ 62,367	\$ 369	\$ 62,736	\$ 25,379	\$ 23	\$ 25,402	\$ 164,798	\$ 48	\$ 164,846
Airlines and General Aviation	121,813	385	122,198	49,570	24	49,594	321,879	50	321,928
Airport Terminal Services	128,187	259	128,446	52,164	16	52,180	338,721	34	338,755
Government Agencies	45,367	342	45,709	18,461	21	18,483	119,877	44	119,921
Freight and Couriers	16,835	61	16,896	6,851	4	6,855	44,486	8	44,494
Misc. Aviation & Aviation Services	77,897	258	78,155	31,699	16	31,716	205,836	33	205,869
Nevada National Guard	49,071	267	49,338	19,969	17	19,986	129,665	35	129,700
Off-Site Tenants	314,656	133,362	448,017	128,046	8,332	136,378	831,446	17,317	848,763
Rentals and Ground Transportation	52,240	358	52,598	21,259	22	21,281	138,039	46	138,086
Travel Related Services	7,102	51	7,153	2,890	3	2,893	18,766	7	18,773
<b>TOTAL</b>	<b>\$ 875,535</b>	<b>\$ 135,711</b>	<b>\$ 1,011,245</b>	<b>\$ 356,289</b>	<b>\$ 8,479</b>	<b>\$ 364,768</b>	<b>\$ 2,313,512</b>	<b>\$ 17,622</b>	<b>\$ 2,331,134</b>
<b>Reno-Stead Airport</b>									
Off-Site Tenants	\$ 78,878	\$ 296	\$ 79,174	\$ 32,099	\$ 18	\$ 32,117	\$ 208,428	\$ 38	\$ 208,466
Airlines and General Aviation	1,458	8	1,467	593	1	594	3,853	1	3,854
Misc. Aviation & Aviation Services	9,527	57	9,584	3,877	4	3,880	25,174	7	25,182
Nevada National Guard	41,842	228	42,069	17,027	14	17,041	110,562	30	110,592
<b>TOTAL</b>	<b>\$ 131,705</b>	<b>\$ 588</b>	<b>\$ 132,294</b>	<b>\$ 53,596</b>	<b>\$ 37</b>	<b>\$ 53,633</b>	<b>\$ 348,017</b>	<b>\$ 76</b>	<b>\$ 348,094</b>
<b>RNO Visitors</b>									
RNO Visitors	\$ 1,884,024	\$ 4,997,064	\$ 6,881,088	\$ 766,682	\$ 312,214	\$ 1,078,896	\$ 4,978,344	\$ 648,871	\$ 5,627,215
<b>TOTAL ANNUAL IMPACTS</b>									
<b>TOTAL</b>	<b>\$ 2,891,263</b>	<b>\$ 5,133,363</b>	<b>\$ 8,024,627</b>	<b>\$ 1,176,567</b>	<b>\$ 320,730</b>	<b>\$ 1,497,297</b>	<b>\$ 7,639,874</b>	<b>\$ 666,569</b>	<b>\$ 8,306,443</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>									
Project 1	\$ 10,428	\$ 36	\$ 10,464	\$ 4,243	\$ 2	\$ 4,246	\$ 27,554	\$ 5	\$ 27,559
Project 2	2,702	9	2,712	1,100	1	1,100	7,141	1	7,142
Project 3	22,019	79	22,098	8,960	5	8,965	58,182	10	58,193
Project 4	380,325	1,368	381,692	154,769	85	154,854	1,004,970	178	1,005,147
<b>TOTAL</b>	<b>\$ 415,473</b>	<b>\$ 1,492</b>	<b>\$ 416,966</b>	<b>\$ 169,072</b>	<b>\$ 93</b>	<b>\$ 169,165</b>	<b>\$ 1,097,847</b>	<b>\$ 194</b>	<b>\$ 1,098,041</b>

**Table 26. Summary of Total Estimated Public Sector Revenue by Source (continued)**

Source	Washoe County School District			State of Nevada				Other Entities*		
	Sales Tax Revenue	Lodging Tax Revenue	Total Revenue	Sales Tax Revenue	MBT Revenue	Lodging Tax Revenue	Total Revenue	Sales Tax Revenue	Lodging Tax Revenue	Total Revenue
<b>Reno Tahoe International Airport</b>										
Airport Operations	\$ 270,258	\$ -	\$ 270,258	\$ 319,293	\$ 49,047	\$ 164	\$ 368,505	\$ 337,334	\$ 1,117	\$ 338,451
Airlines and General Aviation	527,861	-	527,861	623,635	354,431	171	978,237	658,872	1,164	660,037
Airport Terminal Services	555,482	-	555,482	656,268	134,675	115	791,058	693,349	782	694,132
Government Agencies	196,591	-	196,591	232,260	145,746	152	378,158	245,383	1,035	246,418
Freight and Couriers	72,954	-	72,954	86,190	59,312	27	145,530	91,061	183	91,244
Misc. Aviation & Aviation Services	337,558	-	337,558	398,804	220,981	115	619,899	421,338	779	422,117
Nevada National Guard	212,643	-	212,643	251,224	46,634	119	297,977	265,419	808	266,227
Off-Site Tenants	1,363,519	-	1,363,519	1,610,914	268,429	59,366	1,938,709	1,701,936	403,412	2,105,348
Rentals and Ground Transportation	226,376	-	226,376	267,449	153,368	159	420,976	282,561	1,082	283,642
Travel Related Services	30,775	-	30,775	36,359	30,713	23	67,094	38,413	156	38,568
<b>TOTAL</b>	<b>\$ 3,794,015</b>	<b>\$ -</b>	<b>\$ 3,794,015</b>	<b>\$ 4,482,395</b>	<b>\$ 1,463,337</b>	<b>\$ 60,412</b>	<b>\$ 6,006,144</b>	<b>\$ 4,735,667</b>	<b>\$ 410,518</b>	<b>\$ 5,146,185</b>
<b>Reno-Stead Airport</b>										
Off-Site Tenants	\$ 341,808	\$ -	\$ 341,808	\$ 403,825	\$ 173,250	\$ 132	\$ 577,207	\$ 426,643	\$ 895	\$ 427,538
Airlines and General Aviation	6,319	-	6,319	7,466	7,534	4	15,004	7,888	25	7,913
Misc. Aviation & Aviation Services	41,285	-	41,285	48,775	58,090	25	106,890	51,531	171	51,702
Nevada National Guard	181,315	-	181,315	214,212	23,560	101	237,874	226,316	689	227,005
<b>TOTAL</b>	<b>\$ 570,727</b>	<b>\$ -</b>	<b>\$ 570,727</b>	<b>\$ 674,279</b>	<b>\$ 262,435</b>	<b>\$ 262</b>	<b>\$ 936,975</b>	<b>\$ 712,378</b>	<b>\$ 1,780</b>	<b>\$ 714,158</b>
<b>RNO Visitors</b>										
RNO Visitors	\$ 8,164,171	\$ -	\$ 8,164,171	\$ 9,645,465	\$ 2,012,249	\$ 2,224,459	\$ 13,882,174	\$ 10,190,469	\$ 15,115,848	\$ 25,306,317
<b>TOTAL ANNUAL IMPACTS</b>										
<b>TOTAL</b>	<b>\$ 12,528,913</b>	<b>\$ -</b>	<b>\$ 12,528,913</b>	<b>\$ 14,802,139</b>	<b>\$ 3,738,021</b>	<b>\$ 2,285,134</b>	<b>\$ 20,825,293</b>	<b>\$ 15,638,513</b>	<b>\$ 15,528,146</b>	<b>\$ 31,166,659</b>
<b>ONE-TIME IMPACTS: Capital Expenditures</b>										
Project 1	\$ 45,187	\$ -	\$ 45,187	\$ 53,386	\$ 34,854	\$ 16	\$ 88,255	\$ 56,402	\$ 109	\$ 56,511
Project 2	11,710	-	11,710	13,835	10,434	4	24,273	14,617	28	14,645
Project 3	95,416	-	95,416	112,728	76,700	35	189,463	119,097	239	119,337
Project 4	1,648,087	-	1,648,087	1,947,113	1,324,825	609	3,272,547	2,057,132	4,137	2,061,269
<b>TOTAL</b>	<b>\$ 1,800,400</b>	<b>\$ -</b>	<b>\$ 1,800,400</b>	<b>\$ 2,127,062</b>	<b>\$ 1,446,813</b>	<b>\$ 664</b>	<b>\$ 3,574,539</b>	<b>\$ 2,247,248</b>	<b>\$ 4,513</b>	<b>\$ 2,251,762</b>

\*Other Entities include RSCVA (for lodging tax revenue) and Sun Valley Water and Sanitation GID, Verdi Television GID, Lemon Valley Underground Water Basin, Carson-Truckee Water Conservancy, Incline Village GID, North Lake Tahoe Fire Protection District, Palomino Valley GID, Sierra Forest Fire Protection District, Truckee Meadows Fire Protection District, as well as non-Washoe County cities, counties, and other entities within the Northern Nevada region (for sales tax revenue).

**Table 27. Summary of Total Estimated Public Sector Revenue**

Sector	City of Reno	City of Sparks	Washoe County	WC School District	State of Nevada	Other Entities	Total
<b>Ongoing Annual Impacts</b>							
RNO Operations	\$ 62,736	\$ 25,402	\$ 164,846	\$ 270,258	\$ 368,505	\$ 338,451	\$ 1,230,197
RNO-Related Industries	948,510	339,366	2,166,289	3,523,757	5,637,639	4,807,734	17,423,294
RNO Visitors	6,881,088	1,078,896	5,627,215	8,164,171	13,882,174	25,306,317	60,939,860
RTS Operations	79,174	32,117	208,466	341,808	577,207	427,538	1,666,310
RTS-Related Industries	53,120	21,516	139,628	228,919	359,768	286,620	1,089,570
<b>Total</b>	<b>\$ 8,024,627</b>	<b>\$1,497,297</b>	<b>\$ 8,306,443</b>	<b>\$12,528,913</b>	<b>\$20,825,293</b>	<b>\$31,166,659</b>	<b>\$82,349,232</b>
<b>One-Time Impacts</b>							
Project 1	\$ 10,464	\$ 4,246	\$ 27,559	\$ 45,187	\$ 88,255	\$ 56,511	\$ 232,222
Project 2	2,712	1,100	7,142	11,710	24,273	14,645	61,583
Project 3	22,098	8,965	58,193	95,416	189,463	119,337	493,471
Project 4	381,692	154,854	1,005,147	1,648,087	3,272,547	2,061,269	8,523,596
<b>Total</b>	<b>\$ 416,966</b>	<b>\$ 169,165</b>	<b>\$ 1,098,041</b>	<b>\$ 1,800,400</b>	<b>\$ 3,574,539</b>	<b>\$ 2,251,762</b>	<b>\$ 9,310,872</b>

