# Appendix A – Regional and Macroeconomic Environment

## OVERVIEW

Demographic and economic conditions influence the demand for air travel. They are particularly important for airports like PSP, which serves primarily origin and destination (O&D) traffic—passengers that either begin or end their flight itineraries at the airport. Healthy demographic and economic conditions promote increased business and leisure air travel. In addition, macroeconomic trends drive demand for air travel and affect state and regional economies. At the regional level, demographic and economic factors determine residents' demand for outbound travel and the region's attractiveness to visitors. This section explores the demographic and economic trends in PSP's service area, California, and the United States. It also evaluates the economic outlook for both the region and the nation.

Over the past two years, the world faced the COVID-19 pandemic, which disrupted day-to-day life and economic activities across the globe. Although the World Health Organization (WHO) has declared the end of the COVID-19 pandemic and state of global public health emergency, its effects show in the trends of key economic indicators discussed in this section.

## COVID-19 PANDEMIC

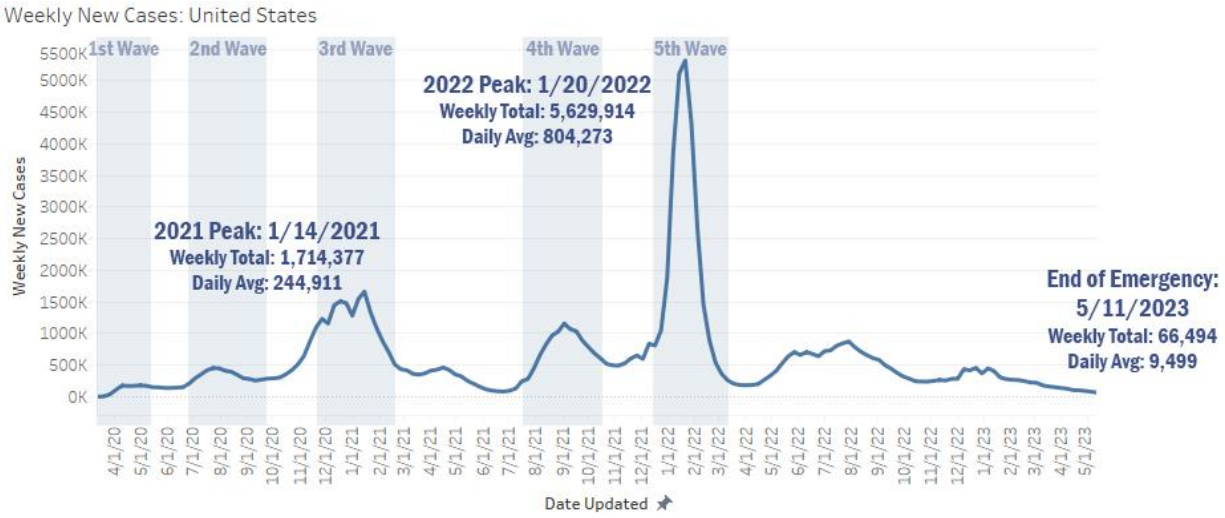
In December 2019, the COVID-19 virus first surfaced in China. It quickly spread worldwide, including to the United States, where the first case was identified in mid-January 2020. The virus was declared a global pandemic in March 2020, prompting a national emergency declaration in the United States. Despite efforts to contain the virus through travel restrictions, stay-at-home orders, and social distancing measures, several waves of infection hit the United States. The fifth wave, which began in November 2021 and peaked on January 20, 2022, holds the record for the highest reported cases—over three times higher than the previous peak during the third wave in early 2021. The fifth wave subsided quickly, and new cases have since been on a downward trend despite a mild surge through the summer of 2022. As of May 2023, COVID-19 has infected over 99.7 million people and caused more than 1.1 million deaths in the United States.

So far through 2023, infections have continued to decrease steadily. The U.S. Department of Health and Human Services has ended the COVID-19 Public Health Emergency as of May 11, 2023.[1] **Figure A-1** shows the reported COVID-19 cases throughout the history of the COVID-19 pandemic, from the WHO's

[1] Centers for Disease Control and Prevention, "Evolution of Pandemic Efforts," *COVID Data Tracker Weekly Review*, February 24, 2023, https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html.

announcement of COVID-19 as a global pandemic on March 11, 2020, to its end as a public health emergency in the United States on May 11, 2023.

**Figure A-1 COVID-19: United States Weekly New Cases, March 2020–May 11, 2023**




***Source:*** *Centers for Disease Control and Prevention COVID Data Tracker.*

The administration of initial COVID-19 vaccines and subsequent booster shots helped slow virus transmission and alleviated symptoms. As of March 2023, about 230.6 million people in the United States are fully vaccinated (69.5 percent of the population), and 56.4 million have received an updated bivalent booster dose. California has a higher vaccination rate: 29.6 million are vaccinated (74.9 percent of state residents), and about 8.1 million have received an updated bivalent booster dose. As initial vaccinations and boosters have been widely available to U.S. residents for some time, it is highly likely that most residents who want and can be vaccinated already are. While vaccines do not provide complete protection, fewer people are likely to get exposed to the virus as more people are vaccinated.[2]

# AIR SERVICE AREA

The Airport's primary air service area is the Riverside-San Bernadino Metropolitan Statistical Area (Riverside MSA, MSA), which is shown in **Figure A-2**. The MSA is comprised of two counties: Riverside and San Bernadino. The Airport is in the Coachella Valley in central Riverside County near Palm Springs, Rancho Mirage, and Desert Hot Springs. In Riverside County, the communities of Indio, Coachella, and La Quinta are to the southeast and Riverside, Temecula, and Moreno Valley are to the west. In San Bernardino County, the communities of Ontario and San Bernadino are to the northwest and Yucca Valley and Twentynine Palms are to the north. Palm Springs is a western gateway to Joshua Tree National Park, and

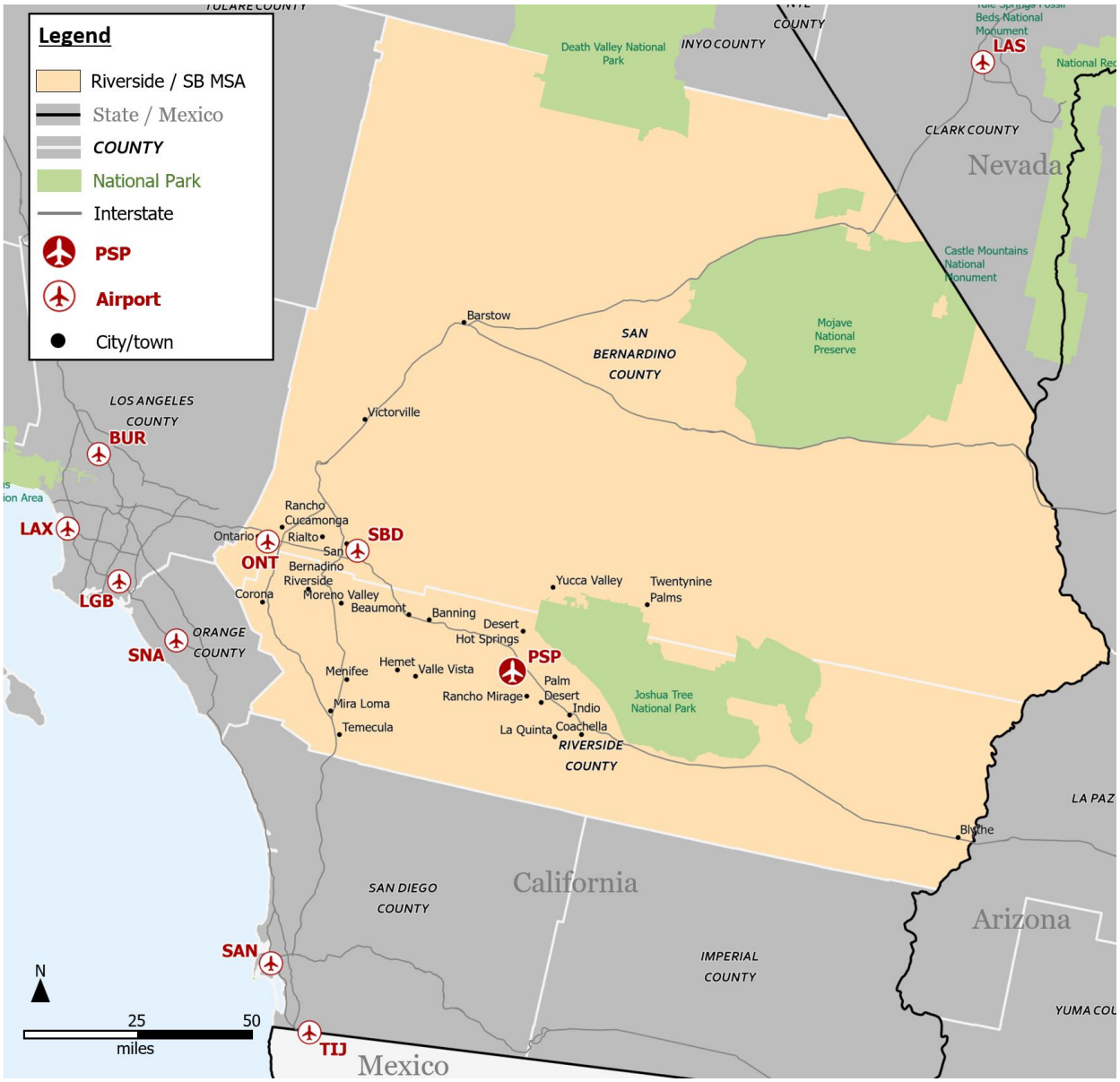
[2] World Health Organization, "Vaccine efficacy, effectiveness and protection," *Vaccines Explained*, July 14, 2021, https://www.who.int/news-room/feature-stories/detail/vaccine-efficacy-effectiveness-and-protection.

Interstate 10 provides a major east-west surface route to the greater Los Angeles area to the west and Phoenix to the east.

PSP operates in relative market isolation locally, but there are several competing airports within a 3-hour drive, as shown in **Figure A-3** and **Table A-1**. **Figure A-3** shows PSP's 60-, 90-, and 120-minute drive time regions. There are no other commercial service airports within a 1-hour drive to PSP. San Bernadino International Airport (SBD) is the closest (1 hour 3 minutes) but has nonstop service only to San Francisco (SFO) and Las Vegas' Harry Reid (LAS) international airports. Ontario International Airport (ONT) is approximately 1 hour and 20 minutes away. In the Los Angeles area, Orange County's John Wayne (SNA), Long Beach (LGB), Los Angeles International (LAX), and Hollywood Burbank (BUR) airports present options, but they require at least a 2-hour drive. To the south, San Diego International Airport (SAN) is approximately 2 hours and 20 minutes from PSP. Travelers can also use the Cross Border Xpress to fly across the Mexican border from Tijuana International Airport (TIJ). However, TIJ is about 2.5 hours from PSP, primarily serves destinations in Mexico, and requires passengers to undergo screening associated with international border crossings.

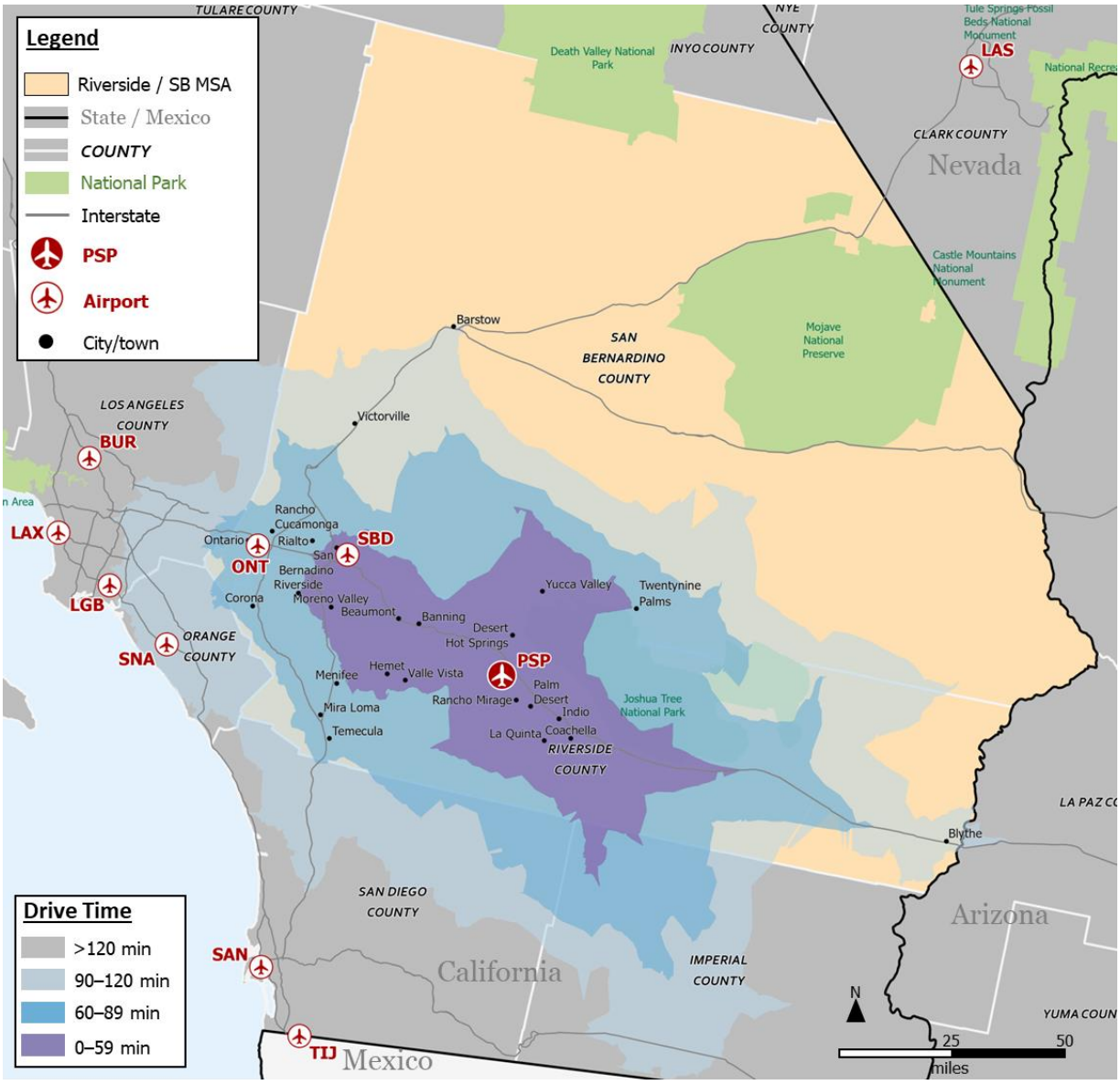
Despite their distance, larger airports like LAX, SAN, SNA, and ONT compete significantly with PSP because they offer more flight options. Nevertheless, the Airport has performed well. Among the Southern California airports, PSP recorded the highest pre-pandemic enplanement growth (6.4 percent annually from 2010-2019) and the fastest recovery from the pandemic downturn. PSP ended 2022 at 17 percent **above** 2019 enplanement level, while other airports in the region trailed far behind—in particular, LAX at 25 percent, SAN at 12 percent, and LGB at 9 percent **below** their 2019 levels.

**Figure A-2** **PSP Air Service Area**




***Sources:*** *Esri and Unison Consulting, Inc.*

**Figure A-3 Drive Time to PSP**




*Sources: Esri and Unison Consulting, Inc.*

**Table A-1 Selected Commercial Service Airports in Southern California and Northern Mexico**

| Airport Information | | | | 2022 | | 2019 | | 2010 | Distance from PSP | |
|---|---|---|---|---|---|---|---|---|---|---|
| Name | State | Code | FAA Category | EP (1000s) | 2019-2022 % Change | EP (1000s) | 2010-2019 CAGR | EP (1000s) | Miles | Time |
| Palm Springs International | CA | PSP | Small | 1,501 | 17% | 1,287 | 6.2% | 750 | 0 | 0 |
| San Bernadino International | CA | SBD | GA | 0 | -- | 0 | -- | 0 | 57 | 1h 3m |
| Ontario International | CA | ONT | Medium | 2,835 | 4% | 2,717 | 1.5% | 2,371 | 74 | 1h 22m |
| John Wayne, Orange County | CA | SNA | Medium | 5,494 | 7% | 5,150 | 2.1% | 4,277 | 99 | 1h 51m |
| Long Beach | CA | LGB | Small | 1,594 | -9% | 1,749 | 2.1% | 1,447 | 112 | 2h 3m |
| Hollywood Burbank | CA | BUR | Medium | 2,949 | -1% | 2,985 | 3.3% | 2,235 | 122 | 2h 10m |
| Los Angeles International | CA | LAX | Large | 32,275 | -25% | 42,940 | 4.5% | 28,828 | 124 | 2h 18m |
| San Diego International | CA | SAN | Large | 11,122 | -12% | 12,625 | 4.6% | 8,456 | 144 | 2h 22m |
| Tijuana International | BN, MEX | TIJ | -- | 6,162 | 38% | 4,463 | 10.4% | 1,825 | 158 | 2h 36m |

***Sources:*** *FAA, Grupo Aeroportuario del Pacifico, Google Maps, and Unison Consulting, Inc.*

***Notes:*** *Drive times vary by day, time of day and traffic.*

*FAA airport hub classification:*

- *Nonhubs serve less than 0.05 percent of the annual U.S. total and more than 10,000 enplanements.*
- *Small hubs serve 0.05-0.25 percent of U.S. enplanements.*
- *Medium hubs serve 0.25-1.0 percent of U.S. enplanements.*
- *Large hubs serve more than 1 percent of U.S. enplanements.*
- *Enplanement data for TIJ are calculated as 50 percent of total annual airport activity.*
- *SBD was considered a General Aviation (GA) airport in 2010, 2019, and 2021. GA airports have no scheduled service or less than 2,500 boardings per year. SBD gained service from Breeze Airways in August 2022, and enplaned 9,122 (domestic) passengers in 2022. Bureau of Transportation airport classifications and rankings for 2022 are not yet available.*

# DEMOGRAPHIC ATTRIBUTES

Demographics shape and drive regional economies in fundamental ways. For example, population size, growth trends, age distribution, foreign-born population, and educational attainment determine the labor force's size, quality, and productivity. Moreover, along with income characteristics, demographic attributes determine consumption patterns and demand levels for goods and services, including air transportation. Hence, demographic trends can impact economic growth through effects on both the supply side (the labor force) and the demand side (consumer spending).

