

May 6, 2021

2019-2029 Employment Projections

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Industry Projections Methodology: Estimation Process

- The long-term projections process estimates employment ten years into the future
 - Historic 2019 employment data are used as the base year of the forecast
 - Employment estimates for 2019 are the latest available annual data published by the BLS QCEW program
 - Projected data are modeled for forecast-year 2029
- Projected employment estimates are created using historical employment trends
- Estimates are refined through a review of current U.S. and Arizona economic trends

Industry Projections Methodology: Estimation Process

- The principal data source is the Quarterly Census of Employment and Wages (QCEW) data
 - Near census of all employment subject to unemployment insurance tax law (92%-95% of total Arizona Employment)
- The QCEW industry classification structure differs slightly from the CES industry classification structure
 - Notably:
 - QCEW: State and local government education employment is categorized in the Educational Services sector
 - CES: State and local government education employment is categorized in the Government sector

Industry Projections Methodology: Data Source

- Industry Projections Estimates **Include**:
 - Nonfarm employment
 - Self-employed workers
 - Private household workers
 - Railway workers
 - Religious organization workers
 - Farm workers
- Industry Projections Estimates **Exclude**:
 - Unpaid family workers
 - Active duty military service personnel

Substate Regions

Projected employment was estimated for 20 substate regions including:

All Fifteen Arizona Counties

Three Multi-County Areas

- Northeast Arizona: Apache, Navajo, and Gila Counties
- Southeast Arizona: Greenlee, Graham, and Cochise Counties
- Mohave and La Paz Counties

Two Sub-County Areas

- City of Phoenix and Balance of Maricopa County

Industry Projections Methodology: Economic Assumptions

- No major economic or political disruptions will occur
- Government agencies will operate within their budgets
- Population distribution will not differ significantly
- The U.S. economic framework will not differ significantly
- Long-term employment patterns will continue in most industries

The projections methodology in its entirety can be found at
https://www.azcommerce.com/media/1545673/lt_proj_method.pdf

Additional Forecast Assumptions

- Arizona's population growth will continue to be one of the strongest in the nation.
- The demand for health care services will continue to increase as a large portion of the population reaches medicare eligibility age.
- Nonstore retail and transportation and warehousing will drive employment growth within the retail trade sector.
- Impacts of COVID-19 on long-term job growth will be minimal, though not zero, and will be concentrated primarily in the leisure and hospitality industry.

Arizona Projections Highlights

- Total Arizona employment is projected to grow by 549,453 jobs over the ten-year period, reaching 3,666,136 jobs in 2029.
- Total Arizona employment is projected to grow 1.6% annually (17.6% total growth) from 2019-2029.
- Arizona employment growth (1.6% annualized) is projected to outpace U.S. employment growth (0.4% annualized) over the ten-year period.
- Educational and Health Services is projected to add the largest number of jobs (20,784 jobs annually).
- Educational and Health Services is also projected to record the largest percentage gain, growing 2.8% annually.

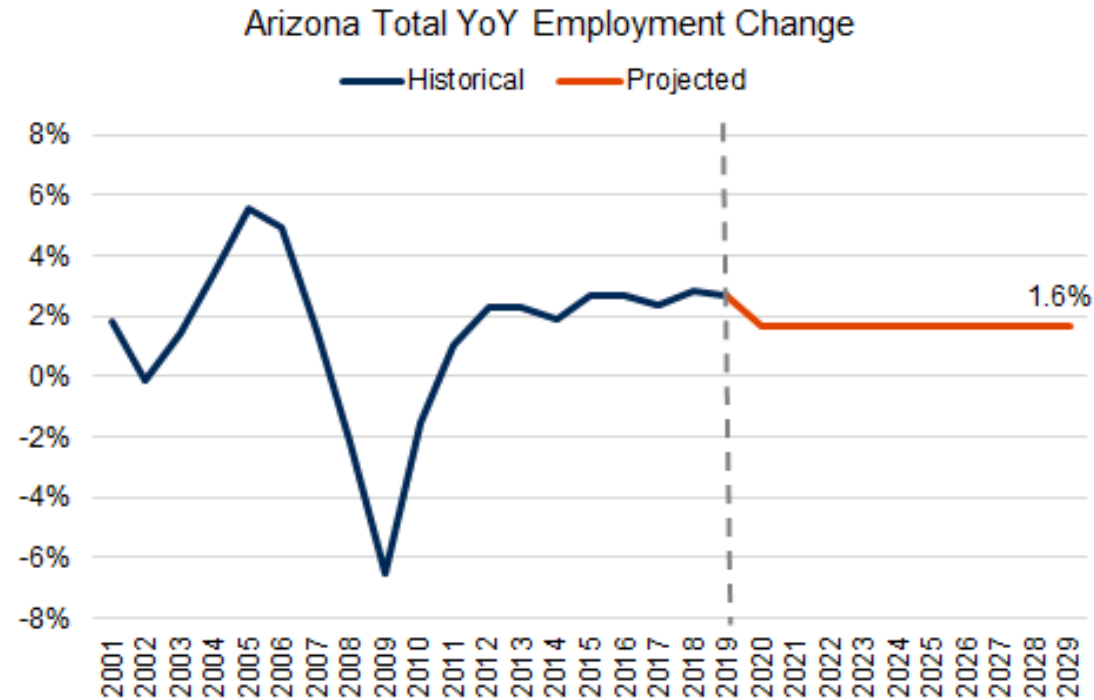
Projected Employment Growth Comparison

Area	Employment Levels		Employment Change		
	2019	2029	Numeric Change	Percentage Change	Annualized % Change
Arizona	3,116,683	3,666,136	549,453	17.6%	1.6%
United States	162,795,600	168,834,700	6,039,200	3.7%	0.4%

Source: Arizona Office of Economic Opportunity

Note: National 2019-2029 projections were released on September 1, 2020

Arizona Total Employment



Source: Arizona Office of Economic Opportunity

Total employment is projected to grow 549,453 jobs or 1.6% annually from 2019-2029

- From 2009-2019, total employment grew by 539,350 jobs or 1.9% annually
- From 1999-2009, total employment grew by 305,905 jobs or 1.3%

Economic Trends

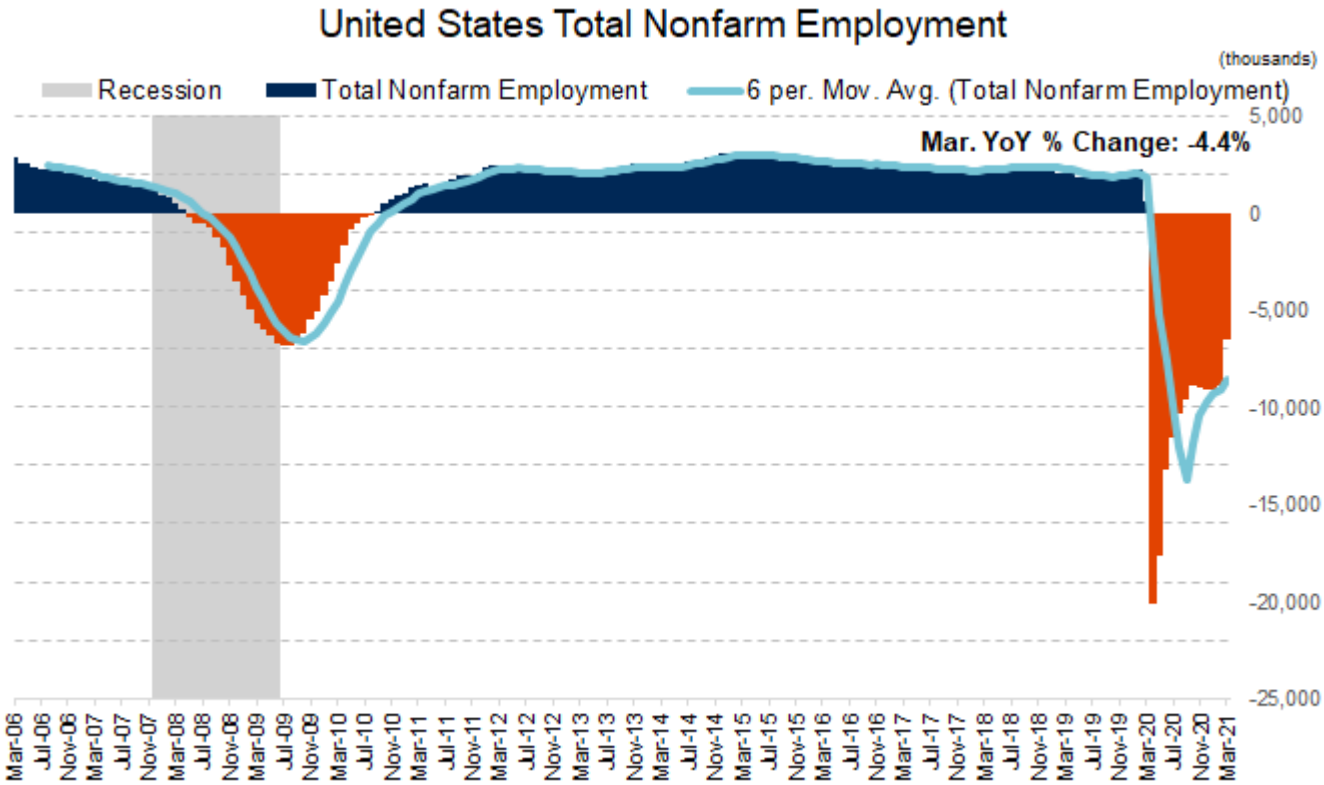
Short-term

- As of May 3, 2021, 30% of the Arizona population and 32% of the U.S. population were fully vaccinated for COVID-19.
- As of March 2021, the United States and Arizona have recovered 62% and 68% of the jobs lost during the COVID-19 pandemic, respectively.

Long-term

- U.S. population continues to grow, but at a decelerating pace.
- Arizona population growth has been among the fastest in the nation.
- A significant portion of the U.S. population is nearing retirement age, which will impact the demand for health care services.
- Online retail (e-commerce) continues to grow in popularity among consumers.
- The Arizona labor force has grown steadily over the past two decades.