## Limiting Conditions & Disclosures

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# Appendix 1

## Reno-Sparks MSA and Northern Nevada Region-Establishment, Employment, and Wage Data by Industry<sup>48</sup>

RENO-SPARKS MSA					
Summary	2017		2022		% Change
Total Establishments	14,882		16,670		12.0%
Total Employment	230,940		251,189		8.8%
Ave. Weekly Wage	\$ 937		\$ 1,240		32.3%
Establishments	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	54	0.4%	58	0.00348	7.4%
Mining, Quarrying, and Oil and Gas Extraction	38	0.3%	31	0.2%	-18.4%
Utilities	30	0.2%	29	0.2%	-3.3%
Construction	1,334	9.0%	1,426	8.6%	6.9%
Manufacturing	548	3.7%	564	3.4%	2.9%
Wholesale Trade	976	6.6%	987	5.9%	1.1%
Retail Trade	1,459	9.8%	1,411	8.5%	-3.3%
Transportation and Warehousing	588	4.0%	617	3.7%	4.9%
Information	238	1.6%	425	2.5%	78.6%
Finance and Insurance	843	5.7%	962	5.8%	14.1%
Real Estate and Rental and Leasing	777	5.2%	918	5.5%	18.1%
Professional and Technical Services	2,292	15.4%	2,681	16.1%	17.0%
Management of Companies and Enterprises	390	2.6%	735	4.4%	88.5%
Administrative and Waste Services	1,054	7.1%	1,183	7.1%	12.2%
Educational Services	226	1.5%	265	1.6%	17.3%
Health Care and Social Assistance	1,361	9.1%	1,439	8.6%	5.7%
Arts, Entertainment, and Recreation	272	1.8%	306	1.8%	12.5%
Accommodation and Food Services	1,061	7.1%	1,145	6.9%	7.9%
Other Services (except Public Administration)	999	6.7%	1,053	6.3%	5.4%
Public Administration	134	0.9%	132	0.8%	-1.5%
Unclassified	208	1.4%	303	1.8%	45.7%

<sup>48</sup> "Quarterly Census of Employment & Wages," Nevada Department of Employment, Training, and Rehabilitation.

RENO-SPARKS MSA					
Summary	2017		2022		% Change
<i>Employment</i>	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	406	0.2%	809	0.3%	99.3%
Mining, Quarrying, and Oil and Gas Extraction	256	0.1%	332	0.1%	29.7%
Utilities	885	0.4%	882	0.4%	-0.3%
Construction	16,816	7.3%	20,998	8.4%	24.9%
Manufacturing	17,153	7.4%	28,030	11.2%	63.4%
Wholesale Trade	9,591	4.2%	9,979	4.0%	4.0%
Retail Trade	24,425	10.6%	24,101	9.6%	-1.3%
Transportation and Warehousing	20,547	8.9%	23,364	9.3%	13.7%
Information	2,149	0.9%	3,433	1.4%	59.7%
Finance and Insurance	5,892	2.6%	6,051	2.4%	2.7%
Real Estate and Rental and Leasing	4,094	1.8%	4,829	1.9%	18.0%
Professional and Technical Services	11,275	4.9%	13,023	5.2%	15.5%
Management of Companies and Enterprises	2,922	1.3%	3,527	1.4%	20.7%
Administrative and Waste Services	16,922	7.3%	16,648	6.6%	-1.6%
Educational Services	16,853	7.3%	15,422	6.1%	-8.5%
Health Care and Social Assistance	25,881	11.2%	27,486	10.9%	6.2%
Arts, Entertainment, and Recreation	5,990	2.6%	6,144	2.4%	2.6%
Accommodation and Food Services	32,192	13.9%	30,034	12.0%	-6.7%
Other Services (except Public Administration)	5,867	2.5%	6,187	2.5%	5.5%
Public Administration	8,748	3.8%	9,181	3.7%	4.9%
Unclassified	2,076	0.9%	729	0.3%	-64.9%
<i>Average Weekly Wages</i>	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	\$ 642	69.4%	\$ 814	87.4%	26.8%
Mining, Quarrying, and Oil and Gas Extraction	\$ 1,623	175.6%	\$ 1,182	127.1%	-27.2%
Utilities	\$ 1,968	213.0%	\$ 1,687	181.3%	-14.3%
Construction	\$ 1,149	124.3%	\$ 1,035	111.2%	-9.9%
Manufacturing	\$ 1,130	122.3%	\$ 1,121	120.5%	-0.8%
Wholesale Trade	\$ 1,265	136.8%	\$ 1,125	120.9%	-11.1%
Retail Trade	\$ 167	18.1%	\$ 606	65.1%	262.7%
Transportation and Warehousing	\$ 223	24.1%	\$ 846	91.0%	280.4%
Information	\$ 1,306	141.3%	\$ 1,553	166.9%	18.8%
Finance and Insurance	\$ 1,784	193.0%	\$ 1,997	214.6%	11.9%
Real Estate and Rental and Leasing	\$ 862	93.3%	\$ 934	100.4%	8.4%
Professional and Technical Services	\$ 1,470	159.1%	\$ 1,335	143.5%	-9.2%
Management of Companies and Enterprises	\$ 2,513	271.9%	\$ 2,509	269.7%	-0.2%
Administrative and Waste Services	\$ 613	66.3%	\$ 676	72.6%	10.3%
Educational Services	\$ 907	98.2%	\$ 825	88.7%	-9.1%
Health Care and Social Assistance	\$ 1,082	117.1%	\$ 990	106.4%	-8.5%
Arts, Entertainment, and Recreation	\$ 454	49.1%	\$ 435	46.7%	-4.2%
Accommodation and Food Services	\$ 467	50.6%	\$ 460	49.5%	-1.6%
Other Services (except Public Administration)	\$ 735	79.5%	\$ 717	77.1%	-2.5%
Public Administration	\$ 1,288	139.4%	\$ 1,156	124.3%	-10.2%
Unclassified	\$ 1,145	123.9%	\$ 213	22.8%	-81.4%

NORTHERN NEVADA REGION					
Summary	2017		2022		% Change
Total Establishments	21,273		23,353		9.8%
Total Employment	314,078		338,451		7.8%
Ave. Weekly Wage	\$ 936		\$ 1,218		30.2%
<i>Establishments</i>	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	217	1.5%	203	1.2%	-6.5%
Mining, Quarrying, and Oil and Gas Extraction	109	0.7%	92	0.6%	-15.6%
Utilities	64	0.4%	60	0.4%	-6.3%
Construction	1,988	13.4%	2,091	12.5%	5.2%
Manufacturing	872	5.9%	888	5.3%	1.8%
Wholesale Trade	1,278	8.6%	1,276	7.7%	-0.2%
Retail Trade	2,108	14.2%	2,042	12.2%	-3.1%
Transportation and Warehousing	780	5.2%	823	4.9%	5.5%
Information	349	2.3%	555	3.3%	59.0%
Finance and Insurance	1,161	7.8%	1,295	7.8%	11.5%
Real Estate and Rental and Leasing	1,090	7.3%	1,242	7.5%	13.9%
Professional and Technical Services	2,993	20.1%	3,439	20.6%	14.9%
Management of Companies and Enterprises	482	3.2%	923	5.5%	91.5%
Administrative and Waste Services	1,464	9.8%	1,641	9.8%	12.1%
Educational Services	245	1.6%	310	1.9%	26.5%
Health Care and Social Assistance	1,875	12.6%	1,984	11.9%	5.8%
Arts, Entertainment, and Recreation	452	3.0%	483	2.9%	6.9%
Accommodation and Food Services	1,581	10.6%	1,662	10.0%	5.1%
Other Services (except Public Administration)	1,392	9.4%	1,454	8.7%	4.5%
Public Administration	411	2.8%	421	2.5%	2.4%
Unclassified	362	2.4%	469	2.8%	29.6%
<i>Employment</i>	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	1,937	0.8%	2,415	1.0%	24.7%
Mining, Quarrying, and Oil and Gas Extraction	5,018	2.2%	3,606	1.4%	-28.1%
Utilities	1,347	0.6%	1,292	0.5%	-4.1%
Construction	21,413	9.3%	26,166	10.4%	22.2%
Manufacturing	24,110	10.4%	35,747	14.2%	48.3%
Wholesale Trade	10,866	4.7%	11,597	4.6%	6.7%
Retail Trade	33,902	14.7%	34,527	13.7%	1.8%
Transportation and Warehousing	23,131	10.0%	26,324	10.5%	13.8%
Information	3,002	1.3%	4,156	1.7%	38.4%
Finance and Insurance	7,508	3.3%	7,660	3.0%	2.0%
Real Estate and Rental and Leasing	5,117	2.2%	5,789	2.3%	13.1%
Professional and Technical Services	13,470	5.8%	15,556	6.2%	15.5%
Management of Companies and Enterprises	3,437	1.5%	4,412	1.8%	28.4%
Administrative and Waste Services	19,775	8.6%	20,585	8.2%	4.1%
Educational Services	18,639	8.1%	17,937	7.1%	-3.8%
Health Care and Social Assistance	34,169	14.8%	36,398	14.5%	6.5%
Arts, Entertainment, and Recreation	9,345	4.0%	9,400	3.7%	0.6%
Accommodation and Food Services	42,990	18.6%	39,935	15.9%	-7.1%
Other Services (except Public Administration)	7,696	3.3%	8,181	3.3%	6.3%
Public Administration	20,151	8.7%	20,072	8.0%	-0.4%
Unclassified	7,055	3.1%	6,696	2.7%	-5.1%

NORTHERN NEVADA REGION					
Summary	2017		2022		% Change
<i>Average Weekly Wages</i>	Count	% of Total	Count	% of Total	
Agriculture, Forestry, Fishing & Hunting	\$ 723	<b>78.3%</b>	\$ 721	<b>77.5%</b>	<b>-0.4%</b>
Mining, Quarrying, and Oil and Gas Extraction	\$ 1,861	<b>201.3%</b>	\$ 1,500	<b>161.2%</b>	<b>-19.4%</b>
Utilities	\$ 1,857	<b>200.9%</b>	\$ 1,605	<b>172.5%</b>	<b>-13.6%</b>
Construction	\$ 1,129	<b>122.1%</b>	\$ 1,007	<b>108.2%</b>	<b>-10.8%</b>
Manufacturing	\$ 1,126	<b>121.8%</b>	\$ 1,098	<b>118.0%</b>	<b>-2.5%</b>
Wholesale Trade	\$ 1,255	<b>135.8%</b>	\$ 1,132	<b>121.7%</b>	<b>-9.8%</b>
Retail Trade	\$ 162	<b>17.5%</b>	\$ 587	<b>63.1%</b>	<b>262.9%</b>
Transportation and Warehousing	\$ 230	<b>24.9%</b>	\$ 862	<b>92.6%</b>	<b>275.1%</b>
Information	\$ 1,235	<b>133.6%</b>	\$ 1,465	<b>157.4%</b>	<b>18.7%</b>
Finance and Insurance	\$ 1,657	<b>179.2%</b>	\$ 1,824	<b>196.0%</b>	<b>10.1%</b>
Real Estate and Rental and Leasing	\$ 865	<b>93.6%</b>	\$ 909	<b>97.6%</b>	<b>5.0%</b>
Professional and Technical Services	\$ 1,436	<b>155.3%</b>	\$ 1,336	<b>143.6%</b>	<b>-7.0%</b>
Management of Companies and Enterprises	\$ 2,430	<b>262.9%</b>	\$ 2,379	<b>255.7%</b>	<b>-2.1%</b>
Administrative and Waste Services	\$ 622	<b>67.3%</b>	\$ 687	<b>73.8%</b>	<b>10.3%</b>
Educational Services	\$ 888	<b>96.0%</b>	\$ 803	<b>86.3%</b>	<b>-9.5%</b>
Health Care and Social Assistance	\$ 1,059	<b>114.5%</b>	\$ 966	<b>103.8%</b>	<b>-8.8%</b>
Arts, Entertainment, and Recreation	\$ 479	<b>51.8%</b>	\$ 457	<b>49.1%</b>	<b>-4.6%</b>
Accommodation and Food Services	\$ 467	<b>50.5%</b>	\$ 455	<b>48.9%</b>	<b>-2.5%</b>
Other Services (except Public Administration)	\$ 729	<b>78.8%</b>	\$ 709	<b>76.2%</b>	<b>-2.6%</b>
Public Administration	\$ 1,194	<b>129.2%</b>	\$ 1,072	<b>115.2%</b>	<b>-10.2%</b>
Unclassified	\$ 1,908	<b>206.4%</b>	\$ 1,795	<b>192.9%</b>	<b>-5.9%</b>