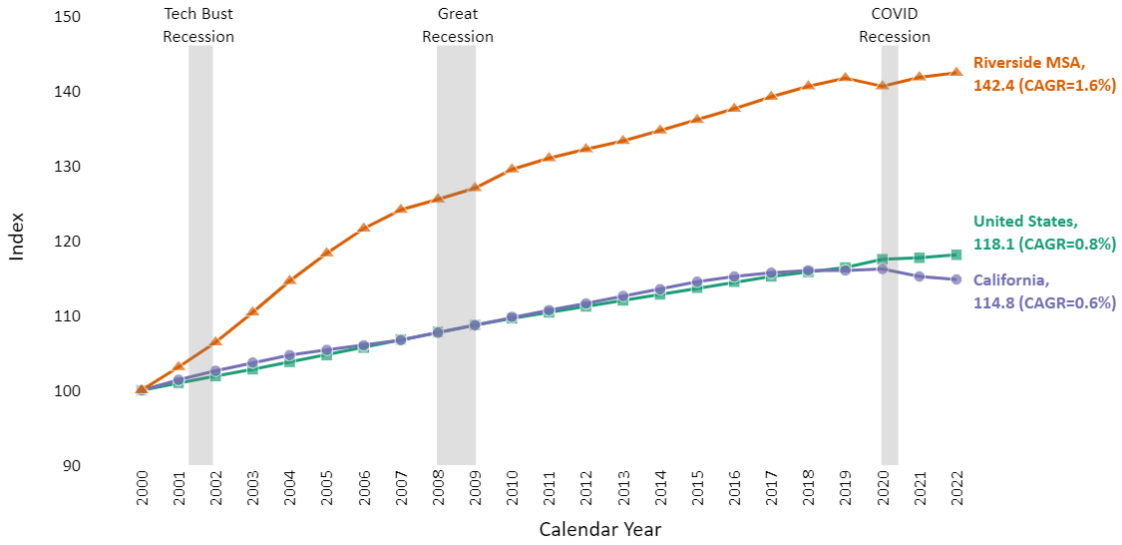
## Population

In 2021, the Riverside MSA was the 12th largest (out of 384) MSA in the United States, with a population of about 4.7 million—similar in size to Boston, MA and Detroit, MI.[3] Riverside County accounts for approximately 53 percent of the MSA's population, and San Bernadino County the remaining 47 percent. Since 2000, the population of the MSA has grown much faster than California or the United States. This

[3] MSA population data for 2022 was not available at the time of writing.

trend is displayed in **Figure A-4**. Between 2000 and 2022, the population of the Riverside MSA grew by a total of 42 percent, at a CAGR of 1.6 percent. In contrast, the national population grew by just 18 percent (0.8 percent CAGR), and the population of California grew by only 15 percent (0.6 percent CAGR).

**Figure A-4 Population Index (2000=100), 2000-2022**

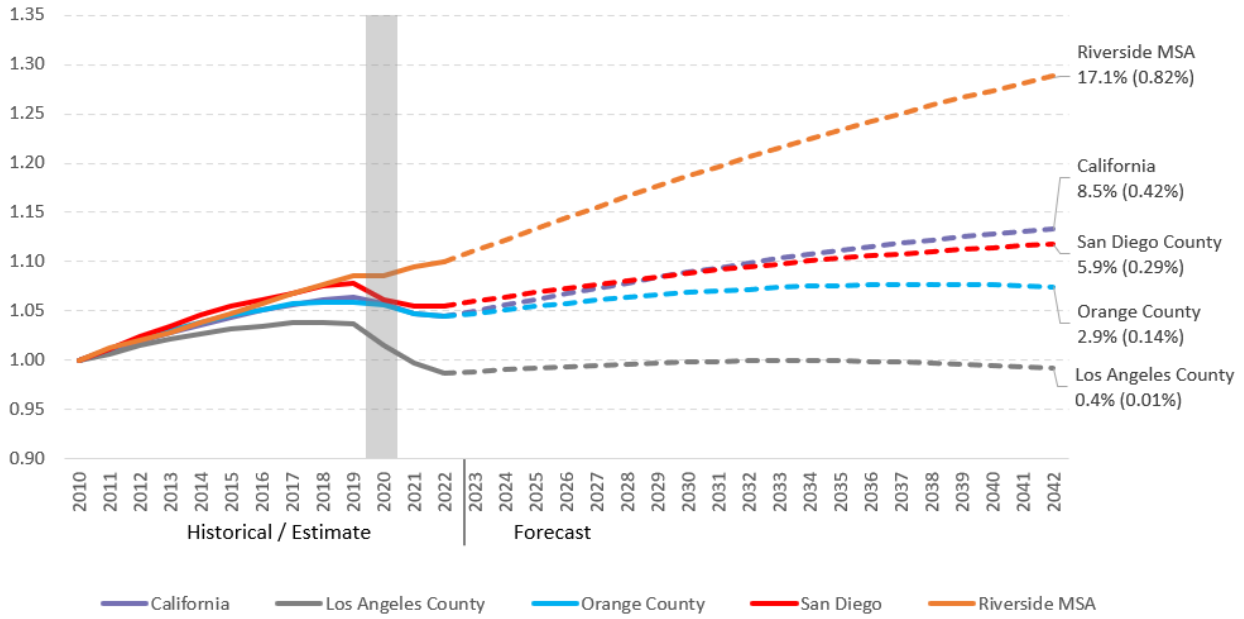



***Sources:*** *U.S. Census Bureau and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

According to forecasts in **Figure A-5**, population growth in the Riverside MSA will continue faster than surrounding areas in the coming decades. From 2022 to 2042, the population of the Riverside MSA will increase by 17 percent, with a yearly growth rate of 0.8 percent. California's population will grow by only 9 percent (0.4 percent CAGR). The surrounding counties will grow even slower: San Diego County by 5.9 percent overall (0.3 percent CAGR), Orange County by 2.9 percent (0.1 percent CAGR), and Los Angeles County by 0.4 percent (0.01 percent CAGR). Population growth leads to an increase in airport traffic.

**Figure A-5 Long-Term Population Forecast (Index=2010), Riverside MSA, Surrounding Counties, and California, 2023-2043**




***Sources:*** *U.S. Census Bureau, State of California Department of Finance, and Unison Consulting, Inc.*

***Notes:*** *Gray areas are economic recession periods. Percentages are total 2023-243 growth rates (CAGR in parentheses). Data are California or Census estimates through 2022. Forecasts are generated by applying the CA Dept. of Finance forecast growth rates to future years.*

## Population Age Structure

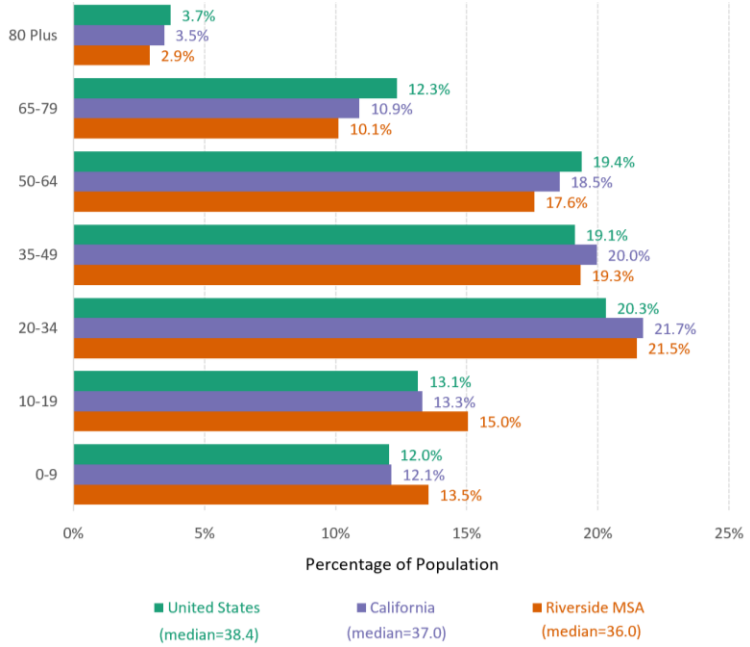
A region's population distribution by age has important economic and social implications. In 2021, approximately 58 percent of the Riverside MSA was in the primary working age cohort of 20 to 64 years of age, similar to that of the nation (59 percent) and California (60 percent). A large working-age population is important in maintaining a vibrant local economy and a high standard of living. **Figure A-6** presents the population age structure of Riverside County.

The median age of the Riverside MSA is slightly lower (36 years) than the median age of California (37 years) and the United States (38.4 years). This is reflected in the relatively higher percentage of residents that are 19 years of age or younger. However, the MSA population is aging faster over time. Between 2010 and 2021, the median age in the Riverside MSA increased by 3.7 years compared with 2.1 years in California and 1.5 years nationally.[4] While these changes may be small, they indicate an ongoing population maturation—which has important implications for economic growth. The working-age population needs to grow for the labor force and the economy to grow. In the Riverside MSA, the share of the working-age population has increased from about 57 percent to its current level (58 percent) – a positive trend running counter to national patterns. However, the rapid increase in the median age of the

[4] U.S. Census Bureau 2021 and 2010 American Community Survey 5-year Estimates.

MSA may reverse the growth in the working-age population in the coming years. Productivity improvements can counter slowing growth in the working-age population through upskilling the labor force, education, and technological advancements.

**Figure A-6 Population Age Structure, 2021**




***Sources:*** *U.S. Census Bureau 2021 American Community Survey and Unison Consulting, Inc.*

## Foreign-Born Population

Amid an aging population and declining national birth rates, attracting in-migration offers another way to increase the population, expand the labor force, and support economic growth. Immigrants add to a region's labor supply, contribute to increasing productivity, and expand the regional market for goods and services.[5, 6] Immigrants also generate demand for air service—for their travel to visit family and friends in their region of origin, and, from their family and friends coming to visit the United States.

The Riverside MSA has a relatively large and stable foreign-born population. In 2021, approximately 21 percent of the Riverside MSA's residents were born outside the United States, lower than California's share (27 percent) but much higher than the national share (14 percent). Among the foreign-born population groups in the Riverside MSA, the largest came from Latin America (69 percent), followed by Asia (23 percent) and Europe (4 percent). This distribution by region of foreign origin in the Riverside MSA is more heavily weighted towards Latin America than the national and state distributions. The percentage

[5] G.J. Borjas, "Immigration and Economic Growth," National Bureau of Economic Research *Working Paper Series*, Working Paper 25836, May 2019, https://www.nber.org/system/files/working_papers/ w25836/w25836.pdf.

[6] P. Orrenius and C. Smith, "Without Immigration, U.S. Economy Will Struggle to Grow," *Dallas Fed Economics*, Federal Reserve Bank of Dallas, April 9, 2020, https://www.dallasfed.org/research/economics/2020/ 0409.

of foreign-born Riverside MSA residents had remained nearly the same since 2010 (when it was 22 percent). **Table A-2** discusses the percentage of foreign-born populations in the United States, California, and the Riverside MSA.

**Table A-2 Foreign-Born Population, 2021**

| Region | Foreign Born | Percentage by Region of Origin | | | | | |
|---|---|---|---|---|---|---|---|
| | Total | Europe | Asia | Africa | Oceania | Latin America | Northern America |
| United States | 13.6% | 10.8% | 31.2% | 5.5% | 0.6% | 50.0% | 1.8% |
| California | 26.5% | 6.5% | 40.0% | 2.0% | 0.8% | 49.5% | 1.2% |
| Riverside MSA | 21.1% | 3.8% | 23.3% | 2.2% | 0.3% | 68.9% | 1.5% |

***Sources:*** *U.S. Census Bureau 2020 American Community Survey and Unison Consulting, Inc.*

## Educational Attainment

Education promotes economic growth in several ways. First, education increases the value of human capital and labor productivity. Second, it promotes innovation and the adoption of new technologies. Third, it provides flexibility to adapt to changing work environments and skill requirements.[7, 8]

Advancements in information and communication technologies have amplified the role of workers' skills in generating economic growth.[9] Cities and regions that have been able to attract and retain educated and skilled workers have thrived, while cities failing to do so have lagged.[10] The value of education is evident in the disparities in average wages and unemployment rates by educational attainment. Workers who have not completed high school earn only 44 percent of the wages earned by college graduates. They also have unemployment rates that are more than two times higher.[11]

Educational attainment levels in the Riverside MSA are somewhat lower than state and national levels, as shown in **Figure A-7**. Just 24 percent of the population aged 25 and over in the Riverside MSA have at least a bachelor's degree, compared with 35 percent in the State of California and 34 percent nationally. The percentage of the population 25 years and over in the Riverside MSA with less than a high school degree is nearly 18 percent, higher than California's 16 percent and the nation's 11 percent.

Over time, however, educational attainment levels in the Riverside MSA are improving. Since 2010, the number of residents aged 25 and over with less than a ninth-grade education has fallen by 14 percent,

[7] E. Hanushek and L. Woessman, "Education and Economic Growth," *International Encyclopedia of Education* (Oxford: Elsevier, 2010), Vol. 2, pp. 245-252.

[8] D. Claude and L. Charlotte, "Human Capital and Economic Growth," *Encyclopedia of International Higher Education Systems and Institutions* (Dordrecht: Springer, 2019).

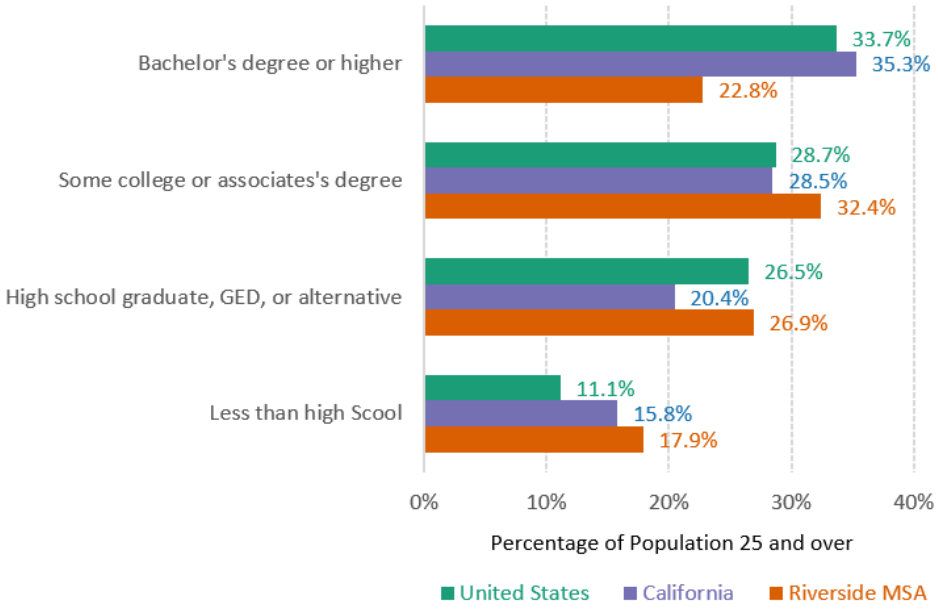
[9] Enrico Moretti, *The New Geography of Jobs* (Boston: Houghton Mifflin Harcourt, 2012).

[10] Edward Glaeser, *Triumph of the City* (New York: Penguin Books, 2012).

[11] Elka Torpey, "Measuring the Value of Education," U.S. Bureau of Labor Statistics, April 2018, https://www.bls.gov/careeroutlook/2018/data-on-display/education-pays.htm.

and those with some high school but no diploma has fallen by about 20 percent. Meanwhile, the percentage of residents with a bachelor's degree has risen by 16 percent and those with a graduate or professional degree by 20 percent.[12] Continued improvements in educational attainment and the upskilling of the local workforce are critical for maintaining and enhancing regional economic competitiveness in the Riverside MSA.

**Figure A-7 Educational Attainment, 2021**




***Sources:*** *U.S. Census Bureau 2021 American Community Survey and Unison Consulting, Inc.*

***Note:*** *Percentage of population aged 25 and over.*

## Income

Demand for air travel increases with income. Studies suggest that air travel demand income elasticities are often greater than one. This means that air travel increases by more than a corresponding increase in income, holding all other things equal.[13]

As referenced in **Figure A-8**, household incomes in the Riverside MSA are lower than the rest of California but higher than the nation. The median household income in the Riverside MSA is 73,742 dollars, 6.4 percent higher than the national average (69,061 dollars) but 12.7 percent below the California average (84,097 dollars). The Riverside MSA has a lower percentage of households earning at least 100,000 dollars compared with the state of California and a higher percentage of households earning very low incomes (below 25,000 dollars).

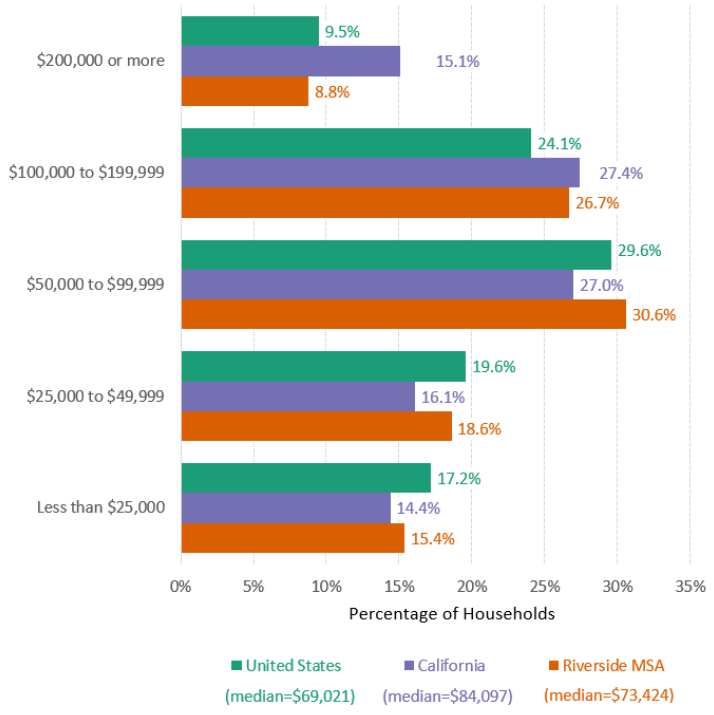
[12] U.S. Census Bureau 2021 and 2010 American Community Survey 5-year Estimates.

[13] For example, a 10 percent increase in income will generate more than a 10 percent increase in air travel demand. See C. A. Gallet and H. Doucouliagos, "The income elasticity of air travel: A meta-analysis," *Annals of Tourism Research* 49 (2014), 141-155.

The Riverside MSA has enjoyed steady per capita personal income growth since 2001, experiencing only a small dip during the Great Recession, as illustrated in **Figure A-9**. Per capita personal income in the Riverside MSA increased at a compound annual growth rate of 3.6 over the past two decades—a rate like that of the nation (3.6 percent) but slightly lower than the state of California (4.1 percent).

Despite the growth, since 2001, per capita personal income has been consistently lower in the Riverside MSA than both the nation and the state. In 2021, per capita personal income in the Riverside MSA (50,384 dollars) was almost 14,000 dollars lower than the national average (64,514 dollars) and more than 26,000 dollars lower than the California state average (76,614 dollars). The gap in per capita personal income between the Riverside MSA and the state has widened over time—in 2021, per capita personal income in California MSA was 52 percent higher than the Riverside MSA compared with a difference of 38 percent in 2001. Income inequality is a national issue that may impact economic opportunity, financial security, and mobility. It is a problem that has been noted both in California and in the Palm Springs region.[14,15,16]

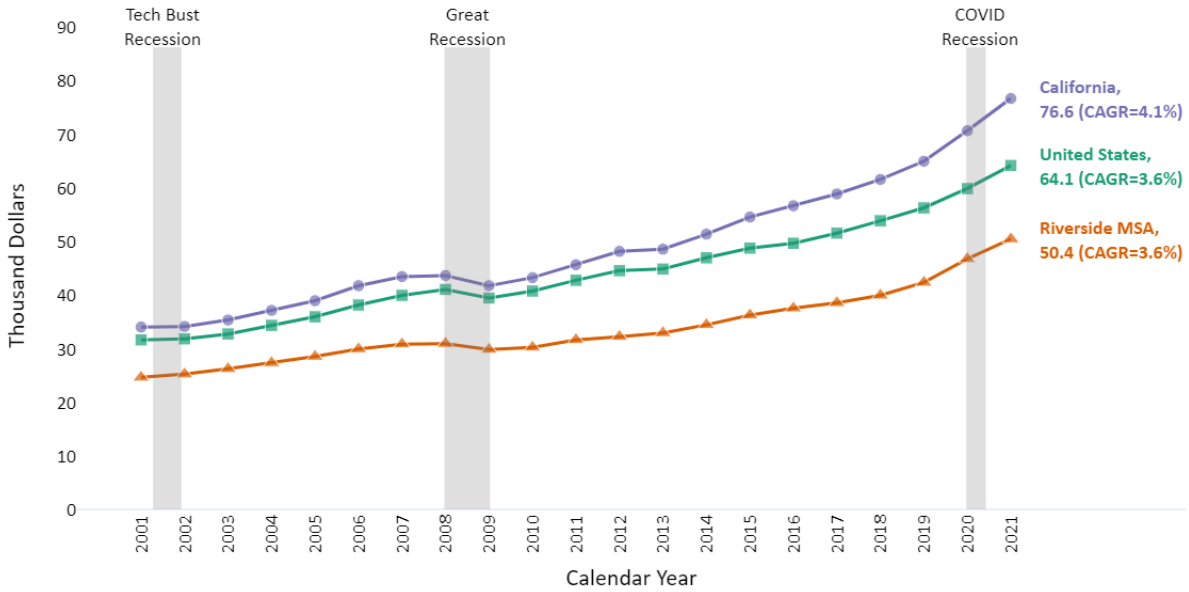
**Figure A-8** **Household Income Distribution and Median Household Income, 2021**




***Sources:*** *U.S. Census Bureau 2020 American Community Survey and Unison Consulting, Inc.*

[14] Pew Research Center, https://www.pewresearch.org/social-trends/2020/01/09/trends-in-income-and-wealth-inequality/.
[15] Public Policy Institute of California, https://www.ppic.org/publication/income-inequality-in-california/.
[16] Coachella Valley Economic Partnership, http://cvep.com/wp-content/uploads/2019/11/ CVEP_2019_ EconomicReport_FINAL.pdf.