U.S. Nonfarm Employment



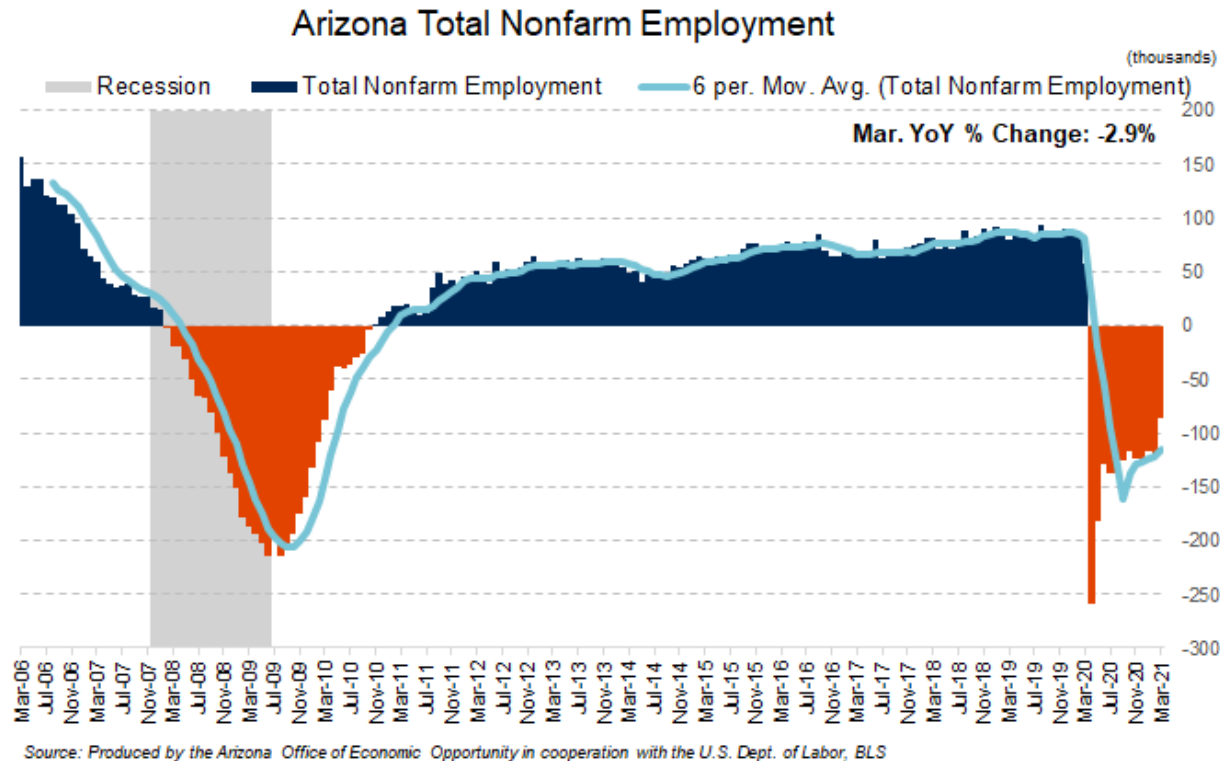
Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, BLS

Note: Data are Not Seasonally Adjusted

U.S. nonfarm employment recorded YoY losses in the past 12 months following 115 consecutive months of YoY growth

- April 2020: declined 13.4% YoY
- March 2021: declined 4.4% YoY

Arizona Nonfarm Employment



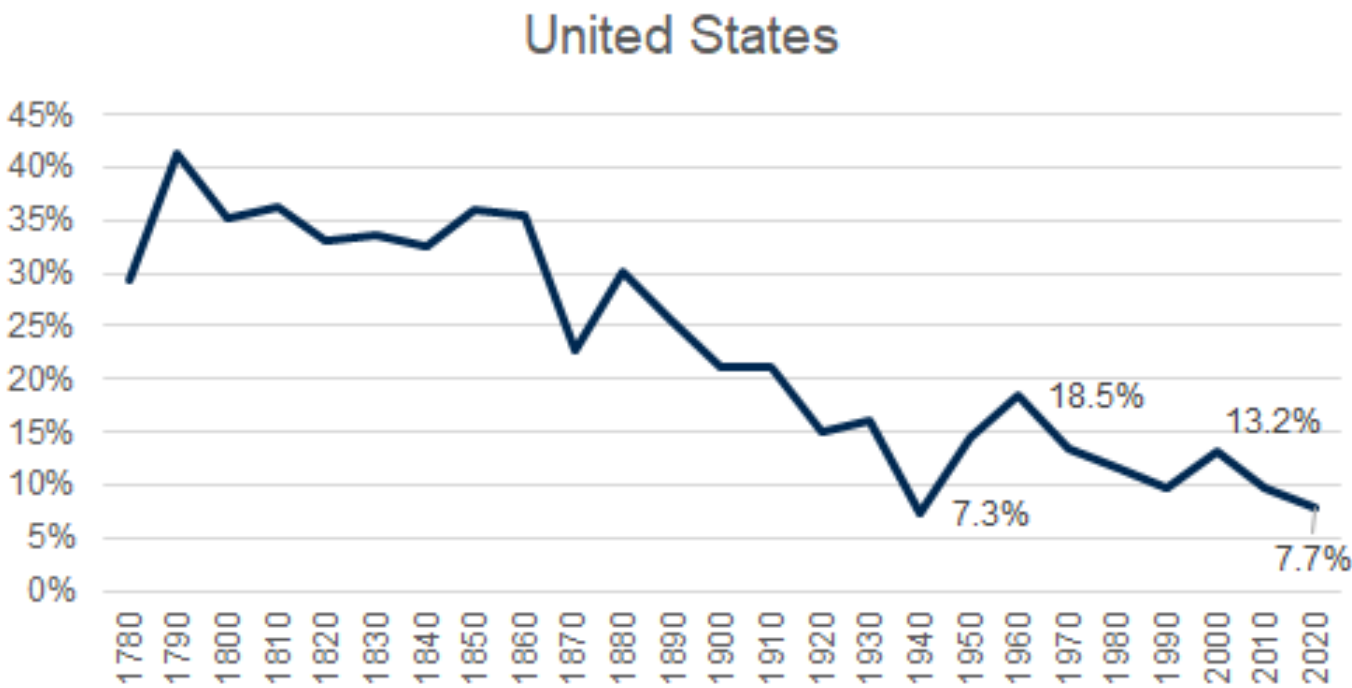
Note: Data are Not Seasonally Adjusted

Arizona employment decreased by 86,000 jobs from Mar. 2020 to Mar. 2021

Mar. 2020 employment declines were not as dramatic as losses recorded nationally.

- Arizona employment declined by 2.9% YoY
- U.S. employment declined by 4.4% YoY

Decennial Census Population Growth

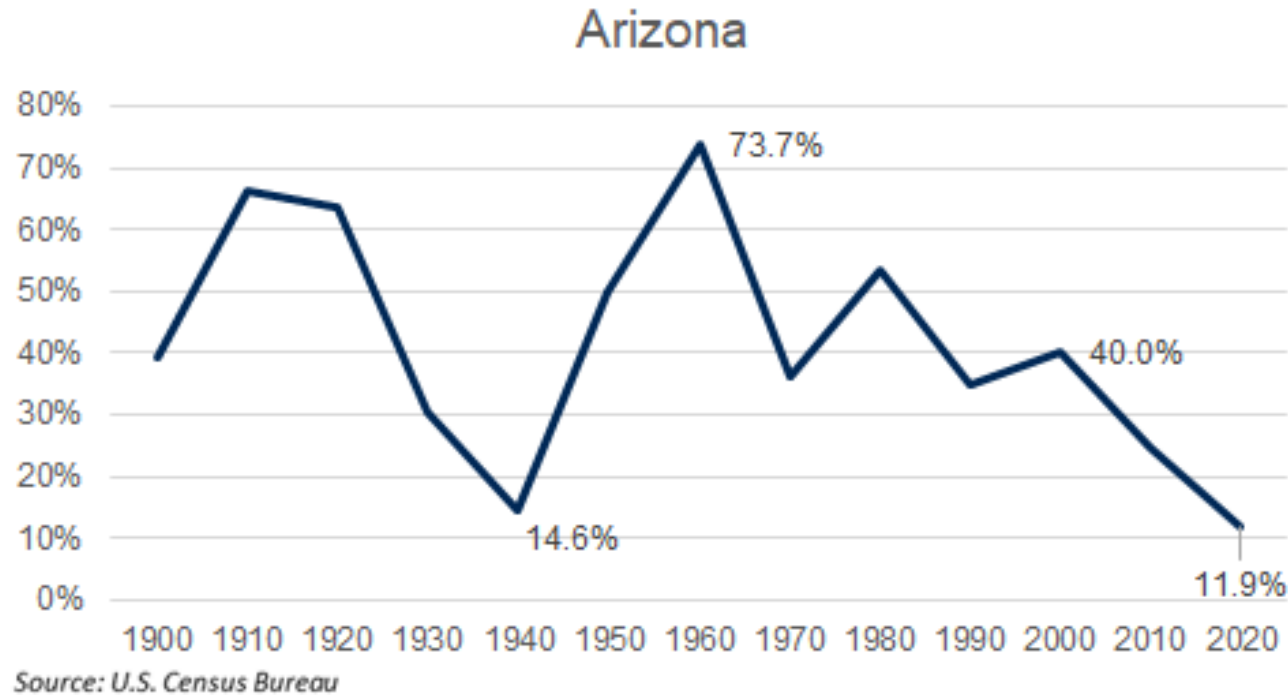


Source: U.S. Census Bureau

The population growth rate from 2010-2020 was the second slowest growth rate on record (1780-2020).

- The U.S. population grew by 7.7% from 2010-2020.
- The 2010-2020 population growth rate was the slowest since the Great Depression (1930-1940).

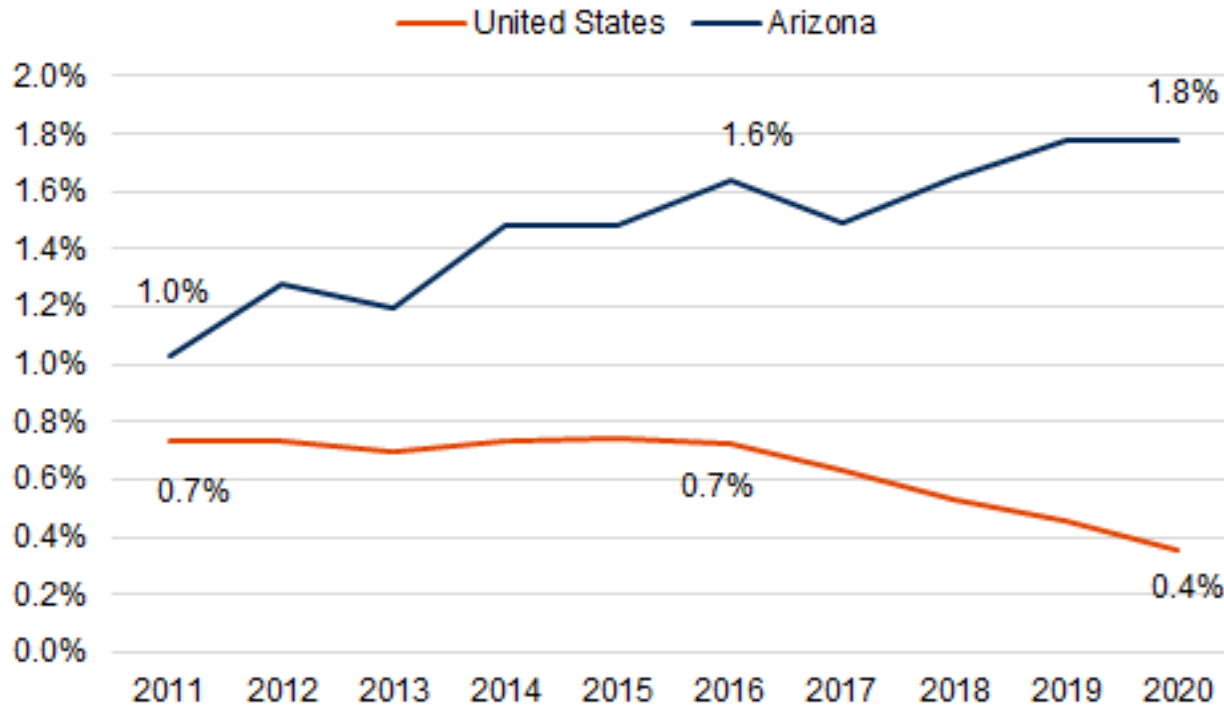
Decennial Census Population Growth



Arizona's 2010-2020 population growth was one of the fastest in the nation, but slower than growth in past decades.

- From 2010-2020, Arizona population grew by 11.9%.
 - Arizona's population growth ranked 9 in the nation
 - Growth from 2010-2020 was the slowest on record for Arizona (1900-2020).

