



February 16, 2023

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OFFICE OF ECONOMIC OPPORTUNITY



Industry Projections Methodology: Estimation Process

- The short-term projections estimate employment eight quarters (two years) from the base period
 - Historic Q2 2022 employment data are used as the base period of the forecast
 - This is the most current data published by the Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) program
 - Employment was projected through Q2 2024
- 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 used to create the employment projections is the Quarterly Census of Employment and Wages (QCEW) data program
 - Near census of all employment subject to unemployment insurance tax law (92%-95% of total Arizona employment)
 - QCEW is more accurate than other data sources, though data are released less often and with a larger lag time (6-7 months after reference period ends)
- The QCEW industry classification structure differs slightly from the CES industry classification structure
 - QCEW: Employment for federal, state and local government establishments is categorized in the industry that best describes the business activity
 - CES: Employment for federal, state and local government establishments is categorized in the government industry sector, regardless of business activity

Industry Projections Methodology: Data Source

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

Substate Regions

Projected employment was estimated for 20 substate regions including:

- 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

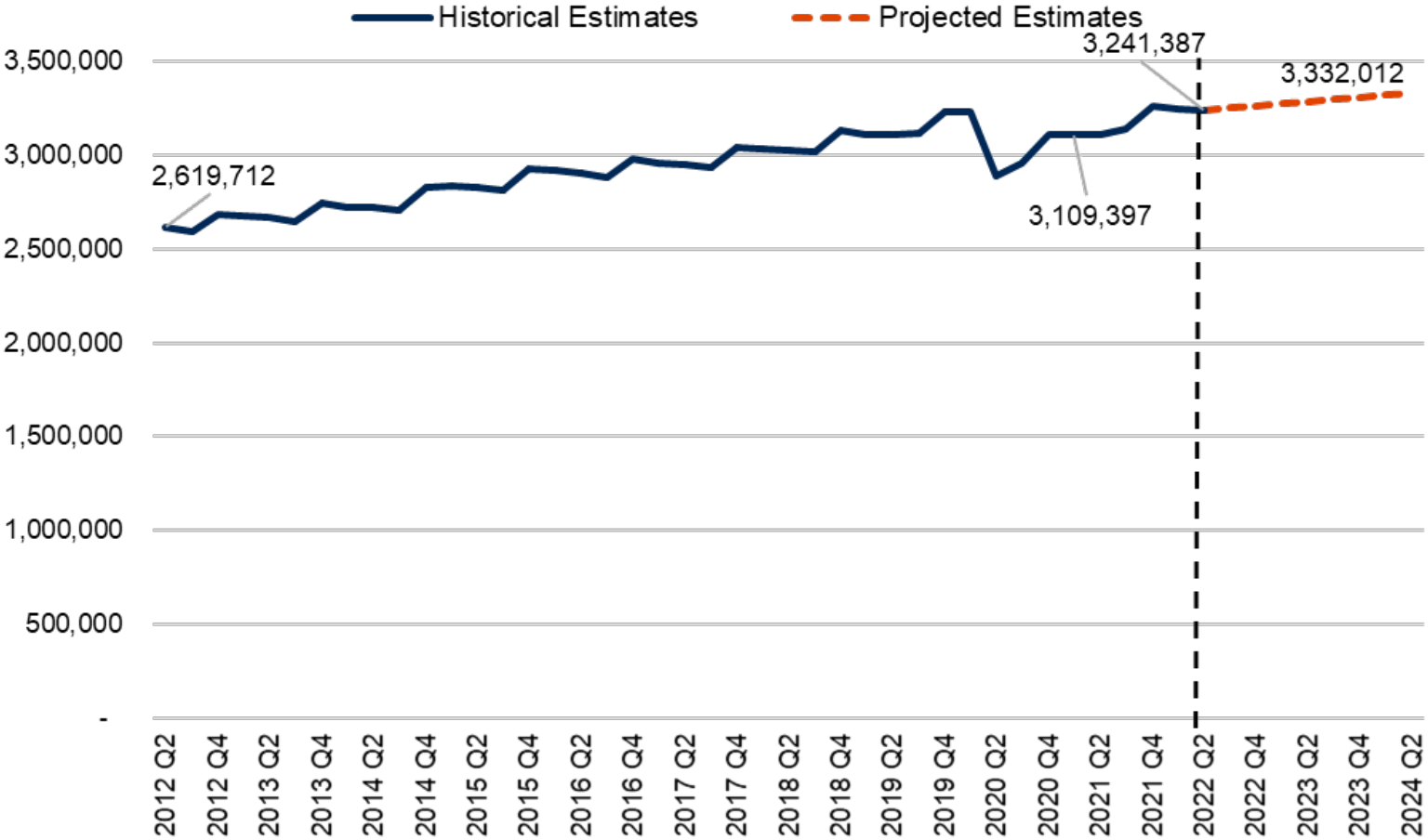
- No major economic or political disruptions will occur
- Government agencies will operate within their budgets
- Population distribution will not differ significantly from the base-year distribution
- The U.S. economic framework will not differ significantly from its current state
- Long-term employment 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

Arizona Industry Highlights

- Arizona employment is projected to grow by 90,625 jobs, or 1.4% annually, to 3,332,012 jobs in Q2 2024 from 3,241,387 jobs in Q2 2022.
- Ten of the eleven industry sectors are projected to add jobs
- Trade, Transportation and Utilities is projected to add the largest number of jobs (18,557 jobs, or 1.5% annualized growth)
- Manufacturing is projected to record the largest percentage gain, growing 3.4% annually (13,300 jobs)
- Financial Activities is projected to record a loss (-2,796 jobs, or -0.6%)

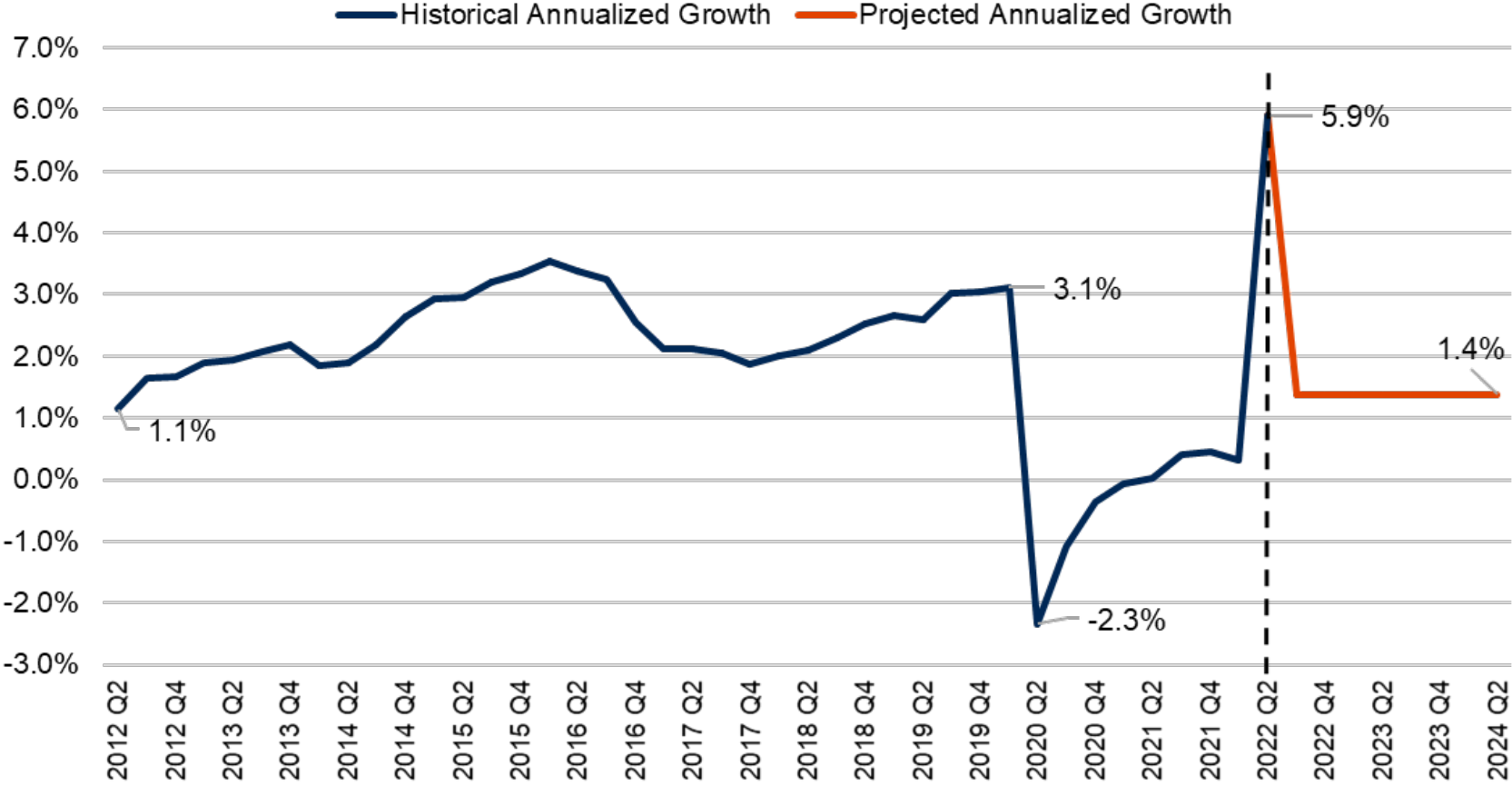
Arizona Total Employment, *Not Seasonally Adjusted*



Source: Arizona Office of Economic Opportunity
 NOTE: Q3 2022- Q2 2024 numbers reflect average quarterly projected growth

Arizona Total Employment

Arizona Employment Estimates



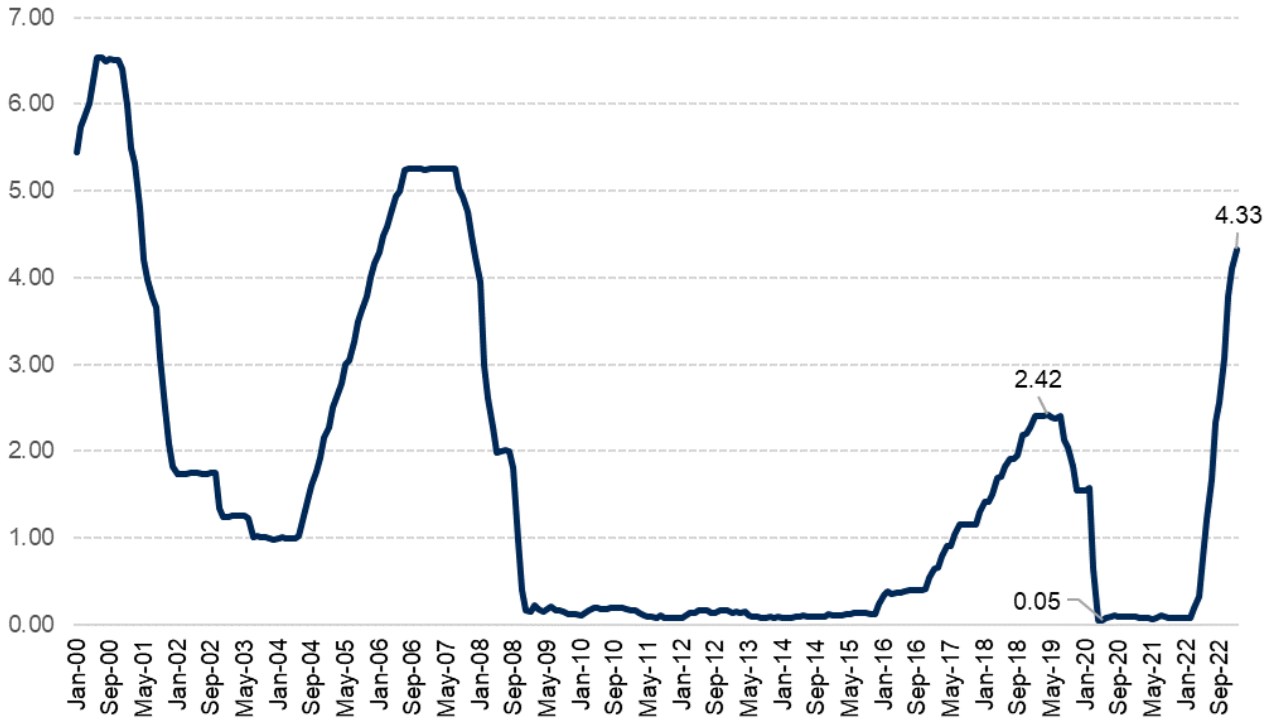
Total employment is projected to grow by 90,625 jobs, or 1.4% annually in Q2 2024 from Q2 2022