**Figure A-9 Per Capita Personal Income, 2001-2021**



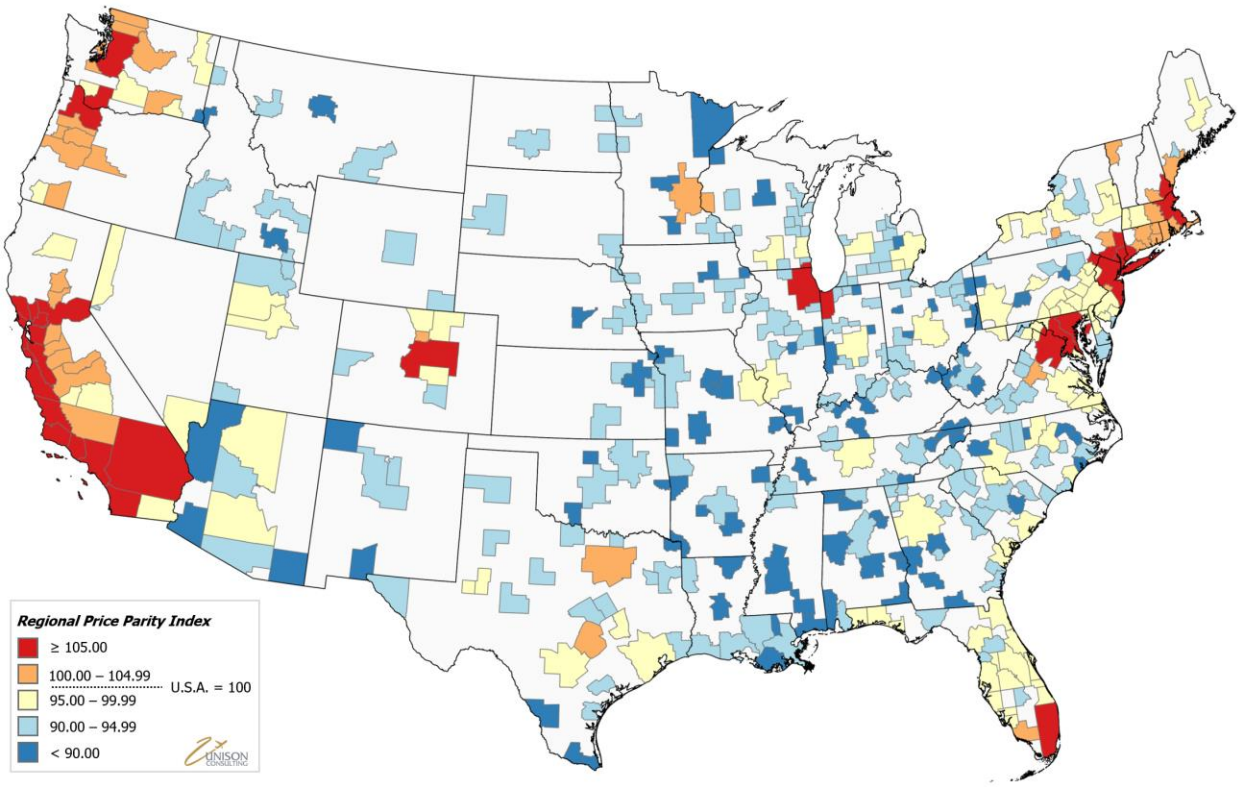

***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

## Cost of Living

Compared to the national average, living in the Riverside MSA is expensive. MSA's regional price parity index for 2021 shows that prices in the Riverside MSA are about 6 percent above the U.S. average. However, compared with the neighboring Los Angeles and San Diego MSAs, where prices are 14 and 15 percent above the national average, the cost of living is low in the Riverside MSA. Nationally, other MSAs with a comparable cost of living include Baltimore, MD, and Bridgeport, CT. All things equal, lower average prices give consumers more discretionary income to spend on travel. **Figure A-10** presents the nationwide price parity by MSA.

**Figure A-10 Regional Price Parity Index by MSA (U.S. MSA Average = 100), 2021**




***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

# ECONOMIC ATTRIBUTES

Demand for air transport services is a function of the economic vitality of a region, which can be gleaned from trends in gross domestic product (GDP), the labor market, the mix of industries that make up the regional economy, and tourism. Regional, national, and even global economic conditions influence the demand for air transportation services at a particular airport.

## Gross Domestic Product

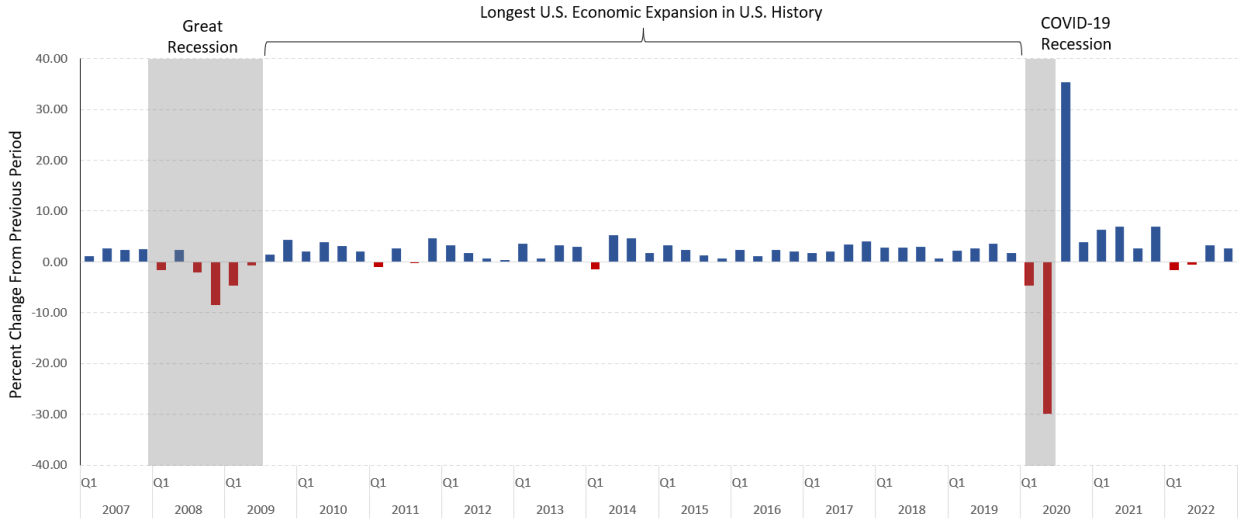
The most comprehensive measure of economic output is GDP—the dollar value of all goods and services produced in a geographic region.[17] Sustained growth in inflation-adjusted real GDP underpins economic expansions, while decreases in real GDP over two or more consecutive quarters often signal a recession.[18] Generally, during an economic expansion, employment grows, incomes rise, and the demand for air travel also rises. Conversely, during an economic recession, employment decreases, incomes fall, and the demand for air travel also falls.

[17] In this report, GDP refers to economic output measured at both national and sub-national levels.
[18] The National Bureau of Economic Research (NBER) Business Cycle Dating Committee officially determines recessions.

When the COVID-19 pandemic struck the United States in the first quarter of 2020, widespread lockdowns, stay-at-home orders, and voluntary social distancing depressed consumer spending, causing the economy to fall into a deep recession. In 2020 U.S. real GDP decreased by 4.6 percent (annual rate) in the first quarter and another 29.9 percent in the second quarter. The magnitude of the overall contraction in U.S. real GDP was unprecedented. The second-quarter contraction alone was at least three times the GDP contraction during the 2008-2009 Great Recession. **Figure A-11** charts the national average GDP.

The 2020 recession was different from previous U.S. economic recessions. The typical causes of recessions are market-related and economic in nature—for example, asset market crashes, oversupply, loss of consumer and business confidence, or tight monetary and fiscal policy. The 2020 recession resulted from shocks to both supply and demand induced by the pandemic and deliberate measures to contain COVID-19. Therefore, when counties and states began to reopen in the second half of 2020 and social distancing began to ease, the U.S. real GDP rebounded quickly, increasing 35.3 percent in the third quarter and 3.9 percent in the fourth quarter. Vaccination helped restore consumer and business confidence, accelerate business re-openings, and sustain the economic recovery in 2021. U.S. real GDP grew 5.9 percent throughout the entire year, the highest annual increase since 1978.

**Figure A-11 U.S. Real GDP, Quarterly, Annualized Percent Change from Previous Period, 2002-2022**




***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

Trends changed in 2022. The U.S. real GDP declined during the first two quarters—by 1.6 percent during the first quarter and 0.6 percent during the second quarter. GDP decreased due to supply and demand issues. On the supply side, production lagged due to (1) the fifth and highest wave of COVID-19 infections from the Omicron variant; (2) supply-chain bottlenecks and inventory pressures; and (3) a fundamental tightness in the labor market due to demand far exceeding labor supply. On the demand side, growth slowed due to (1) the disappearing stimulus from household income transfers, (2) reduced government

spending, (3) rising interest rates due to monetary tightening to contain inflation, and (4) the decrease in exports due to the appreciation of the U.S. dollar.

GDP decline in two consecutive quarters typically would have signaled a recession. However, the NBER Business Cycle Dating Committee, the official arbiter of U.S. business cycles, also looks at trends in other key economic indicators such as nonfarm employment, real consumer spending, industrial production, and real personal income. These indicators, which were generally increasing, did not signal a recession, which the NBER defines as a "significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators." During the third quarter of 2022, the U.S. real GDP grew by 3.2 percent, and during the fourth quarter GDP grew by 2.6 percent. The advance estimates for GDP growth in the first quarter of 2023 indicates further slowing to 1.1 percent.

Measured by real GDP, business cycle changes at the state and MSA levels generally follow national trends, as displayed in **Figure A-12**. Over the long-term, growth in real GDP in the Riverside MSA has matched that of California and exceeded that of the United States. Between 2002 and 2007, just prior to the Great Recession, real GDP in the Riverside MSA grew faster by 5.1 percent compared with 2.8 percent nationally and 3.2 percent in California. During the Great Recession, however, the Riverside MSA suffered more substantial losses, with its real GDP falling by 5.3 percent locally versus 2.6 percent nationally and 3.2 percent in California. The Riverside MSA was also slower to recover, taking approximately four years to reach pre-recession GDP in 2013, while the nation and California took only one and two years, respectively.

During the COVID-19 pandemic, the pattern was different. In 2020, the decline in real GDP in the Riverside MSA was just 1.5 percent, compared with 2.8 percent nationally and 3.2 percent in California. Moreover, recovery was faster across all three geographic levels: The United States, California, and the Riverside MSA all returned to pre-pandemic real GDP levels within two years and have continued to grow.

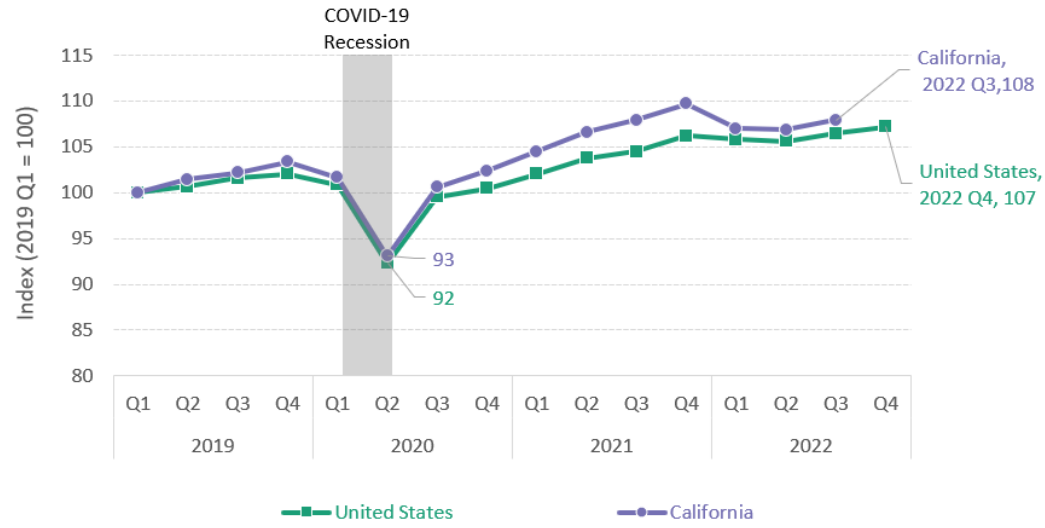
**Figure A-12 Real GDP Index (2001=100), 2001-2021**


***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

**Figure A-13** provides more insight into GDP recovery at the state and national levels (quarterly data at the MSA level are not yet available). California had fully recovered to 2019 real GDP levels by the third quarter of 2020, and the nation had fully recovered by the fourth quarter of 2020. By the third quarter of 2022, California's real GDP stood 8 percent above the January 2019 level, and the real GDP in the United States was 7 percent higher. Given the annual GDP recovery and the quarterly trends, the prospects for continued economic recovery appear favorable for the Riverside MSA.

**Figure A-13 Real GDP Recovery from the COVID-19 Recession (Index, Q1 2019=100), Q1 2019 - Q4 2022**




***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

## Labor Market

Labor market trends evolve with business cycles and reflect the state of the economy. They correlate positively with income and travel patterns. Business creation, employment growth, and low unemployment stimulate leisure and business travel.

### Business Establishments

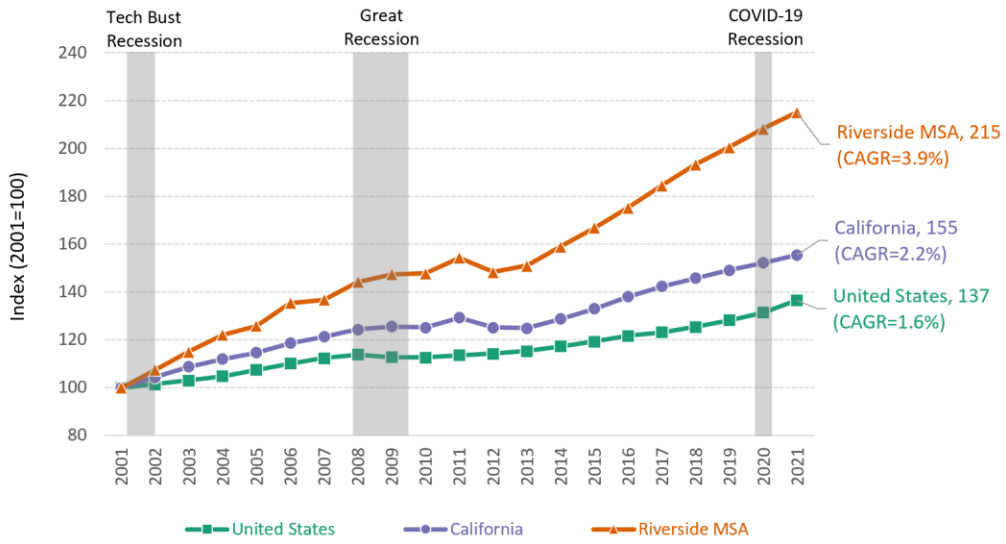
A growing number of business establishments indicate a healthy business climate, a high level of entrepreneurism, and a favorable startup environment. New business formation creates jobs and promotes overall economic growth.

The entrepreneurial spirit is vibrant in the Riverside MSA. Between 2001 and 2021, the number of business establishments in the Riverside MSA grew by 216 percent (3.9 percent CAGR). California saw a 55 percent increase overall (2.2 percent CAGR), and the nation grew by 37 percent (1.6 percent CAGR). All regions experienced slowing business formation during the Great Recession, but the pace picked up after 2013. Between 2013 and 2021, business establishment growth proceeded at a rapid 4.5 percent in the Riverside MSA compared with just 2.8 percent in California and 2.1 percent nationally. There was no slowdown in business creation during the COVID-19 pandemic as there was during the Great Recession.

The City of Palm Springs supports new business development by providing support via their "Opening a Business" website.[19] The Palm Springs Chamber of Commerce also provides resources for potential business startups.[20] Continued business creation will benefit the Riverside MSA, as new organizations foster innovation, job creation, and create spillover effects to other businesses and industries.[21] **Figure A-14** shows the business establishment index.

[19] City of Palm Springs, Opening a Business, https://www.palmspringsca.gov/government/departments/community-economic-development-department/economic-development/opening-a-business.
[20] Palm Springs Chamber of Commerce, Business Startup: The First Step, https://pschamber.org/business-startup-the-first-step/.
[21] U. Akcigit and W. Kerr, 2010, "Growth through heterogeneous innovations," National Bureau of Economic Research, *Working Paper* 16443.

**Figure A-14 Business Establishment Index (2001=100), 2001-2021**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

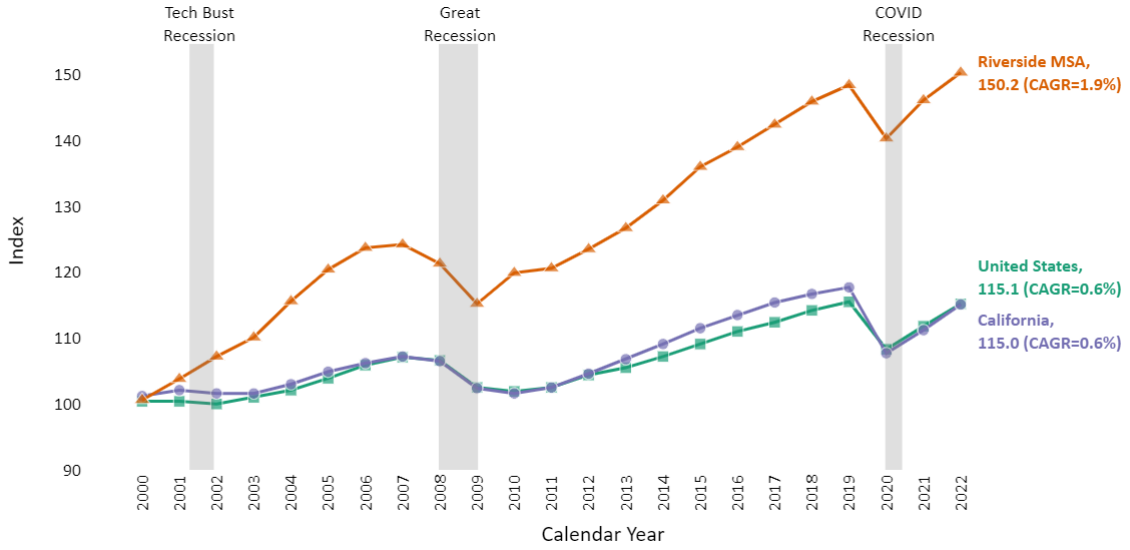
## Employment

From 2000 to 2022, nonfarm employment levels in the Riverside MSA increased by 50 percent overall, at a 1.9 percent CAGR. This is much faster than state and national growth of 10 percent (0.6 percent CAGR) during the same period, which is shown in **Figure A-15**.