## Appendix 2

### Employment and Location Quotients-All Industries<sup>49</sup>

2022	MSA		% of MSA		Total		% of National		Location		Growth Share Category
	Employment by Sector (Eir)	Total MSA Employment (Er)	Employment in Sector (Eir/Er)	National Employment by Sector (Ein)	National Employment (En)	Employment in Sector (Ein/En)	Employment Quotient (Eir/Er)/(Ein/En)	% Change			
11-Agriculture, Forestry, Fishing and Hunting	809	251,189	0.32%	1,262,170	150,025,655	0.84%	0.38	92%	Emerging		
21-Mining, Quarrying, and Oil and Gas Extraction	332	251,189	0.13%	555,956	150,025,655	0.37%	0.36	40%	Emerging		
22-Utilities	882	251,189	0.35%	810,850	150,025,655	0.54%	0.65	-4%	Transforming		
23-Construction	20,998	251,189	8.36%	7,889,156	150,025,655	5.26%	1.59	8%	Star		
31-33-Manufacturing	28,030	251,189	11.16%	12,809,405	150,025,655	8.54%	1.31	52%	Star		
42-Wholesale Trade	9,979	251,189	3.97%	5,977,132	150,025,655	3.98%	1.00	-2%	Mature		
44-45-Retail Trade	24,101	251,189	9.59%	15,537,613	150,025,655	10.36%	0.93	-3%	Transforming		
48-49-Transportation and Warehousing	23,364	251,189	9.30%	7,360,629	150,025,655	4.91%	1.90	-12%	Mature		
51-Information	3,433	251,189	1.37%	3,182,631	150,025,655	2.12%	0.64	41%	Emerging		
52-Finance and Insurance	6,051	251,189	2.41%	6,292,480	150,025,655	4.19%	0.57	-7%	Transforming		
53-Real Estate and Rental and Leasing	4,829	251,189	1.92%	2,379,748	150,025,655	1.59%	1.21	6%	Star		
54-Professional, Scientific, and Technical Services	13,023	251,189	5.18%	10,654,099	150,025,655	7.10%	0.73	-5%	Transforming		
55-Management of Companies and Enterprises	3,527	251,189	1.40%	2,503,466	150,025,655	1.67%	0.84	5%	Emerging		
56-Administrative & Waste Management Services	16,648	251,189	6.63%	9,619,981	150,025,655	6.41%	1.03	-10%	Mature		
61-Educational Services	15,422	251,189	6.14%	12,564,903	150,025,655	8.38%	0.73	-12%	Transforming		
62-Health Care and Social Assistance	27,486	251,189	10.94%	22,317,076	150,025,655	14.88%	0.74	-3%	Transforming		
71-Arts, Entertainment, and Recreation	6,144	251,189	2.45%	2,616,288	150,025,655	1.74%	1.40	1%	Star		
72-Accommodation and Food Services	30,034	251,189	11.96%	13,512,345	150,025,655	9.01%	1.33	-9%	Mature		
81-Other Services (except Public Administration)	6,187	251,189	2.46%	4,441,275	150,025,655	2.96%	0.83	2%	Emerging		
92-Public Administration	9,181	251,189	3.66%	7,413,015	150,025,655	4.94%	0.74	-1%	Transforming		
99-Unclassified	729	251,189	0.29%	325,437	150,025,655	0.22%	1.34	-77%	Mature		
<b>Total</b>	<b>251,189</b>		<b>100.00%</b>	<b>150,025,655</b>		<b>100.00%</b>					

<sup>49</sup> “Quarterly Census of Employment & Wages,” Nevada Department of Employment, Training, and Rehabilitation and Bureau of Labor Statistics.

2017	MSA		% of MSA		Total	% of National	Location
	Employment by Sector (Eir)	Total MSA Employment (Er)	Employment in Sector (Eir/Er)	National Employment by Sector (Ein)	National Employment (En)	Employment in Sector (Ein/En)	Quotient (Eir/Er)/ (Ein/En)
11-Agriculture, Forestry, Fishing and Hunting	406	230,940	0.18%	1,267,691	143,859,855	0.88%	0.20
21-Mining, Quarrying, and Oil and Gas Extraction	256	230,940	0.11%	624,170	143,859,855	0.43%	0.26
22-Utilities	885	230,940	0.38%	815,038	143,859,855	0.57%	0.68
23-Construction	16,816	230,940	7.28%	7,098,128	143,859,855	4.93%	1.48
31-33-Manufacturing	17,153	230,940	7.43%	12,456,203	143,859,855	8.66%	0.86
42-Wholesale Trade	9,591	230,940	4.15%	5,899,022	143,859,855	4.10%	1.01
44-45-Retail Trade	24,425	230,940	10.58%	15,914,911	143,859,855	11.06%	0.96
48-49-Transportation and Warehousing	20,547	230,940	8.90%	5,912,605	143,859,855	4.11%	2.16
51-Information	2,149	230,940	0.93%	2,936,974	143,859,855	2.04%	0.46
52-Finance and Insurance	5,892	230,940	2.55%	5,943,525	143,859,855	4.13%	0.62
53-Real Estate and Rental and Leasing	4,094	230,940	1.77%	2,222,018	143,859,855	1.54%	1.15
54-Professional, Scientific, and Technical Services	11,275	230,940	4.88%	9,104,545	143,859,855	6.33%	0.77
55-Management of Companies and Enterprises	2,922	230,940	1.27%	2,278,042	143,859,855	1.58%	0.80
56-Administrative & Waste Management Services	16,922	230,940	7.33%	9,151,821	143,859,855	6.36%	1.15
61-Educational Services	16,853	230,940	7.30%	12,533,043	143,859,855	8.71%	0.84
62-Health Care and Social Assistance	25,881	230,940	11.21%	21,298,501	143,859,855	14.81%	0.76
71-Arts, Entertainment, and Recreation	5,990	230,940	2.59%	2,678,894	143,859,855	1.86%	1.39
72-Accommodation and Food Services	32,192	230,940	13.94%	13,701,645	143,859,855	9.52%	1.46
81-Other Services (except Public Administration)	5,867	230,940	2.54%	4,474,194	143,859,855	3.11%	0.82
92-Public Administration	8,748	230,940	3.79%	7,328,955	143,859,855	5.09%	0.74
99-Unclassified	2,076	230,940	0.90%	219,930	143,859,855	0.15%	5.88
<b>Total</b>	<b>230,940</b>		<b>100.00%</b>	<b>143,859,855</b>		<b>100.00%</b>	

## Appendix 3

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### Employment and Location Quotients-Airport-Related Industries<sup>50</sup>

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<sup>50</sup> "Quarterly Census of Employment & Wages," Nevada Department of Employment, Training, and Rehabilitation.

2022	MSA		% of MSA		Total		% of National		Location		Growth Share Category
	Employment by Sector (Eir)	Total MSA Employment (Er)	Employment in Sector (Eir/Er)	National Employment by Sector (Ein)	National Employment (En)	Employment in Sector (Ein/En)	Quotient (Eir/Er)/(Ein/En)	% Change			
236 -Construction of Buildings	4,342	251,189	1.73%	1,749,649	150,025,655	1.17%	1.48	18%	Star		
237 -Heavy and Civil Engineering Construction	1,928	251,189	0.77%	1,235,892	150,025,655	0.82%	0.93	23%	Emerging		
238 -Specialty Trade Contractors	14,710	251,189	5.86%	4,903,352	150,025,655	3.27%	1.79	3%	Star		
314 -Textile Product Mills	234	251,189	0.09%	104,747	150,025,655	0.07%	1.33	4%	Star		
326 -Plastics & Rubber Products Manufacturing	1,306	251,189	0.52%	746,593	150,025,655	0.50%	1.04	8%	Star		
332 -Fabricated Metal Product Manufacturing	2,237	251,189	0.89%	1,425,362	150,025,655	0.95%	0.94	3%	Emerging		
333 -Machinery Manufacturing	832	251,189	0.33%	1,104,281	150,025,655	0.74%	0.45	9%	Emerging		
334 -Computer and Electronic Product Mfg	1,926	251,189	0.77%	1,086,220	150,025,655	0.72%	1.06	27%	Star		
335 -Electrical Equipment and Appliances	384	251,189	0.15%	404,939	150,025,655	0.27%	0.57	49%	Emerging		
336 -Transportation Equipment Manufacturing	295	251,189	0.12%	1,708,860	150,025,655	1.14%	0.10	118%	Emerging		
423 -Merchant Wholesalers, Durable Goods	6,574	251,189	2.62%	3,298,981	150,025,655	2.20%	1.19	-4%	Mature		
424 -Merchant Wholesalers, Nondurable Goods	3,055	251,189	1.22%	2,161,239	150,025,655	1.44%	0.84	-3%	Transforming		
441 -Motor Vehicle and Parts Dealers	3,325	251,189	1.32%	2,006,581	150,025,655	1.34%	0.99	1%	Emerging		
445 -Food and Beverage Stores	4,170	251,189	1.66%	3,190,250	150,025,655	2.13%	0.78	14%	Emerging		
456-Health and Personal Care Stores	1,217	251,189	0.48%	1,099,831	150,025,655	0.73%	0.66	12%	Emerging		
457-Gasoline Stations and Fuel Dealers	1,017	251,189	0.40%	1,031,900	150,025,655	0.69%	0.59	-23%	Transforming		
458-Clothing & Accessories/Shoe, & Jewelry Retailers	1,797	251,189	0.72%	1,139,670	150,025,655	0.76%	0.94	6%	Emerging		
459-Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers	3,423	251,189	1.36%	1,520,143	150,025,655	1.01%	1.34	-4%	Mature		
481 -Air Transportation	378	251,189	0.15%	509,433	150,025,655	0.34%	0.44	14%	Emerging		
484 -Truck Transportation	3,756	251,189	1.50%	1,565,125	150,025,655	1.04%	1.43	-11%	Mature		
485 -Transit and Ground Passenger Transport	512	251,189	0.20%	660,334	150,025,655	0.44%	0.46	-6%	Transforming		
488 -Support Activities for Transportation	1,730	251,189	0.69%	844,711	150,025,655	0.56%	1.22	8%	Star		
492 -Couriers and Messengers	3,079	251,189	1.23%	1,096,423	150,025,655	0.73%	1.68	-23%	Mature		
493 -Warehousing and Storage	12,911	251,189	5.14%	1,913,274	150,025,655	1.28%	4.03	-36%	Mature		
512 -Motion Picture & Sound Recording Ind	402	251,189	0.16%	439,067	150,025,655	0.29%	0.55	11%	Emerging		
531 -Real Estate	3,720	251,189	1.48%	1,818,917	150,025,655	1.21%	1.22	6%	Star		
532 -Rental and Leasing Services	1,075	251,189	0.43%	538,590	150,025,655	0.36%	1.19	4%	Star		
561 -Administrative and Support Services	15,864	251,189	6.32%	9,119,735	150,025,655	6.08%	1.04	-11%	Mature		
611 -Educational Services	15,422	251,189	6.14%	12,564,903	150,025,655	8.38%	0.73	-12%	Transforming		
621 -Ambulatory Health Care Services	11,281	251,189	4.49%	8,259,429	150,025,655	5.51%	0.82	-4%	Transforming		
711 -Performing Arts, Spectator Sports, and Related	780	251,189	0.31%	508,459	150,025,655	0.34%	0.92	21%	Emerging		
721 -Accommodation	11,956	251,189	4.76%	1,850,370	150,025,655	1.23%	3.86	-18%	Mature		
722 -Food Services and Drinking Places	18,078	251,189	7.20%	11,662,445	150,025,655	7.77%	0.93	4%	Emerging		
811 -Repair and Maintenance	2,338	251,189	0.93%	1,401,619	150,025,655	0.93%	1.00	-10%	Mature		
921 -Executive, Legislative, & Gen Government	5,647	251,189	2.25%	3,055,080	150,025,655	2.04%	1.10	4%	Star		
926 -Administration of Economic Programs	1,024	251,189	0.41%	604,139	150,025,655	0.40%	1.01	-25%	Mature		
928 -National Security & International Affairs	332	251,189	0.13%	608,372	150,025,655	0.41%	0.33	-23%	Transforming		
Remaining Industries	88,132	251,189	35.09%	61,086,740	150,025,655	40.72%	0.86	6%	Emerging		
<b>Total</b>	<b>251,189</b>		<b>100.00%</b>	<b>150,025,655</b>		<b>100.00%</b>					