Source: Arizona Office of Economic Opportunity

NOTE: Annual growth may differ from year-to-year between Q2 2021 to Q2 2023, but is projected to average the growth in the chart

Economic Trends

Effective Federal Funds Rate (FFR) Percentage

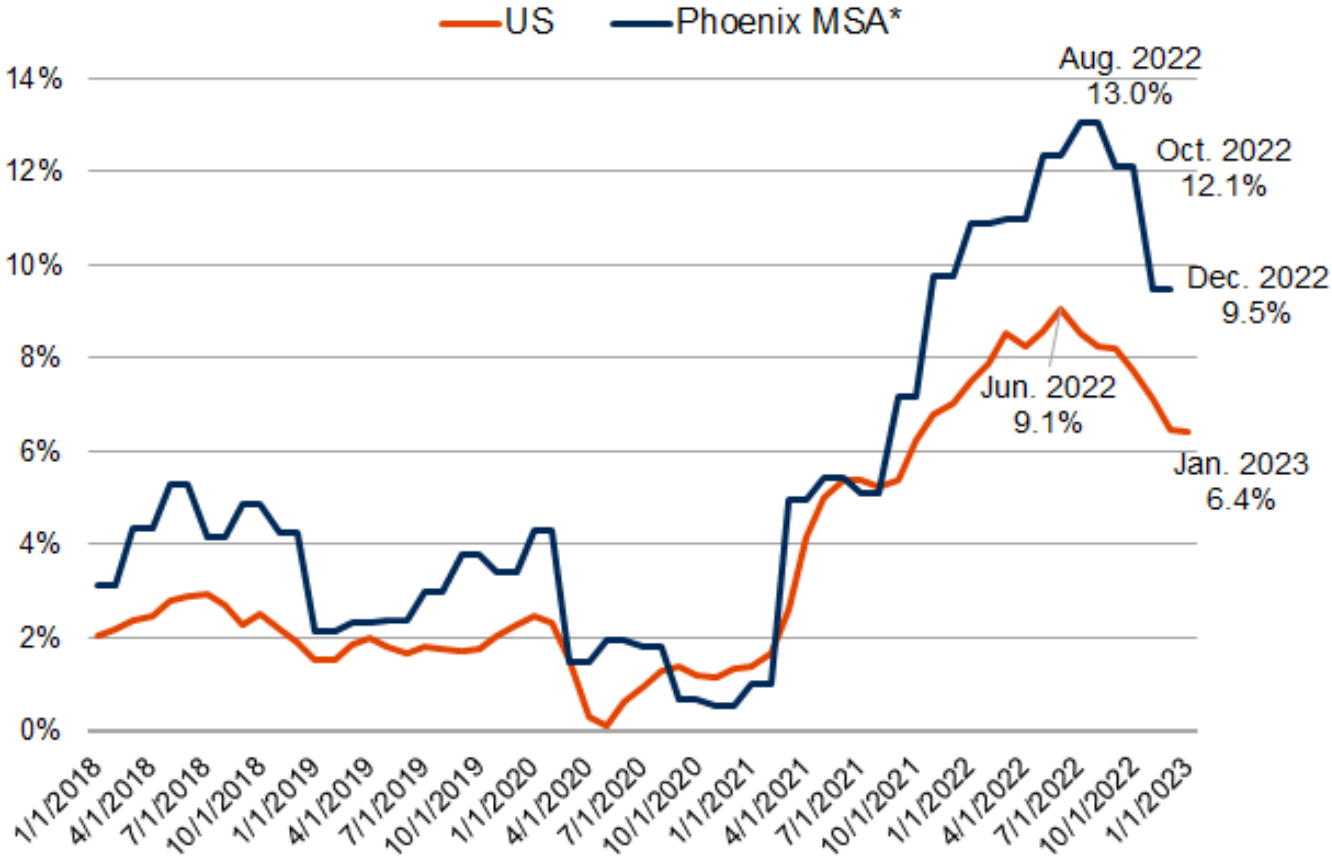


The Federal Open Market Committee (FOMC) increased the FFR throughout 2022 with the intent to curb rising inflation

The last time the US observed a rate higher than 4.33 percent was November 2007

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

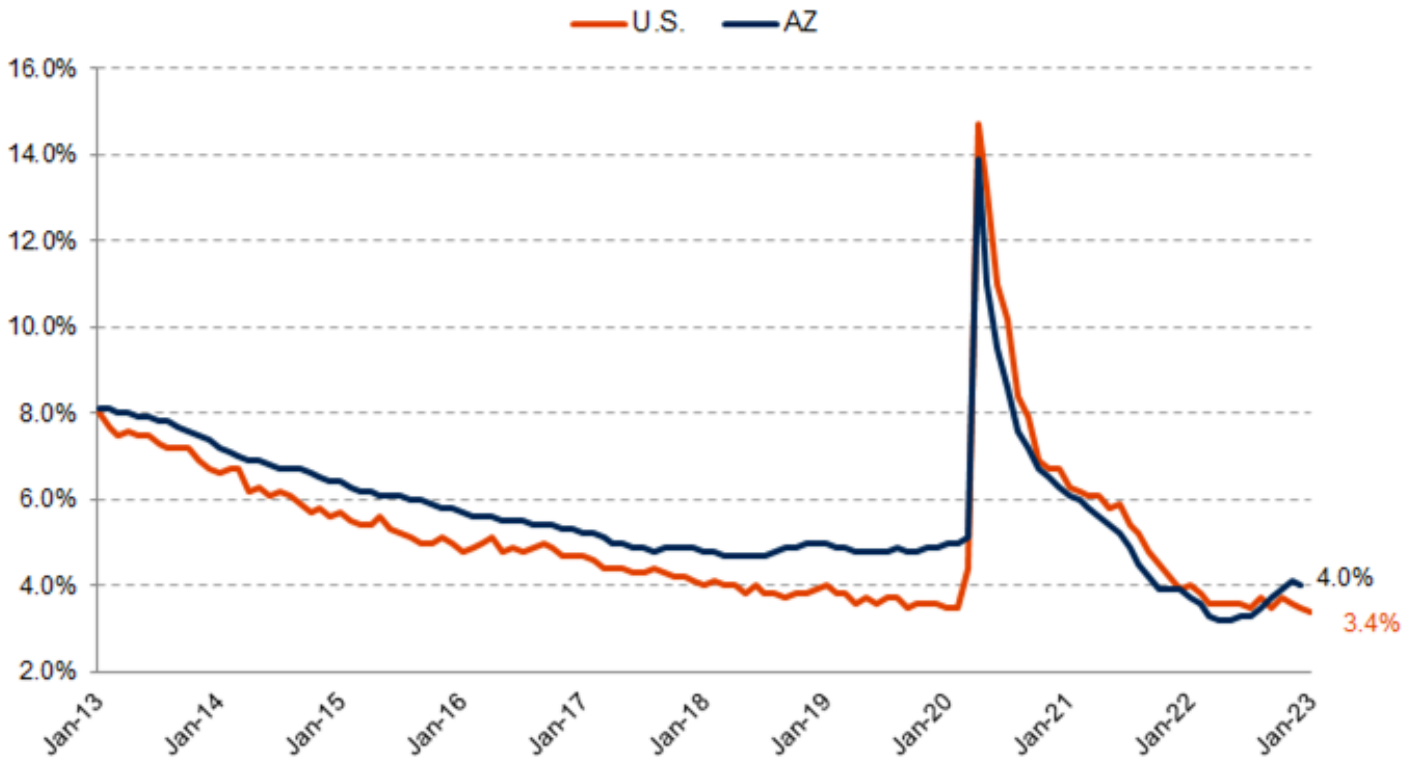
Year-Over-Year CPI Percent Change



*Phoenix MSA estimates are released every other month
 Source: US BLS CPI Program

- In September 2022, both Phoenix and national CPI figures reached 10-year highs as the result of the fastest recorded growth on record.
- The recent slowdown in growth rate was driven largely by lower prices for gasoline and energy.

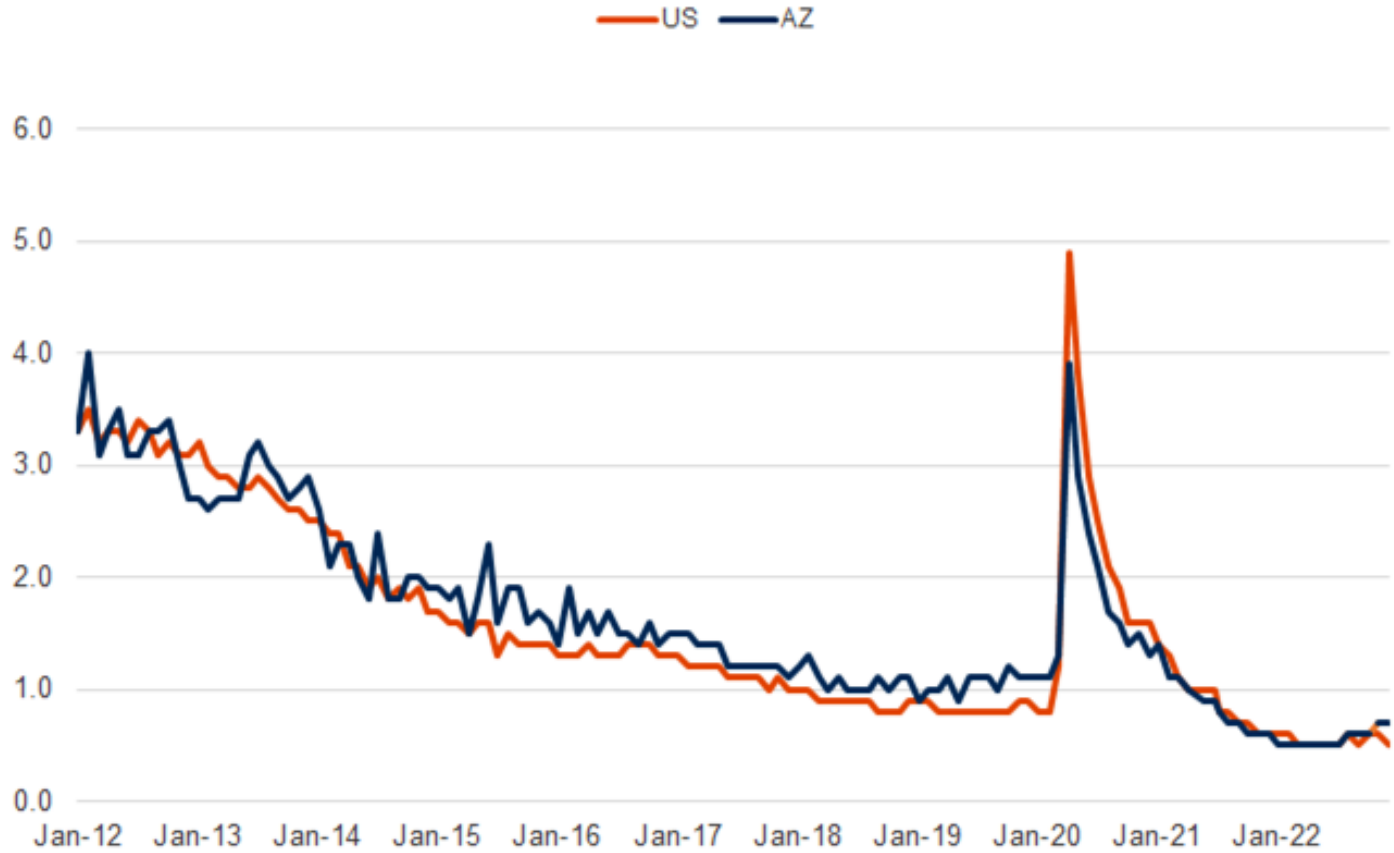
U.S. & Arizona Unemployment Rate, Seasonally-Adjusted