Throughout the United States, employment decreased during the Great Recession of 2008-2009. It recovered quickly in the Riverside MSA but more gradually in the state and nation during the economic expansion through 2019. Between 2012 and 2019, employment grew by a total of 20 percent (2.7 percent CAGR) in the Riverside MSA but only 13 percent (1.7 percent CAGR) in California and 11 percent (1.4 percent CAGR) in the nation. In 2020 when the U.S. economy entered another recession induced by the COVID-19 pandemic, employment again decreased by about 5 percent in the Riverside MSA, 8 percent in California, and 6 percent nationally.

During the pandemic, employment, measured monthly, decreased more sharply—by 15 percent in the Riverside MSA and 16 percent in the United States and California from January to April 2020, as shown in **Figure A-16**. However, recovery in the Riverside MSA has been swift. By February 2023, the Riverside MSA had exceeded its January 2020 pre-pandemic employment level by 3 percent, outperforming the United States with 101 percent of pre-pandemic employment and California with 98.6 percent. This strong employment resilience in the MSA bodes well for long-term economic health.

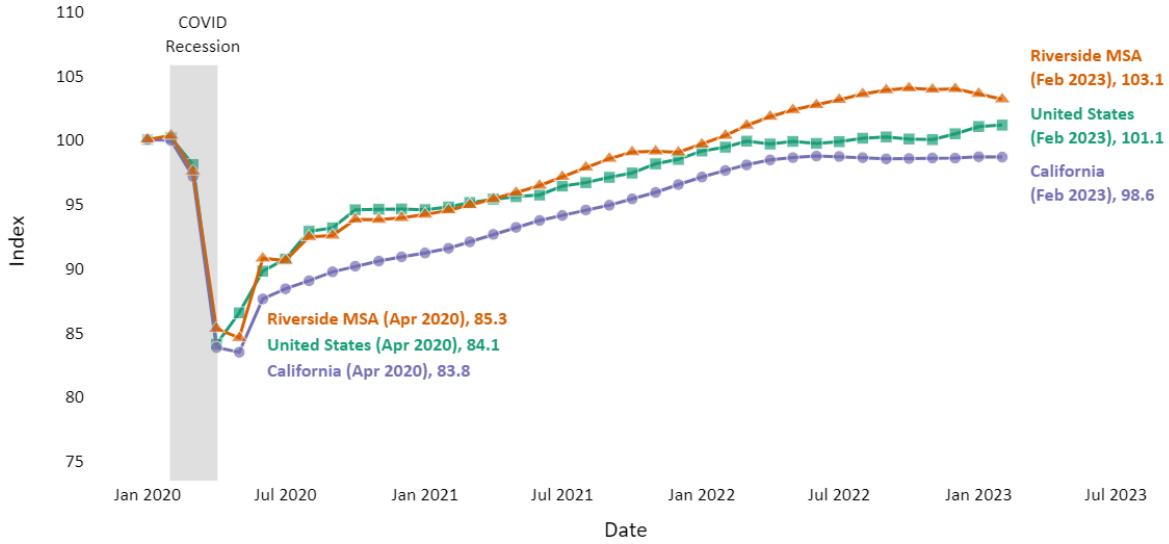
**Figure A-15 Employment Index (2000=100), 2000-2022**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

**Figure A-16 Employment Recovery from the COVID-19 Recession (Index, January 2020=100), January 2020 - February 2023**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

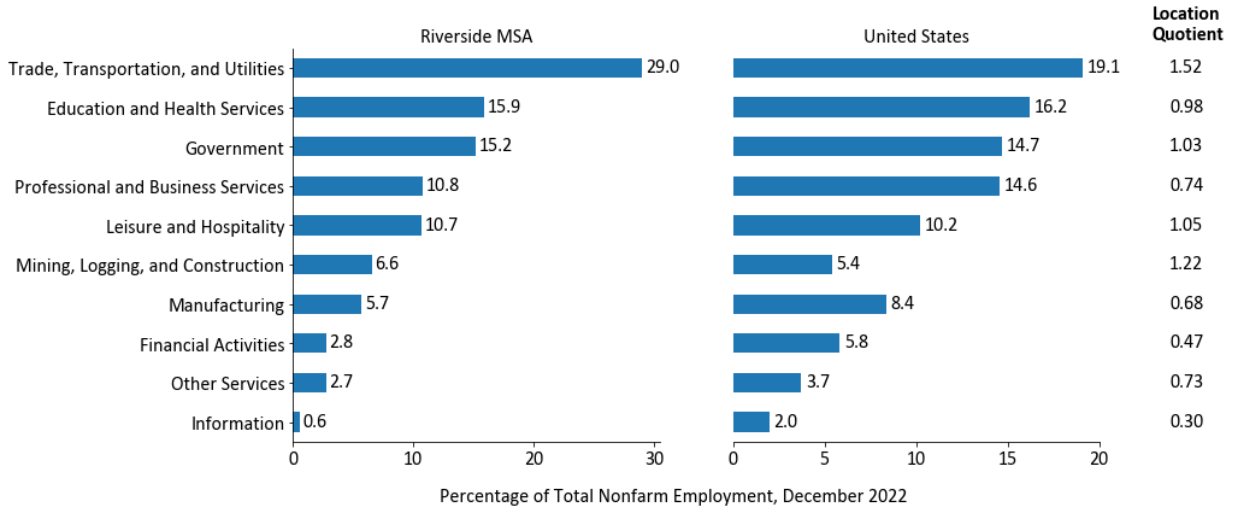
## Nonfarm Employment by Industry

A diversified economy withstands shocks better. On the other hand, heavy specialization, especially in pro-cyclical industries such as construction, mining, and manufacturing, exposes the local economy to more significant business cycle fluctuations. Since regions tend to specialize in certain economic activities

owing to natural resources, geographic attributes, labor supply, business climate, and other factors, they also tend to be more concentrated in specific industries than the national economy.

**Figure A-17** shows the percentage distribution of employment by nonfarm industry sectors in the Riverside MSA and the United States in December 2022. It also shows the location quotient (LQ), which indicates how much more the Riverside MSA specializes in a particular industry than the nation. LQ represents the ratio of an industry's share of the MSA's nonfarm employment to its share of total U.S. nonfarm employment. An LQ above one indicates that the industry contributes a more significant percentage of jobs in the MSA, indicating specialization. Conversely, an LQ below one indicates that the industry has a smaller share of regional employment.

**Figure A-17 Percent Employment and Location Quotients – Selected Nonfarm Sectors, December 2022**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

In the Riverside MSA, the largest industry sector with 29 percent of employment is trade, transportation, and utilities, including activities such as retail and wholesale. The second and third largest industry sectors are education and health services, with 15.9 percent of employment, and government, with 15.2 percent. These are also the top three sectors by the number of workers nationally.

In the distribution of employment by industry, the Riverside MSA economy largely mirrors the U.S. economy. The Riverside MSA LQs, however, show greater specialization in four industry sectors:

- Trade, transportation, and utilities Education and health services with an LQ of 1.52
- Mining, logging, and construction with an LQ of 1.22
- Leisure and hospitality with an LQ of 1.05
- Government with an LQ of 1.03.

Meanwhile, the Riverside MSA shows smaller employment shares and low LQs of just 0.30 for the information sector, 0.47 for the financial activities sector, 0.68 for the manufacturing sector, and 0.74 for the professional and business services sector. These industries have a smaller presence in the MSA than in the nation.

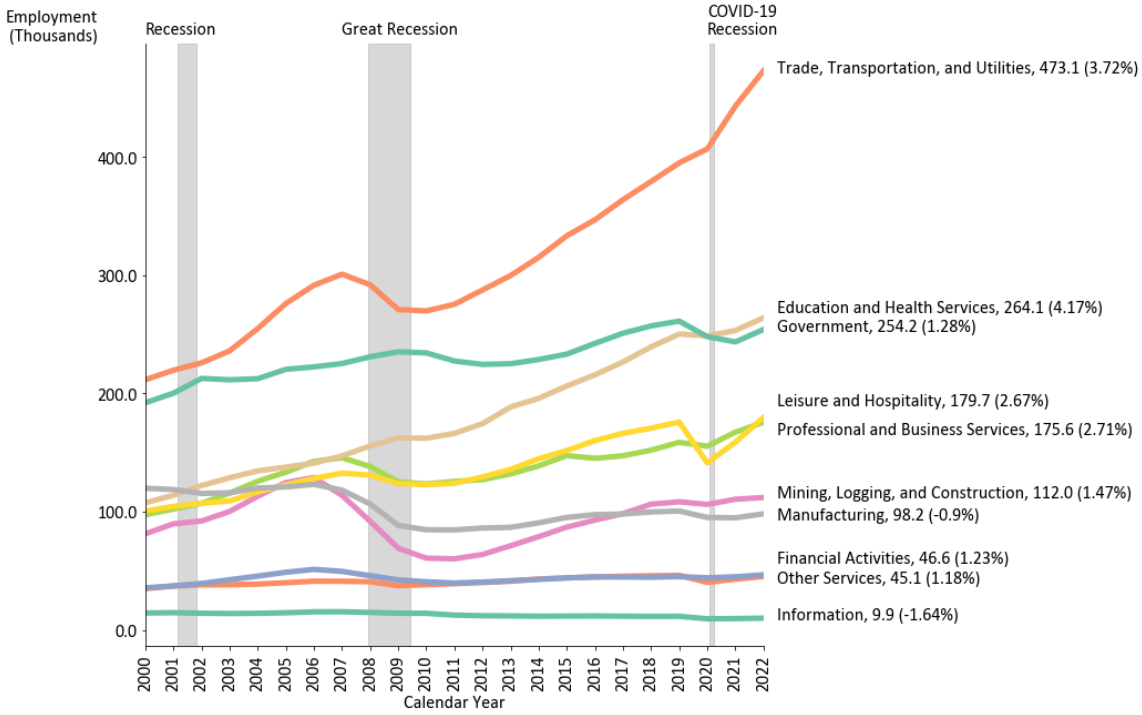
**Figure A-18** shows annual trends in employment in selected nonfarm sectors from 2000 through 2022. The effects of the Great Recession (2008-2009) and the COVID-19 recession (2020) are evident, especially in pro-cyclical sectors such as construction; manufacturing; leisure and hospitality; trade, transportation, and utilities; and professional and business services. These industries suffered declines in employment in the last two recessions.

In contrast, trade, transportation, and utilities—the largest sector in the Riverside MSA and the nation—saw large employment gains averaging 3.7 percent annually. Growth in this sector was driven by employment gains in warehousing and storage, truck transportation, and food service, among others. Education and health services, leisure and hospitality, and professional and business services also posted high annual growth rates of 4.2, 2.7, and 2.7 percent, respectively. Information (-1.64 percent CAGR) and manufacturing (-0.9 percent CAGR) were the slowest-growing sectors.

Leisure and tourism, a critical sector for the greater Palm Springs region, suffered significant employment losses during the COVID-19 pandemic after enjoying steady growth between 2011 and 2019. This trend was widespread, as stay-at-home orders and public reluctance to travel disproportionately impacted leisure and tourism. In 2020, the Riverside MSA lost almost 20 percent of its leisure and hospitality jobs, although recovery has been strong. As of 2022, the sector had 2.2 percent more jobs than in 2019.

Financial activities, mining, logging and construction, professional and business services, education and health services, and trade, transportation and utilities are other sectors that recovered and exceeded 2019 employment by 2022. However, information, other services, manufacturing, and government remain below 2019 employment levels.

**Figure A-18 Employment by Selected Industry, 2000-2022**

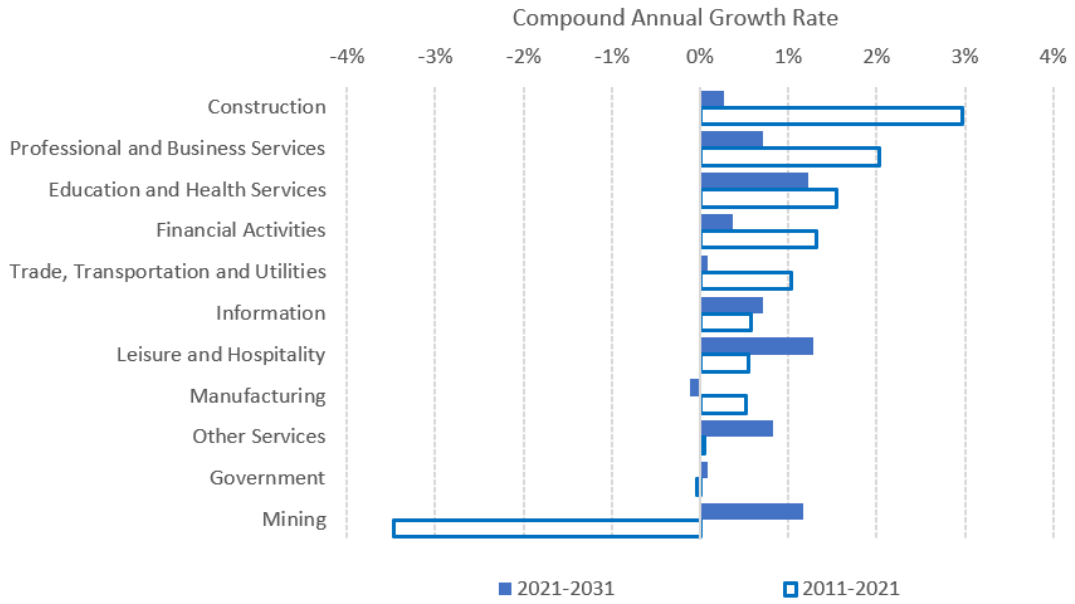



***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

Looking to the future, the Riverside MSA is poised to continue strong employment growth. **Figure A-19** shows historical employment growth by sector from 2011-2021 and forecast growth from 2021-2031. Two industries with a relatively large presence in the Riverside MSA—trade transportation and utilities and leisure and hospitality—are forecast to grow strongly in the coming decades.

**Figure A-19 Historical and Forecast Growth Rates by Industry Sector, 2011-2021 and 2021-2031**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

## Leading Employers

The Riverside MSA has a range of large public and private employers who, along with the many small enterprises in the area, form the backbone of the region's economy. Strong corporate presence generates business demand for air travel. **Table A-3** lists selected employers in the Riverside MSA.

The region has major employers like Amazon, Kaiser Permanente, Stater Brothers, FedEx, and various health, logistics, and leisure-focused businesses apart from the government. Diversity in the job market provides wide-ranging employment opportunities for residents and protects the region from sector-specific downturns. Encouraging business growth that capitalizes on the strengths of the Palm Springs (and the Riverside MSA) labor market and geography while encouraging diversification strengthens the region's economy.

**Table A-3 Selected Employers in the Riverside MSA**

| Organization | Estimated Employment Range | Industry |
|---|---|---|
| Local Government | >10,000 | Government |
| State Government | >10,000 | Government |
| Federal Government | >10,000 | Government |
| Amazon | >10,000 | E-Commerce |
| Kaiser Permanente Riverside Medical Center | 5,000-9,999 | Health |
| March Air Reserve Base | 5,000-9,999 | Military |
| Ontario International Airport | 5,000-9,999 | Transportation |
| Pechanga Resort & Casino | 5,000-9,999 | Resort Casino |
| Stater Bros | 5,000-9,999 | Retail |
| University of California, Riverside | 5,000-9,999 | Education |
| Walmart | 5,000-9,999 | Retail |
| Abbott Vascular Inc | 1,000-4,999 | Logisitcs |
| Agua Caliente Band of Cahuilla Indians | 1,000-4,999 | Tribal Government/Resort Casino |
| Arrowhead Regional Medical Ctr | 1,000-4,999 | Health |
| Big Bear Mountain Resorts | 1,000-4,999 | Resorts |
| Burlington Distribution Ctr | 1,000-4,999 | Logistics |
| Collins Aerospace | 1,000-4,999 | Manufacturing |
| Eisenhower Medical Center | 1,000-4,999 | Health |
| Environmental Systems Research | 1,000-4,999 | Software Services |
| Fedex Ground | 1,000-4,999 | Delivery Service |
| JW Marriott Desert Springs Resort & Spa | 1,000-4,999 | Resorts |
| Mountain High Ski Resort | 1,000-4,999 | Resorts |
| Starcrest Products | 1,000-4,999 | E-Commerce |
| Sun World Intl LLC | 1,000-4,999 | Wholesale Agriculture |
| YRC Freight | 1,000-4,999 | Logistics |

***Sources:*** *Riverside County Economic Development Agency, U.S. Bureau of Labor Statistics, State of California Employment Development Department, and Unison Consulting, Inc.*

***Notes:*** *The list is not exhaustive. Data are from various years, 2019-2022.*

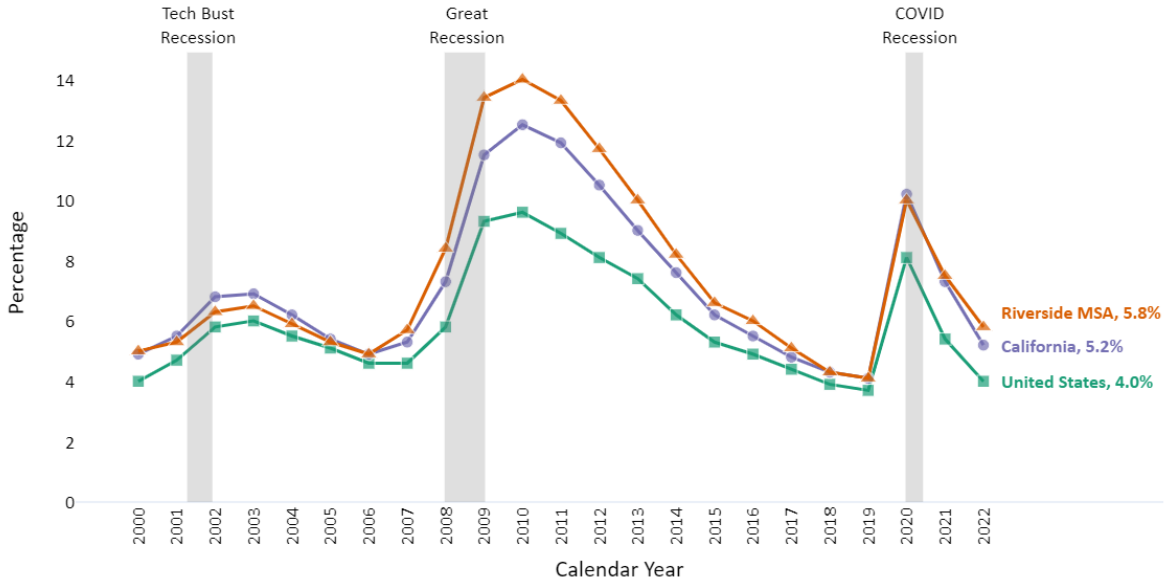
## Unemployment

The unemployment rate represents the share of unemployed members of the labor force (those 16 years and older who are either employed or unemployed and actively looking for work). It provides a measure of unmet demand for jobs. High levels of unemployment imply lower incomes and less discretionary income for travel. As with employment, the unemployment rate follows business cycles. **Figure A-20** shows the annual unemployment rate.