2017	MSA		% of MSA		Total		% of National		Location Quotient (Eir/Er)/(Ein/En)
	Employment by Sector (Eir)	Total MSA Employment (Er)	Employment in Sector (Eir/Er)	National Employment by Sector (Ein)	National Employment (En)	Employment in Sector (Ein/En)	Employment in Sector (Ein/En)		
236 -Construction of Buildings	3,126	230,940	1.35%	1,544,205	143,859,855	1.07%	1.26		
237 -Heavy and Civil Engineering Construction	1,404	230,940	0.61%	1,155,509	143,859,855	0.80%	0.76		
238 -Specialty Trade Contractors	12,258	230,940	5.31%	4,398,066	143,859,855	3.06%	1.74		
314 -Textile Product Mills	238	230,940	0.10%	115,313	143,859,855	0.08%	1.29		
326 -Plastics & Rubber Products Manufacturing	1,106	230,940	0.48%	714,191	143,859,855	0.50%	0.96		
332 -Fabricated Metal Product Manufacturing	2,072	230,940	0.90%	1,423,160	143,859,855	0.99%	0.91		
333 -Machinery Manufacturing	713	230,940	0.31%	1,073,562	143,859,855	0.75%	0.41		
334 -Computer and Electronic Product Mfg	1,396	230,940	0.60%	1,041,459	143,859,855	0.72%	0.83		
335 -Electrical Equipment and Appliances	235	230,940	0.10%	385,817	143,859,855	0.27%	0.38		
336 -Transportation Equipment Manufacturing	128	230,940	0.06%	1,682,696	143,859,855	1.17%	0.05		
423 -Merchant Wholesalers, Durable Goods	5,881	230,940	2.55%	2,960,401	143,859,855	2.06%	1.24		
424 -Merchant Wholesalers, Nondurable Goods	2,858	230,940	1.24%	2,047,280	143,859,855	1.42%	0.87		
441 -Motor Vehicle and Parts Dealers	3,150	230,940	1.36%	1,998,719	143,859,855	1.39%	0.98		
445 -Food and Beverage Stores	3,429	230,940	1.48%	3,111,345	143,859,855	2.16%	0.69		
456-Health and Personal Care Stores	1,014	230,940	0.44%	1,066,905	143,859,855	0.74%	0.59		
457-Gasoline Stations and Fuel Dealers	1,150	230,940	0.50%	933,422	143,859,855	0.65%	0.77		
458-Clothing & Accessories/Shoe, & Jewelry Retailers	1,977	230,940	0.86%	1,381,119	143,859,855	0.96%	0.89		
459-Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers	3,218	230,940	1.39%	1,430,466	143,859,855	0.99%	1.40		
481 -Air Transportation	307	230,940	0.13%	493,425	143,859,855	0.34%	0.39		
484 -Truck Transportation	3,738	230,940	1.62%	1,452,682	143,859,855	1.01%	1.60		
485 -Transit and Ground Passenger Transport	581	230,940	0.25%	737,306	143,859,855	0.51%	0.49		
488 -Support Activities for Transportation	1,378	230,940	0.60%	760,691	143,859,855	0.53%	1.13		
492 -Couriers and Messengers	2,328	230,940	1.01%	666,600	143,859,855	0.46%	2.18		
493 -Warehousing and Storage	10,392	230,940	4.50%	1,026,985	143,859,855	0.71%	6.30		
512 -Motion Picture & Sound Recording Ind	337	230,940	0.15%	424,576	143,859,855	0.30%	0.49		
531 -Real Estate	3,053	230,940	1.32%	1,642,647	143,859,855	1.14%	1.16		
532 -Rental and Leasing Services	1,025	230,940	0.44%	555,424	143,859,855	0.39%	1.15		
561 -Administrative and Support Services	16,387	230,940	7.10%	8,702,108	143,859,855	6.05%	1.17		
611 -Educational Services	16,853	230,940	7.30%	12,533,043	143,859,855	8.71%	0.84		
621 -Ambulatory Health Care Services	10,100	230,940	4.37%	7,405,526	143,859,855	5.15%	0.85		
711 -Performing Arts, Spectator Sports, and Related Activities	602	230,940	0.26%	494,836	143,859,855	0.34%	0.76		
721 -Accommodation	15,568	230,940	6.74%	2,063,991	143,859,855	1.43%	4.70		
722 -Food Services and Drinking Places	16,624	230,940	7.20%	11,637,653	143,859,855	8.09%	0.89		
811 -Repair and Maintenance	2,334	230,940	1.01%	1,319,540	143,859,855	0.92%	1.10		
921 -Executive, Legislative, & Gen Government	5,177	230,940	2.24%	3,042,715	143,859,855	2.12%	1.06		
926 -Administration of Economic Programs	1,294	230,940	0.56%	599,129	143,859,855	0.42%	1.35		
928 -National Security & International Affairs	394	230,940	0.17%	577,125	143,859,855	0.40%	0.43		
Remaining Industries	77,115	230,940	33.39%	59,260,218	143,859,855	41.19%	0.81		
<b>Total</b>	<b>230,940</b>		<b>100.00%</b>	<b>143,859,855</b>		<b>100.00%</b>			

# Appendix 4

## Airport-Related Industries

Detailed NAICS Code	Description	3-Digit NAICS Code	Description		
236220	Airport building construction	236	Construction of Buildings		
236220	Airport terminal construction				
237310	Airport runway construction	237	Heavy and Civil Engineering Construction		
237310	Airport runway line painting (e.g., striping)				
237310	Grading, highway, road, street and airport runway				
237310	Pavement, highway, road, street, bridge or airport runway, construction				
237310	Repair, highway, road, street, bridge or airport runway				
237310	Resurfacing, highway, road, street, bridge or airport runway				
237310	Runway, airport, line painting (e.g., striping)				
237310	Surfacing, highway, road, street, bridge or airport runway				
238210	Airport runway lighting contractors	238	Specialty Trade Contractors		
314110	Automobile and aircraft carpet and rug manufacturing	314	Textile Product Mills		
326211	Aircraft tire manufacturing	326	Plastics and Rubber Products Manufacturing		
331318	Automotive or aircraft wire and cable (aluminum)	331	Primary Metal Manufacturing		
331420	Aircraft and automotive wire or cable (copper)				
331491	Aircraft and automotive wire and cable (except aluminum, copper)				
332312	Landing mats, aircraft, metal, manufacturing				
332439	Air cargo containers, light gauge metal, manufacturing	332	Fabricated Metal Product Manufacturing		
332439	Containers, air cargo, light gauge metal, manufacturing				
332510	Aircraft hardware, metal, manufacturing				
332912	Fluid power aircraft subassemblies manufacturing				
332912	Hydraulic aircraft subassemblies manufacturing				
332912	Pneumatic aircraft subassemblies manufacturing				
333310	Flight simulation machinery manufacturing	333	Machinery Manufacturing		
333310	Teaching machines (e.g., flight simulators) manufacturing				
333924	Aircraft engine cradles manufacturing				
333924	Aircraft loading hoists manufacturing				
333924	Hoists, aircraft loading, manufacturing	334	Computer and Electronic Product Manufacturing		
334220	Airborne radio communications equipment manufacturing				
334511	Air traffic control radar systems and equipment manufacturing				
334511	Airborne navigational systems manufacturing				
334511	Aircraft flight instruments (except engine instruments) manufacturing				
334511	Aircraft flight instruments (except engine instruments) manufacturing				
334511	Airframe equipment instruments manufacturing				
334511	Airspeed instruments (aeronautical) manufacturing				
334511	Flight and navigation sensors, transmitters, and displays manufacturing				
334511	Flight recorders (i.e., black boxes) manufacturing				
334511	Instrument landing system instrumentation manufacturing				
334511	Position indicators, airframe equipment, manufacturing				
334511	Wheel position indicators and transmitters, aircraft, manufacturing				
334519	Aircraft engine instruments manufacturing				
334519	Fuel densitometers, aircraft engine, manufacturing				
334519	Fuel mixture indicators, aircraft engine, manufacturing				
334519	Fuel system instruments, aircraft, manufacturing				
334519	Fuel totalizers, aircraft engine, manufacturing				
334519	Pressure and vacuum indicators, aircraft engine, manufacturing				
334519	Testers for checking hydraulic controls on aircraft manufacturing				
334519	Thrust power indicators, aircraft engine, manufacturing				
335139	Lighting fixtures, airport, manufacturing			335	Electrical Equipment, Appliance, and Component Manufacturing
335210	Air purification equipment, portable, manufacturing				
335311	Airport lighting transformers manufacturing				
335311	Lighting transformers, street and airport, manufacturing				