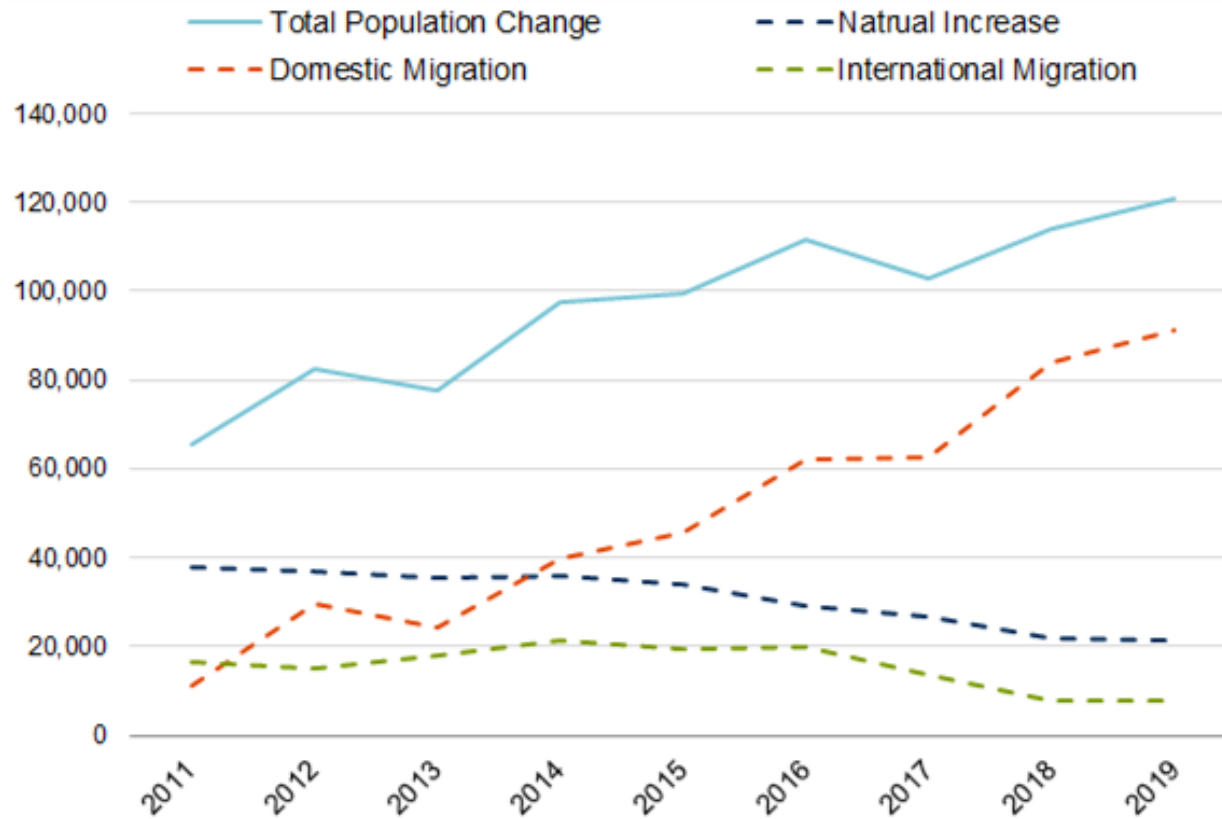
Population Growth



Source: U.S. Census Bureau

- U.S. population continues to grow, but at a decelerating pace
- Arizona's 2020 population growth rate was four times larger than the U.S. population growth rate
- Arizona population growth ranked 2 in the nation in 2020 and 3 in 2019

Arizona Annual Population Change

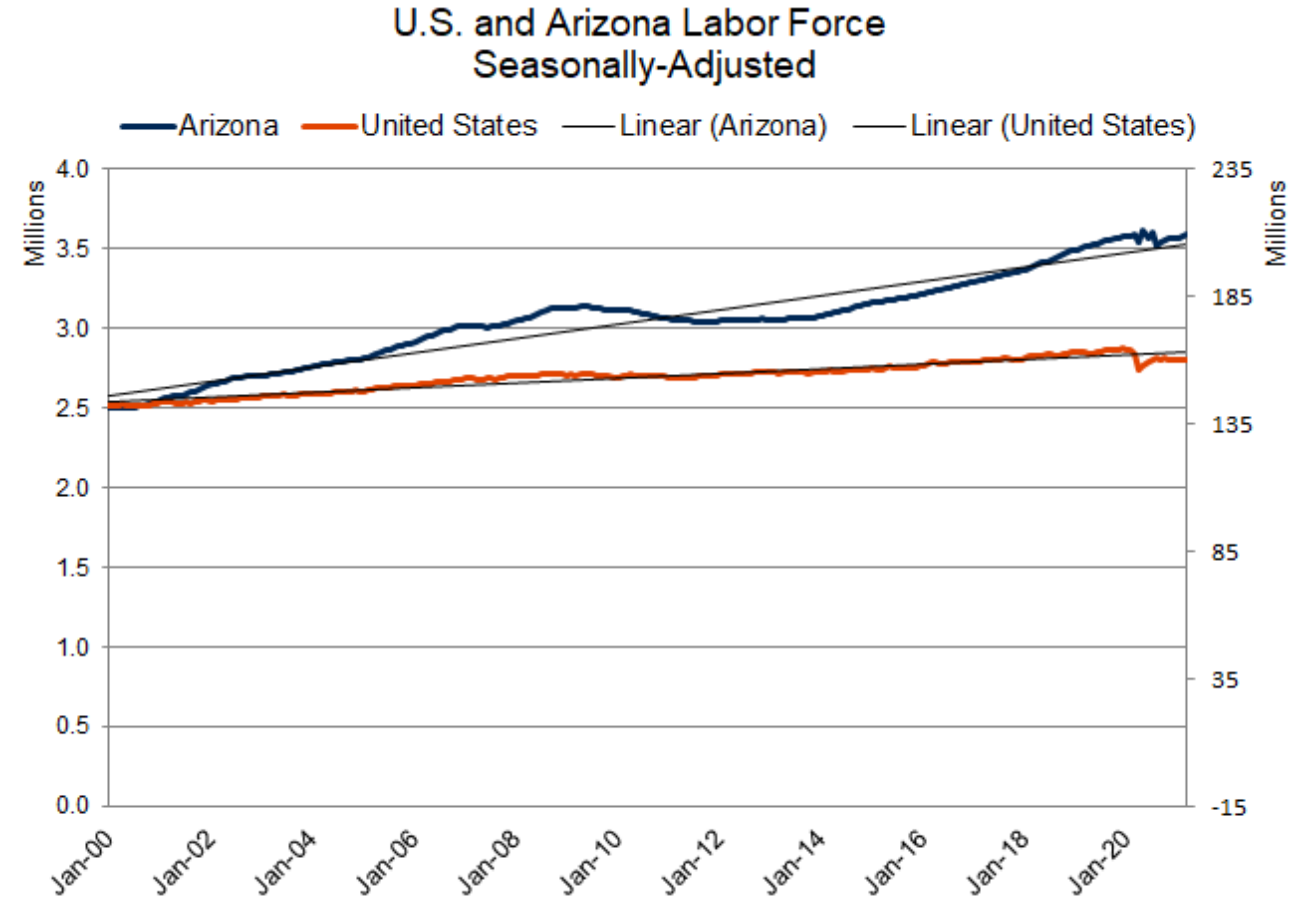


Source: U.S Census Bureau

Arizona's strong population growth can be attributed to an increase in domestic migration into the state.

- In 2011, total migration accounted for 42% of total population growth.
- In 2019, total migration accounted for 82% of total population growth.
- Arizona migration growth ranked 3rd in the nation in 2019.

Labor Force Growth



Source: Produced by the Arizona Office of Economic Opportunity

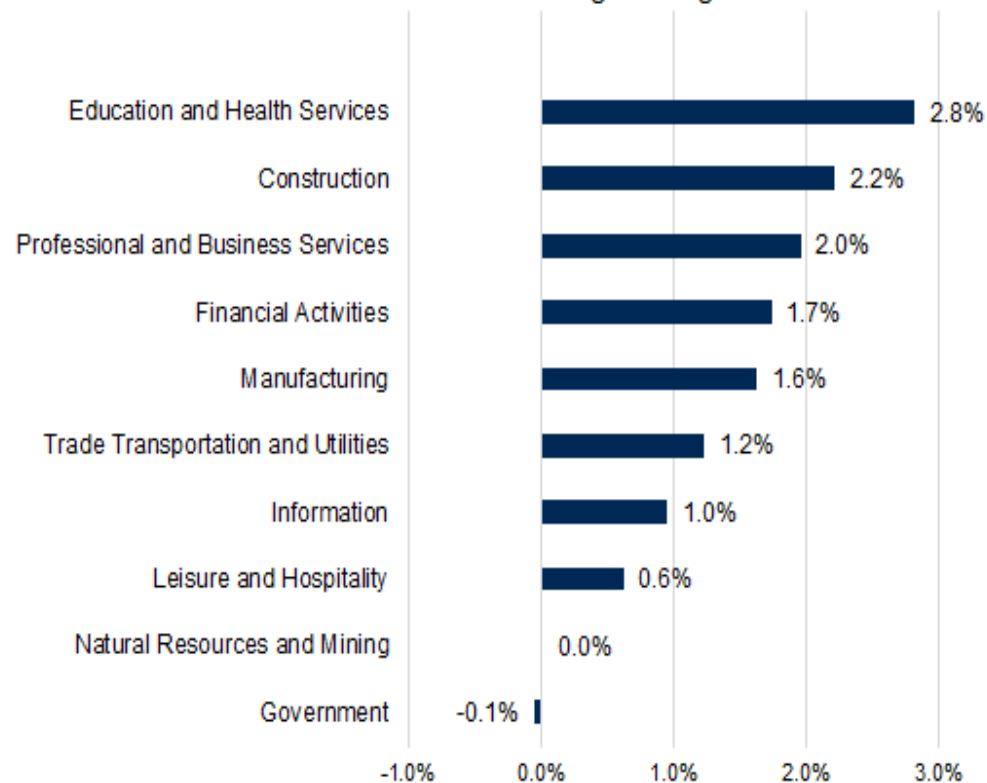
The Arizona labor force grew by more than 1 million people over the past two decades (Mar. '01 - Mar. '21)

The Arizona labor force grew more than three times faster than the U.S. labor force from Mar. '01 to Mar. '21

- Arizona labor force grew by 1.7% annually
- U.S. labor force grew by 0.5% annually