Unemployment rose during the Great Recession to 14 percent in the Riverside MSA, 12.5 percent in California, and 9.6 percent nationally. It declined during the subsequent expansion to rates signifying full employment: 4.1 percent in the Riverside MSA and California and 3.7 nationally in 2019.[22]

In 2020, amid the business lockdowns during the COVID-19 pandemic, unemployment spiked to an annual average of 8.1 percent in the United States, 10.3 percent in California, and 10 percent in the Riverside MSA. By 2022, the annual average unemployment rate decreased to 4.0 percent nationally but remained high in California (5.2 percent) and the Riverside MSA (5.8 percent). Monthly data in **Figure A-21** paint a brighter picture: Unemployment rates have consistently dropped since 2020 and, in February 2023, reached 4.1 percent in the Riverside MSA, 4.3 percent in California, and 3.6 percent nationally—approaching historic-low January 2020 levels. A decline in labor force participation contributes to the low unemployment rates. Nevertheless, the MSA's strong employment recovery and return to low unemployment rates attest to economic resilience.

**Figure A-20 Annual Unemployment Rate, 2000-2022**

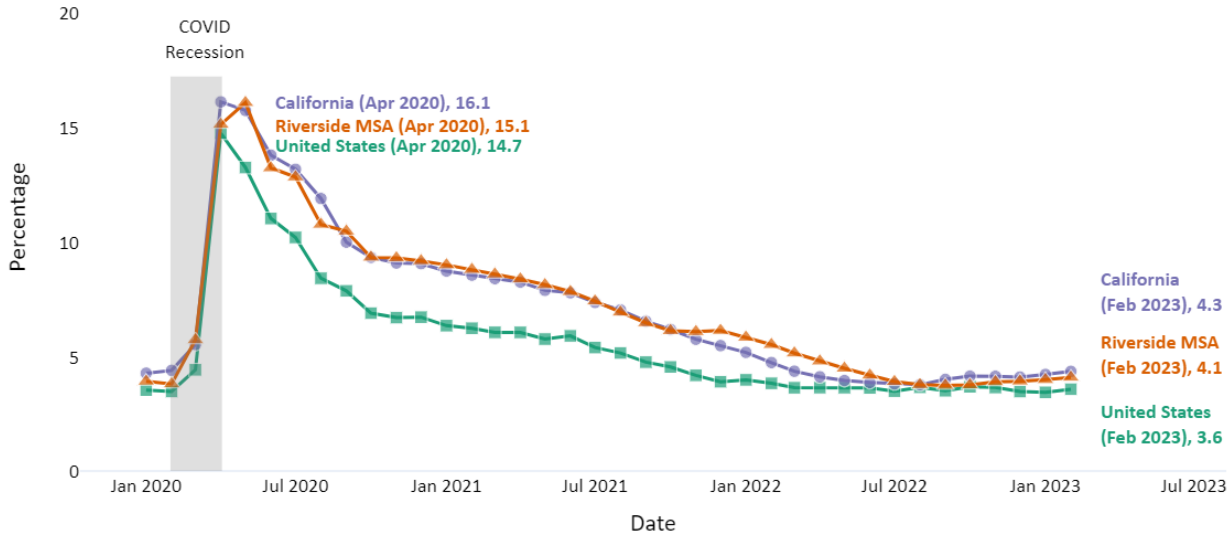



***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

[22] Unemployment rates between 4.1 and 4.7 percent imply full employment—a state where "…the unemployment rate equals the nonaccelerating inflation rate of unemployment, no cyclical unemployment exists, and GDP is at its potential." Sources: (1) C. Cook, "Full Employment," Bloomberg, 2016. (2) Bureau of Labor Statistics, "Full Employment: an assumption within BLS projections," 2017.

**Figure A-21 Monthly Unemployment Rate, January 2020-February 2023**

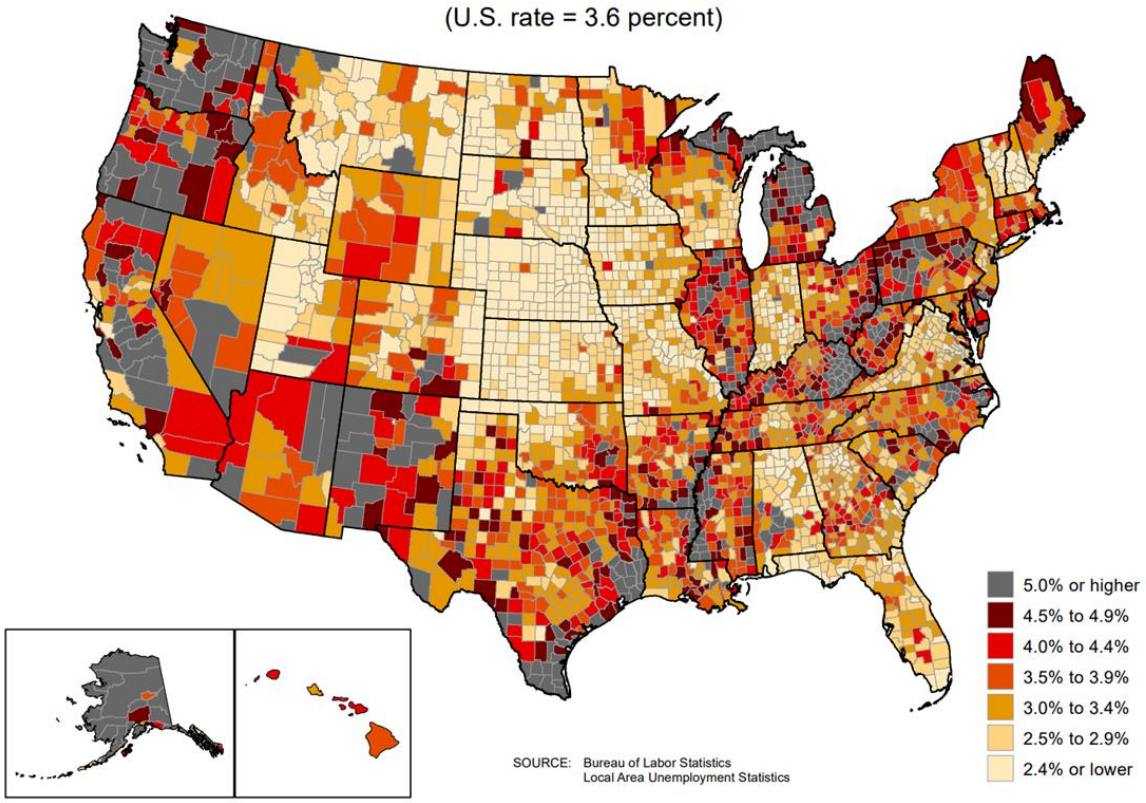



***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

**Figure A-22** shows the 12-month average unemployment rate through February 2023 by county in the United States. Unemployment rates in the MSA's Riverside and San Bernardino counties are lower than in many other California counties but slightly higher than the national average.

**Figure A-22 Unemployment Rate by County, 12-Month Average through February 2023**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

## Commuting

In 2019, of the 1.15 million people employed in the MSA, nearly 70 percent also lived in the MSA. The remaining 30 percent of workers come from Los Angeles, Orange, and San Diego Counties. Overall, the county has a net outflow of jobs. On average, approximately 256,000 more workers leave the county for work than commute into the Riverside MSA. The primary destinations are again Los Angeles, Orange, and San Diego Counties. In sum, while the MSA is a major employment node, its proximity to other large metropolitan regions also provides residents with employment options.

# Tourism

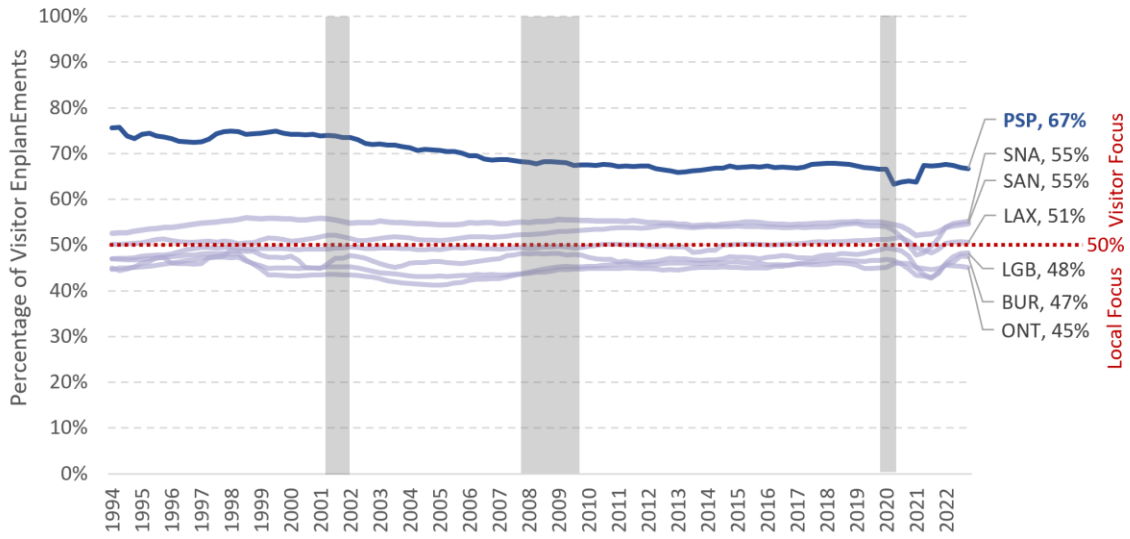
Tourism is a significant component of the economies of California, the Riverside MSA, and the Palm Springs area. It is a "basic" economic activity and a key driver of economic growth. It brings "new money" from visitor spending on food, lodging, recreation, and other services provided by local businesses.[23] In 2021, travel-related spending in California exceeded 100 billion dollars, contributed nearly 10 billion dollars in tax revenue, and supported almost 1 million jobs. In the Riverside MSA, tourism-related

[23] In regional economics, "basic" industries, also known as export-base industries, refer to sectors of the economy that generate revenue from customers from outside the region, thus bringing "new money" into the region.

spending amounted to nearly 14 billion dollars in 2021, contributing over 1 billion dollars in tax revenue and supporting more than 130,000 jobs. PSP is a gateway to Joshua Tree National Park, more than 100 golf courses,[24] resorts, vacation activity, and seasonal housing. Numerous events, including the Coachella Valley Music and Arts Festival, Palm Springs Film Festival, BNP Paribas Open tennis tournament, and the Coachella Valley Wildflower Festival, draw visitors to the region.[25, 26] PSP is a central node for the arrival of non-local tourist visitors.

The Airport's fundamental role in bringing visitors to the region is evident in **Figure A-23**. PSP shows the largest visitor share of O&D enplanements among Southern California commercial service airports. Although the share has declined over the long term—from around 75 percent in the 1990s, it is still substantial at 67 percent in 2022. At the other Southern California airports, the visitor share ranges from about 45 percent to 55 percent.

**Figure A-23 Visitor Share of O&D Enplanements at Each Southern California Airport (4-Quarter Moving Average), 1993-2022**




***Sources:*** *U.S. Department of Transportation and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

The greater Palm Springs region draws visitors from across the country. Visitors from California, Oregon, and Washington contribute the most in spending. However, visitors from states further to the east—

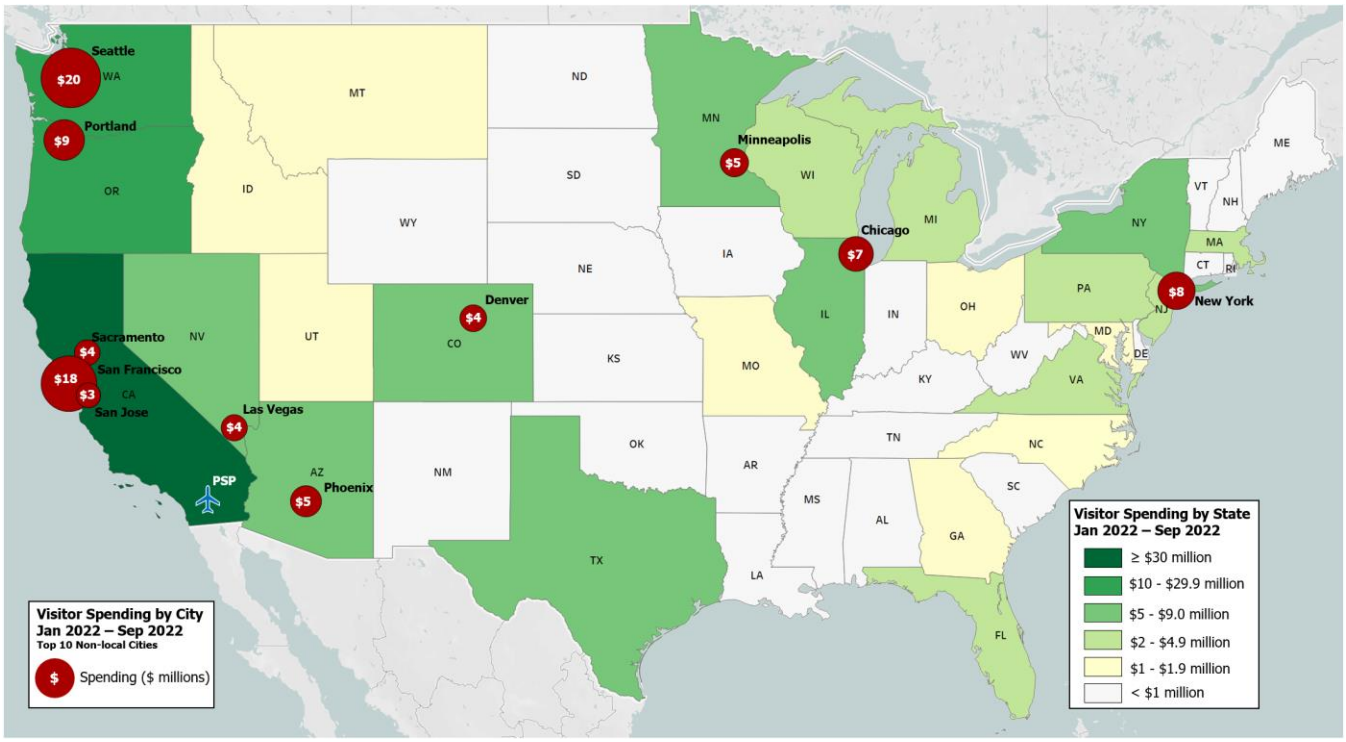
[24] Visit Greater Palm Springs, https://www.visitgreaterpalmsprings.com/things-to-do/.

[25] California Lifestyle Reality, "Top 4 Events to Attend in Coachella Valley, CA," https://californialifestylerealty.com/blog/top-4-events-attend-coachella-valley-ca/.

[26] Friends of the Desert Mountains, "The Coachella Valley Wildflower Festival," https://www.desertmountains.org/calendar/2023wildflower-festival.

Minnesota, Illinois, and New York—also figure prominently. By city, California Bay Area cities, Portland, Seattle, Chicago, and New York are among the top sources of visitor spending in Palm Springs, as shown in **Figure A-24**.

**Figure A-24 Visitor Spending in Greater Palm Springs Region by State of Origin and Top Non-Local Cities, Jan 2022-Sep 2022**[27]




***Sources:*** *Visit Greater Palm Springs and Unison Consulting, Inc.*

Historically, Canada has been an important source of international visitors. **Table A-4** shows nonstop scheduled seats Canadian cities from 2018-2022. During the 2019 peak, there were more than 277,000 seats on nonstop flights from Canada, primarily from Calgary and Vancouver but also from Edmonton, Toronto, and Winnipeg. Complexities of cross-border transits during the COVID-19 pandemic impacted international tourism more severely than domestic tourism. In 2022, airline seat capacity from Canadian cities had rebounded somewhat but remained, on average, 25 percent below pre-COVID-19 numbers. The return of Canadian visitors will be important to the region. A 2017 study indicated that Canadian visitor spending exceeded 235 million dollars and was significantly more than the spending per visitor coming from other regions.[28]

[27] For this analysis, Visit Greater Palm Springs typically defines the Palm Springs region as: Palm Springs, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, and Rancho Mirage.

[28] S. Barkas, "Canadians have 300 million dollars plus impact on the Coachella Valley economy," *Desert Sun*, October 9, 2018.

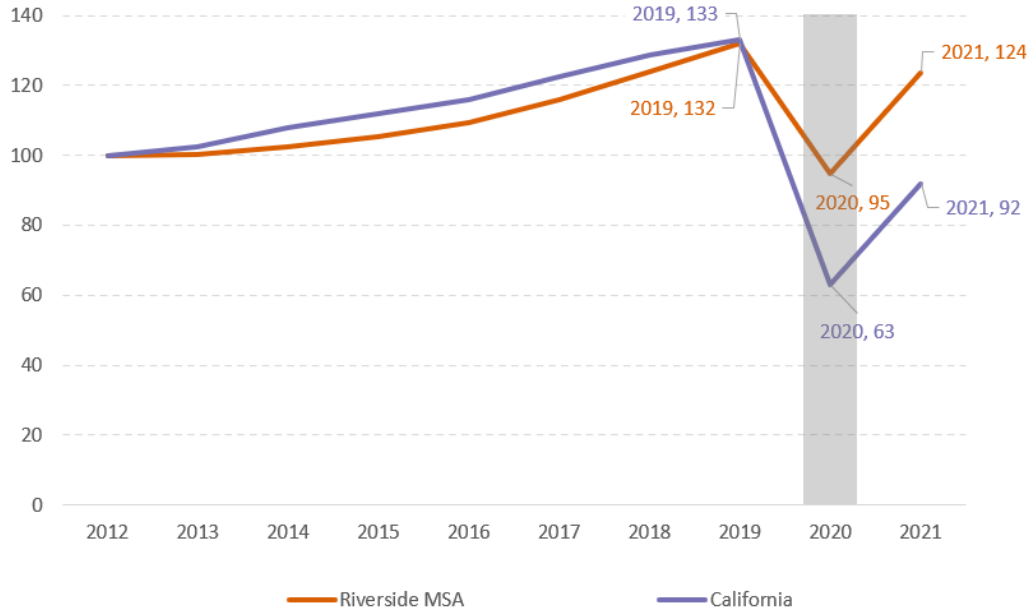
**Table A-4 Nonstop Air Service Seat Capacity from Canada, 2018-2022**

| Code | City | 2018 | 2019 | 2020 | 2021 | 2022 | 2022 vs. 2019 |
|---|---|---|---|---|---|---|---|
| YVR | Vancouver | 99,275 | 108,536 | 42,158 | 25,034 | 88,103 | 81% |
| YYC | Calgary | 111,282 | 116,463 | 44,612 | 34,716 | 69,348 | 60% |
| YEG | Edmonton | 31,271 | 35,154 | 13,344 | 7,794 | 28,068 | 80% |
| YYZ | Toronto | 16,867 | 10,404 | 10,608 | 756 | 18,274 | 176% |
| YWG | Winnipeg | 9,731 | 6,504 | 3,781 | 1,140 | 5,340 | 82% |
| **Total** | | **268,426** | **277,061** | **114,503** | **69,440** | **209,133** | **75%** |

***Sources:*** *OAG and Unison Consulting Inc.*

**Figure A-25** shows visitor spending in California and the Riverside MSA from 2012 to 2021. Between 2012 and 2019, overall growth in visitor spending in California and the Riverside MSA mirrored each other, increasing by about one-third overall and at a CAGR of about 4.1 percent. As expected, visitor spending fell in both California and the MSA during the COVID-19 pandemic. However, while visitor spending dropped by 53 percent statewide, it dropped by just 28 percent in the Riverside MSA. By the end of 2021, visitor spending in California remained at just 69 percent of the pre-COVID-19 level, while it had recovered to 94 percent in the Riverside MSA and is on an upward trajectory.