Detailed NAICS Code	Description	3-Digit NAICS Code	Description
336320	Aircraft lighting fixtures manufacturing	336	Transportation Equipment Manufacturing
336360	Aircraft seats manufacturing		
336360	Seat belts, motor vehicle and aircraft, manufacturing		
336411	Aircraft conversions (i.e., major modifications to system)		
336411	Aircraft manufacturing		
336411	Aircraft overhauling		
336411	Aircraft rebuilding (i.e., restoration to original design specifications)		
336411	Blimps (i.e., aircraft) manufacturing		
336411	Developing and producing prototypes for aircraft		
336411	Gliders (i.e., aircraft) manufacturing		
336411	Target drones, aircraft, manufacturing		
336411	Ultra light aircraft manufacturing		
336411	Unmanned and robotic aircraft manufacturing		
336412	Aircraft engine and engine parts manufacturing		
336412	Aircraft engine overhauling		
336412	Aircraft engine rebuilding		
336412	Aircraft turbines manufacturing		
336412	Developing/producing prototypes for aircraft engines and engine parts		
336412	Engines and engine parts, aircraft, manufacturing		
336412	Gas turbines, aircraft, manufacturing		
336412	Gasoline engine parts, aircraft, manufacturing		
336412	Gasoline engines, aircraft, manufacturing		
336412	Internal combustion engines, aircraft, manufacturing		
336412	Jet propulsion & internal combustion engines/parts manufacturing		
336412	Rocket engines, aircraft, manufacturing		
336413	Aircraft assemblies, subassemblies, and parts manufacturing		
336413	Aircraft auxiliary parts manufacturing		
336413	Aircraft brakes manufacturing		
336413	Aircraft control surface assemblies manufacturing		
336413	Aircraft fuselage wing tail and similar assemblies manufacturing		
336413	Aircraft propellers and parts manufacturing		
336413	Aircraft wheels manufacturing		
336413	Airframe assemblies (except for guided missiles) manufacturing		
336413	Developing and producing prototypes for aircraft parts		
336413	Joints, universal, aircraft, manufacturing		
336413	Targets, trailer type, aircraft, manufacturing		
336413	Tow targets, aircraft, manufacturing		
336413	Universal joints, aircraft, manufacturing		
423860	Aircraft engines and parts merchant wholesalers	423	Merchant Wholesalers, Durable Goods
423860	Aircraft equipment and supplies merchant wholesalers		
423860	Aircraft merchant wholesalers		
423860	Engines and parts, aircraft, merchant wholesalers	424	Merchant Wholesalers, Nondurable Goods
424720	Fuel, aircraft, merchant wholesalers (except bulk stations, terminals)		
424720	Fueling aircraft (except on contract basis), merchant wholesalers	441	Motor Vehicle and Parts Dealers
441227	Aircraft dealers		
441227	Used aircraft dealers		

Detailed NAICS Code	Description	3-Digit NAICS Code	Description
445291	Baked Goods Retailers	445	Food and Beverage Retailers
445292	Confectionery and Nut Retailers		
445298	All Other Specialty Food Retailers		
445320	Beer, Wine, and Liquor Retailers		
456120	Cosmetics, Beauty Supplies, and Perfume Retailers	456	Health and Personal Care Retailers
456199	All Other Health and Personal Care Retailers	457	Gasoline Stations and Fuel Dealers
457110	Gasoline Stations with Convenience Stores		
457120	Other Gasoline Stations	458	Clothing, Clothing Accessories, Shoe, and Jewelry Retailers
458110	Clothing and Clothing Accessories Retailers		
458320	Luggage and Leather Goods Retailers	459	Sporting Goods, Hobby, Musical Instrument, Book, and Miscellaneous Retailers
459210	Book Retailers and News Dealers		
459420	Gift, Novelty, and Souvenir Retailers	481	Air Transportation
481111	Air commuter carriers, scheduled		
481111	Air passenger carriers, scheduled		
481111	Commuter air carriers, scheduled		
481111	Helicopter passenger carriers, scheduled		
481111	Passenger carriers, air, scheduled		
481111	Passenger air transportation, scheduled		
481111	Scheduled air passenger carriers		
481111	Scheduled air passenger transportation		
481112	Air cargo carriers (except air couriers), scheduled		
481112	Airmail carriers, scheduled		
481112	Cargo carriers, air, scheduled		
481112	Freight carriers (except air couriers), air, scheduled		
481112	Scheduled air freight carriers		
481112	Scheduled air freight transportation		
481211	Air passenger carriers, nonscheduled		
481211	Air taxi services		
481211	Aircraft charter services, passenger		
481211	Charter air passenger services		
481211	Helicopter passenger carriers (except scenic, sightseeing), nonscheduled		
481211	Nonscheduled air passenger transportation		
481211	Passenger carriers, air, nonscheduled		
481211	Passenger air transportation, nonscheduled		
481212	Air cargo carriers (except air couriers), nonscheduled		
481212	Charter air freight services		
481212	Freight charter services, air		
481212	Freight transportation, air, charter services		
481212	Freight transportation, air, nonscheduled		
481212	Nonscheduled air freight transportation		
481219	Aircraft charter services		
481219	Aviation clubs providing a variety of air transportation activities		
484110	General Freight Trucking, Local		
484121	General Freight Trucking, Long-Distance, Truckload		
484122	General Freight Trucking, Long-Distance, Less Than Truckload	485	Transit and Ground Passenger Transportation
485320	Passenger limousine rental with driver (except shuttle service, taxi)		
485320	Passenger van rental with driver (except shuttle service, taxi)		
485999	Airport limousine services (i.e., shuttle)		
485999	Airport shuttle services		

Detailed NAICS Code	Description	3-Digit NAICS Code	Description
488111	Air traffic control services (except military)	488	Support Activities for Transportation
488119	Aircraft hangar rental		
488119	Aircraft parking service		
488119	Airport baggage handling services		
488119	Airport cargo handling services		
488119	Airport operators (e.g., civil, international, national)		
488119	Airport runway maintenance services		
488119	Airports, civil, operation and maintenance		
488119	Hangar rental, aircraft		
488119	Parking services, aircraft		
488119	Vacuuming of airport runways		
488190	Aircraft ferrying services		
488190	Aircraft inspection services		
488190	Aircraft maintenance and repair services		
488190	Aircraft testing services		
488190	Airport passenger screening security services		
488190	Fueling aircraft on a contract or fee basis		
488190	Independent pilot, air (except owner-operators)		
488190	Inspection services, aircraft		
488190	Maintenance and repair services, aircraft		
488190	Testing services, aircraft		
492110	Air courier services	492	Couriers and Messengers
493110	General Warehousing and Storage	493	Warehousing and Storage
493120	Refrigerated Warehousing and Storage		
493130	Farm Product Warehousing and Storage		
493190	Other Warehousing and Storage		
512131	Motion picture exhibitors for airlines	512	Motion Picture and Sound Recording Industries
531190	Airport leasing, not operating airport, rental or leasing	531	Real Estate
532111	Passenger car rental	532	Rental and Leasing Services
532112	Passenger car leasing		
532411	Aircraft rental or leasing without operator		
532411	Airplane rental or leasing without operator		
561599	Airline reservation services		
561599	Airline ticket offices	561	Administrative and Support Services
561599	Booking (e.g., airline, car rental, hotel, restaurant) services		
561599	Online ticket (e.g., airline, bus, cruise ship, sports, theatrical) agencies		
561599	Online airline reservation services		
561599	Reservation (e.g., airline, car rental, hotel, restaurant) services		
561599	Ticket (e.g., airline, bus, cruise ship, sports, theatrical) offices		
561599	Ticket (e.g., airline, bus, cruise ship, sports, theatrical) sales offices		
561720	Aircraft janitorial services		
561720	Janitorial services, aircraft	611	Educational Services
611512	Flight simulation training		
611512	Flight training schools		
611512	Military flight instruction training		
611519	Air traffic control schools		
611519	Flight attendant schools	621	Ambulatory Health Care Services
621910	Air ambulance services		
621910	Ambulance services, air or ground		
621910	Emergency medical transportation services, air or ground		
621910	Rescue services, air	711	Performing Arts, Spectator Sports, and Related Industries
711310	Air show managers with facilities		
711310	Air show organizers with facilities		
711310	Air show promoters with facilities		
711320	Air show managers without facilities		
711320	Air show organizers without facilities		
711320	Air show promoters without facilities		

Detailed NAICS Code	Description	3-Digit NAICS Code	Description
721110	Hotels (except Casino Hotels) and Motels	721	Accommodation
721120	Casino Hotels		
721191	Bed-and-Breakfast Inns		
721199	All Other Traveler Accommodation		
722310	Airline food services contractors	722	Food Services and Drinking Places
722310	Food service contractors, airline		
722410	Drinking Places (Alcoholic Beverages)		
722511	Full-Service Restaurants		
722513	Limited-Service Restaurants		
722515	Snack and Nonalcoholic Beverage Bars		
811420	Aircraft upholstery repair	811	Repair and Maintenance
921190	Other General Government Support	921	Executive, Legislative, and Other General Government Support
926120	Aircraft inspection, government	926	Administration of Economic Programs
926120	Federal Aviation Administration (except air traffic control)		
926120	Regulation and Administration of Transportation Programs		
928110	Air traffic control, military	928	National Security and International Affairs
928110	National Security		

## Appendix 5

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### Backward Industry Linkages (Suppliers)-Airport-Related Industries<sup>51</sup>

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<sup>51</sup> “Quarterly Census of Employment & Wages,” Nevada Department of Employment, Training, and Rehabilitation.