Source: BLS LAUS Program

The Jan. 2023 U.S. unemployment rate was the lowest rate recorded in nearly 70 years (Oct. '53)

Unemployed Persons Per Job Openings Ratio



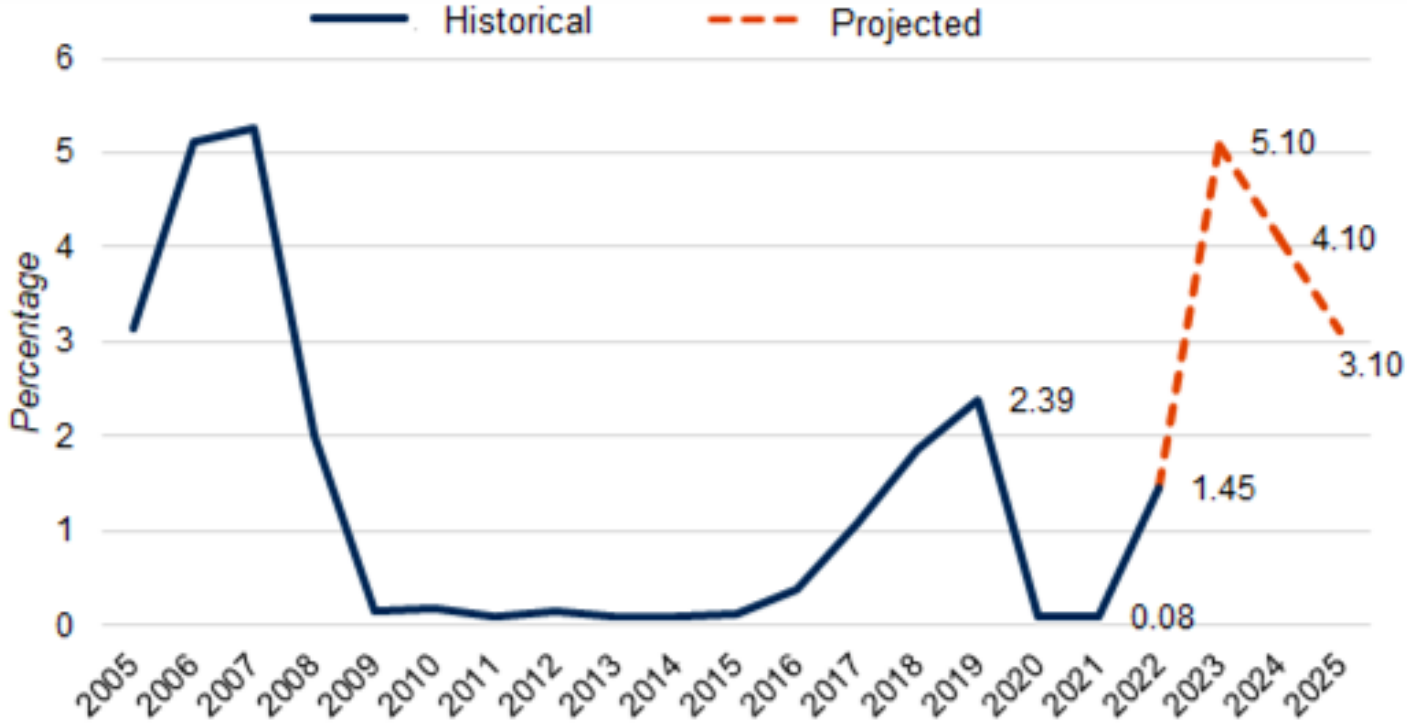
Source: US BLS JOLTS Program

Jan. 2012:
3.3 unemployed persons per job opening in AZ

Jan. 2020:
1.1 unemployed persons per job opening in AZ

Dec. 2022:
0.7 unemployed persons per job opening in AZ

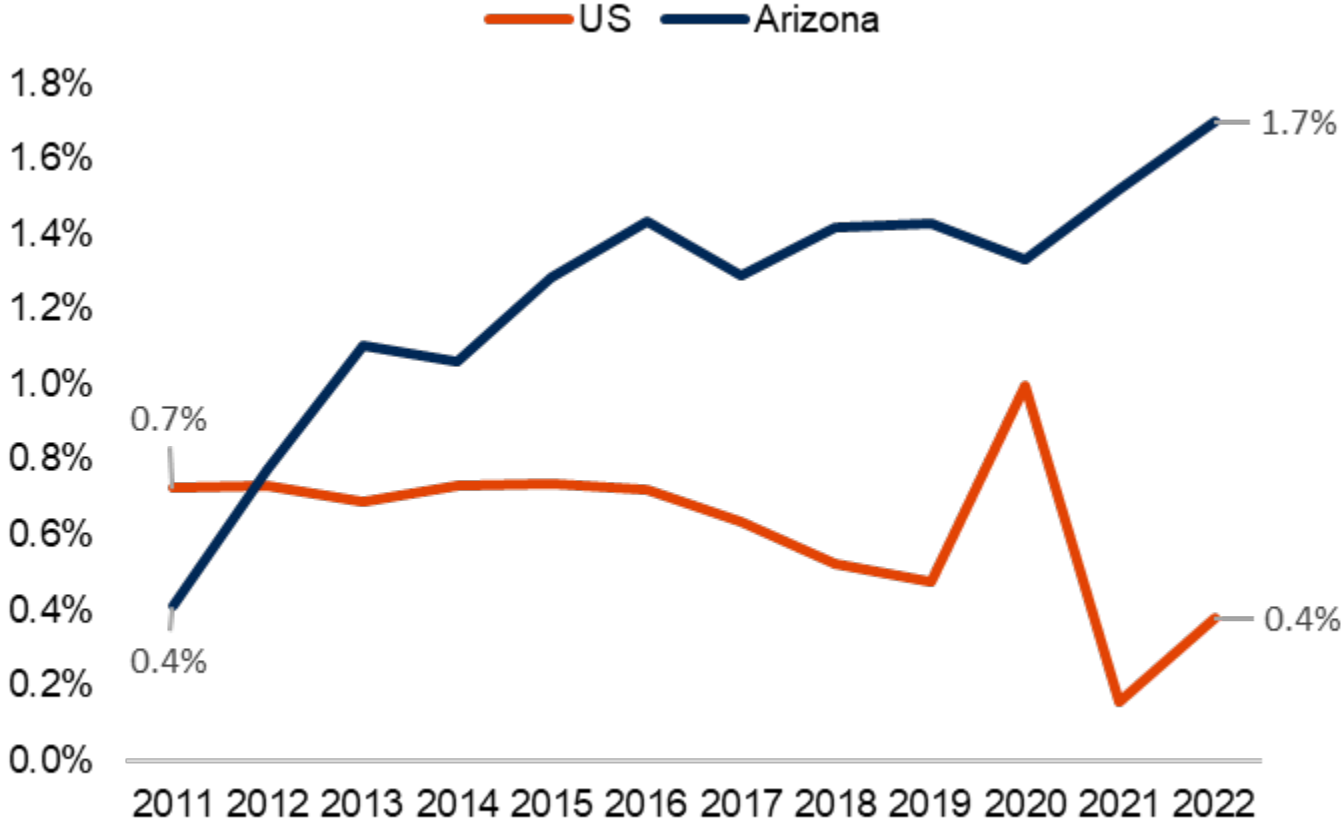
Effective Federal Funds Rate (FFR), Median



Source: Board of Governors of the Federal Reserve System

- The median effective FFR increased to 1.45% in 2022 from 0.08% in 2021
- The FOMC projects the effective FFR will increase to 5.10% in 2023
- This would be the highest effective FFR in 16 years (2007)

Population Growth



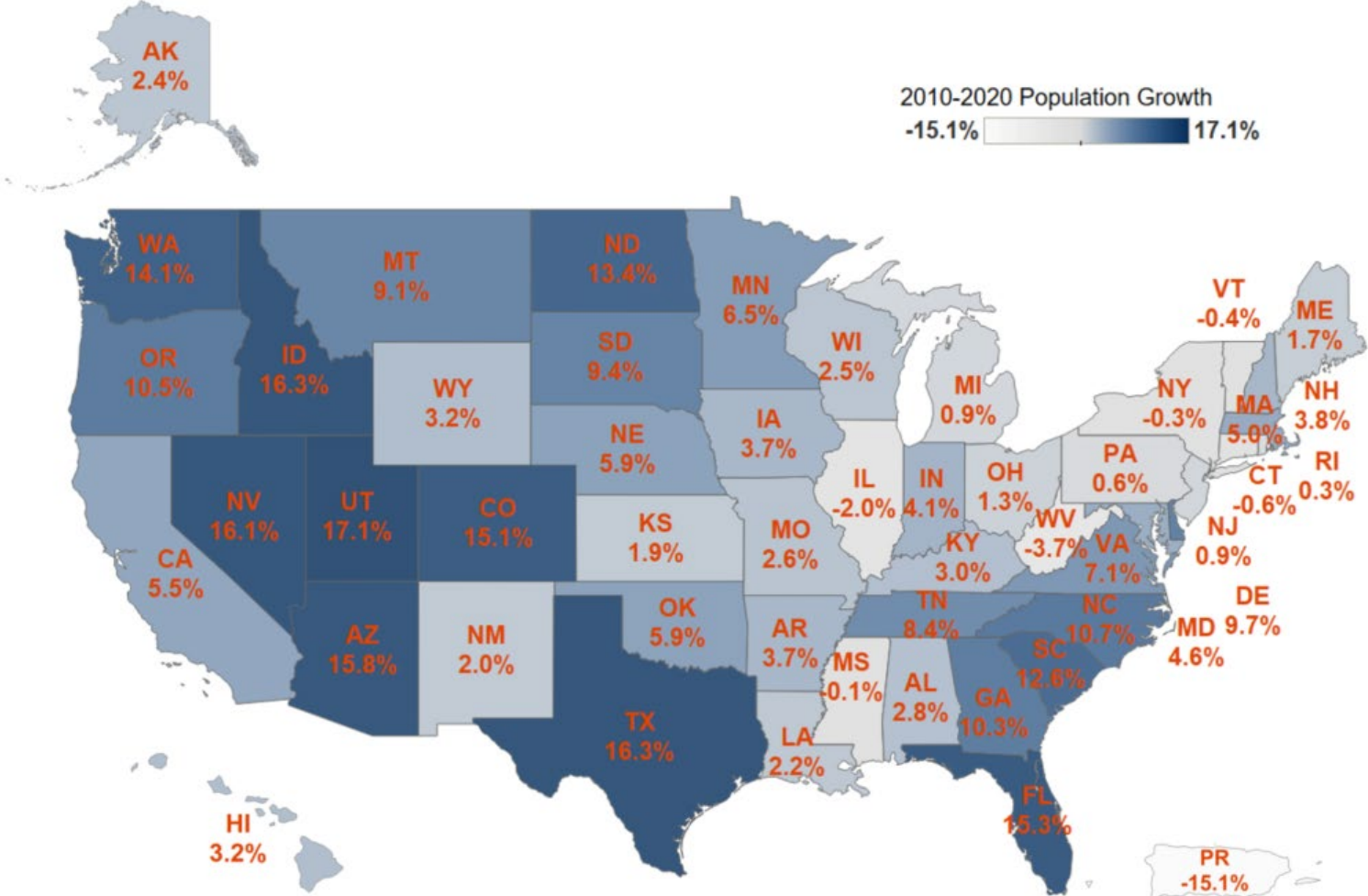
Source: U.S. Census Bureau and Office of Economic Opportunity