**Figure A-25 Visitor Spending Index (2012=100), Riverside MSA and California, 2012-2021**



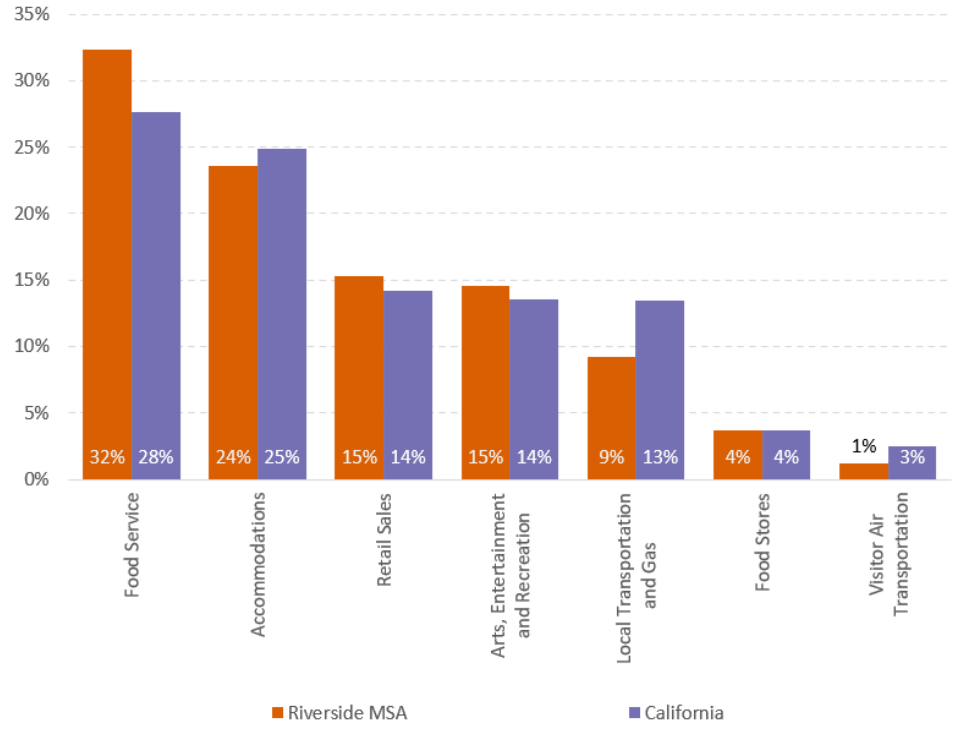

***Sources:*** *Visit California and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

Visitors spend the most on food service (32 percent), followed by accommodation (24 percent) and retail (15 percent). **Figure A-26** provides a breakdown of visitor spending by category. The spending patterns in the Riverside MSA are similar to those in the state. **Figure A-27** shows the distribution of accommodation and food service sales by census tract in the Riverside MSA, using location quotients to measure relative

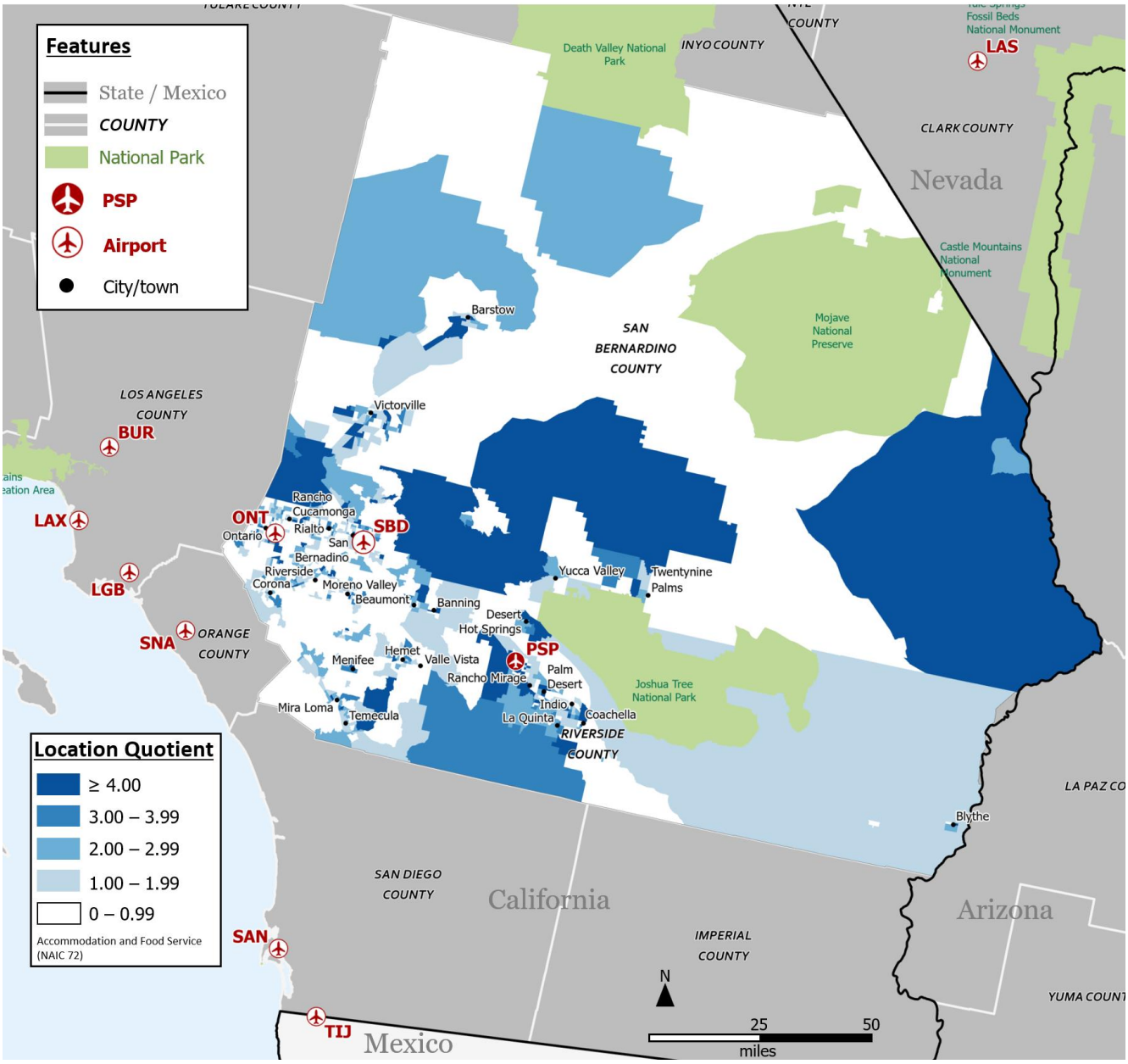
spatial concentration. A significant portion of the MSA has an LQ greater than 1, and the areas immediately surrounding PSP have LQs greater than 2, 3, or even 4—indicating that the accommodation and food service industry is more concentrated in the region than in a typical local economy. Similar patterns also exist to the northeast near Twentynine Palms. This further solidifies the connections between the visitor orientation of the region, the industries that support visitors, and the airport's geographic location.

**Figure A-26 Visitor Spending Index by Category, Riverside MSA and California, 2021**




***Sources:*** *Visit California and Unison Consulting, Inc.*

**Figure A-27 Spatial Concentration of Accommodation and Food Services, Location Quotient, 2022**

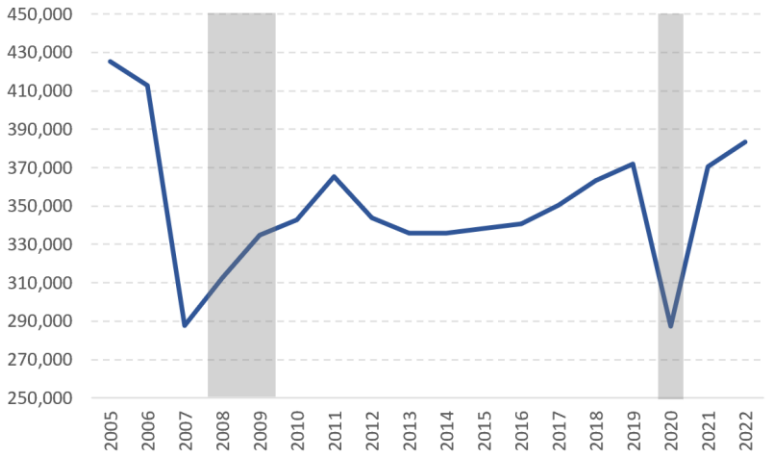



***Sources:*** *Data Axle and Unison Consulting Inc.*

***Note:*** *Location quotients are mapped by census tract.*

The supply of hotel rooms, measured in room nights, in Greater Palm Springs reached a 15-year high in 2022 since the steep drop in 2007. Although it has not returned to the high 2005 level, supply rebounded strongly from the most recent decline in 2020 during the pandemic. **Figure A-28** shows the number of hotel room nights available in Greater Palm Springs.

**Figure A-28 Greater Palm Springs Hotel Room Nights, 2005-2022**

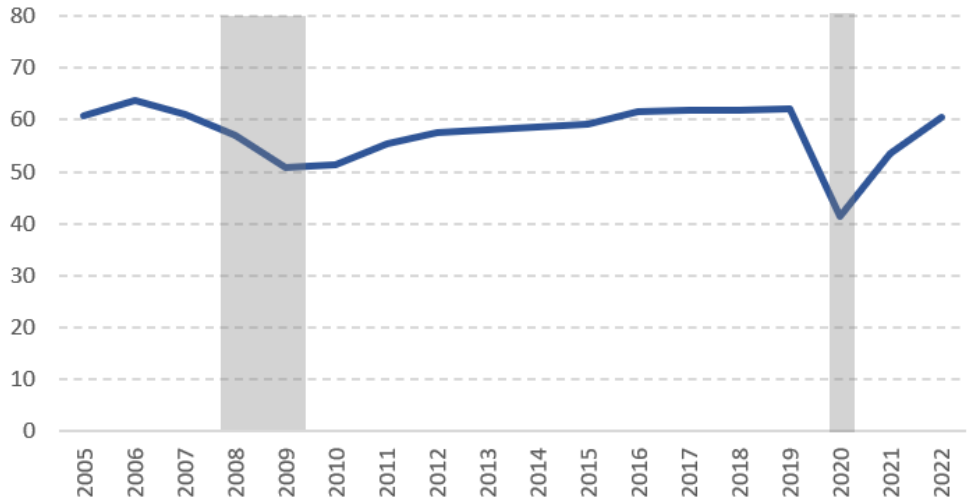



***Sources:*** *Visit Greater Palm Springs and Unison Consulting, Inc.*

***Notes:*** *Gray areas are economic recession periods. Room supply is based on sampling by Visit Greater Palm Springs.*

**Figure A-29** shows that hotel occupancy in Greater Palm Springs stayed above 60 percent during the years before the pandemic. It dropped to 41 percent during the first year of the COVID-19 pandemic in 2020 but rebounded to 60.5 percent by 2022. The steady trend indicates that demand is keeping pace with supply growth.

**Figure A-29 Greater Palm Springs Hotel Occupancy Rate, 2005-2022**




***Sources:*** *Visit Greater Palm Springs and Unison Consulting, Inc.*

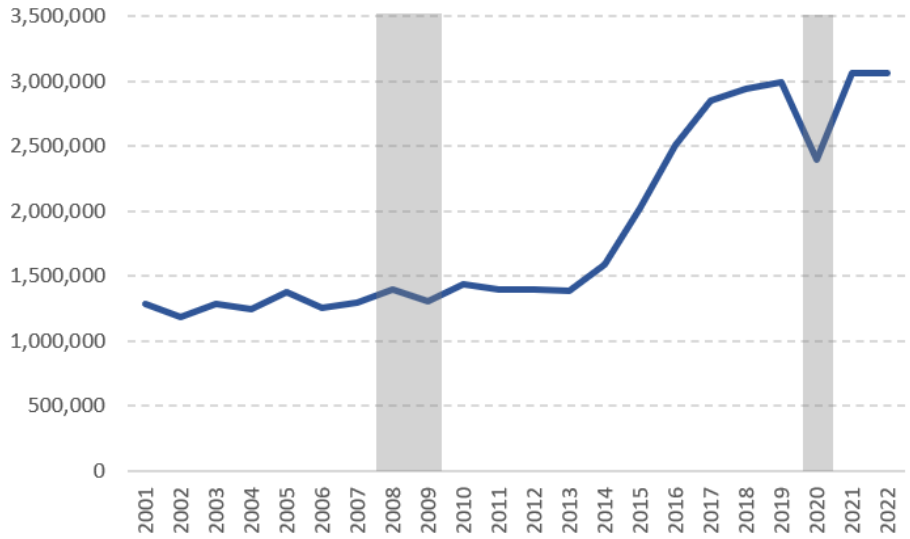
***Notes:*** *Gray areas are economic recession periods. Occupancy rates by month are the 2005-2022 average.*

Hotels are just one type of available accommodation in Greater Palm Springs. In 2021, about 1.3 million visitors, comprising about 23 percent of overnight stays, stayed in short-term vacation rental housing,

spending 829 million dollars.[29] The larger Riverside MSA also has a relatively large proportion of homes for vacation or seasonal use: 5.9 percent compared to 3.4 percent of the housing stock nationally.[30]

Nearby Joshua Tree National Park is a major draw for visitors. The three major park entrances are not far from Palm Springs—one to the east along Interstate 10 and two northeast of PSP near Twentynine Palms. Between 2001 and 2022, park visitors increased from 1.3 million to about 3.1 million, at a rate of about 4.2 percent annually. Visitors increased sharply since 2013. **Figure A-30** shows the number of annual visitors to Joshua Tree National Park.

**Figure A-30 Joshua Tree National Park Visitors, 2001-2022**




***Sources:*** *U.S. National Park Service and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

Tourism continues to thrive in the Riverside MSA and Palm Springs region. Visitor spending, hotel occupancy, and leisure and hospitality employment have recovered from the pandemic. Canadian air service is returning, and Joshua Tree National Park visitation is close to an all-time high. The strong rebound, the robust seasonal home market, and the region's famous golf courses[31] ensure a positive outlook for Palm Springs tourism.

[29] Tourism Economics, The Economic Impact of Short-Term Vacation Rentals: Coachella Valley 2021.

[30] U.S. Census Bureau 2020 Redistricting Data.

[31] According to *Forbes*, there were more rounds of golf played in the United States in 2021 than in any other year. https://www.forbes.com/sites/erikmatuszewski/2022/02/27/golf-saw-record-play-totals-last-year-on-heels-of-covid-fueled-2020-boom/?sh=e1adeb24c31a

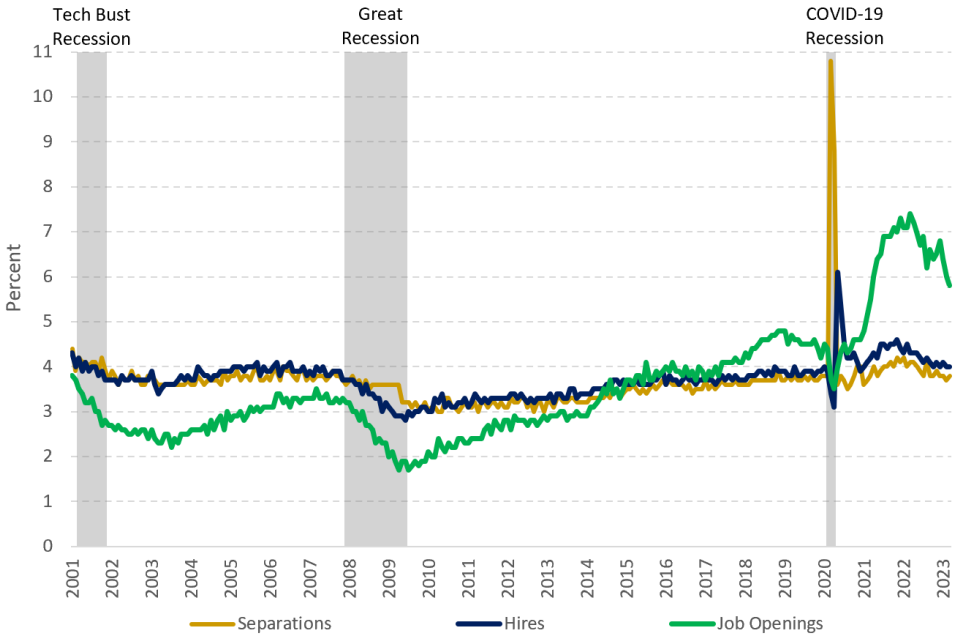
# MACROECONOMIC INDICATORS

The broader U.S. economy affect regional economic conditions and overall demand for air transportation. The current trends in key macroeconomic indicators give mixed signals.

## Employment

The labor market has been robust in the aftermath of the COVID-19 recession. However, **Figure A-31** shows that the Federal Reserve's recent efforts to slow inflation are cooling the labor market. In 2021 and early 2022, job openings rose rapidly while hires and separations remained relatively flat amid a shortage of workers to fill available positions. Data from late 2022 and early 2023 show that job openings are decreasing.