IMPLAN Description	52	54	55	290	312	329	356	395	399
	Constructi on of new power and communic ation structures	Constructi on of new highways and streets	Constructio n of new commercial structures, including farm structures	Industrial truck, trailer, and stacker manufactu ring	Search, detection, and navigation instruments manufacturi ng	Power, distribution, and specialty transformer manufacturi ng	Other aircraft parts and auxiliary equipment manufactu ring	Wholesale Machinery, equipment , and supplies	Wholesale Petroleum and petroleum products
28 Stone mining and quarrying		2.1%							
47 Electric power transmission and distribution							2.2%		
48 Natural gas distribution									
60 Maintenance and repair construction of nonresidential structures									
154 Petroleum refineries	5.3%	6.3%	3.4%				2.2%		
204 Ready-mix concrete manufacturing		4.6%							
207 Other concrete product manufacturing		3.4%	6.6%						
352 Other motor vehicle parts manufacturing				2.4%					
392 Wholesale - Motor vehicle and motor vehicle parts and supplies				4.9%					
393 Wholesale - Professional and commercial equipment and supplies				2.9%				2.5%	
394 Wholesale - Household appliances and electrical and electronic goods	5.1%	6.5%	5.3%	15.6%	13.2%	31.4%	3.3%		
395 Wholesale - Machinery, equipment, and supplies	3.2%	2.0%	5.7%	26.7%		3.1%	17.1%		
396 Wholesale - Other durable goods merchant wholesalers	10.4%	11.6%	15.2%	17.1%		15.6%	8.5%		
398 Wholesale - Grocery and related product wholesalers									
399 Wholesale - Petroleum and petroleum products	2.5%	3.9%							
400 Wholesale - Other nondurable goods merchant wholesalers									
401 Wholesale - Wholesale electronic markets and agents and brokers									
405 Retail - Building material and garden equipment and supplies stores	9.6%	3.2%	2.2%						
408 Retail - Gasoline stores									
415 Rail transportation									
417 Truck transportation	4.7%	8.5%	9.1%				7.0%	4.6%	
418 Transit and ground passenger transportation									
420 Scenic and sightseeing transportation and support activities for transportation									
421 Couriers and messengers								6.8%	5.0%
422 Warehousing and storage						4.4%		6.7%	4.5%
429 Motion picture and video industries									
430 Sound recording industries									
431 Radio and television broadcasting									
436 Data processing, hosting, and related services							4.6%		
438 Internet publishing and broadcasting and web search portals									
439 Nondepository credit intermediation and related activities								2.2%	2.1%
440 Securities and commodity contracts intermediation and brokerage									
441 Monetary authorities and depository credit intermediation									
444 Insurance carriers, except direct life								3.1%	6.4%
445 Insurance agencies, brokerages, and related activities									
447 Other real estate	3.3%	2.7%	5.3%					10.9%	8.6%
450 Automotive equipment rental and leasing									2.4%
451 General and consumer goods rental except video tapes and discs									
453 Commercial and industrial machinery and equipment rental and leasing	12.3%	10.2%	5.2%						3.4%
455 Legal services		2.2%				2.6%		2.0%	2.3%
456 Accounting, tax preparation, bookkeeping, and payroll services						2.0%		3.5%	2.2%
457 Architectural, engineering, and related services	11.1%	5.6%	7.4%						
459 Custom computer programming services						7.3%		9.7%	
462 Management consulting services									2.6%
465 Advertising, public relations, and related services									
468 Marketing research and all other miscellaneous professional, scientific, and technical services									
469 Management of companies and enterprises	2.5%	2.0%		6.6%	47.0%	5.3%	13.5%	13.8%	13.3%
472 Employment services	2.4%				2.4%		5.4%	4.5%	
473 Business support services							2.5%	2.2%	9.3%
476 Services to buildings									
477 Landscape and horticultural services									
478 Other support services							2.4%		
479 Waste management and remediation services									
482 Other educational services									
487 Medical and diagnostic laboratories									
499 Independent artists, writers, and performers									
500 Promoters of performing arts and sports and agents for public figures									
509 Full-service restaurants									
511 All other food and drinking places									
512 Automotive repair and maintenance, except car washes									2.2%
513 Car washes									
514 Electronic and precision equipment repair and maintenance									
515 Commercial and industrial machinery and equipment repair and maintenance									2.3%
526 Postal service									2.4%
534 Other local government enterprises									
Other	27.7%	25.2%	34.6%	23.7%	21.1%	33.4%	26.4%	39.2%	33.6%
<b>TOTAL</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

IMPLAN	Description	402	406	407	408	409	410	414	417	418
		Retail - Motor vehicle and parts dealers	Retail - Food and beverage stores	Retail - Health and personal care stores	Retail - Gasoline stores	Retail - Clothing and accessories stores	Retail - Sporting goods, hobby, musical instrument and book stores	Air transportation	Truck transportation	Transit and ground passenger transportation
28	Stone mining and quarrying									
47	Electric power transmission and distribution	2.0%	5.3%		4.4%					
48	Natural gas distribution									
60	Maintenance and repair construction of nonresidential structures				2.3%					
154	Petroleum refineries							21.3%	12.9%	7.9%
204	Ready-mix concrete manufacturing									
207	Other concrete product manufacturing									
352	Other motor vehicle parts manufacturing									
392	Wholesale - Motor vehicle and motor vehicle parts and supplies									
393	Wholesale - Professional and commercial equipment and supplies									
394	Wholesale - Household appliances and electrical and electronic goods									
395	Wholesale - Machinery, equipment, and supplies									
396	Wholesale - Other durable goods merchant wholesalers									
398	Wholesale - Grocery and related product wholesalers									
399	Wholesale - Petroleum and petroleum products							2.9%	6.1%	3.7%
400	Wholesale - Other nondurable goods merchant wholesalers									
401	Wholesale - Wholesale electronic markets and agents and brokers									
405	Retail - Building material and garden equipment and supplies stores									
408	Retail - Gasoline stores								6.3%	3.5%
415	Rail transportation								2.8%	
417	Truck transportation	3.6%	3.0%		3.5%			2.2%	4.7%	
418	Transit and ground passenger transportation									
420	Scenic and sightseeing transportation and support activities for transportation							22.4%	8.1%	
421	Couriers and messengers								9.3%	
422	Warehousing and storage	17.6%	19.8%	9.5%	23.3%	8.4%	11.2%		2.7%	
429	Motion picture and video industries									
430	Sound recording industries									
431	Radio and television broadcasting	3.6%					2.2%			
436	Data processing, hosting, and related services	5.5%	2.7%	2.5%	3.5%	2.2%	2.2%			
438	Internet publishing and broadcasting and web search portals	3.9%	2.0%	2.0%			2.3%			
439	Nondepository credit intermediation and related activities			2.2%	2.2%	2.4%				7.7%
440	Securities and commodity contracts intermediation and brokerage							2.6%		3.0%
441	Monetary authorities and depository credit intermediation				2.9%					14.2%
444	Insurance carriers, except direct life	2.5%			2.1%				5.7%	3.8%
445	Insurance agencies, brokerages, and related activities									7.4%
447	Other real estate	12.9%	22.2%	35.9%	19.0%	31.4%	31.5%		2.6%	4.3%
450	Automotive equipment rental and leasing									2.5%
451	General and consumer goods rental except video tapes and discs									
453	Commercial and industrial machinery and equipment rental and leasing							14.6%	2.4%	2.2%
455	Legal services									
456	Accounting, tax preparation, bookkeeping, and payroll services	3.3%	2.2%	2.3%	2.3%		2.1%			
457	Architectural, engineering, and related services									
459	Custom computer programming services									
462	Management consulting services									
465	Advertising, public relations, and related services	3.8%					2.4%			
468	Marketing research and all other miscellaneous professional, scientific, and technical services									
469	Management of companies and enterprises	2.1%	4.7%	6.6%		22.8%	10.1%		4.5%	2.7%
472	Employment services	3.3%		5.4%		2.1%	3.1%		9.7%	5.1%
473	Business support services									
476	Services to buildings				2.4%					3.8%
477	Landscape and horticultural services									
478	Other support services									
479	Waste management and remediation services									
482	Other educational services									
487	Medical and diagnostic laboratories									
499	Independent artists, writers, and performers									
500	Promoters of performing arts and sports and agents for public figures									
509	Full-service restaurants									
511	All other food and drinking places							15.5%		
512	Automotive repair and maintenance, except car washes								7.0%	2.2%
513	Car washes									2.8%
514	Electronic and precision equipment repair and maintenance									
515	Commercial and industrial machinery and equipment repair and maintenance									
526	Postal service									
534	Other local government enterprises									
Other		35.9%	38.0%	33.6%	32.1%	30.7%	32.8%	18.4%	15.3%	23.0%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

IMPLAN	Description	420	421	422	429	447	450	474	482
		Scenic & sightseeing transportation & support activities	Couriers and Messengers	Warehousing and storage	Motion picture and video industries	Other real estate	Automotive equipment rental and leasing	Travel arrangement and reservation services	Other educational services
28	Stone mining and quarrying								
47	Electric power transmission and distribution			8.9%		4.4%			
48	Natural gas distribution					2.0%	2.7%		
60	Maintenance and repair construction of nonresidential structures	2.8%				9.7%			
154	Petroleum refineries	4.3%	12.2%				2.3%		
204	Ready-mix concrete manufacturing								
207	Other concrete product manufacturing								
352	Other motor vehicle parts manufacturing								
392	Wholesale - Motor vehicle and motor vehicle parts and supplies		5.0%						
393	Wholesale - Professional and commercial equipment and supplies			3.0%					
394	Wholesale - Household appliances and electrical and electronic goods								
395	Wholesale - Machinery, equipment, and supplies		5.0%						
396	Wholesale - Other durable goods merchant wholesalers								
398	Wholesale - Grocery and related product wholesalers								
399	Wholesale - Petroleum and petroleum products		3.7%						
400	Wholesale - Other nondurable goods merchant wholesalers								
401	Wholesale - Wholesale electronic markets and agents and brokers						2.2%		
405	Retail - Building material and garden equipment and supplies stores								
408	Retail - Gasoline stores								
415	Rail transportation								
417	Truck transportation	6.9%	2.0%						
418	Transit and ground passenger transportation								
420	Scenic and sightseeing transportation and support activities for transportation	28.2%	19.1%						
421	Couriers and messengers		6.2%	2.1%					
422	Warehousing and storage			25.4%					
429	Motion picture and video industries				38.1%				
430	Sound recording industries				4.3%				
431	Radio and television broadcasting				2.3%			3.9%	
436	Data processing, hosting, and related services							17.7%	
438	Internet publishing and broadcasting and web search portals				2.1%			6.9%	13.0%
439	Nondepository credit intermediation and related activities						2.7%		
440	Securities and commodity contracts intermediation and brokerage	2.0%							
441	Monetary authorities and depository credit intermediation					5.1%	6.2%	2.6%	6.4%
444	Insurance carriers, except direct life	2.0%				7.7%	7.2%		2.1%
445	Insurance agencies, brokerages, and related activities								2.0%
447	Other real estate	3.8%	4.1%	28.7%	6.1%	25.3%	10.9%	4.0%	25.5%
450	Automotive equipment rental and leasing								
451	General and consumer goods rental except video tapes and discs		2.2%						
453	leasing				3.5%				
455	Legal services					2.6%			
456	Accounting, tax preparation, bookkeeping, and payroll services							2.8%	
457	Architectural, engineering, and related services					3.9%			
459	Custom computer programming services								
462	Management consulting services								
465	Advertising, public relations, and related services				2.3%			4.1%	
468	Marketing research and all other miscellaneous professional, scientific, and technical services				3.3%				
469	Management of companies and enterprises	5.4%	4.2%				8.6%	12.9%	4.2%
472	Employment services	6.0%	10.2%	6.1%	3.3%	3.4%	2.7%	4.2%	5.6%
473	Business support services								
476	Services to buildings	2.0%				9.3%			
477	Landscape and horticultural services					4.2%			
478	Other support services								
479	Waste management and remediation services								
482	Other educational services								4.6%
487	Medical and diagnostic laboratories								
499	Independent artists, writers, and performers				13.6%				
500	Promoters of performing arts and sports and agents for public figures				3.1%				
509	Full-service restaurants					3.0%	2.4%	2.0%	
511	All other food and drinking places		4.1%					5.0%	
512	Automotive repair and maintenance, except car washes						5.9%		
513	Car washes						2.3%		
514	Electronic and precision equipment repair and maintenance						3.9%		
515	Commercial and industrial machinery and equipment repair and maintenance						6.2%		
526	Postal service								
534	Other local government enterprises	2.4%					2.9%		
Other		34.2%	22.1%	25.8%	18.2%	19.4%	30.9%	33.8%	36.6%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