The U.S. population continues to grow at near historic low rates.

- The slowdown is due to falling birth rates, declining international migration, and increasing mortality
- The U.S. population growth rate increased in 2022 from 2021.
- The 2020 spike in the U.S. growth rate was related to the decennial census re-estimation process.

Arizona population growth has consistently outpaced U.S. population growth over the last 10 years.

Population Change for States From July 2010 to July 2020

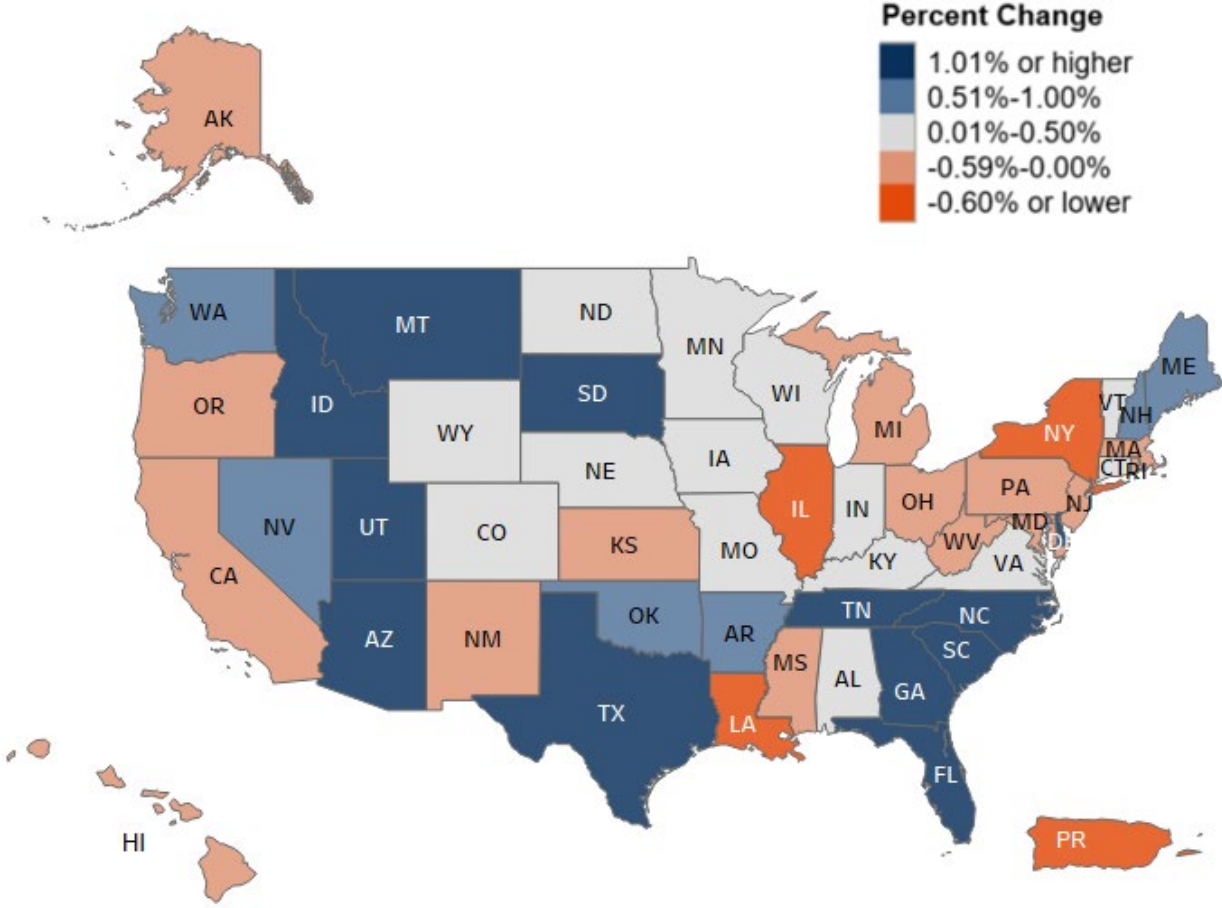


Sources: US Census Bureau Population and Housing Unit Estimates Program, Office of Economic Opportunity Population Estimates

Arizona has recorded strong population growth in recent years

- Arizona’s population growth from 2010-2020 ranked 5th in the nation
- From 2010-2020, Maricopa County grew by 16.0% and Phoenix grew by 11.2%

Population Change for States From July 2021 to July 2022

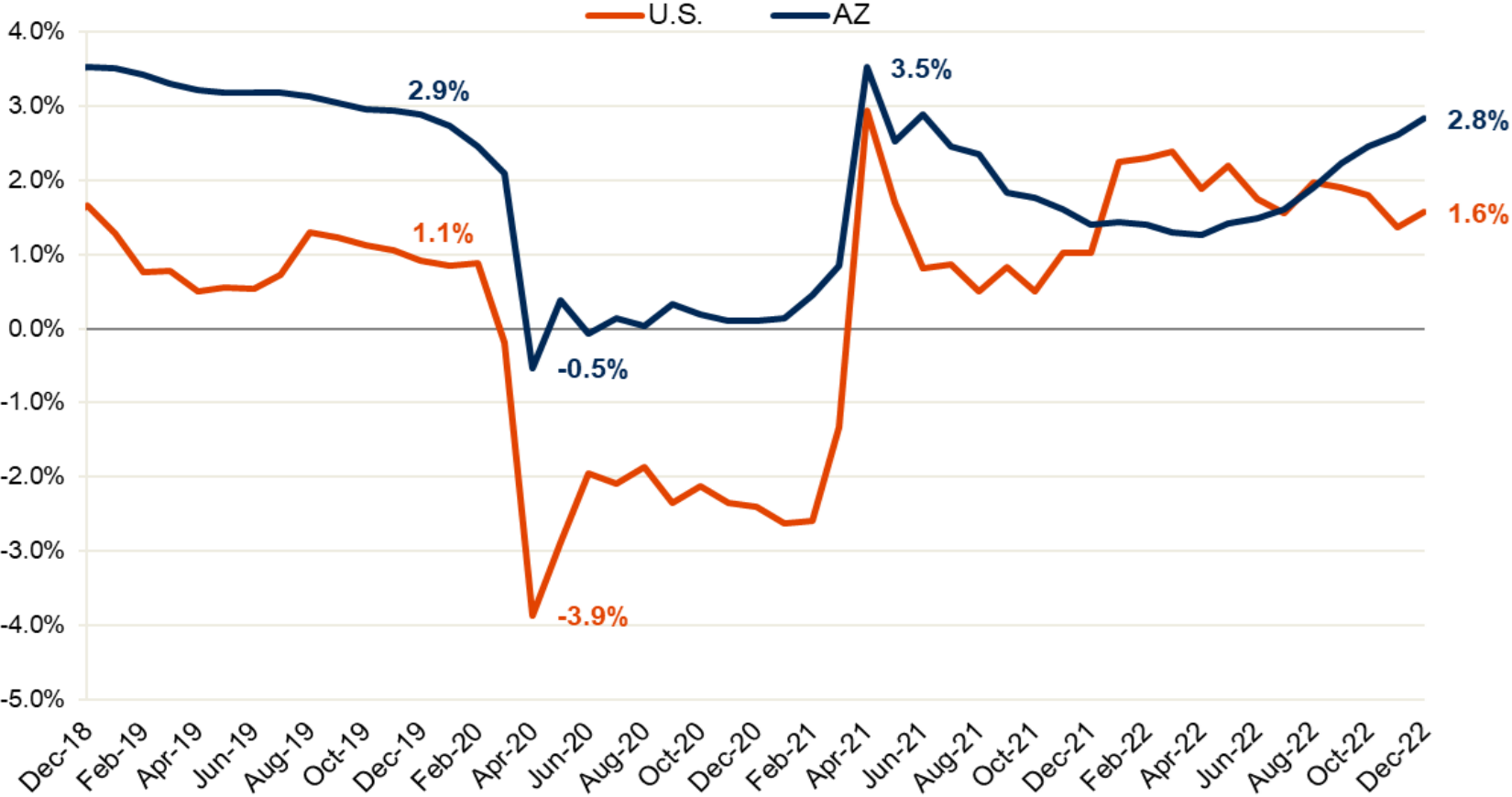


Source: U.S. Census Bureau Vintage 2022 Population Estimates

- Arizona’s population grew by 1.3% from July 2021 to July 2022
- Arizona’s population growth ranked eighth in the nation
- It is assumed that Arizona’s population growth will continue to be among the fastest in the nation through the projected period

Labor Force Growth

Arizona & U.S. Labor Force YoY Percentage Change
Seasonally Adjusted



- The Arizona labor force trended upwards for more than seven years before the COVID-19 pandemic
- The Arizona labor force has surpassed the pre-pandemic (Feb. 2020) level by 151,753 individuals (4.4%)
- By comparison, the U.S. labor force level was up 0.3% from the pre-pandemic level

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

Arizona Labor Force Change*, Seasonally Adjusted

	1982	1992	2002	2012	2022
Level ¹	1,372,000	1,892,000	2,703,000	3,060,000	3,631,000
Rank	29	23	21	19	15
10-Yr. Numeric Chg. ¹	**	520,000	810,000	358,000	571,000
Rank	**	9	5	7	4
10-Yr. Percent Chg.	**	38%	43%	13%	19%
Rank	**	3	2	7	3