**Figure A-31 Job Openings, Separations, and Hires, Monthly, January 2001- March 2023**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

***Notes:*** *Gray areas are economic recession periods.*

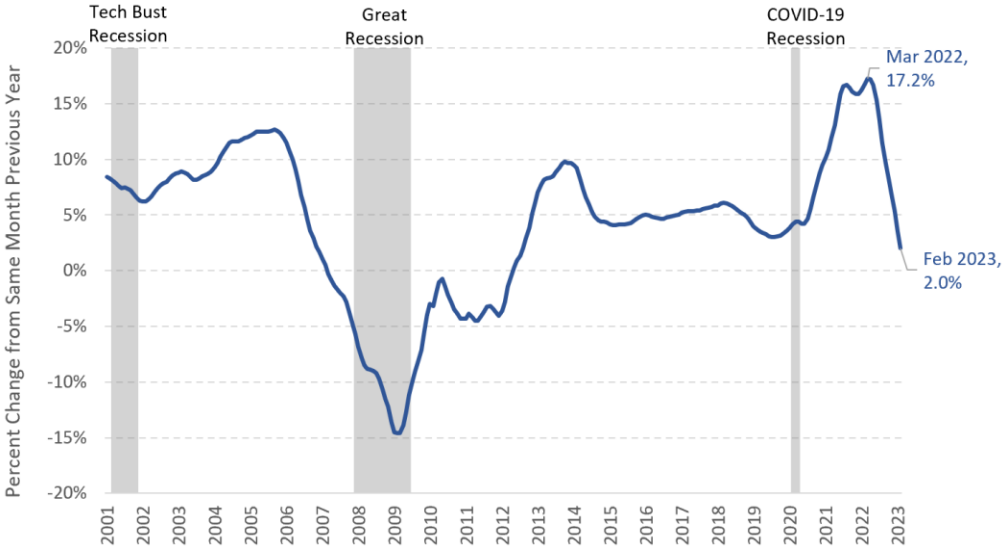
*Separations and hires rates are a percentage of total employment. Job openings are a percentage of total employment plus openings.*

## Housing

A strong housing market signifies a thriving economy. It also stimulates consumer spending because, for many, housing comprises a substantial portion of net worth. **Figure A-32** shows that housing prices, which rose by 40 percent between January 2020 and March 2022, have retreated. High prices and high interest

rates have slowed demand. Moody's Analytics forecasts housing prices to fall 5-10 percent by early 2025.[32] Falling home prices will reduce consumer wealth, confidence, spending, and consumption.[33]

**Figure A-32 S&P/Case-Shiller National Home Price Index, January 2001-Febuary 2023**




***Sources:*** *S&P Dow Jones and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

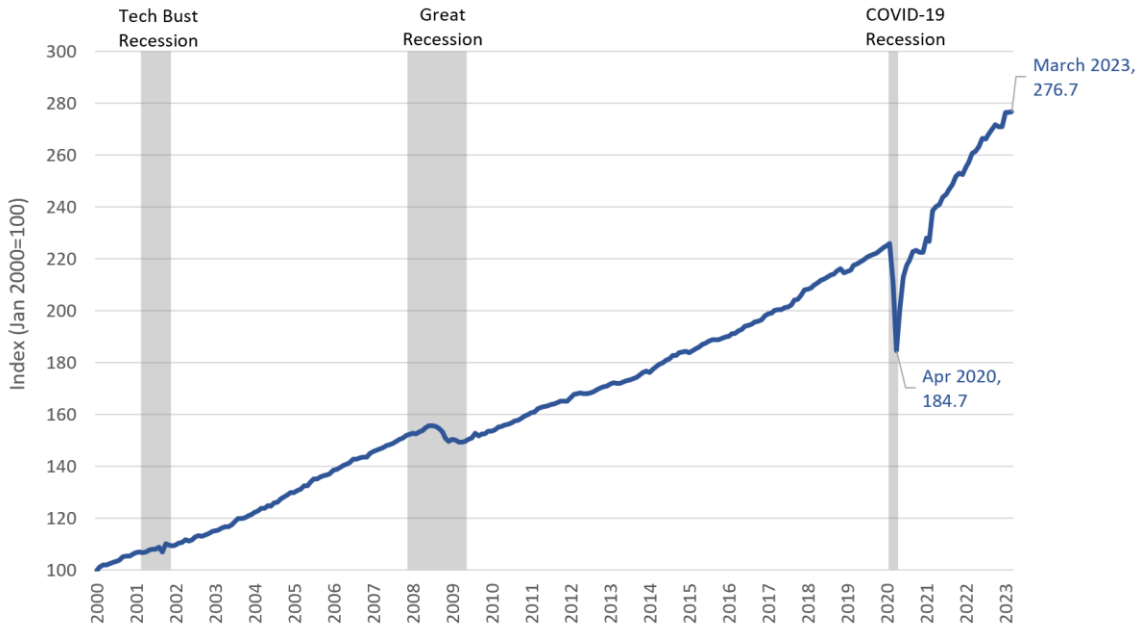
## Consumer Spending

Consumer spending, a bellwether measure of the economy, continues to signal a growing economy. **Figure A-33** shows that personal consumption expenditures (PCE), which account for about 66 percent of the U.S. GDP, have continuously increased, apart from dips during the Great Recession and the COVID-19 pandemic. During the Great Recession, consumer spending decreased by 4.0 percent over eight months in late 2008 and early 2009, after which it rose by 50 percent (3.7 percent CAGR) from January 2009 to January 2020. At the onset of the COVID-19 pandemic, consumer spending decreased 18 percent over two months from February to April 2020 but rebounded quickly. It increased 50 percent through March 2023 to 22 percent above the pre-pandemic peak. Rising employee compensation has fueled recent increases in consumer spending.[34]

More broadly, consumer spending has been buoyed by high levels of excess savings and increases in household wealth from earlier gains in stock and housing prices during the pandemic. However, the effect of high inflation is starting to show as spending begins to outstrip incomes and consumers begin to draw down savings.

[32] V. Calanog and K. Fagan, "The Outlook for the Housing Market," Moody's Analytics, February 16, 2023.
[33] P.Carlsson-Szlezak and P. Swartz. "How much damage will the housing market do to the economy?," *Fortune*, August 9, 2022.
[34] U.S. Bureau of Economic Analysis, Personal Income and Outlays, February 2023.

**Figure A-33 Personal Consumption Expenditures Index, January 2000-March 2023**

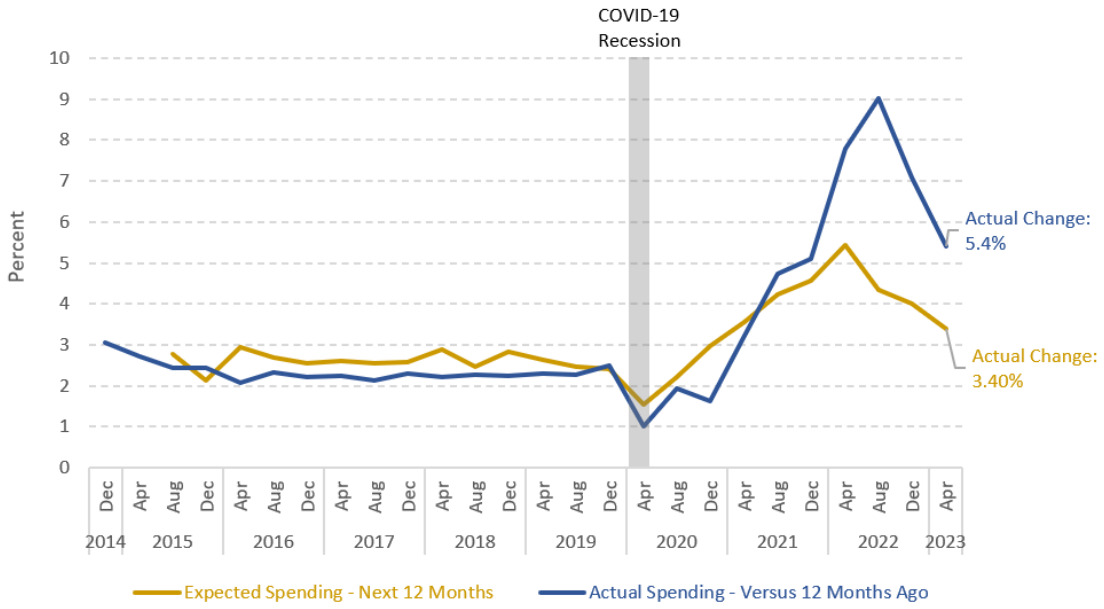



***Sources:*** *U.S. Bureau of Economic Analysis; Unison Consulting, Inc.*

***Note:*** *Gray area are economic recession periods.*

There are signs that the strong consumer spending that has supported the economic recovery since COVID-19 is beginning to weaken. **Figure A-34** shows consumer spending changes over the previous 12 months and expected spending levels over the upcoming 12 months. The two measures, which had largely mirrored each other until 2021, increased during late 2020 and 2021 due to the improved consumer outlook fostered by the supplementary income programs offered by the U.S. government during the pandemic. However, the two measures began to diverge in mid-2021, indicating that consumers expect their ability to sustain high spending to fall with the end of government income transfers and rising inflation.

**Figure A-34 Actual and Expected Consumer Spending: 12-months ago, Next 12 Months, September 2014-April 2023**

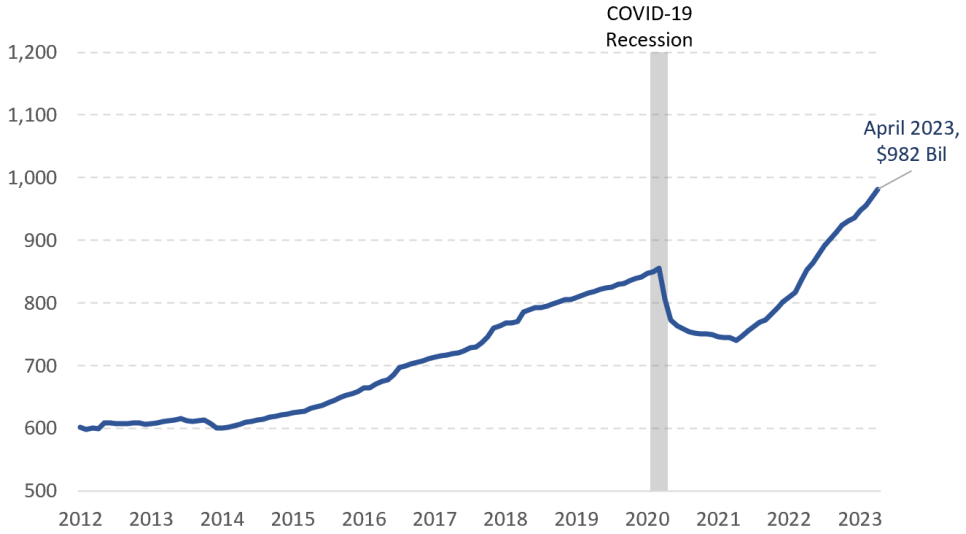



***Sources:*** *Federal Reserve Bank of New York and Unison Consulting, Inc.*

***Note:*** *Data represent consumers' experience and expectation at a given date (x-axis). The actual change is the experience over the past 12 months. The expectations are beliefs about what will happen over the next 12 months as of the date on the x-axis.*

Consumer spending has been partly fueled by borrowing, as indicated by the rapid rise in consumer loan balances, including credit card debt, as shown in **Figure A-35**. Between January 2012 and 2020, consumer loan balances increased by 42 percent, at a CAGR of 4.5 percent. Government stimulus programs for consumers reversed this trend, and between March 2020 and April 2021, consumer revolving loan balances decreased by 14 percent. From April 2021 to April 2023, consumer loan balances increased by 33 percent. The total amount owed by consumers is quickly approaching 1 trillion dollars. The current environment of high inflation and rising interest rates will impinge on the ability of consumers to manage heavy debt burdens and sustain high spending.

**Figure A-35 Consumer Loans: Credit Cards and Other Revolving Plans (Commercial Banks), Billions of Dollars, January 2012-April 2023**




***Sources:*** *U.S. Board of Governors of the Federal Reserve System and Unison Consulting, Inc.*

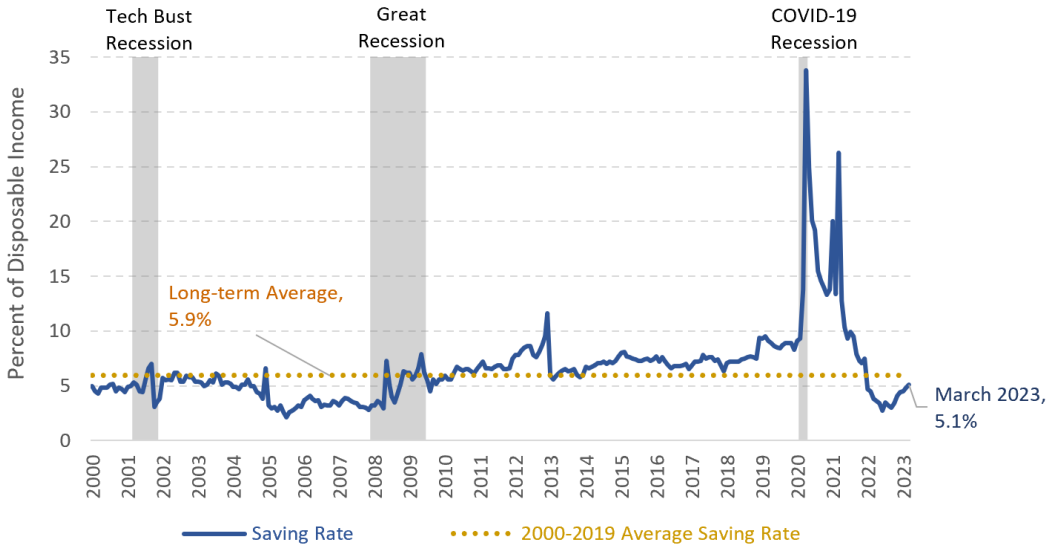
The personal saving rate soared during the pandemic. Social distancing curtailed household spending, and income transfers from COVID-19 relief packages[35] boosted household incomes. This resulted in trillions of accumulated savings. **Figure A-36** shows monthly personal savings as a percentage of disposable income from January 2000 to March 2023. The long-term average before the pandemic (2000-2019) was 5.9 percent. In 2020 and 2021, the personal saving rate reached levels above 30 percent, and households are estimated to have amassed a peak of more than 2.7 trillion dollars in excess savings through the end of 2021.

Accumulated savings have provided consumers with a cushion to sustain spending—including travel—amid price increases. However, the personal saving rate had fallen to a low 2.7 percent in June 2022, although it had slightly rebounded to 5.1 percent in March 2023. The cushion is shrinking as consumers dip more and add less to their savings to sustain spending. About two-thirds of the excess savings accumulated during the pandemic will be exhausted by the end of 2023—raising additional concerns about the ability of consumers to increase spending at the current pace.[36]

[35] COVID-19 relief packages were provided under the CARES Act in March 2020, the Consolidated Appropriations Act in December 2020, and the American Rescue Plan in March 2021.

[36] J. Pinsker, "Households Burn Through What's Left of Their Pandemic Savings," *The Wall Street Journal*, February 6, 2023.

**Figure A-36 Personal Saving, Monthly, January 2000-March 2023**




***Sources:*** *U.S. Bureau of Economic Analysis and Unison Consulting, Inc.*

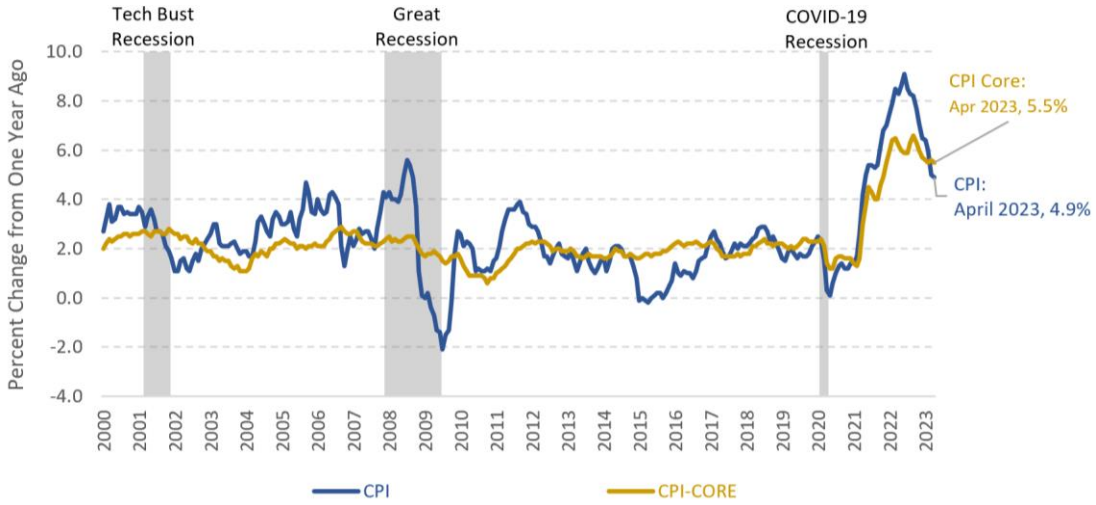
***Note:*** *Gray areas indicate economic recession periods.*

## Inflation

Strong consumer demand and supply constraints have created an inflationary environment. Inflation, which stayed mostly at or below 2 percent between 2010 and 2020, rose in 2022 to levels not seen since the early 1980s, as shown in **Figure A-37**. The headline inflation rate, measured by the All-Items Consumer Price Index (CPI), reached 9.1 percent in June 2022. Core inflation, which excludes highly price-volatile items like food and energy, has also been high, reaching 6.6 percent in September 2022. Inflation has eased slightly in early 2023 but is still well above the Federal Open Market Committee's (FOMC) long-term target of 2 percent. Core inflation has not fallen as much as the headline rate, straining household finances. High inflation reduces the purchasing power of consumers and erodes the impact of wage growth.[37]

[37] An alternative measure of inflation, the Personal Consumption Expenditures Price Index, calculated by the U.S. Bureau of Economic Analysis shows a similar pattern.

**Figure A-37 Consumer Price Index, Monthly, January 2000-April 2023**




***Sources:*** *U.S. Bureau of Labor Statistics and Unison Consulting, Inc.*

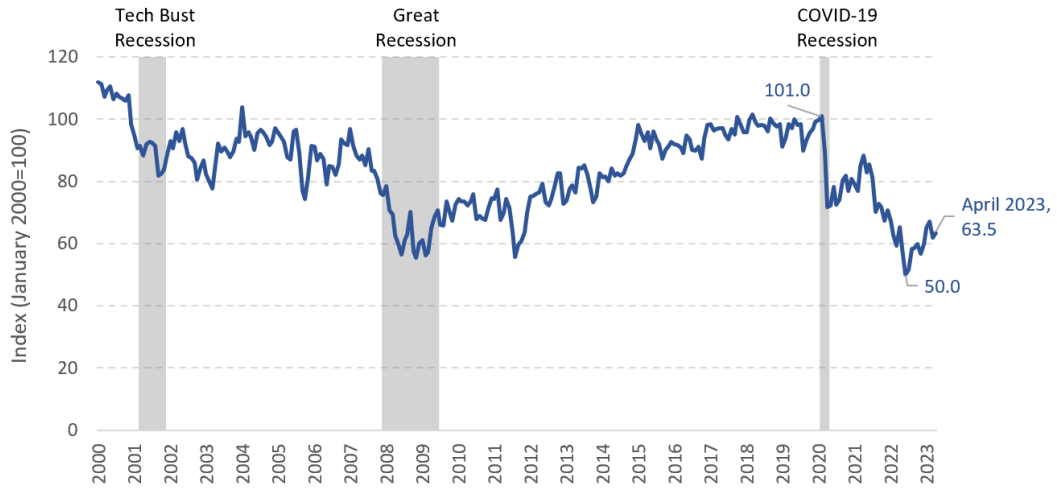
***Note:*** *Gray areas are economic recession periods.*

## Consumer Sentiment

Consumer sentiment, based on a recurring survey conducted by the University of Michigan, is near its lowest level in years—another indicator of caution regarding near-term economic conditions. As shown in **Figure A-38**, during 2022, the consumer sentiment index, which measures consumer confidence in the economy and suggests future demand behavior and business activity, fell to levels as low as those observed during the Great Recession.[38] Consumers are growing more concerned about high inflation and more uncertain about the near-term economic outlook.

[38] W. Huth et al., "The indexes of consumer sentiment and confidence: Leading or misleading guides to future buyer behavior," *Journal of Business Research*, March 1994.

**Figure A-38 Consumer Sentiment, Monthly, January 2000-April 2023**




***Sources:*** *University of Michigan Consumer Sentiment Index and Unison Consulting, Inc.*

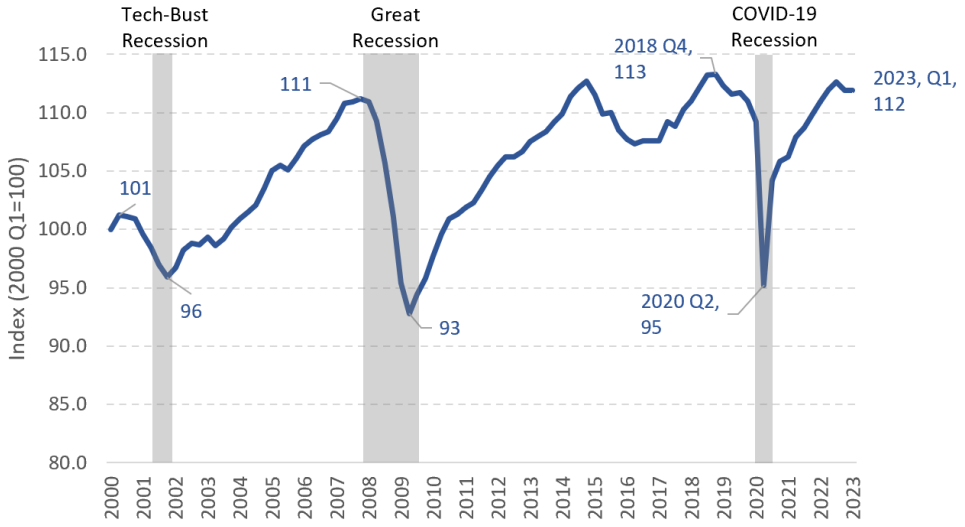
## Industrial Production

Industrial production, which tracks the output of manufacturing, mining, and utilities (for example, power generation), tends to move in concert with business cycles. As shown in **Figure A-39**, industrial production decreased significantly during the last three recessions (2001, 2008-2009, and 2020). Most recently, it dropped about 19 percent from the fourth quarter of 2018 through the second quarter of 2020. By the second quarter of 2022, industrial production had rebounded to fourth quarter 2019 levels— a shorter recovery period than the seven years it took after the Great Recession. However, the trend took another downturn in the fourth quarter of 2022 when the index fell by 0.6 percent due to slowing demand, rising interest rates, and the high value of the dollar, which effectively increases prices for U.S. exports.[39, 40] Entering 2023, the industrial production index stayed flat in the first quarter.