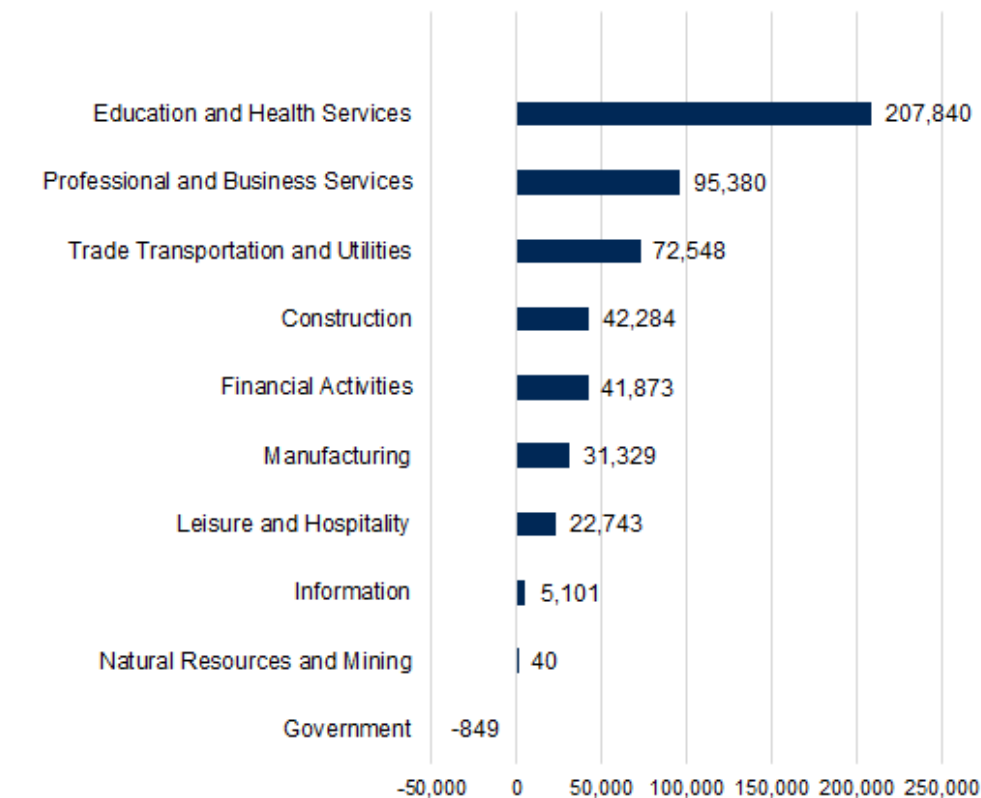
Projected Industry Employment Change

Arizona Supersector Employment
2019-2029 Annualized Percentage Change



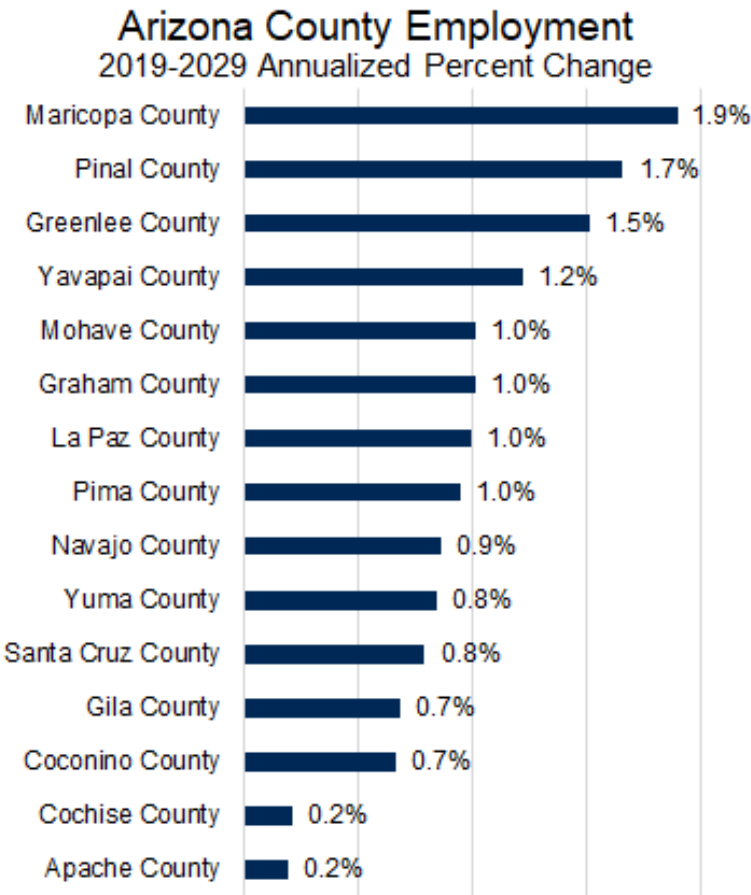
Source: Arizona Office of Economic Opportunity

Arizona Supersector Employment
2019-2029 Total Numeric Change

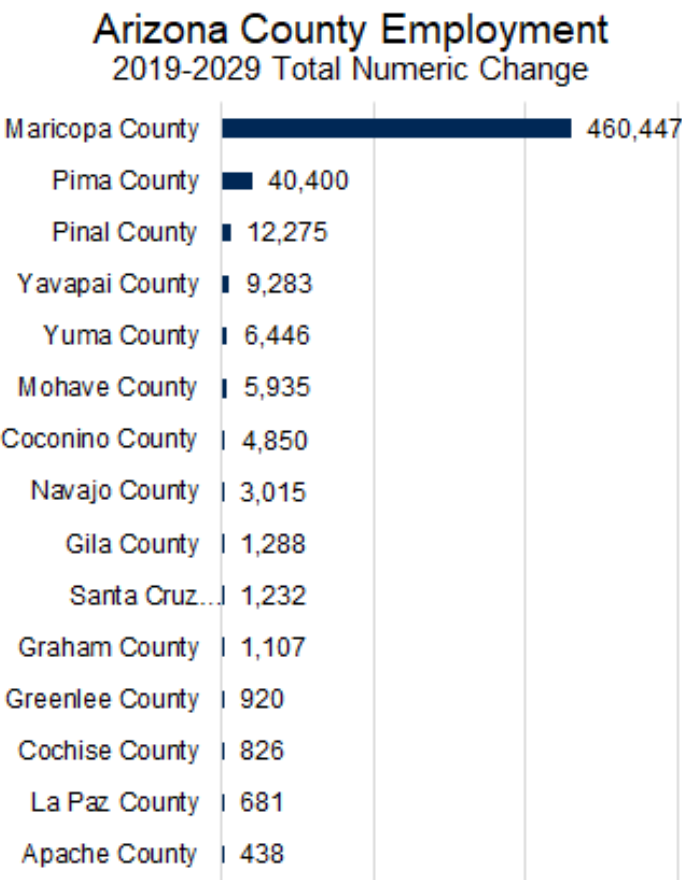


Source: Arizona Office of Economic Opportunity

Projected Employment by Arizona county



Source: Arizona Office of Economic Opportunity

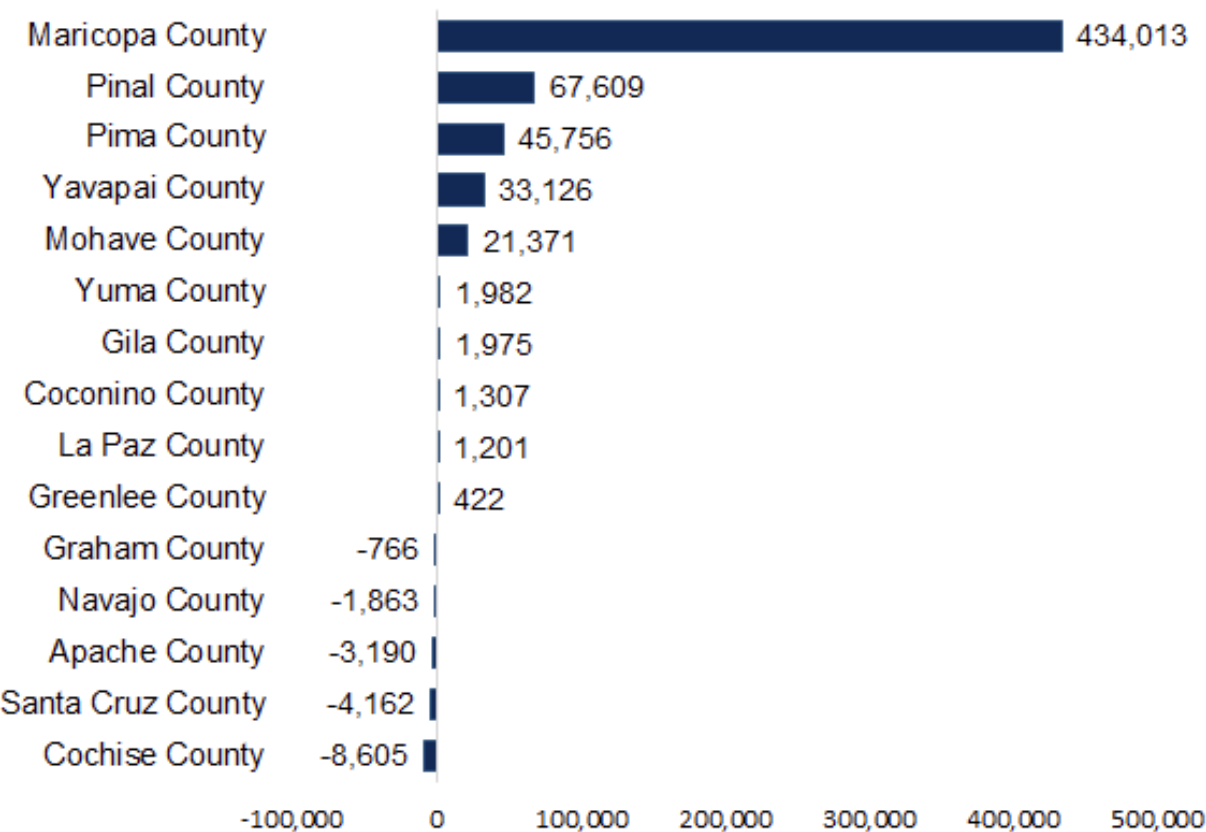


Source: Arizona Office of Economic Opportunity

- Maricopa County is projected to account for 85% of job gains in Arizona from 2019-2029
- Maricopa County accounted for 84% of job gains in Arizona from 2011-2019

Population Considerations

Net Migration Change by County 2010 to 2019



Source: U.S Census Bureau

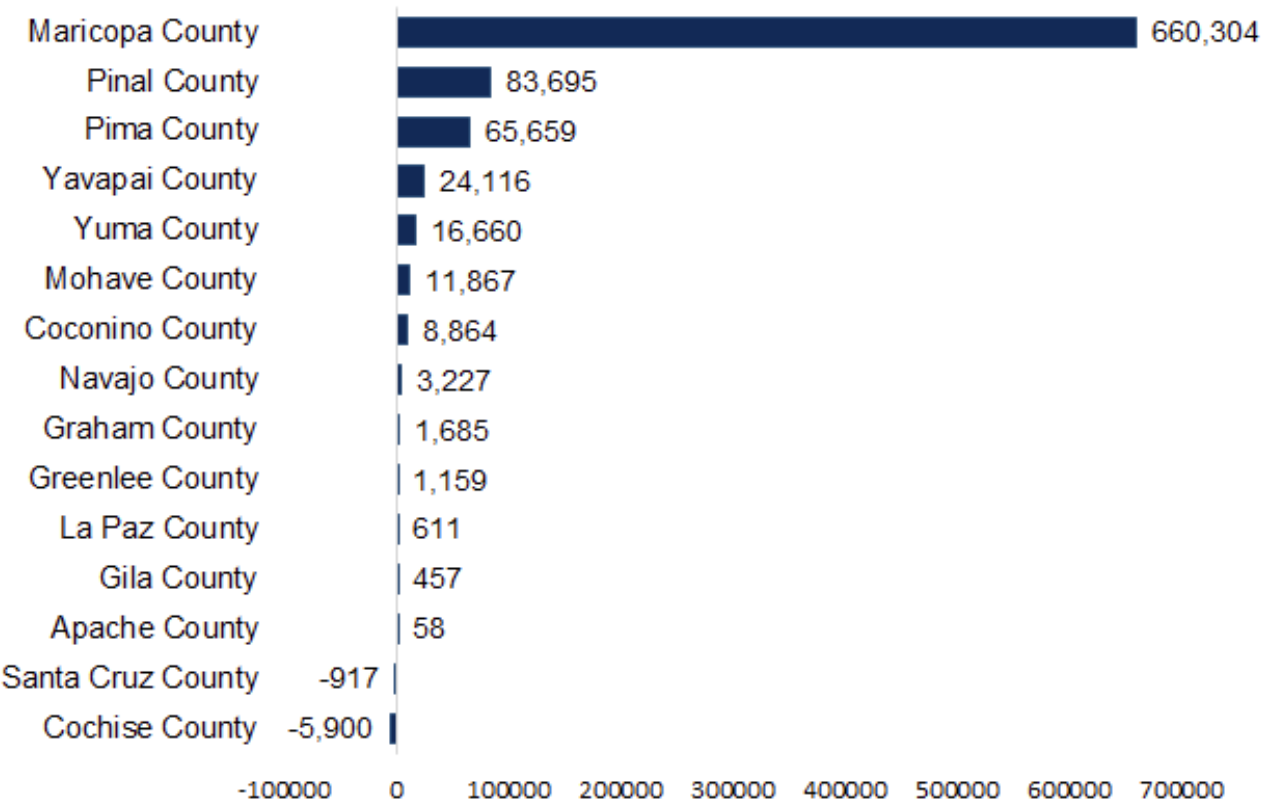
From 2010-2019, Arizona net migration increased by 590,000 people

- Maricopa County accounted for 74% (434,000 people) of the total net migration growth for the state.