* December was used as the reference period for each year

** State data series available only through 1976

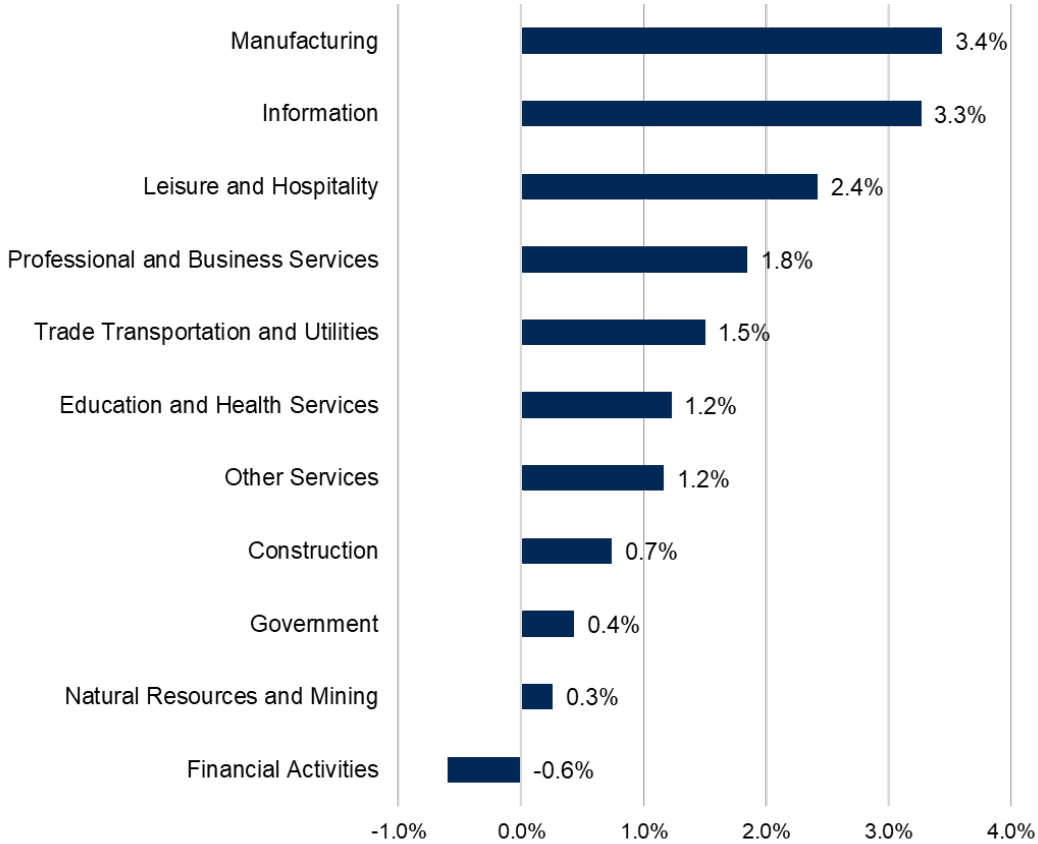
¹ Rounded to the nearest 1,000

- Arizona’s labor force growth has been among the fastest in the nation, helping to improve it’s national ranking from the 29th largest labor force in 1982 to the 15th largest in 2022
- The Arizona labor force grew by 571,000 people over the past ten years (2012 - 2022), ranking fourth among U.S. states
- From 2012 to 2022, Arizona’s labor force growth rate ranked 3rd in the nation, an improvement from its 2002-2012 ranking of 7th

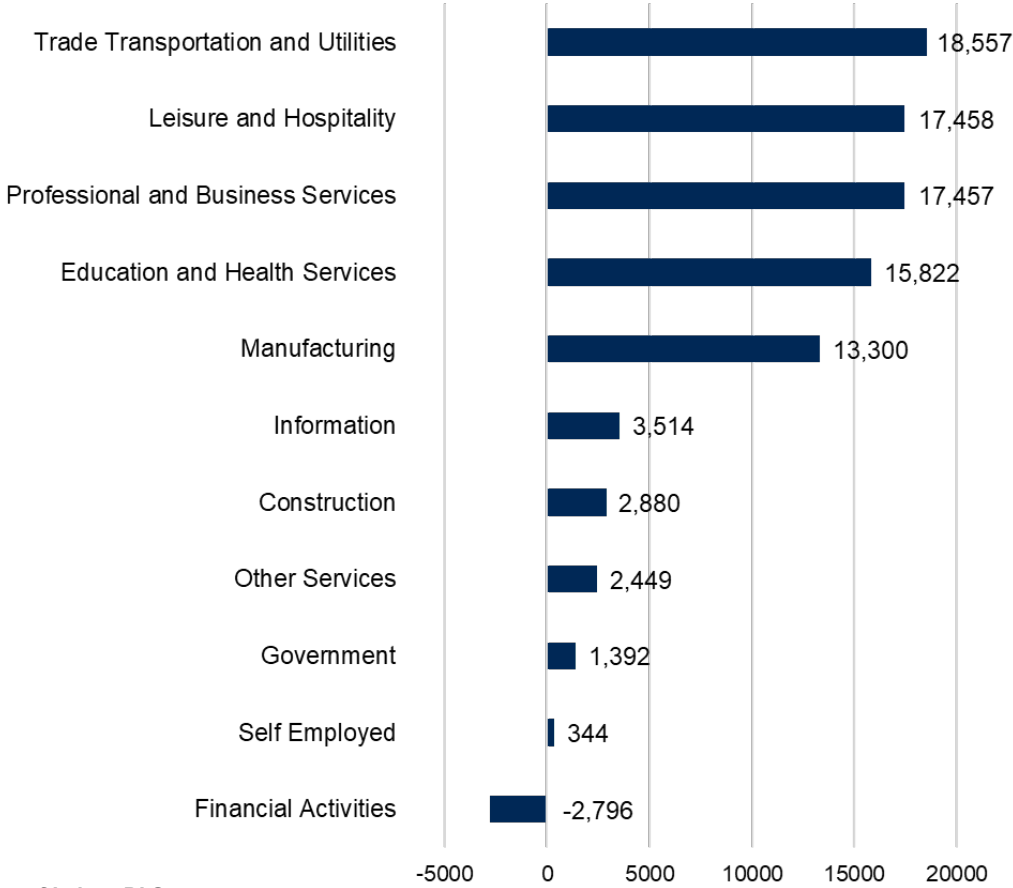
Employment Projections Highlights

Projected Industry Employment Change

Arizona Supersector Employment
2022-2024 Annualized Percentage Change



Arizona Supersector Employment
2022-2024 Total Numeric Change



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

Historic and Projected Total Employment by Arizona Region

Region	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Arizona	351,515	5.9%	90,625	1.4%
Apache County	585	1.6%	23	0.1%
Cochise County	739	1.0%	550	0.7%
Coconino County	10,332	8.6%	1,591	1.2%
Gila County	790	2.6%	161	0.5%
Graham County	405	1.9%	349	1.6%
Greenlee County	494	4.4%	441	3.6%
La Paz County	401	2.9%	105	0.7%
Maricopa County	262,793	6.2%	72,670	1.5%
Mohave County	6,665	6.1%	1,763	1.5%
Navajo County	2,666	4.6%	582	0.9%
Pima County	35,882	4.7%	6,009	0.7%
Pinal County	7,573	5.4%	2,694	1.8%
Santa Cruz County	969	3.3%	226	0.7%
Yavapai County	12,669	9.2%	1,786	1.1%
Yuma County	8,552	6.1%	1,732	1.1%

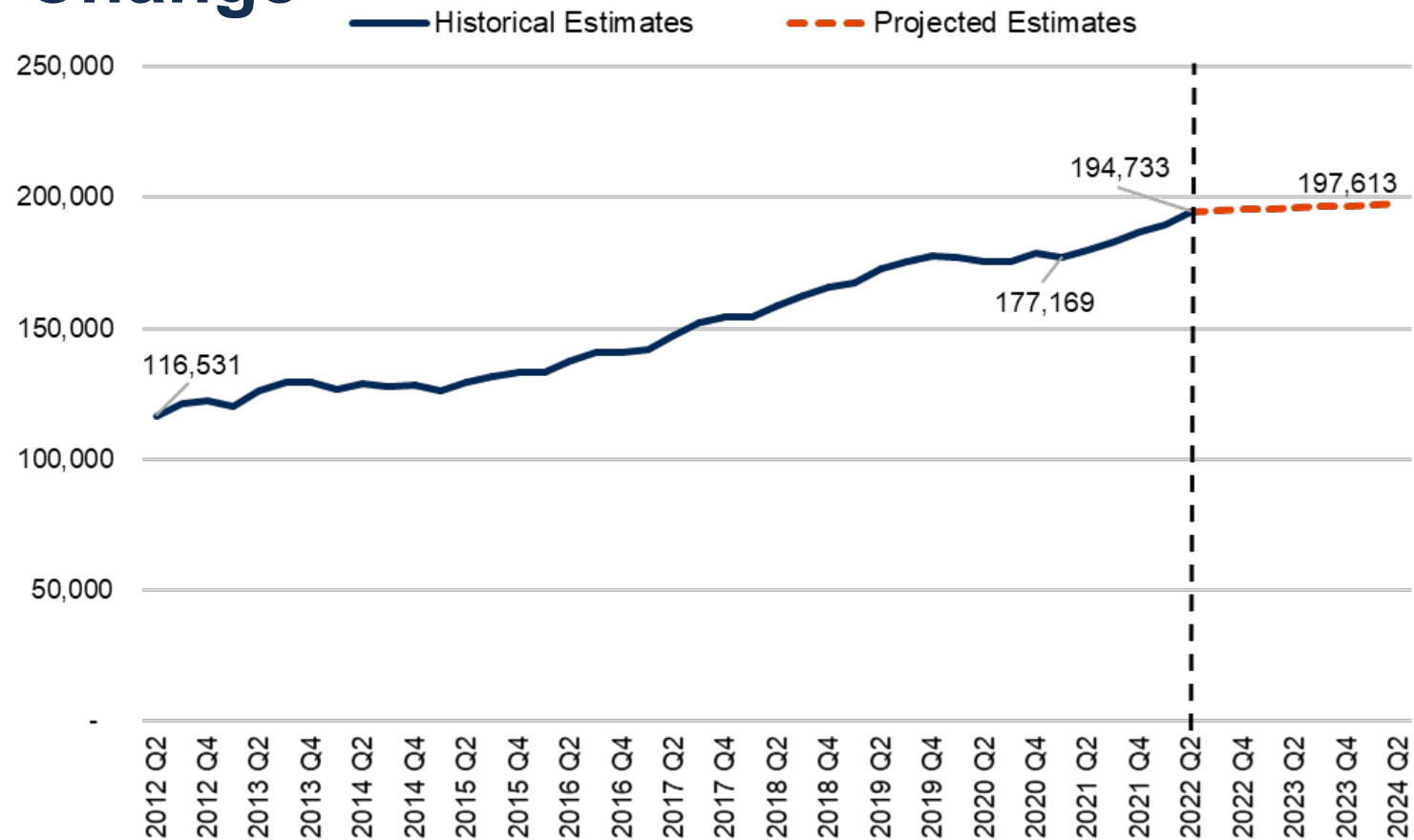
¹ Employment change from 2020 Q2 - 2022 Q2

² Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

- All 15 Arizona counties are projected to record employment growth through 2024 Q2
- The largest numeric and percent changes are projected to occur in:
 - Maricopa County (72,670 jobs)
 - Pima County (6,009 jobs)
 - Greenlee County (3.6%)
 - Pinal County (1.8%)
- The smallest numeric and percent changes are projected to occur in:
 - Apache County (23 jobs)
 - La Paz County (105 jobs)
 - Apache County (0.1%)
 - Gila County (0.5%)