[39] X. Fontdegloria, "U.S. Industrial Production Declined More Than Expected in December," *MarketWatch*, January 18, 2023, https://www.marketwatch.com/story/u-s-industrial-production-declined-more-than-expected-in-december-271674052883.

[40] Lucia Mutikani, "U.S. manufacturing output tumbles in December," Reuters, https://www.reuters.com/markets/us/us-manufacturing-output-tumbles-december-2023-01-18/.

**Figure A-39 Industrial Production Index, Quarterly, Q1 2000-Q1 2023**




***Sources:*** *Board of Governors of the Federal Reserve and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

## Global Supply Chain

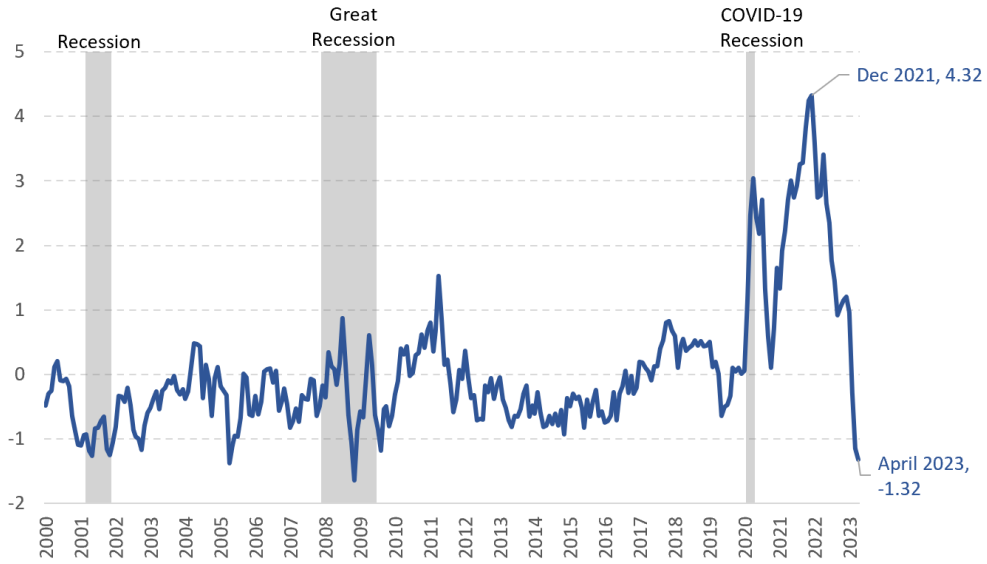
During the pandemic, the fragility of the global supply chain was exposed as COVID-19 led to the shutdown of factories across the globe, revealed transportation bottlenecks, and created a shortage of workers. Nearly all industries were impacted—manufacturing, construction, retail, and wholesale were among the hardest hit. Supply chain bottlenecks restricted the availability of raw materials, manufacturing capabilities, and product accessibility—eventually leading to price increases.

**Figure** A-40 shows the Federal Reserve Bank of New York's Global Supply Chain Pressure Index (GSPCI), which measures strain in the supply chain by combining a variety of transport cost measures with the Purchasing Manager Index. Higher values indicate more stress, while lower values indicate a system running smoothly. The index mostly hovered near zero over the past two decades. In 2020, however, the index rose to 3.0 and, after a brief fall, climbed even higher to 4.3 in December 2021. Since then, the index has again fallen to -1.32 in April 2023—a positive indication that the global logistics system is adapting to the demands of the post-pandemic era. While a smoother running global logistics sector may help economic growth, risks stemming from materials shortages, geopolitical tensions, and continuing changes in the geography of manufacturing will continue to threaten the stability of the global supply chain. [41,42]

[41] M. Derby, "NY Fed index shows global supply chain pressures eased further in March, Reuters, https://www.reuters.com/markets/ny-fed-index-shows-global-supply-chain-pressures-eased-further-march-2023-04-06/, April 6, 2023.

[42] KPMG, The Supply Chain Trends Shaking up 2023," https://kpmg.com/xx/en/home/insights/2022/12/the-supply-chain-trends-shaking-up-2023.html

**Figure A-40 Global Supply Chain Pressure Index (Standard deviation from average), January 2000-April 2023**




***Sources:*** *Federal Reserve Bank of New York and Unison Consulting, Inc.*

***Note:*** *Gray areas are economic recession periods.*

## Summary: Macroeconomic Trends

The current macroeconomic picture is mixed. On the one hand, there are clear indications that the economy has significantly rebounded from the COVID-19 recession. On the other hand, warning signs suggest near-term economic instability. Consumer spending, while strong, has been bolstered by government programs that have now ended, and consumers are increasingly relying on debt. The personal saving rate, while rising, remains below the long-term average, and consumers expected future spending indicates a slowdown. While inflation has eased in 2023, it remains relatively high, while consumer sentiment remains relatively low. These trends are reflected in industrial production, which slowed in late 2022 because of increased costs and reduced demand, despite improvements in the global supply chain index.

# MACROECONOMIC OUTLOOK

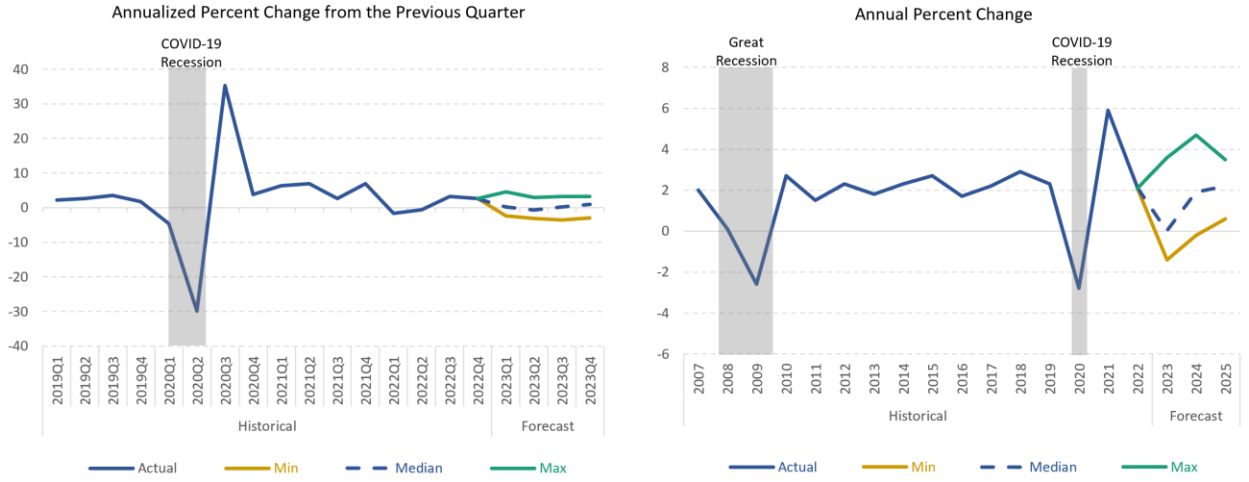
The COVID-19 pandemic has ebbed, but the U.S. economy is showing signs of slowing amid inflationary pressures, weakening consumer confidence, and tightening monetary policy. The FOMC has been actively raising interest rates in 2022 and 2023 to slow inflation. Between March 2022 and March 2023, the FOMC increased the Fed Funds rate nine times—by a total of 475 basis points (4.75 percent), increasing the cost of capital for individuals and corporations. A strong dollar, which is a sign of a strong economy, dampens demand for U.S. exports. Moreover, the global economy is also slowing—the International Monetary Fund (IMF) cut 2023 global growth forecasts, citing the effects of inflation, Russia's invasion of Ukraine, and

China's economic slowdown.[43] Over the long-term, however, history has proven the resilience of the U.S. economy—its ability to bounce from shocks and return to a growth trajectory.

## Short-Term Outlook

Predictions are cautious about the short-term economic outlook. According to the median estimates from the Wall Street Journal (WSJ) April 2023 Economic Forecasting Survey, U.S. real GDP is forecast to grow 0.5 percent in the second quarter of 2023, -0.4 percent in the third quarter of 2023 and 0.5 percent in the fourth quarter of 2023, and 1.2 percent in the first quarter of 2024, as shown in **Figure A-41**. On an annual basis, the median estimate for GDP growth is 0.01 percent in 2023, 1.9 percent in 2024, and 2.2 percent in 2025. The range of predictions varies widely, including negative growth. The median estimate for the probability that the U.S. economy will slide into another recession within 12 months was 61 percent.[44] Other estimates are more pessimistic.[45, 46] For example, the Conference Board forecasts GDP contraction for the second, third and fourth quarters of 2023 and a return to growth in 2024.[47]

**Figure A-41 U.S. Real GDP, Quarterly and Annual Change (Historical and Forecast)**




***Sources:*** *U.S. Bureau of Economic Analysis, Wall Street Journal February 2023 Economic Forecasting Survey, and Unison Consulting, Inc.*

***Note:*** *Gray areas indicate economic recession periods.*

[43] Yuka Hayashi, "IMF Cuts 2023 Global Growth Forecast, Citing Inflation, War and China Slowdown," *The Wall Street Journal*, October 11, 2022.

[44] Based upon the predictions of surveyed economists.

[45] The Conference Board, "US Recession Probability Reaches 96 Percent Heading into Q4," *Navigating the Economic Storm*, September 29, 2022.

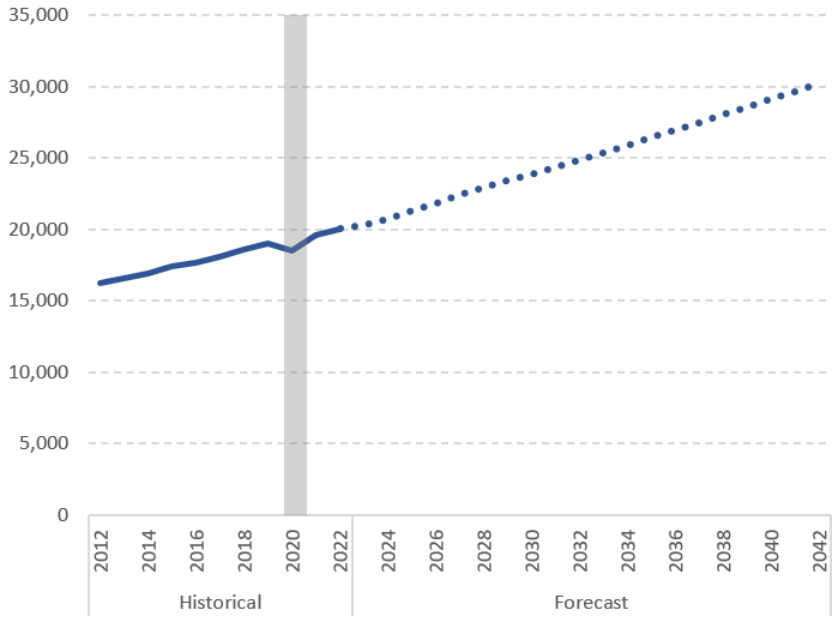
[46] Azhar Iqbal and Nicole Cervi, "Gonna Change My Way of Thinking: Is a Recession Coming? Part I: A New Toolkit to Predict Recessions," *Wells Fargo Economics Special Commentary*, September 23, 2022.

[47] The Conference Board, "The Conference Board Economic Forecast for the US Economy," March 15, 2023, https://www.conference-board.org/research/us-forecast.

## Long-Term Outlook

Despite substantial economic uncertainty in the short- and medium-terms the U.S. economy is projected to return to a steady growth path. **Figure A-42** presents the long-term projected growth of US GDP. Between 2022 and 2042, Moody's Analytics forecasts the U.S. real GDP to grow 51 percent at a compound annual rate of 2.1 percent.

**Figure A-42 Long-term Projected U.S. Real Gross Domestic Product (Billions of Dollars), 2012-2042**

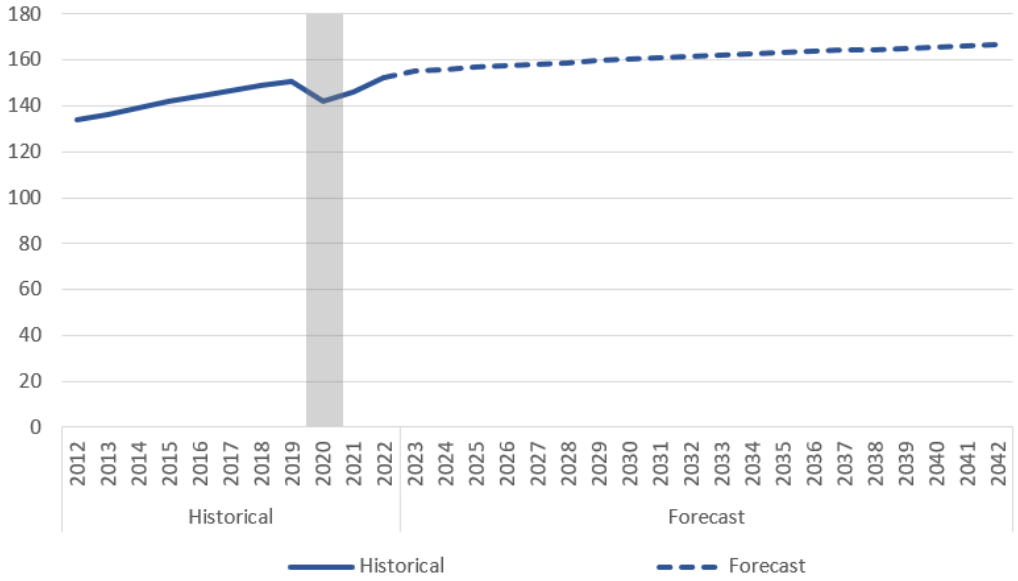



***Sources:*** *U.S. Bureau of Economic Analysis, Moody's Analytics Baseline Forecast (February 2023), and Unison Consulting, Inc.*

***Note:*** *Gray areas indicate economic recession periods.*

**Figure A-43** shows historical and forecast employment. After falling by almost 6 percent between 2019 and 2020, non-farm employment exceeded pre-pandemic levels by the end of 2022. According to Moody's Analytics forecast, U.S. employment will gain over 14 million jobs between 2022 and 2042, increasing at a compound annual rate of about 0.5 percent.

**Figure A-43 Historical and Forecast Nonfarm Employment (Millions), 2012-2042**

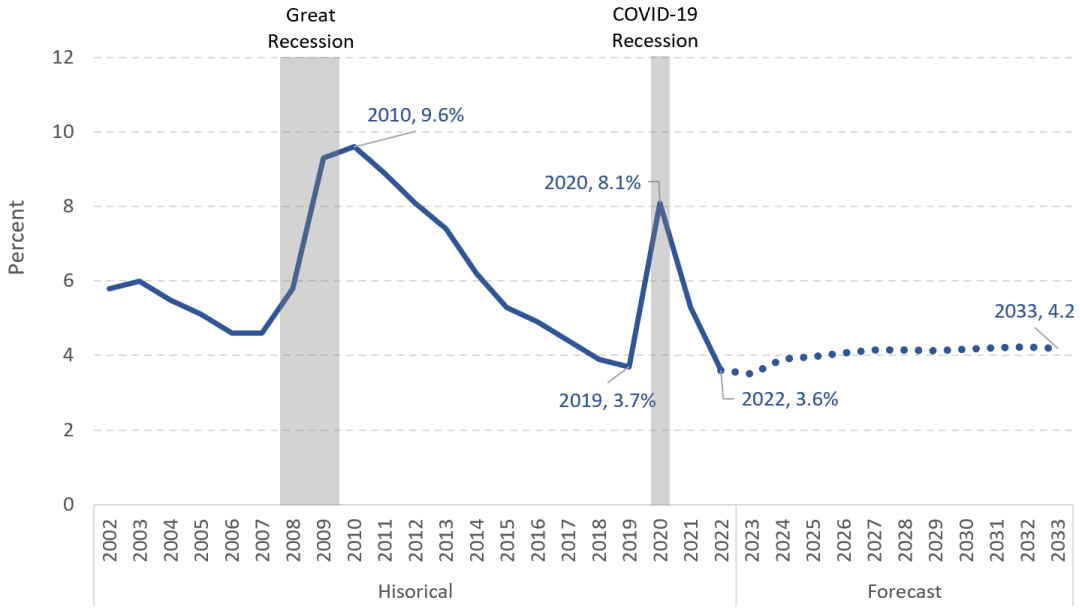



***Sources:*** *U.S. Bureau of Economic Analysis, Moody's Analytics Baseline Forecast (February 2023), and Unison Consulting, Inc.*

***Note:*** *Gray areas indicate economic recession periods.*

Moody's Analytics projects the U.S. unemployment rate to rise slightly above current levels to 4.2 percent by 2027, remaining nearly constant through 2033 at levels consistent with a full-employment economy. **Figure A-44** shows forecast annual unemployment rates with historical data from 2002 to provide a long-term perspective.

**Figure A-44 Historical and Forecast Unemployment Rate, 2002-2033**




***Sources:*** *U.S. Bureau of labor Statistics, Moody's Analytics Baseline Forecast (February 2023), and Unison Consulting, Inc.*

***Note:*** *Gray areas indicate economic recession periods.*

## Outlook Summary

Economic signals in the Riverside MSA are generally positive. Population, real GDP, business establishment, and employment growth have been strong compared to California and the nation. In addition, the vital tourism industry has shown resiliency after the COVID-19 recession. Several industries in the Riverside MSA are poised to grow over the next decade. On the other hand, Riverside MSA residents generally have lower educational attainment and incomes than California and national averages. Living costs, while lower than nearby Los Angeles and San Diego, are higher than those for the average U.S. resident. Pro-cyclical industries, such as tourism, are particularly vulnerable to recession, and the state has already suffered due to layoffs (or labor disputes) in the technology, information, and logistics sectors.[48,49]

Macroeconomic trends show mixed signals, particularly in the short run. Supply-chain bottlenecks have eased, promoting more efficient production and distribution. Real GDP declined during the first half of 2022, and although it rebounded in the second half of the year, the probability of the U.S. economy going into another recession in the near-term is rising. Consumer spending remains strong, although consumer confidence has decreased due to inflation and recession worries. Rising interest rates—a consequence of Fed funds rate hikes to slow inflation—dampen housing demand and threaten capital investment. Despite recent announcements of layoffs in some sectors, the labor market remains strong for the time being. Beyond 2023 and 2024, the outlook remains positive, but international geopolitical tensions are a continuing concern for the global economy.

[48] K. Lee, "California Economy Is on Edge After Tech Layoffs and Studio Cutbacks," *The New York Times*, April 11, 2023.

[49] A. Zimmerman, "LA Port director expects 'real progress' in West Coast labor talks this spring," *Industry Dive*, https://www.supplychaindive.com/news/los-angeles-port-west-coast-labor-ilwu/643048/, February 21, 2023.