Maricopa County population represented 61% of Arizona population from 2010-2019

Population Considerations

Total Population Change by County 2010 to 2019

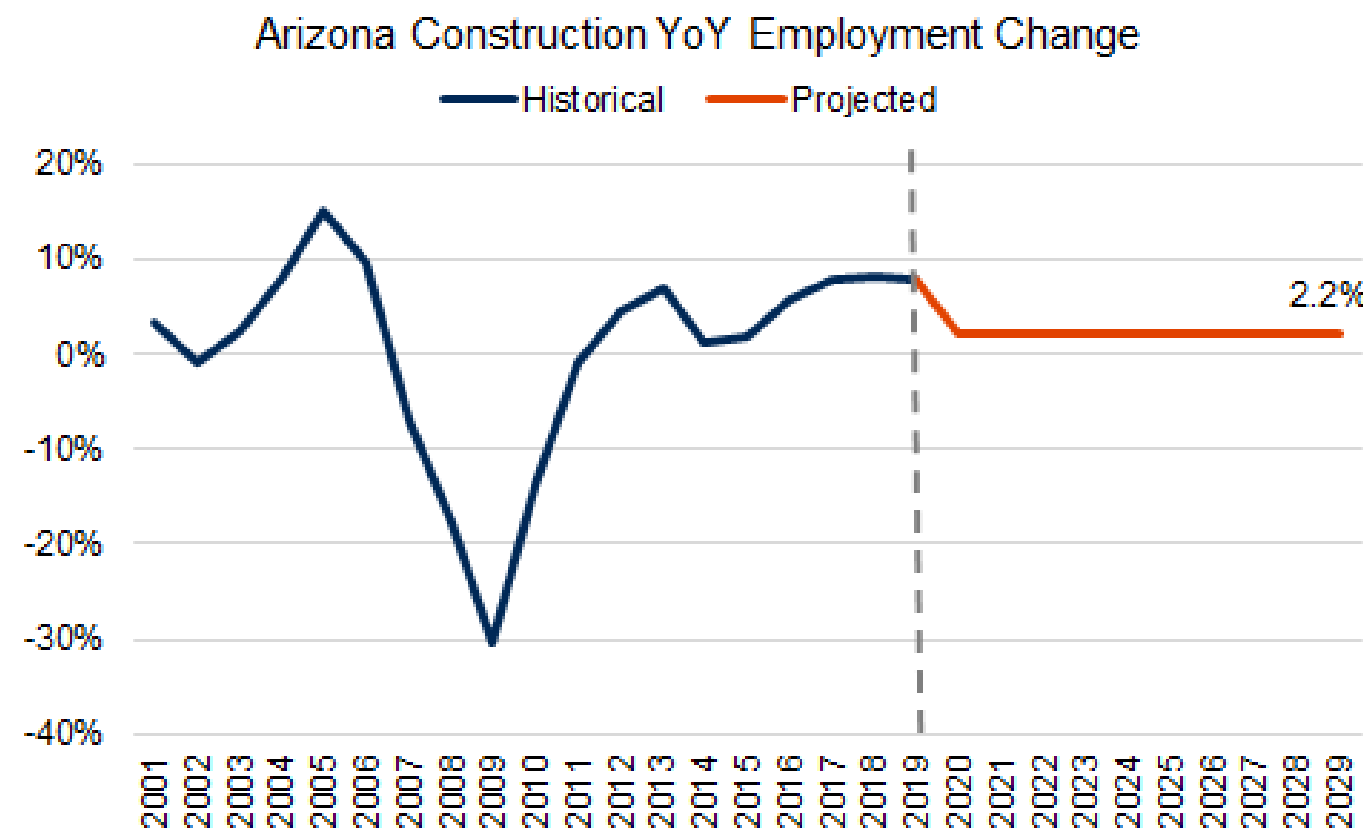


Source: U.S Census Bureau

From 2010-2019, Arizona’s total population increased by 871,545 people

- Maricopa County accounted for 76% (660,000 people) of the total population change for the state.

Industry Highlight: Construction



Source: Arizona Office of Economic Opportunity

Construction employment growth is projected to continue through 2029

- Demand to purchase and rent residential housing is likely to continue
- Population growth is likely to continue, driving demand for residential construction

U.S. Housing Supply

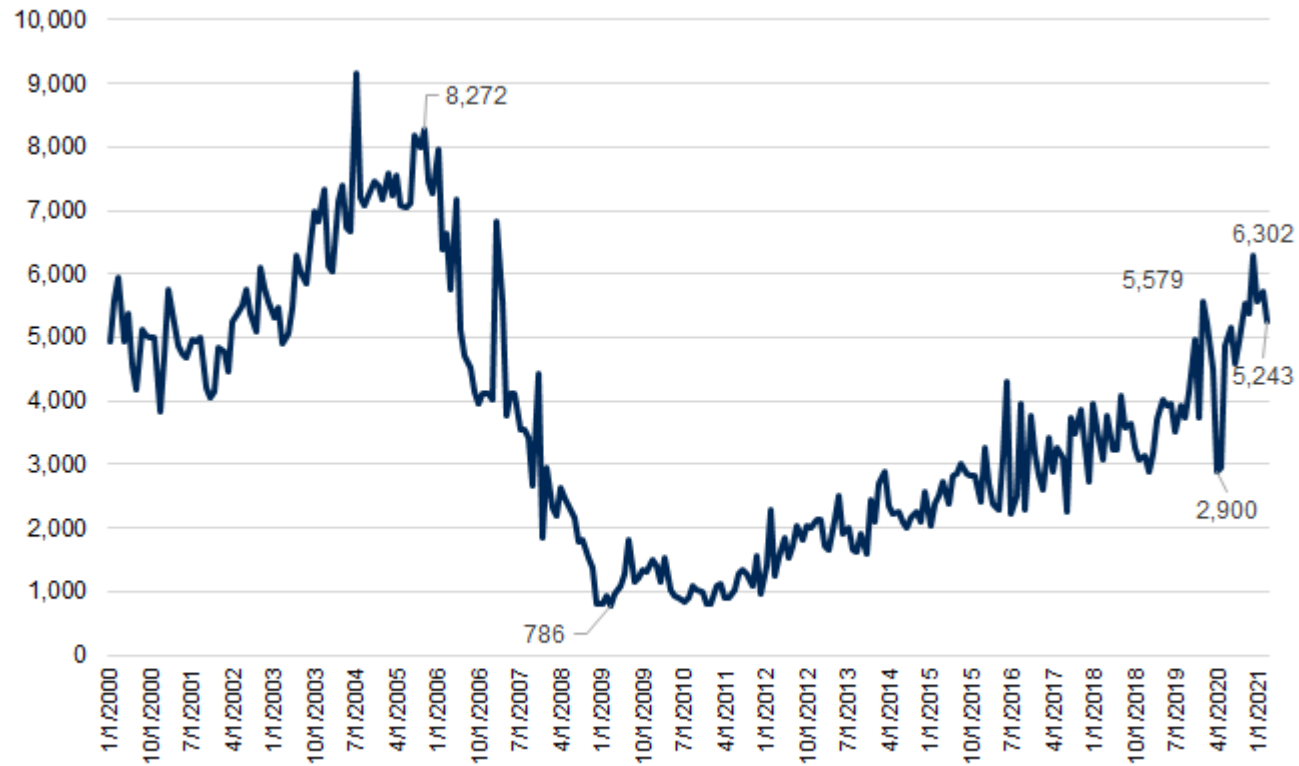


Source: Board of Governors of the Federal Reserve System (US)

Housing Supply rates remain at record lows.

- Since 2000, the average housing supply rate has been 5.7%. The March 2021 Housing supply rate is 3.6%

Arizona New Private Housing Units Authorized by Building Permits



Source: U.S. Census Bureau

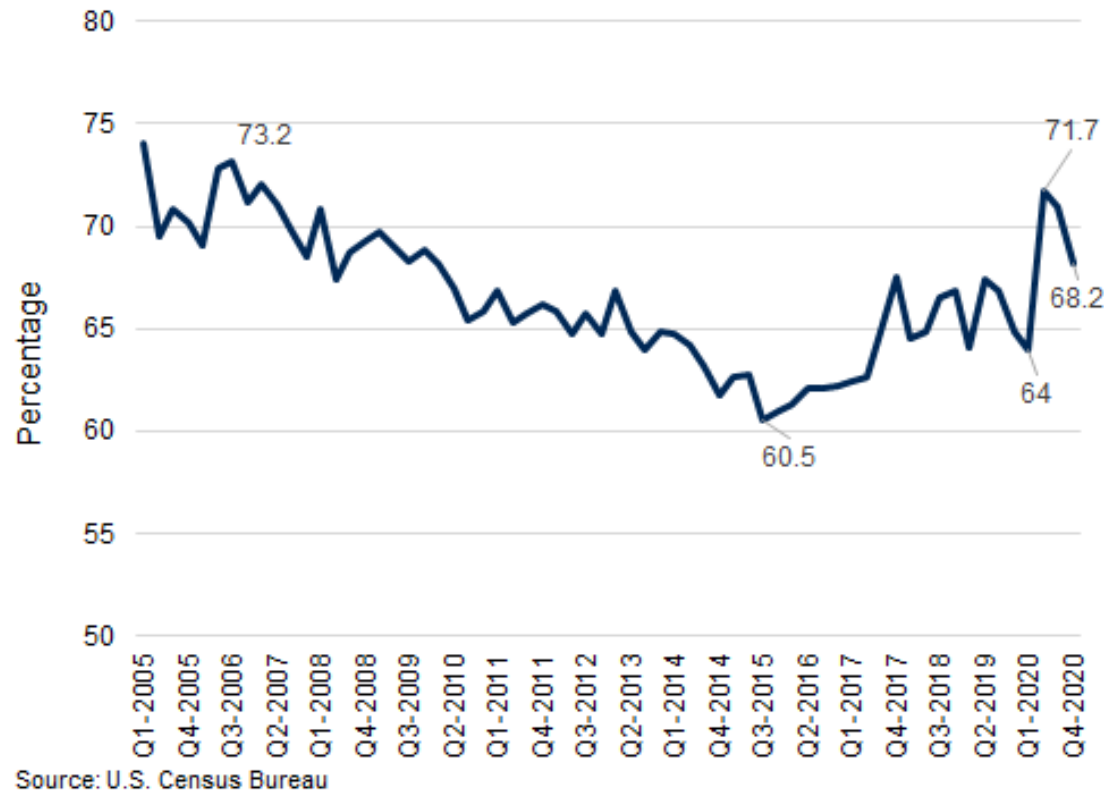
Note: Data are Seasonally Adjusted

Building permit authorizations steadily increased from 2010-2019

Because of the COVID-19 pandemic, building permit authorizations dramatically declined in April 2020.