IMPLAN	Description	489	500	507	509	510	511	516	528
		Other ambulatory health care services	Promoters of performing arts & sports & agents for public figures	Hotels and motels, including casino hotels	Full-service restaurants	Limited-service restaurants	All other food and drinking places	Personal and household goods repair and maintenance	Other federal government enterprises
28	Stone mining and quarrying								
47	Electric power transmission and distribution			5.7%	3.1%	3.8%			2.4%
48	Natural gas distribution								
60	Maintenance and repair construction of nonresidential structures			2.2%					
154	Petroleum refineries								
204	Ready-mix concrete manufacturing								
207	Other concrete product manufacturing								
352	Other motor vehicle parts manufacturing								
392	Wholesale - Motor vehicle and motor vehicle parts and supplies								
393	Wholesale - Professional and commercial equipment and supplies	2.8%						2.9%	
394	Wholesale - Household appliances and electrical and electronic goods							12.0%	
395	Wholesale - Machinery, equipment, and supplies							4.9%	
396	Wholesale - Other durable goods merchant wholesalers							7.8%	
398	Wholesale - Grocery and related product wholesalers				2.1%	2.3%			
399	Wholesale - Petroleum and petroleum products								
400	Wholesale - Other nondurable goods merchant wholesalers				2.5%	3.2%	2.5%		
401	Wholesale - Wholesale electronic markets and agents and brokers								
405	Retail - Building material and garden equipment and supplies stores							9.6%	
408	Retail - Gasoline stores								
415	Rail transportation								
417	Truck transportation							3.3%	3.6%
418	Transit and ground passenger transportation		9.5%						
420	Scenic and sightseeing transportation and support activities for transportation								
421	Couriers and messengers								
422	Warehousing and storage						3.7%		
429	Motion picture and video industries								
430	Sound recording industries								
431	Radio and television broadcasting			4.3%		2.2%			
436	Data processing, hosting, and related services					2.3%			8.7%
438	Internet publishing and broadcasting and web search portals			2.7%		2.6%			4.2%
439	Nondepository credit intermediation and related activities						2.8%		3.8%
440	Securities and commodity contracts intermediation and brokerage						7.3%		
441	Monetary authorities and depository credit intermediation								
444	Insurance carriers, except direct life	8.3%		2.2%					
445	Insurance agencies, brokerages, and related activities	2.2%	2.0%						14.9%
447	Other real estate	24.0%	19.8%	5.2%	19.9%	23.7%	12.3%	10.8%	
450	Automotive equipment rental and leasing								2.8%
451	General and consumer goods rental except video tapes and discs								
453	Commercial and industrial machinery and equipment rental and leasing								5.0%
455	Legal services	6.4%	2.0%						
456	Accounting, tax preparation, bookkeeping, and payroll services	2.7%			3.5%	2.6%	6.3%	2.7%	
457	Architectural, engineering, and related services								
459	Custom computer programming services								
462	Management consulting services	2.1%							
465	Advertising, public relations, and related services			2.3%		2.3%			
468	Marketing research and all other miscellaneous professional, scientific, and technical services								
469	Management of companies and enterprises	8.6%		14.6%	26.7%	16.6%	37.4%	12.2%	
472	Employment services	5.9%	5.4%	2.7%	2.7%		9.2%	5.2%	
473	Business support services								7.9%
476	Services to buildings			4.2%					
477	Landscape and horticultural services								16.7%
478	Other support services								3.0%
479	Waste management and remediation services			2.0%					
482	Other educational services		7.0%						
487	Medical and diagnostic laboratories	2.7%							
499	Independent artists, writers, and performers		16.2%						
500	Promoters of performing arts and sports and agents for public figures		15.2%						
509	Full-service restaurants								
511	All other food and drinking places			15.6%					
512	Automotive repair and maintenance, except car washes								
513	Car washes								
514	Electronic and precision equipment repair and maintenance								
515	Commercial and industrial machinery and equipment repair and maintenance								
526	Postal service			2.3%					
534	Other local government enterprises								
Other		34.4%	22.9%	34.0%	39.5%	38.4%	18.4%	28.6%	27.2%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Appendix 6

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### Reno MSA Forward Industry Linkages (Customers)-Airport-Related Industries<sup>52</sup>

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<sup>52</sup> “Quarterly Census of Employment & Wages,” Nevada Department of Employment, Training, and Rehabilitation.