Construction Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

NOTE: Q3 2021- Q2 2023 numbers reflect average quarterly projected growth

- Construction employment had an average annual growth of 5.7% over the five years prior to the pandemic (2015 Q1 - 2020 Q1)
- As of Q2 2022, Construction employment surpassed its pre-pandemic level by 11.4%
- Construction is projected to grow by 2,880 jobs, or 0.7% annually

Construction Historic and Projected Job Change

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Construction	19,363	5.4%	2,880	0.7%
Construction of Buildings	5,505	7.5%	1,125	1.4%
Heavy and Civil Engineering Construction	691	1.5%	453	0.9%
Specialty Trade Contractors	13,167	5.5%	1,302	0.5%

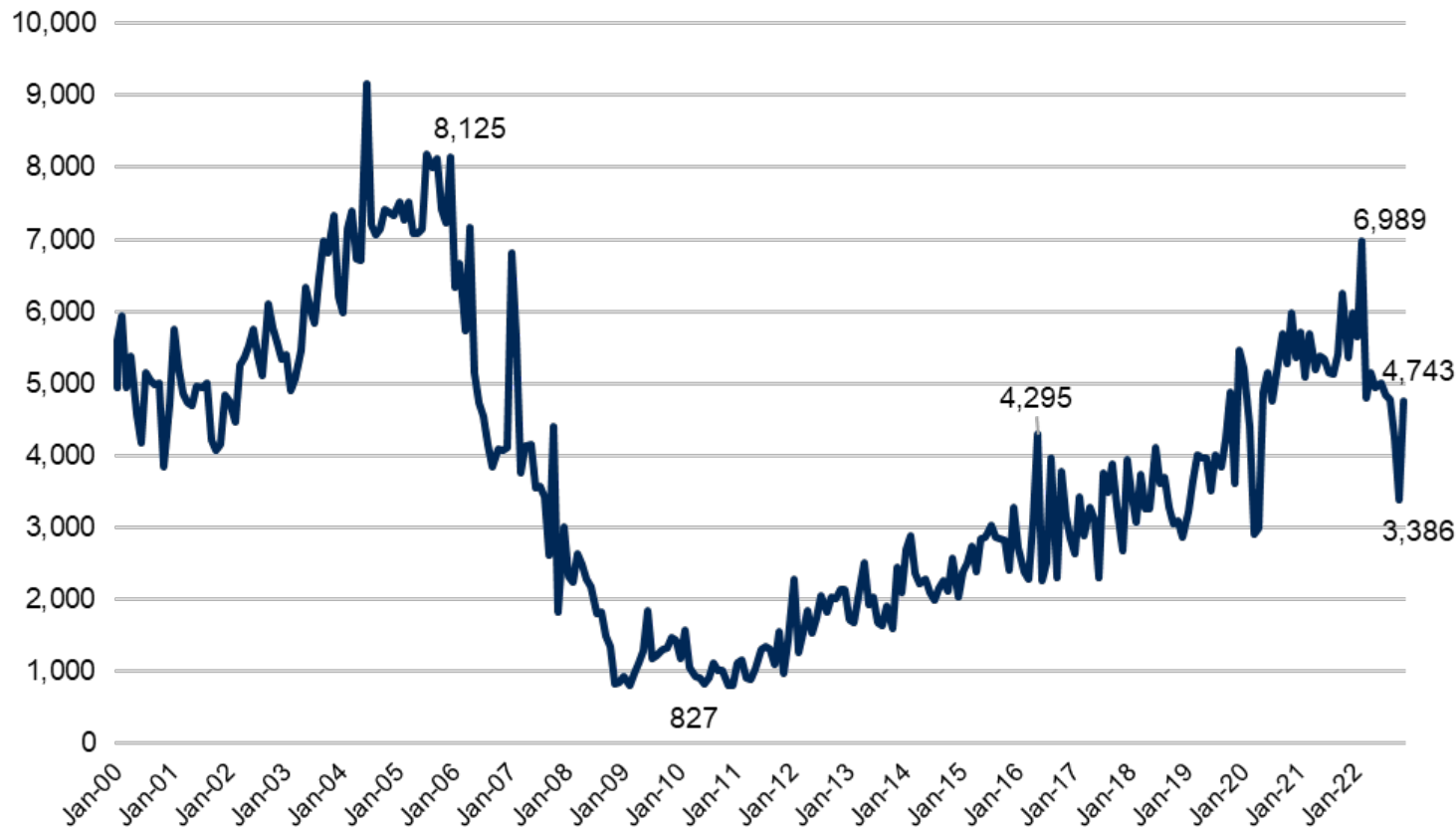
¹Employment change from 2020 Q2 - 2022 Q2

²Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

Growth in Construction employment is projected to continue through 2024 Q2

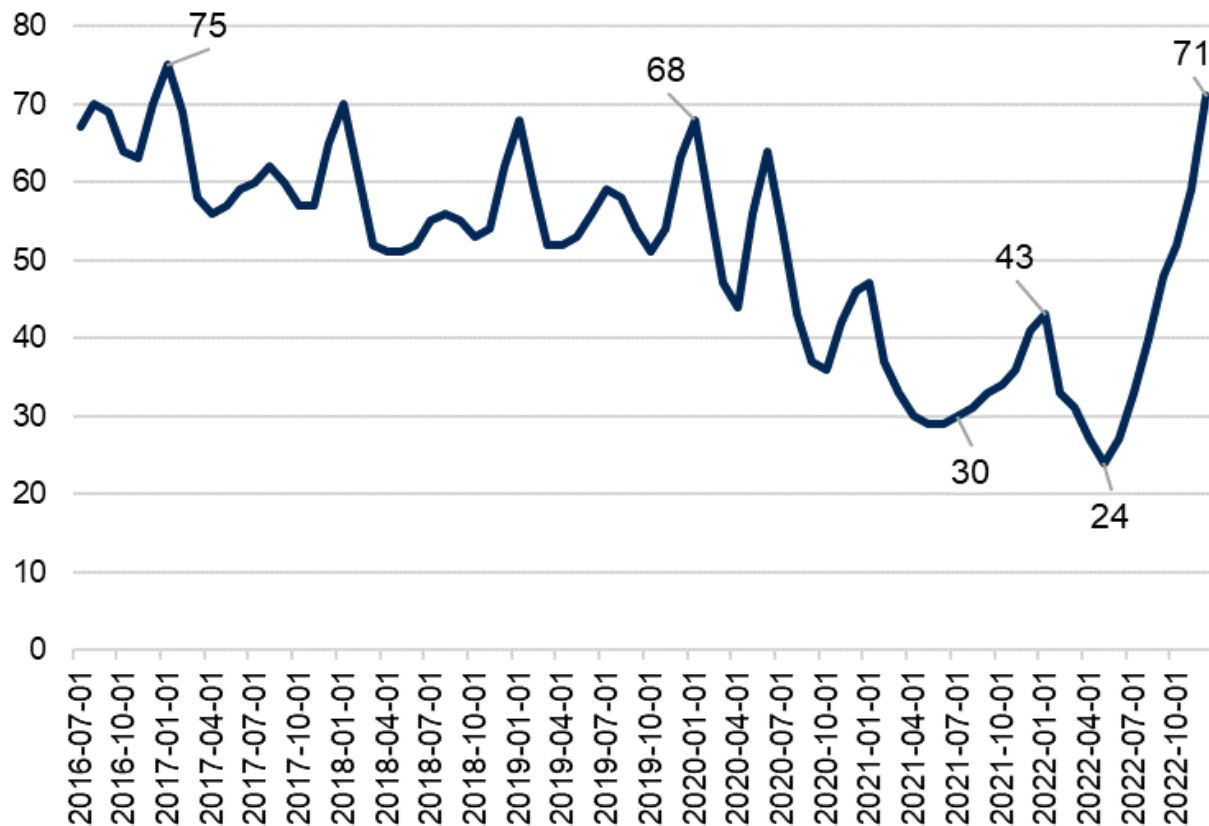
Arizona New Private Housing Units Authorized by Building Permits



Source: U.S. Census Bureau

- Building permit authorizations reached a peak in 2005 before declining during the 2007 economic recession
- Between 2010 through 2021, building permit authorizations have steadily increased
- From 2021 through 2022, building permit authorizations dropped sharply.
- 4,743 building permits were authorized in December 2022
 - Down 609 (-11.4%) from December 2021
 - Up 1,358 (40.1%) from November 2022

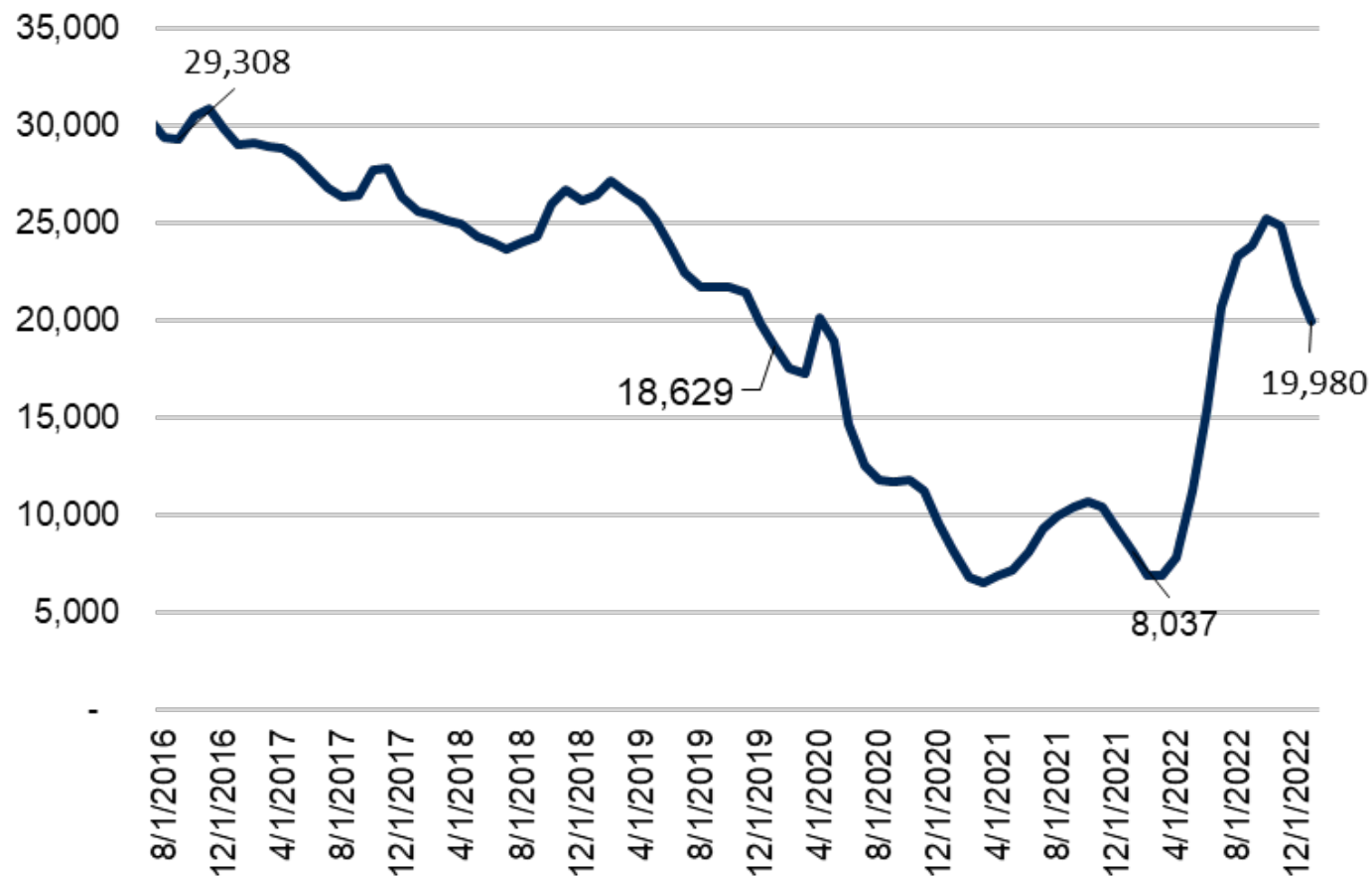
Residential Housing Inventory: Median Days on Market in Arizona