- 5,243 building permits were authorized in March 2021, up 745 (16.6%) permit authorizations from March 2020.

Arizona Homeownership Rate

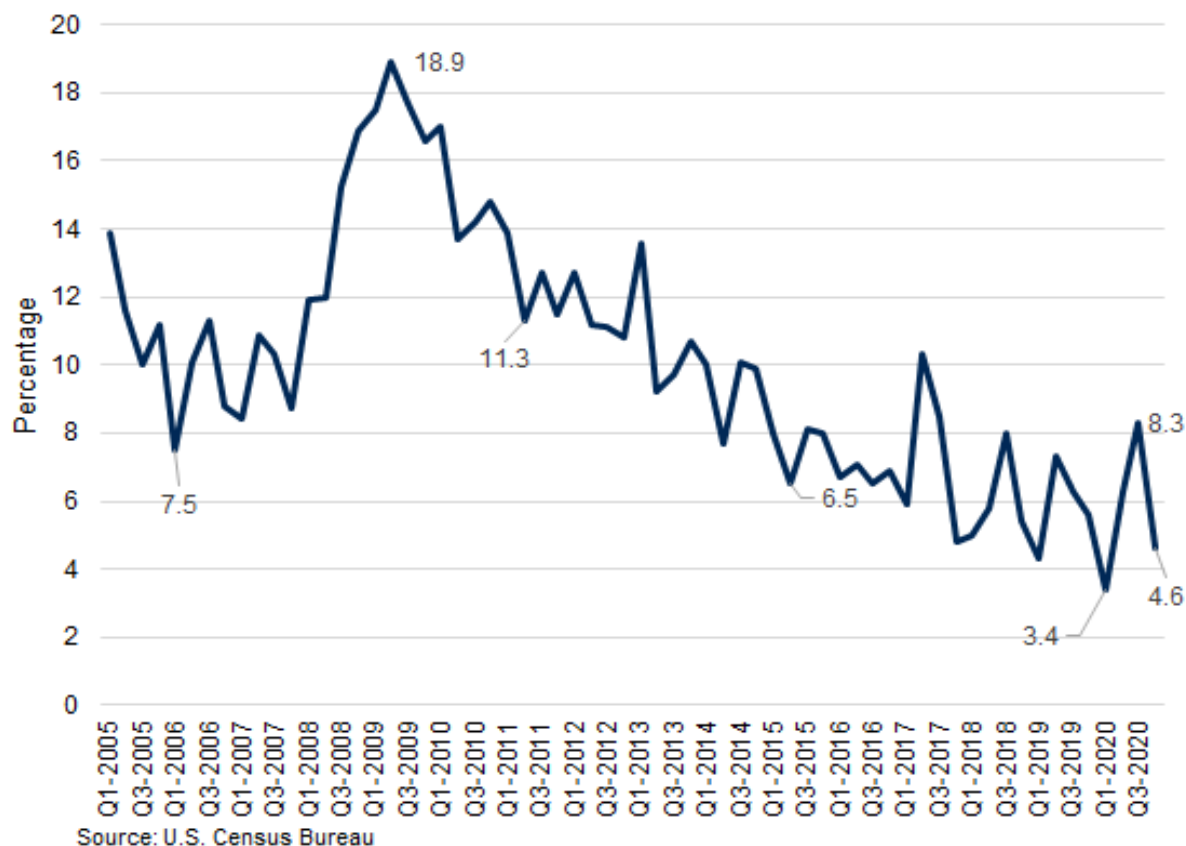


Note: Data are Not Seasonally Adjusted

Demand for residential housing continues

- Homeownership rates have continued to increase over the past five years
- Homeownership rates rebounded from historic lows of 60.5% in 2015 to 68.2% in Q4 2020

Arizona Rental Vacancy Rate



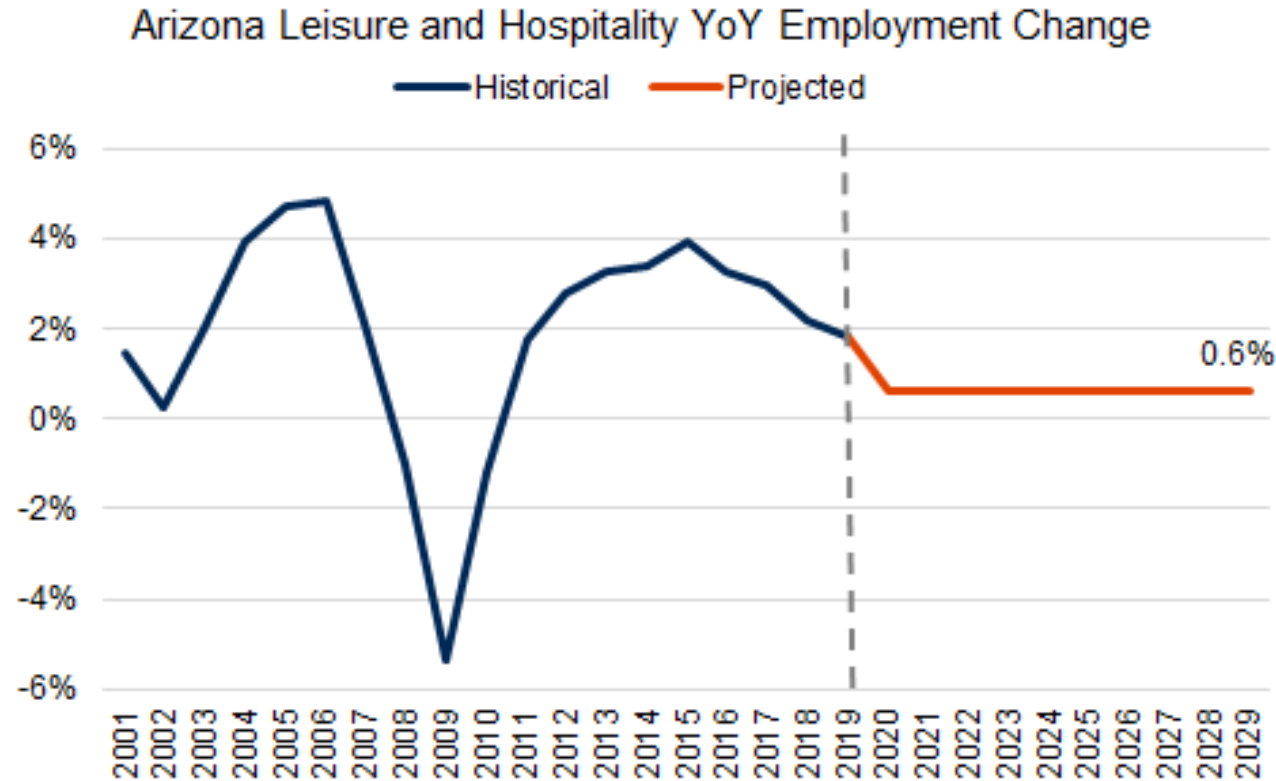
Note: Data are Not Seasonally Adjusted

Demand for rental housing continues to outpace supply

- The rental vacancy rate has declined to near historic lows in Q4 2020

Construction employment is projected to increase as new residential housing is needed to meet demand

Industry Highlight: Leisure and Hospitality



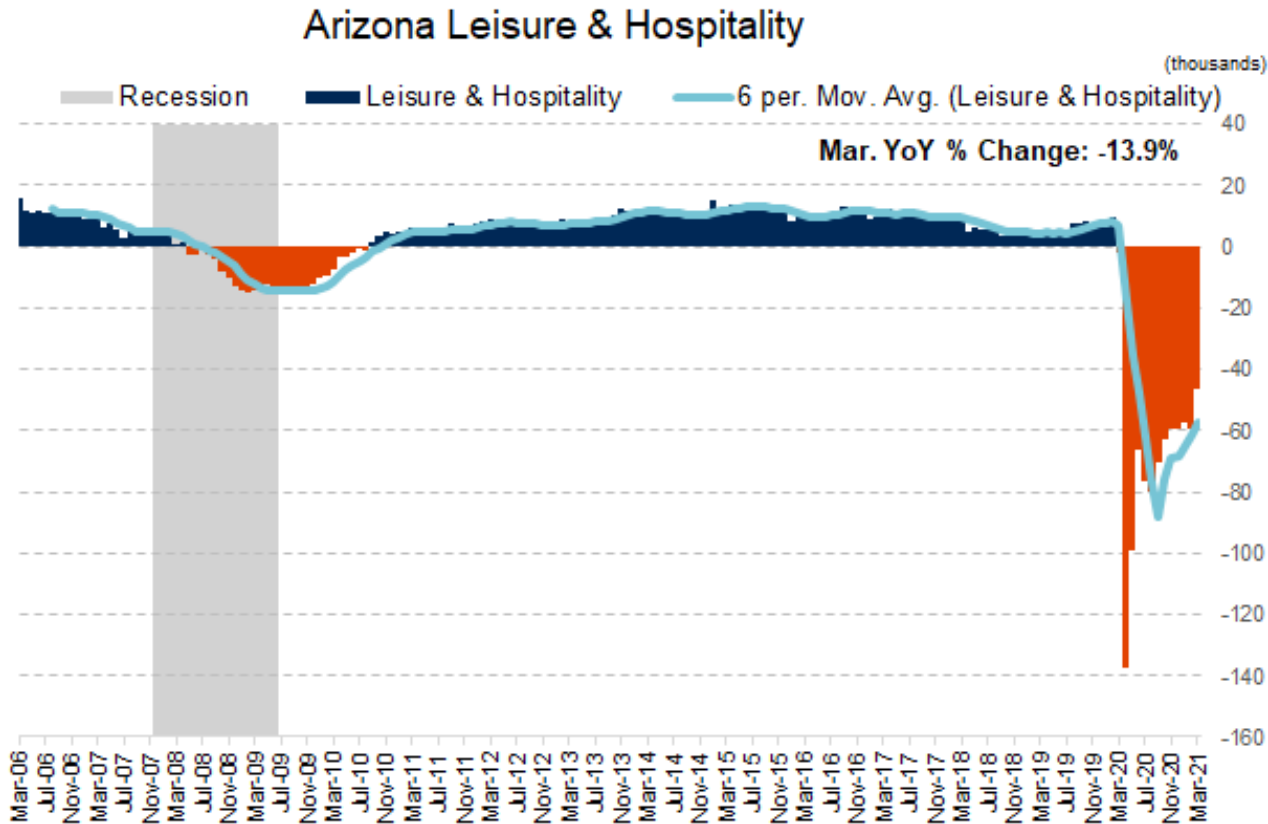
Source: Arizona Office of Economic Opportunity

Leisure and Hospitality (L&H) is projected to gain jobs through 2029, though at a slower pace than it has in recent years

Job gains are projected to be strongest in:

- Food Service and Drinking Places (0.8% annual growth)
- Accommodation (0.4% annual growth)
- Amusement, Gambling, and Rec. Industries (0.3% annual growth)

Industry Highlight: Leisure and Hospitality



Source: Produced by the Arizona Office of Economic Opportunity in cooperation with the U.S. Dept. of Labor, BLS

Note: Data are Not Seasonally Adjusted

Leisure and Hospitality (L&H) recorded the largest job declines of any sector because of the COVID-19 pandemic

- In April 2020, L&H employment was down by 40.7% YoY
- In March 2021, L&H employment was down by 13.9% YoY