Code	Description	290 Industrial truck, trailer, & stacker manuf.	312 Search, detection, & navigation instrument s manuf.	329 Power, distribution , & specialty transforme r manuf.	356 Other aircraft parts & auxiliary equipment	395 Wholesale - Machinery, equipment, and supplies	399 Wholesale - Petroleum and petroleum products	402 Retail - Motor vehicle and parts dealers	406 Retail - Food and beverage stores	407 Retail - Health and personal care stores
37	Metal mining services		3.8%							
54	Construction of new highways and streets		7.1%				2.7%			
57	Construction of new single-family residential structures					2.6%			4.7%	7.2%
58	Construction of new multifamily residential structures									
59	Construction of other new residential structures	2.2%				2.5%	3.6%	2.7%		3.2%
60	Maintenance and repair construction of nonresidential structures						3.3%	3.1%		3.9%
61	Maintenance and repair construction of residential structures							6.3%		
119	Tobacco product manufacturing									
121	Other textile product mills									
146	Paperboard mills				5.0%					
152	Printing									9.7%
154	Petroleum refineries						24.1%			
232	Nonferrous forging			5.4%						
312	Search, detection, and navigation instruments manufacturing		55.4%							
323	Lighting fixture manufacturing			56.6%						
325	Household cooking appliance manufacturing					6.9%				
326	Household refrigerator and home freezer manufacturing			3.7%		9.3%				
327	Household laundry equipment manufacturing			4.9%		4.4%				
336	Other communication and energy wire manufacturing		8.0%			5.9%				
352	Other motor vehicle parts manufacturing	5.6%								
354	Aircraft manufacturing				29.7%					
356	Other aircraft parts and auxiliary equipment manufacturing				19.2%					
393	Wholesale - Professional and commercial equipment and supplies									
394	Wholesale - Household appliances and electrical and electronic goods									
396	Wholesale - Other durable goods merchant wholesalers									
398	Wholesale - Grocery and related product wholesalers									
400	Wholesale - Other nondurable goods merchant wholesalers									
405	Retail - Building material and garden equipment and supplies stores									
406	Retail - Food and beverage stores									
411	Retail - General merchandise stores									
413	Retail - Nonstore retailers							3.6%		2.5%
414	Air transportation				10.2%					
417	Truck transportation	2.1%					21.7%	4.3%	21.1%	
418	Transit and ground passenger transportation									
420	Scenic and sightseeing transportation and support activities				2.0%					
421	Couriers and messengers				22.2%	2.0%	3.5%			
422	Warehousing and storage	23.3%						2.7%		
429	Motion picture and video industries									
431	Radio and television broadcasting									
433	Wired telecommunications carriers									
436	Data processing, hosting, and related services									
439	Nondepository credit intermediation and related activities									
440	Securities and commodity contracts intermediation and brokerage									
442	Other financial investment activities									
444	Insurance carriers, except direct life									
447	Other real estate						2.3%	2.7%	2.7%	3.3%
449	Owner-occupied dwellings								4.5%	9.9%
453	Commercial and industrial machinery and equipment rental and leasing									
455	Legal services									
457	Architectural, engineering, and related services									
469	Management of companies and enterprises									
472	Employment services									
476	Services to buildings							8.8%	4.5%	3.9%
478	Other support services									
479	Waste management and remediation services	9.7%								
482	Other educational services									
483	Offices of physicians									
486	Outpatient care centers									
490	Hospitals									
491	Nursing and community care facilities									
496	Performing arts companies									
499	Independent artists, writers, and performers									
500	Promoters of performing arts and sports and agents for public figures									
503	Gambling industries (except casino hotels)									
507	Hotels and motels, including casino hotels								2.2%	15.3%
509	Full-service restaurants								14.2%	2.8%
510	Limited-service restaurants								26.0%	5.2%
512	Automotive repair and maintenance, except car washes	2.0%						31.2%		
522	Grantmaking, giving, and social advocacy organizations									
524	Labor and civic organizations									
Other		55.0%	25.7%	29.3%	11.8%	66.3%	38.8%	34.5%	20.0%	33.2%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Code	Description	408 Retail - Gasoline stores	409 Retail - Clothing and clothing accessori	410 Retail - Sporting goods, hobby, musical	414 Air transport ation	417 Truck transport ation	418 Transit and ground passenge r	420 Scenic & sightseei ng transport ation &	421 Couriers and Message rs	422 Warehou sing and storage
37	Metal mining services				2.4%					
54	Construction of new highways and streets									
57	Construction of new single-family residential structures			9.2%		2.5%				
58	Construction of new multifamily residential structures			3.7%						
59	Construction of other new residential structures			13.6%		3.2%				
60	Maintenance and repair construction of nonresidential structures			9.4%		2.1%				
61	Maintenance and repair construction of residential structures			4.3%						
119	Tobacco product manufacturing		10.6%							
121	Other textile product mills		43.1%							
146	Paperboard mills									
152	Printing		45.7%	4.9%						
154	Petroleum refineries					5.7%				
232	Nonferrous forging									
312	Search, detection, and navigation instruments manufacturing									
323	Lighting fixture manufacturing									
325	Household cooking appliance manufacturing					2.0%				
326	Household refrigerator and home freezer manufacturing					2.4%				
327	Household laundry equipment manufacturing					2.0%				
336	Other communication and energy wire manufacturing					4.7%				
352	Other motor vehicle parts manufacturing									
354	Aircraft manufacturing									
356	Other aircraft parts and auxiliary equipment manufacturing									
393	Wholesale - Professional and commercial equipment and supplies								5.3%	3.5%
394	Wholesale - Household appliances and electrical and electronic goods				2.0%			4.1%	11.4%	6.5%
396	Wholesale - Other durable goods merchant wholesalers							4.0%	7.6%	3.1%
398	Wholesale - Grocery and related product wholesalers								3.7%	
400	Wholesale - Other nondurable goods merchant wholesalers							2.5%	5.5%	2.5%
405	Retail - Building material and garden equipment and supplies stores									3.6%
406	Retail - Food and beverage stores									4.8%
411	Retail - General merchandise stores									6.2%
413	Retail - Nonstore retailers							2.6%	7.1%	5.9%
414	Air transportation							8.4%		
417	Truck transportation	84.8%			2.3%	4.4%		21.9%	14.0%	2.4%
418	Transit and ground passenger transportation	4.8%								
420	Scenic and sightseeing transportation and support activities							8.3%		
421	Couriers and messengers	5.7%						13.5%	2.5%	
422	Warehousing and storage								4.0%	29.0%
429	Motion picture and video industries									
431	Radio and television broadcasting									
433	Wired telecommunications carriers									
436	Data processing, hosting, and related services				5.5%		7.5%		4.1%	
439	Nondepository credit intermediation and related activities									
440	Securities and commodity contracts intermediation and brokerage									
442	Other financial investment activities				5.7%		4.2%		3.7%	
444	Insurance carriers, except direct life									
447	Other real estate				15.3%		14.1%			
449	Owner-occupied dwellings			9.1%						
453	Commercial and industrial machinery and equipment rental and leasing									
455	Legal services						2.2%			
457	Architectural, engineering, and related services				2.6%		2.8%			
469	Management of companies and enterprises									
472	Employment services				5.3%		6.3%			
476	Services to buildings			2.7%						
478	Other support services									
479	Waste management and remediation services									
482	Other educational services									
483	Offices of physicians				2.0%		3.4%			
486	Outpatient care centers									
490	Hospitals						4.3%			
491	Nursing and community care facilities									
496	Performing arts companies									
499	Independent artists, writers, and performers									
500	Promoters of performing arts and sports and agents for public figures						6.1%			
503	Gambling industries (except casino hotels)							2.8%		
507	Hotels and motels, including casino hotels			6.0%						
509	Full-service restaurants			4.2%						
510	Limited-service restaurants			7.8%						
512	Automotive repair and maintenance, except car washes									
522	Grantmaking, giving, and social advocacy organizations									
524	Labor and civic organizations									
Other		4.7%	0.7%	25.0%	56.8%	71.1%	49.1%	31.9%	31.2%	32.5%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Code	Description	429	447	450	474	482	489	500	507
		Motion picture and video industries	Other real estate	Automotive equipment rental and leasing	Travel arrangements and reservation services	Other educational services	Other ambulatory health care services	Promoters of performing arts & sports	Hotels and motels, including casino hotels
37	Metal mining services				5.9%				
54	Construction of new highways and streets								
57	Construction of new single-family residential structures								
58	Construction of new multifamily residential structures								
59	Construction of other new residential structures								
60	Maintenance and repair construction of nonresidential structures								
61	Maintenance and repair construction of residential structures								
119	Tobacco product manufacturing								
121	Other textile product mills								
146	Paperboard mills								
152	Printing								
154	Petroleum refineries								
232	Nonferrous forging								
312	Search, detection, and navigation instruments manufacturing								
323	Lighting fixture manufacturing								
325	Household cooking appliance manufacturing								
326	Household refrigerator and home freezer manufacturing								
327	Household laundry equipment manufacturing								
336	Other communication and energy wire manufacturing								
352	Other motor vehicle parts manufacturing								
354	Aircraft manufacturing								
356	Other aircraft parts and auxiliary equipment manufacturing								
393	Wholesale - Professional and commercial equipment and supplies								
394	Wholesale - Household appliances and electrical and electronic goods		2.0%	2.6%					
396	Wholesale - Other durable goods merchant wholesalers			3.6%					
398	Wholesale - Grocery and related product wholesalers			3.0%					
400	Wholesale - Other nondurable goods merchant wholesalers			3.4%					
405	Retail - Building material and garden equipment and supplies stores								
406	Retail - Food and beverage stores								
411	Retail - General merchandise stores								
413	Retail - Nonstore retailers					4.8%			
414	Air transportation				4.6%				
417	Truck transportation			6.9%					
418	Transit and ground passenger transportation				3.0%				
420	Scenic and sightseeing transportation and support activities								
421	Couriers and messengers								
422	Warehousing and storage		7.4%	3.8%					
429	Motion picture and video industries	35.3%						3.5%	
431	Radio and television broadcasting	2.0%						7.6%	
433	Wired telecommunications carriers	49.3%							
436	Data processing, hosting, and related services			2.2%					9.8%
439	Nondepository credit intermediation and related activities								
440	Securities and commodity contracts intermediation and brokerage								
442	Other financial investment activities								5.2%
444	Insurance carriers, except direct life		2.7%		12.0%				
447	Other real estate		22.4%	2.2%	5.3%			4.9%	17.4%
449	Owner-occupied dwellings								
453	Commercial and industrial machinery and equipment rental and leasing			5.2%					
455	Legal services								2.4%
457	Architectural, engineering, and related services			2.4%					3.8%
469	Management of companies and enterprises		2.3%	5.1%	16.2%			8.8%	
472	Employment services					2.3%			7.8%
476	Services to buildings					8.0%			
478	Other support services				8.8%	2.9%			
479	Waste management and remediation services								
482	Other educational services					11.5%			
483	Offices of physicians				2.6%				2.9%
486	Outpatient care centers								
490	Hospitals		2.8%	3.8%	3.0%		95.7%		
491	Nursing and community care facilities								
496	Performing arts companies							4.2%	
499	Independent artists, writers, and performers							18.0%	
500	Promoters of performing arts and sports and agents for public figures					13.3%		13.1%	
503	Gambling industries (except casino hotels)			2.7%				2.9%	
507	Hotels and motels, including casino hotels			2.1%	4.3%				
509	Full-service restaurants		2.0%						
510	Limited-service restaurants		3.7%					4.3%	
512	Automotive repair and maintenance, except car washes								
522	Grantmaking, giving, and social advocacy organizations					20.5%			
524	Labor and civic organizations					16.3%		2.5%	
Other		13.4%	54.7%	51.0%	34.3%	20.4%	4.3%	30.2%	50.6%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Code	Description	509	510	511	516	528
		Full-service restaurants	Limited-service restaurants	All other food and drinking places	Personal and household goods repair and maintenance	Other federal government enterprises
37	Metal mining services					
54	Construction of new highways and streets					
57	Construction of new single-family residential structures					
58	Construction of new multifamily residential structures					
59	Construction of other new residential structures					
60	Maintenance and repair construction of nonresidential structures					
61	Maintenance and repair construction of residential structures					
119	Tobacco product manufacturing					
121	Other textile product mills					
146	Paperboard mills					
152	Printing					
154	Petroleum refineries					
232	Nonferrous forging					
312	Search, detection, and navigation instruments manufacturing					
323	Lighting fixture manufacturing					
325	Household cooking appliance manufacturing					
326	Household refrigerator and home freezer manufacturing					
327	Household laundry equipment manufacturing					
336	Other communication and energy wire manufacturing					
352	Other motor vehicle parts manufacturing					
354	Aircraft manufacturing					
356	Other aircraft parts and auxiliary equipment manufacturing					
393	Wholesale - Professional and commercial equipment and supplies					
394	Wholesale - Household appliances and electrical and electronic goods		2.3%			
396	Wholesale - Other durable goods merchant wholesalers				2.3%	
398	Wholesale - Grocery and related product wholesalers					
400	Wholesale - Other nondurable goods merchant wholesalers					
405	Retail - Building material and garden equipment and supplies stores					
406	Retail - Food and beverage stores					
411	Retail - General merchandise stores					
413	Retail - Nonstore retailers					
414	Air transportation			5.0%		
417	Truck transportation					
418	Transit and ground passenger transportation					
420	Scenic and sightseeing transportation and support activities					
421	Couriers and messengers			2.5%		
422	Warehousing and storage					
429	Motion picture and video industries					
431	Radio and television broadcasting					
433	Wired telecommunications carriers					
436	Data processing, hosting, and related services	5.7%	2.1%			
439	Nondepository credit intermediation and related activities					7.1%
440	Securities and commodity contracts intermediation and brokerage					4.9%
442	Other financial investment activities	2.9%	2.5%			77.5%
444	Insurance carriers, except direct life		2.9%			
447	Other real estate	27.6%	29.5%		21.3%	2.0%
449	Owner-occupied dwellings					
453	Commercial and industrial machinery and equipment rental and leasing				2.6%	
455	Legal services	2.0%				
457	Architectural, engineering, and related services	4.2%	3.5%			
469	Management of companies and enterprises			2.0%	2.2%	
472	Employment services	4.8%	2.9%			
476	Services to buildings				4.8%	
478	Other support services			5.2%		
479	Waste management and remediation services					
482	Other educational services					
483	Offices of physicians	4.0%	3.9%	3.8%		
486	Outpatient care centers			7.1%		
490	Hospitals	8.0%	3.5%	2.6%	4.6%	
491	Nursing and community care facilities			3.8%		
496	Performing arts companies					
499	Independent artists, writers, and performers					
500	Promoters of performing arts and sports and agents for public figures					
503	Gambling industries (except casino hotels)			10.3%		
507	Hotels and motels, including casino hotels		2.0%	24.7%		
509	Full-service restaurants					
510	Limited-service restaurants		2.5%		3.5%	
512	Automotive repair and maintenance, except car washes					
522	Grantmaking, giving, and social advocacy organizations					
524	Labor and civic organizations					
Other		40.9%	42.3%	33.0%	58.8%	8.6%
<b>TOTAL</b>		<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

## Appendix 7

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### The IMPLAN Input-Output Model

The IMPLAN system enables construction of regional input-output models for any county or state in the United States. The IMPLAN model is a technique built around quantifying the interaction between industries and industry sub-sectors within an economy. Each industrial or service activity within the economy (retail, agriculture, mining, manufacturing, trade, services, etc.) is assigned to an economic sector.

The model is based on the theory that when new money enters a community through investments, revenue or income, a portion is re-spent one or more times in the regional economy, creating additional impacts. IMPLAN estimates these impacts using specific data on what inputs are needed to produce the goods and services for the 546 identified industries. The economic activity in the industry under study serves as the base for estimating the total economic impact generated by that industry across all industry sub-sectors.

The industries are classified in sectors corresponding to NAICS codes. To calculate economic impacts, multipliers for each industry sub-sector are available for various indicators. The multipliers are based on relationships among industries or industry sub-sectors and estimate the purchases of a particular industry from other industries.

Multipliers translate the consequences of change in one variable upon others. They are ratios that estimate the “ripple effect” throughout the economy. In more “technical terms,” they are numerical coefficients, which relate a change in a component of aggregate demand or employment to a consequent change in total income or total employment. Multipliers are applied to the direct economic impact to derive other (non-direct) economic impacts.

Data in the IMPLAN database is based on the BEA21 Covered Employment and Wages (CEW) program, the County Business Pattern data provided by the US Census, and the Regional Economic Information System data provided by the BEA. The IMPLAN model database also draws from secondary economic data at the county level from a variety of public sources.

It is important to understand several concepts related to the economic impacts using the list of definitions provided below.

<b>Economic Impact:</b>	Output represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors production = sales. For Retail and wholesale trade, output = gross margin and not gross sales.
<b>Output:</b>	Output represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors production = sales. For Retail and wholesale trade, output = gross margin and not gross sales.
<b>Employment:</b>	Represents the total number of people employed by the project as well as the jobs created or supported in the regional economy to support the project's economic activity.
<b>Labor Income:</b>	All forms of employment income, including Employee Compensation (wages and benefits) and Proprietor Income.
<b>Multipliers:</b>	Multipliers are predicated upon a domino theory of economic change. They translate the consequences of change in one retail sub-sector upon others in other industries. Multipliers are estimators of the "ripple effect."
<b>Direct Economic Impact:</b>	Represents the expenditure amounts from the project that directly impact the regional economy. The direct impact of operating expenses represents the current operating expenses necessary for the project to operate the separate business sections; and the direct impact of employment represents the employment level directly associated with the project.
<b>Indirect Economic Impact:</b>	Represents the impact from the project's purchases of goods and services from supplying vendors. Purchases made by supplying vendors to restock their inventory by purchasing goods and services from other vendors who in turn restock by purchasing from other vendors and so on is the indirect impact. These purchases are also commonly referred to as the "ripple effect."
<b>Induced Economic Impact:</b>	The direct activity and the resulting indirect activity generate some increases in the general level of employment and income in the study area, leading to a tertiary level of economic impact through the higher level of household expenditures on goods and services. These impacts reflect the increase in spending from the household sector as income increases or decreases due to changes in production of goods and services.