Source: Realtor.com

- The median days property listings were active increased to 71 days in Dec. 2022 from 59 days in Nov. 2022
- Year-over-year, the median days property listings were active increased by 30 days or 73%
 - Up to 71 days in Dec. 2022 from 41 days in Dec. 2021

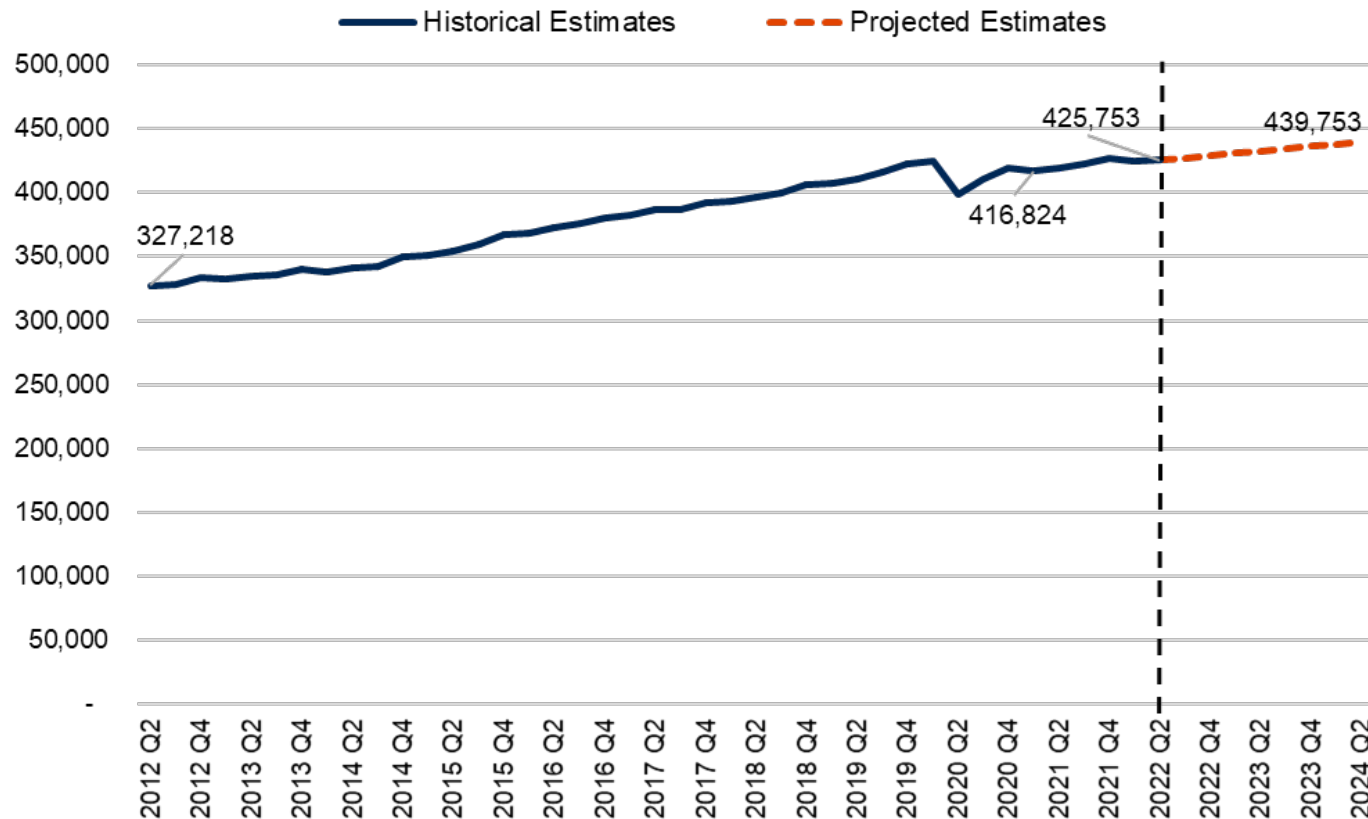
Residential Housing Inventory: Active Listing Count in Arizona



Source: Realtor.com

- Active housing listing counts increased by 148.6% year over year in January 2023, despite observing a drop of 8.5% month over month
- March 2021 saw the lowest active listing count within this five year timeframe

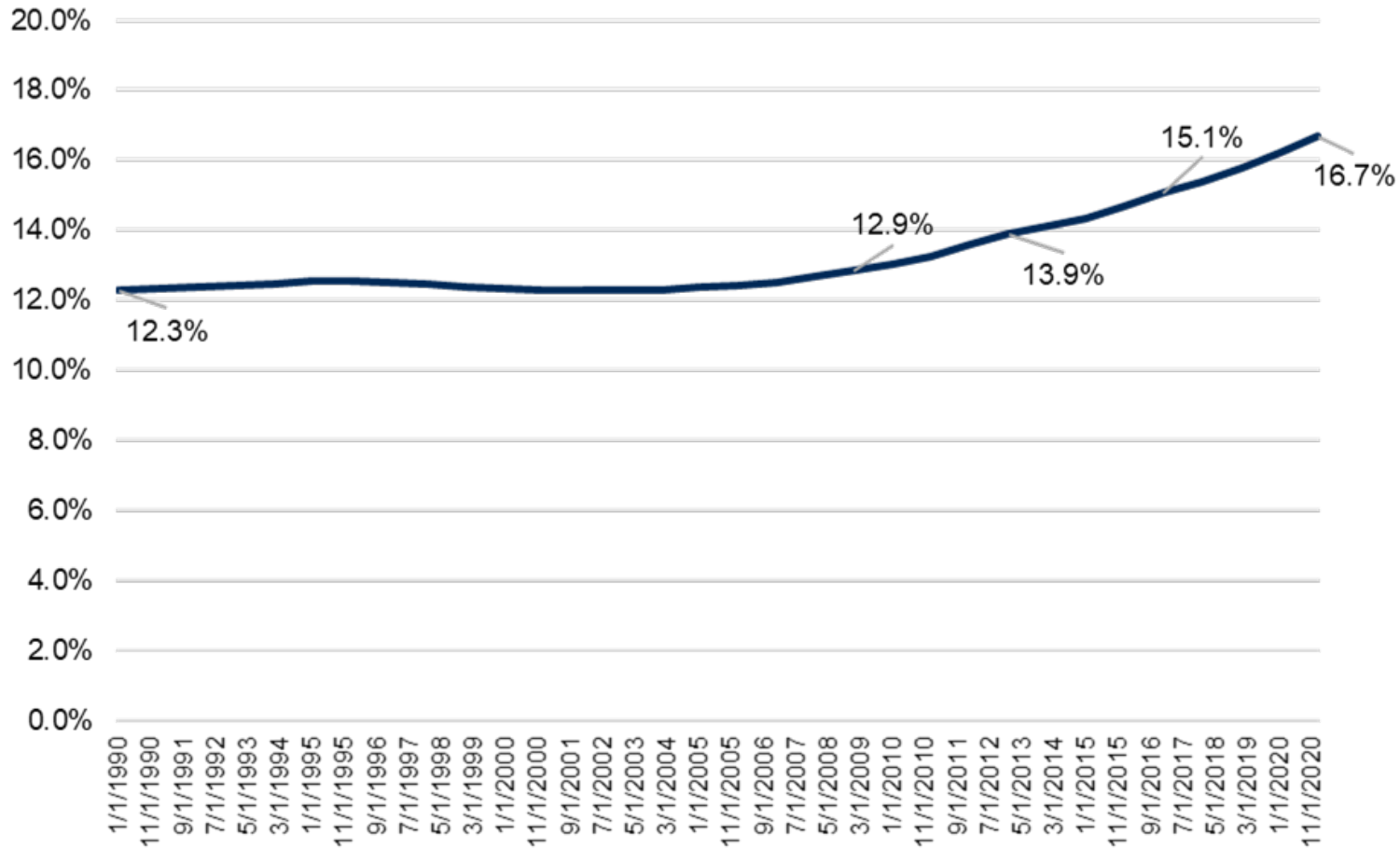
Health Care and Social Assistance Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity
 NOTE: Q3 2021- Q2 2023 numbers reflect average quarterly projected growth

- Health Care and Social Assistance had an average annual growth of 3.7% in the five years prior to the pandemic (Q1 2015 - Q1 2020)
- As of Q2 2022, Health Care and Social Assistance employment surpassed its pre-pandemic level by 0.3% (1,165 jobs)
- Health Care and Social Assistance is projected to increase by 14,000 jobs, or 1.6% annually

Percentage of U.S. Population 65+



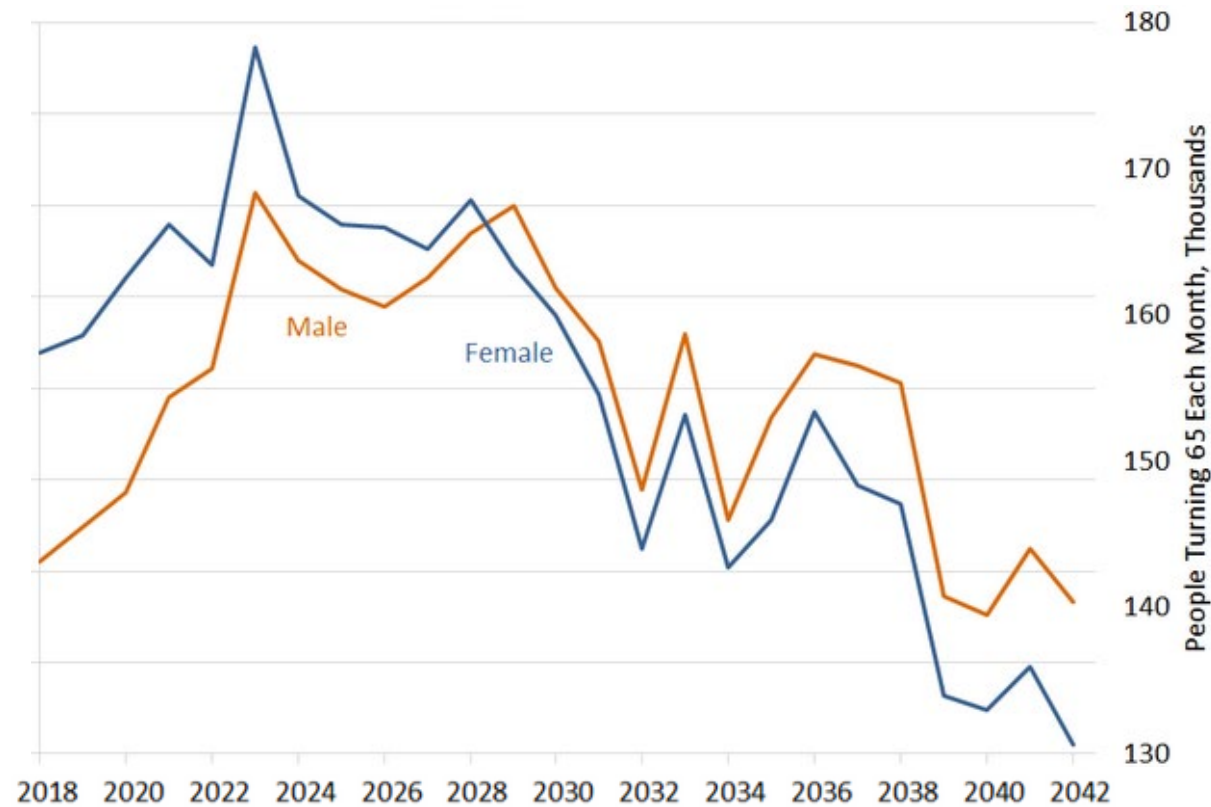
Source: World Bank

*Annual Estimates, Not Seasonally Adjusted

From 1990 to 2021, the share of individuals 65+ in the United States has increased from 12.3% to 16.7%