Industry Highlight: Health Care and Social Assistance

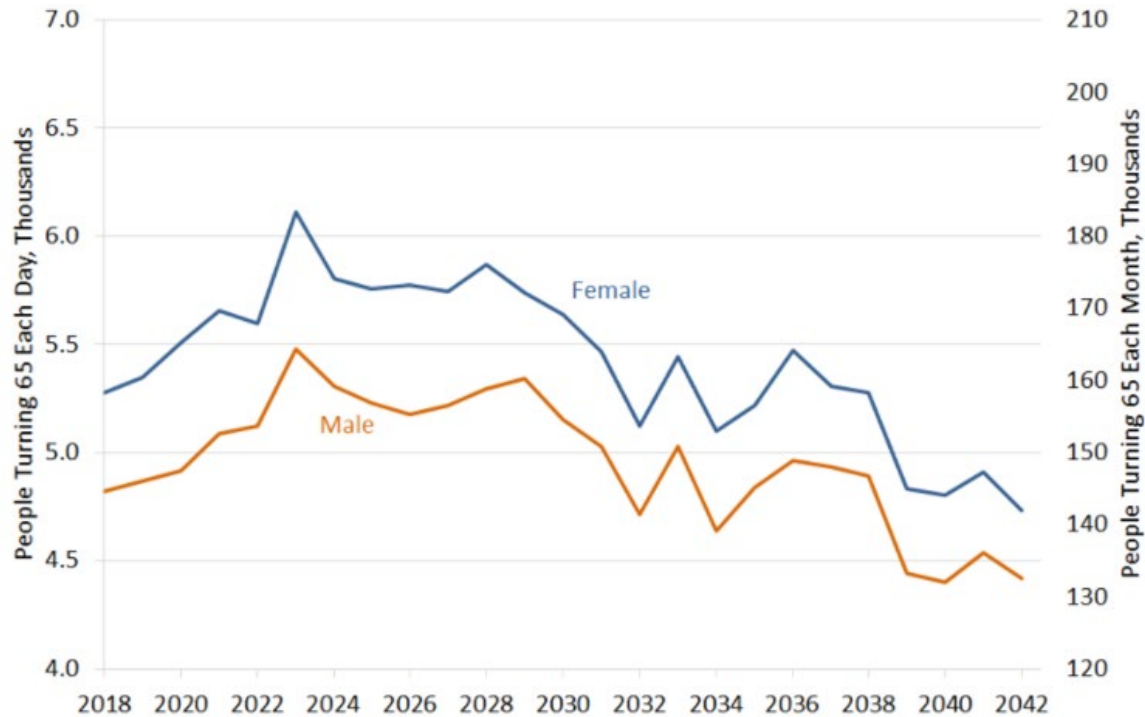
Sector	Historic Change ¹ (2009-2019)		Projected Change ² (2019-2029)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Health Care and Social Assistance	112,114	3.2%	180,544	3.7%
Ambulatory Health Care Services	46,032	3.1%	79,885	3.8%
Hospitals	24,936	2.5%	42,203	3.2%
Nursing and Residential Care Facilities	24,936	3.4%	27,787	4.0%
Social Assistance	16,470	4.8%	30,669	3.9%

Source: Arizona Office of Economic Opportunity

Health Care employment is projected to increase by 3.7% annually from 2019-2029

- Projected growth is higher than the 2009-2019 growth rate of 3.2%
- Growth will be driven, in part, by increasing population growth and an aging population

The Aging U.S. Population



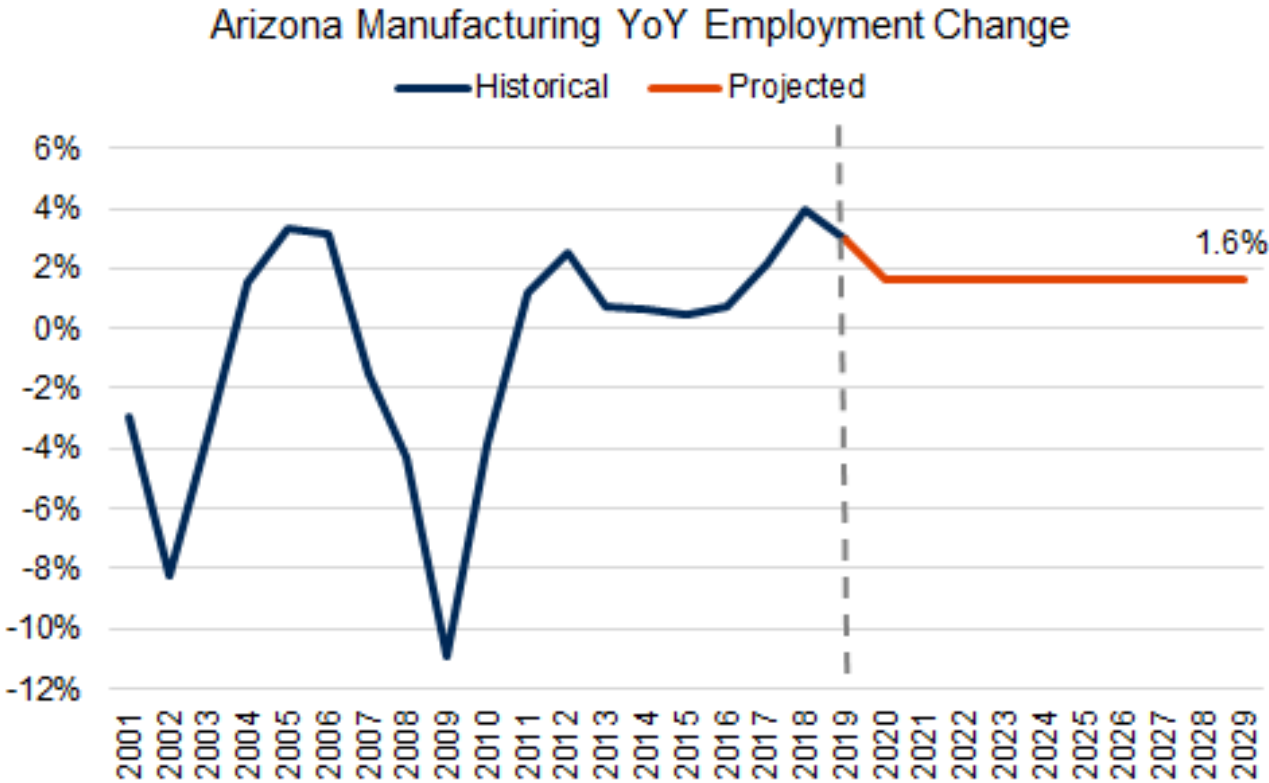
Source: Federal Reserve Bank of St. Louis

The number of people reaching retirement age is on the rise¹

In 2023 along, more than 180,000 residents will turn 65 each month.

Research has shown that nearly half of lifetime medical expenditures is incurred during the senior years (age 65+)²

Industry Highlight: Manufacturing



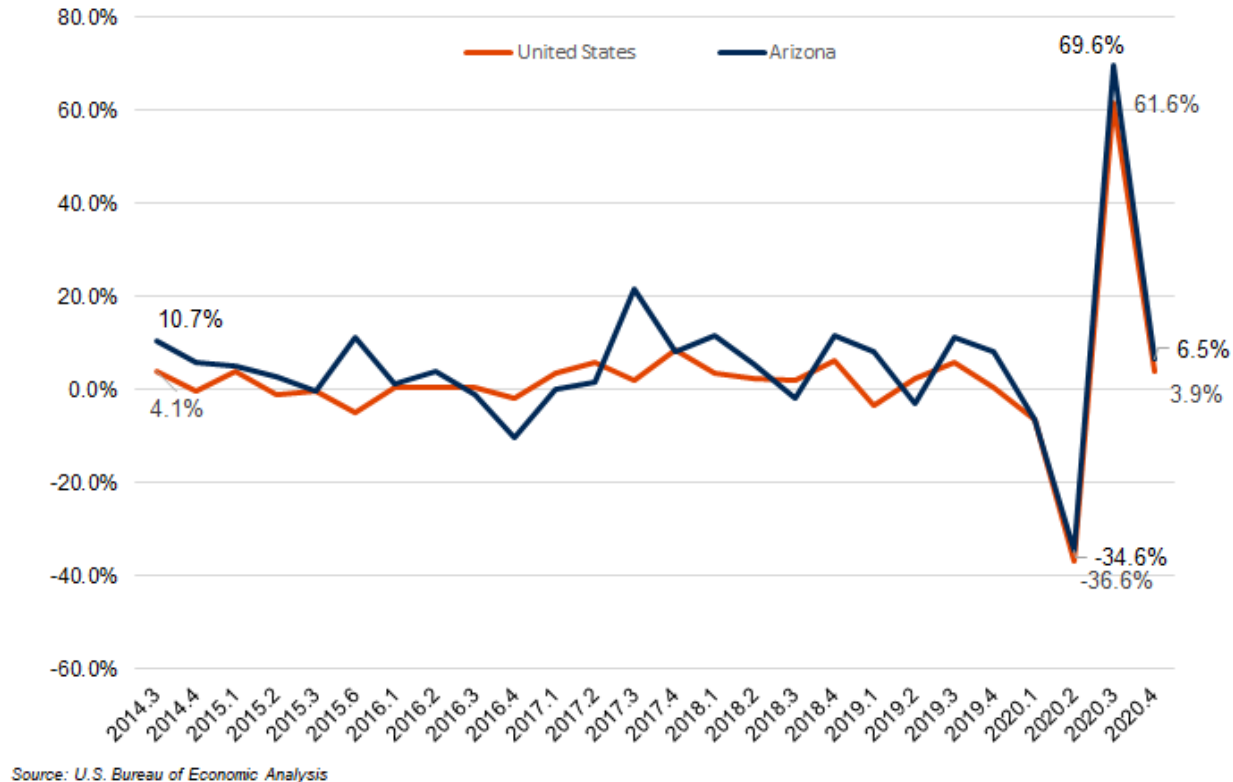
Source: Arizona Office of Economic Opportunity

Manufacturing employment growth is projected to continue through 2029

- From 2017-2020, manufacturing gained 11,100 jobs, growing by 2.2% annually (Source: BLS CES)

Real Manufacturing GDP

Seasonally Adjusted Annual Rate



Mfg. GDP posted positive growth in Q3 and Q4 2020

Mfg. job gains in 2019-2029 are projected to be strongest in:

- Chemical Manufacturing* (3.0% annual growth)
- Miscellaneous Manufacturing** (2.9% annual growth)
- Food and Beverage Manufacturing (2.8% annual growth)

*Chemical Mfg. is comprised of Petrochemical; Industrial Gas; and Synthetic Dye Mfg., among others

**Miscellaneous Mfg. is composed of Medical Equipment, Jewelry, Sporting Goods and Office Supplies Mfg., among others

Industry Highlight: Transportation and Warehousing

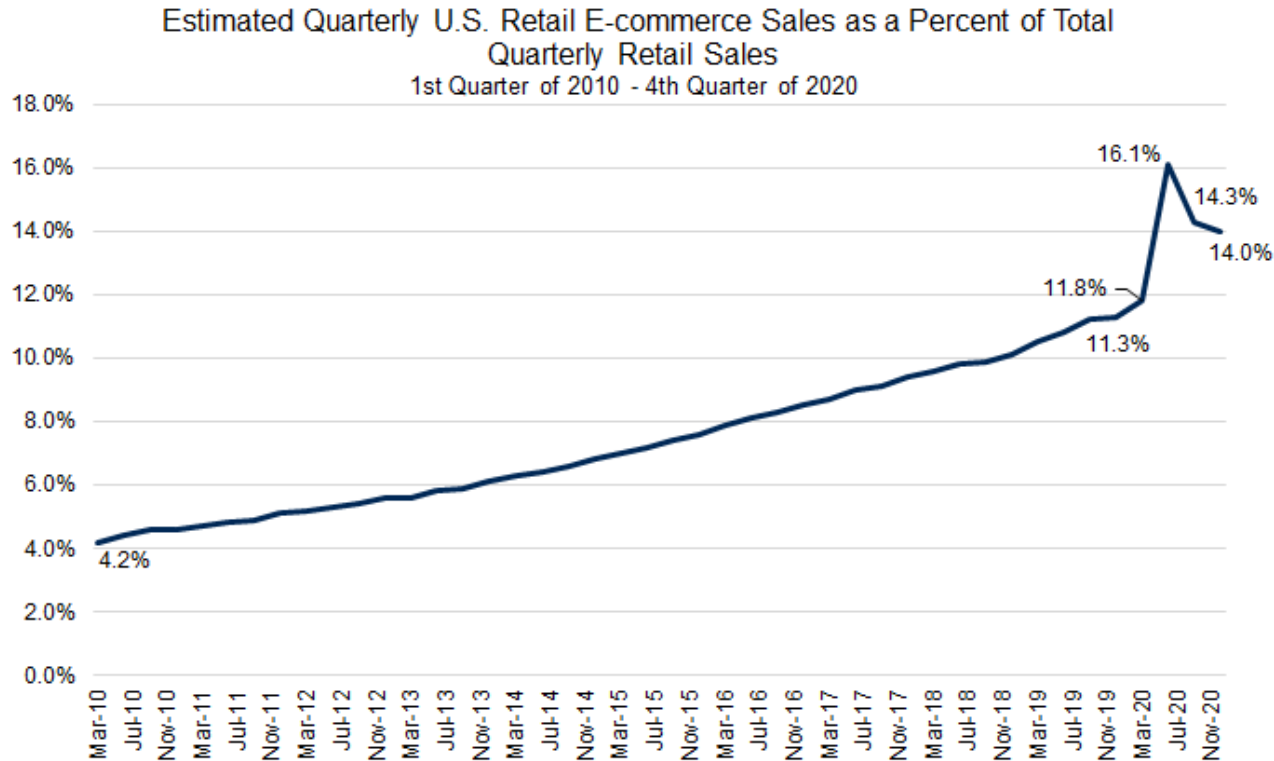
Sector	Historic Change ¹ (2009-2019)		Projected Change ² (2019-2029)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Transportation and Warehousing	36,429	4.2%	51,493	4.0%
Couriers and Messengers	5,314	4.8%	11,682	6.2%
Scenic and Sightseeing Transportation	245	4.5%	87	1.2%
Support Activities for Transportation	4,630	3.7%	4,452	2.6%
Truck Transportation	5,407	2.7%	5,998	2.3%
Warehousing and Storage	17,701	11.4%	26,364	7.1%

Source: Arizona Office of Economic Opportunity

Job growth in Warehousing and Storage is projected to account for the majority of job gains in Transportation and Warehousing

- Warehousing and Storage employment more than doubled over the past five years (2015-2020) and quadrupled over the past ten years (2010-2020)
- The emergence of online retail has increased the demand for warehousing and storage jobs

U.S. E-Commerce (Online Retail) Sales



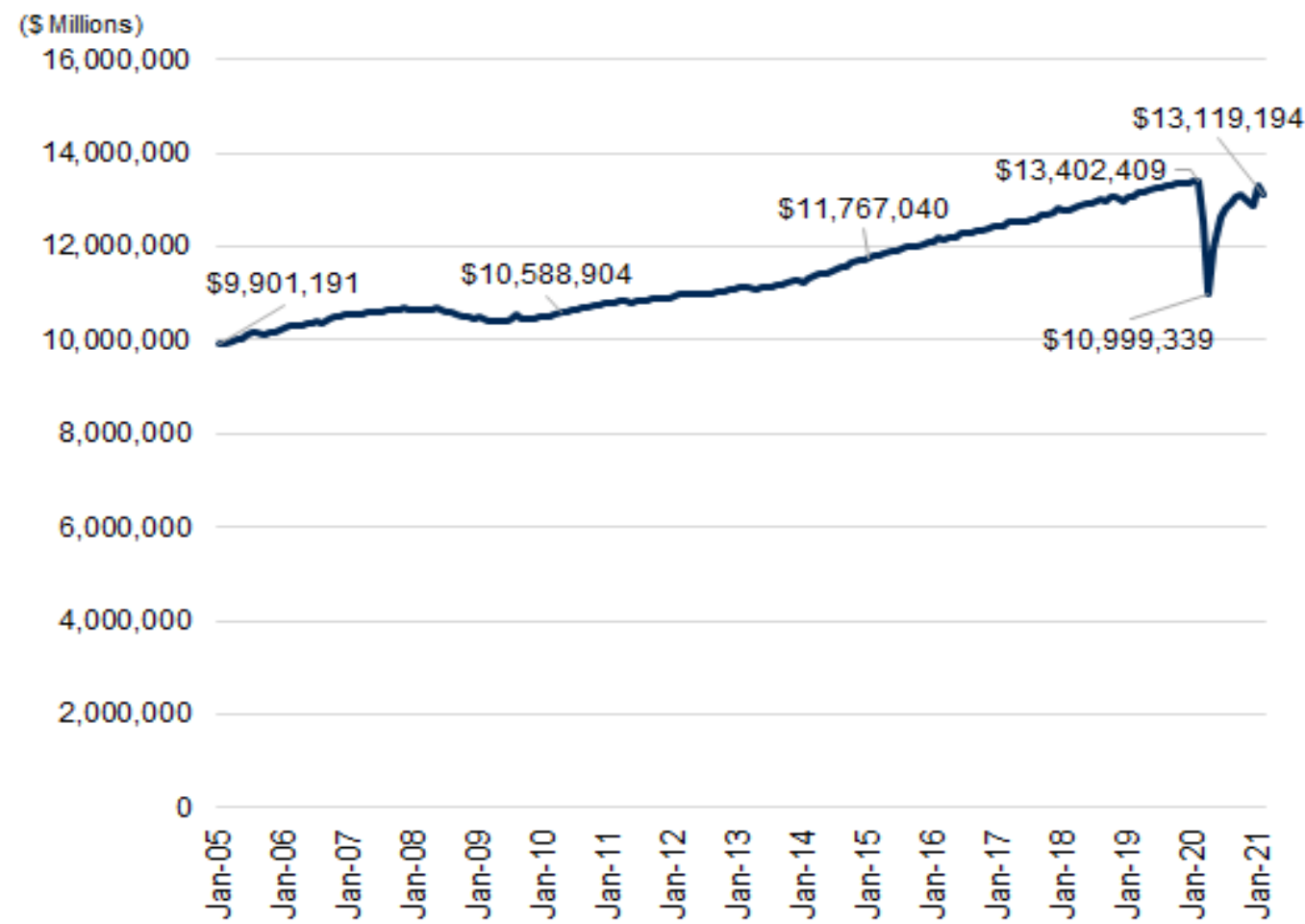
Source: U.S. Census Bureau

Note: Data are Not Seasonally Adjusted

Over the past two decades, e-commerce has accounted for an increasing percent of total retail sales

- E-commerce sales as a percent of total retail sales increased to 16.1% in Q2 2020 from 11.8% in Q1 2020

U.S. Personal Consumption Expenditures (PCE)



Source: Bureau of Economic Analysis

U.S. PCE bounced back, almost reaching its pre-pandemic level in February 2021 after recording the largest decline in the past ten years in April 2020

Over the year, U.S. PCE declined by -2.1%

Report Summary

- Total employment is projected to continue gaining jobs, growing by 1.6% annually from 2019 – 2029.
- All ten private sector major industries are projected to add jobs through 2029.
- All fifteen Arizona counties are projected to add jobs through 2029.
- Growth is projected to be led by Education and Health Services (2.8% annually), Construction (2.2% annually), and Professional and Business Services (2.0% annually).
- Health care jobs will continue to grow across the state as demand for health care services is anticipated to increase.

Additional Resources:

Area: Industry Level: Projection Type: ☐ Short Term (2020 - 2022) ☒ Long Term (2018 - 2028)

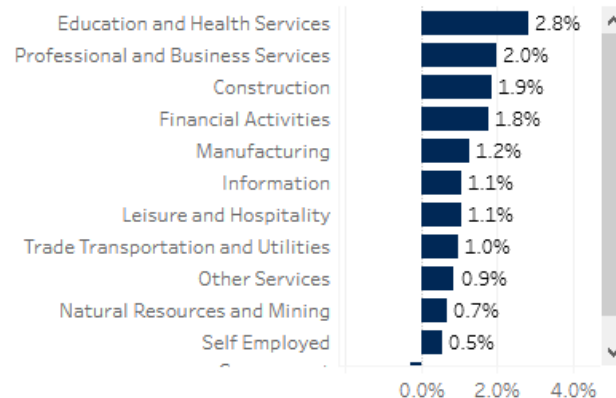
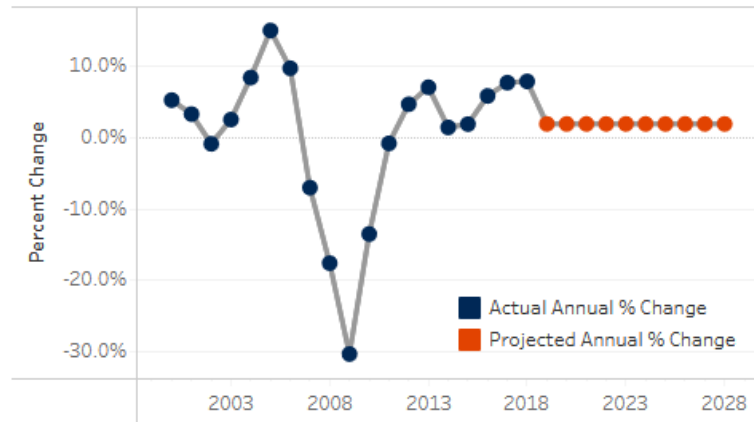
Long Term (2018 - 2028) Arizona Industry Projections

Industry	Base Employment	Projected Employment	Total Employment Numeric Change	Total Employment Percentage Cha..	Annual Employment Numeric Change	Annual Employment Percentage Cha..
Construction	160,877	193,276	32,399	20.1%	3,240	1.9%
Education and Health Services	626,894	829,243	202,349	32.3%	20,235	2.8%
Financial Activities	216,731	258,443	41,712	19.2%	4,171	1.8%
Government	158,783	154,072	-4,711	-3.0%	-471	-0.3%
Information	49,435	54,989	5,554	11.2%	555	1.1%
Leisure and Hospitality	346,654	385,515	38,861	11.2%	3,886	1.1%
Manufacturing	172,512	195,287	22,775	13.2%	2,278	1.2%
Natural Resources and Mining	55,769	59,678	3,909	7.0%	391	0.7%
Other Services	98,516	107,361	8,845	9.0%	885	0.9%

Annual Employment % Change

Employment Change Long Term (2018 - 2028)

Industry: Measure Type:



- Interactive data tools are available on the OEO website at: <https://www.azcommerce.com/oelabor-market/employment-projections/>

Questions?

Upcoming Release Schedule:

April 2021 Employment Report on May 20

Contact

Website: [Laborstats.az.gov](https://laborstats.az.gov)

Email: Laborinfo@oeo.az.gov

Phone: 602-771-2222

Works Cited

1. Vadenbroucke, Guillaume. (2020 January 13). *How many people will be retiring in the years to come?* Federal Reserve Bank of St. Louis. <https://www.stlouisfed.org/on-the-economy/2020/january/staff-pick-people-retiring-years-come>
2. Alemayehu, Berhanu, and Kenneth E Warner. "The lifetime distribution of health care costs." Health services research vol. 39,3 (2004): 627-42. doi:10.1111/j.1475-6773.2004.00248.x