Since 2006, the share of the population 65+ has increased each year

The Aging U.S. Population



Source: Federal Reserve Bank of St. Louis

- The number of people reaching retirement age will peak in 2023
- Research has shown that nearly half of lifetime medical expenditures is incurred during the senior years (age 65+)
- Health care job growth will be driven, in part, by increasing demand for health care services from older adults

Health Care and Social Assistance Historic and Projected Job Change

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Health Care and Social Assistance	26,474	3.3%	14,000	1.6%
Ambulatory Health Care Services	25,337	7.4%	12,126	3.1%
Hospitals	1,462	0.6%	-224	-0.1%
Nursing and Residential Care Facilities	-5,341	-4.8%	27	0.0%
Social Assistance	5,016	3.9%	2,071	1.5%

¹ Employment change from 2020 Q2 - 2022 Q2

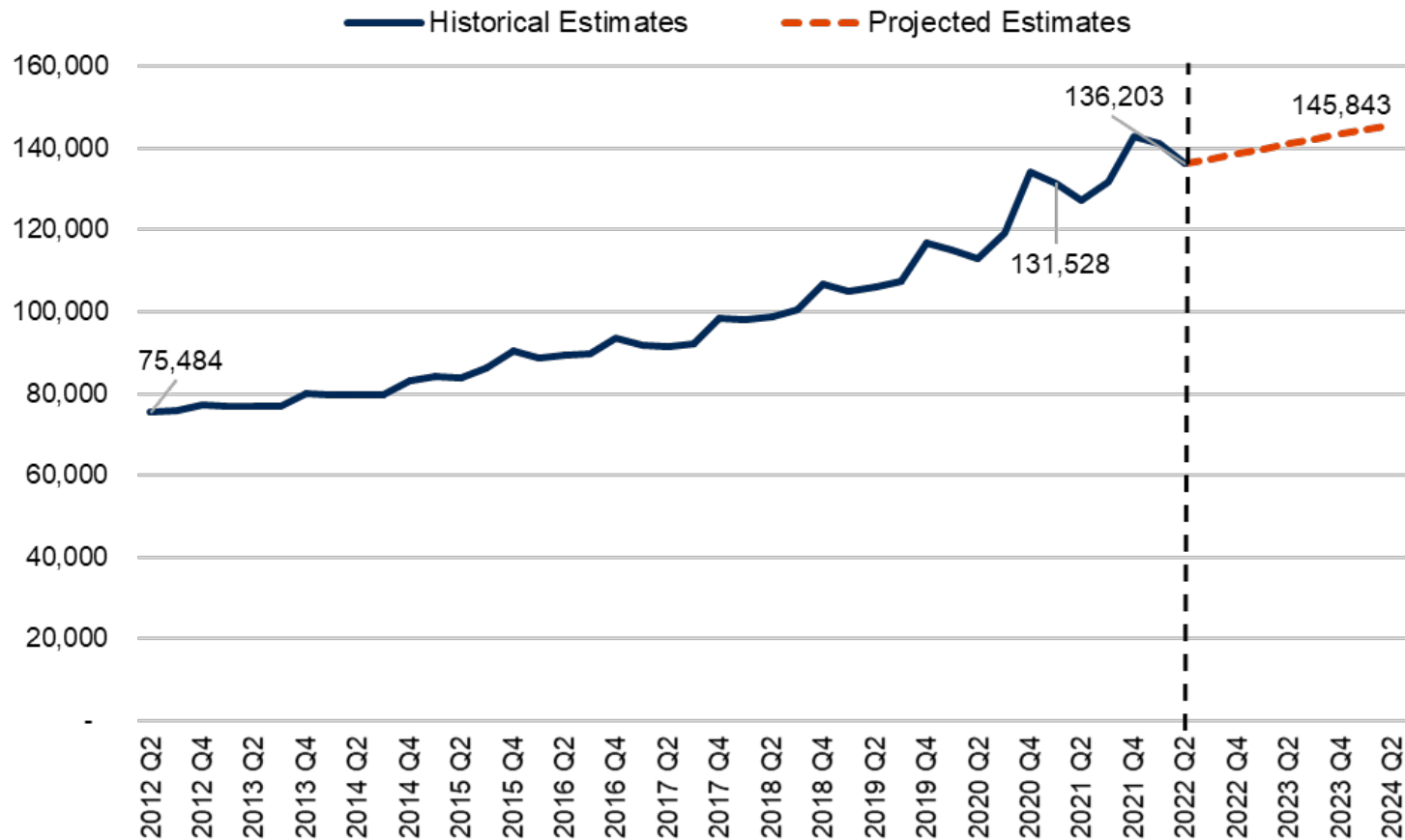
² Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

Health Care and Social Assistance is projected to increase by 1.6% annually from 2022-2024

Ambulatory Health Care Services is projected to record the largest job growth within the sector.

Transportation and Warehousing Historic and Projected Job Change



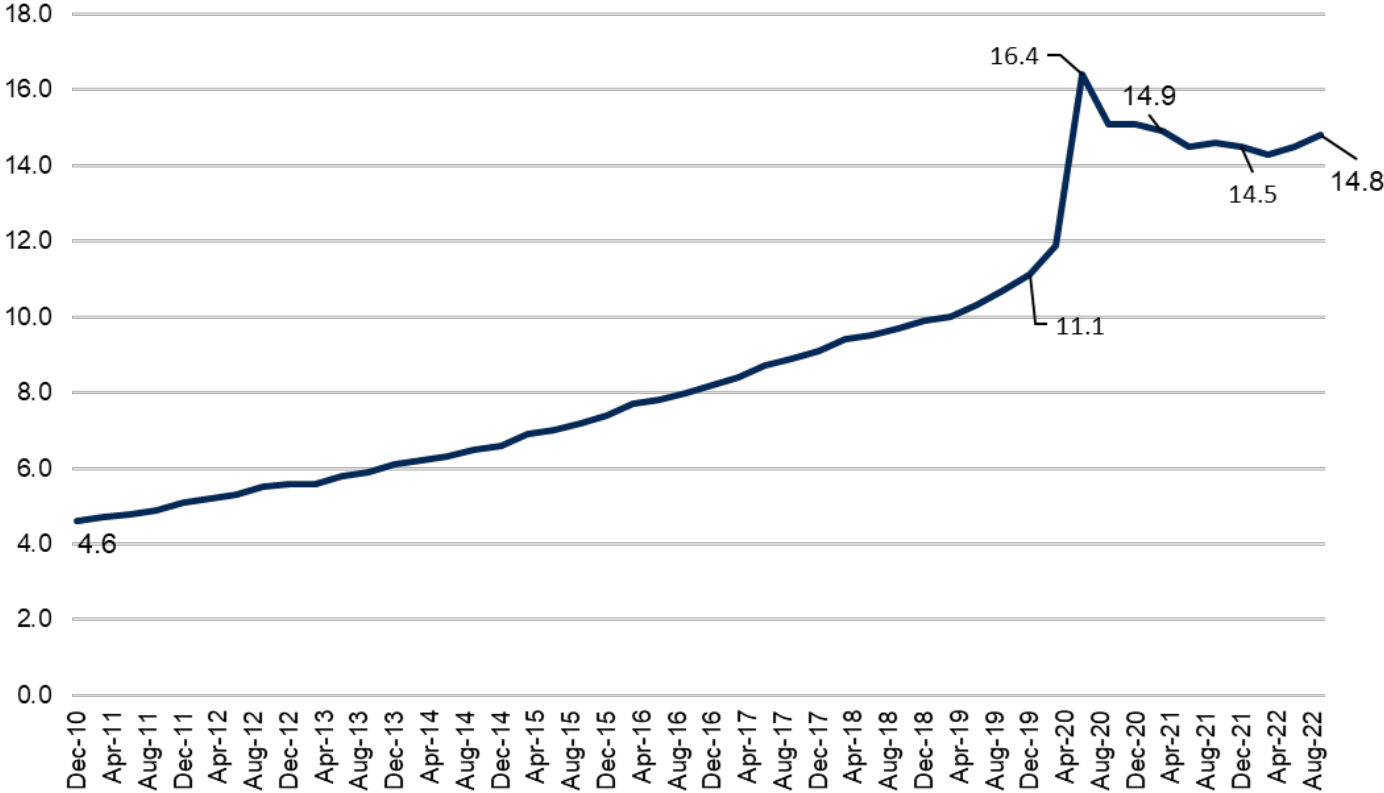
Source: Arizona Office of Economic Opportunity

NOTE: Q3 2021- Q2 2023 numbers reflect average quarterly projected growth

- Transportation and Warehousing had an average annual growth of 5.9% in the five years prior to the pandemic (Q1 2015 - Q1 2020)
- As of Q2 2022, Transportation and Warehousing employment surpassed its pre-pandemic level by 15.9% (20,927 jobs)
- The sector is projected to increase by 9,640 jobs, or 3.5% annually

U.S. Retail E-Commerce Sales

Estimated Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales
1st Quarter of 2010 - 3rd Quarter of 2022



Source: U.S. Census Bureau

- E-commerce sales have accounted for an increasing percentage of total retail sales
 - While total E-commerce sales has increased year over year since 2010, its percent of total retail sales decreased year over year from 2021 Q2 - 2022 Q1
- Since it's peak in 2020 Q2, the percent of E-commerce sales has fallen 1.6 percentage points into 2022 Q3

Transportation and Warehousing Historic and Projected Job Change

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Transportation and Warehousing	23,160	9.8%	9,640	3.5%
Scenic and Sightseeing Transportation	306	39.4%	121	9.2%
Couriers and Messengers	2,530	7.8%	1,945	5.2%
Warehousing and Storage	15,617	20.6%	4,505	4.4%
Transit and Ground Passenger Transportation	464	2.8%	678	3.9%
Support Activities for Transportation	2,275	7.7%	969	2.9%
Air Transportation	40	0.2%	665	2.5%
Truck Transportation	2,208	4.6%	933	1.8%

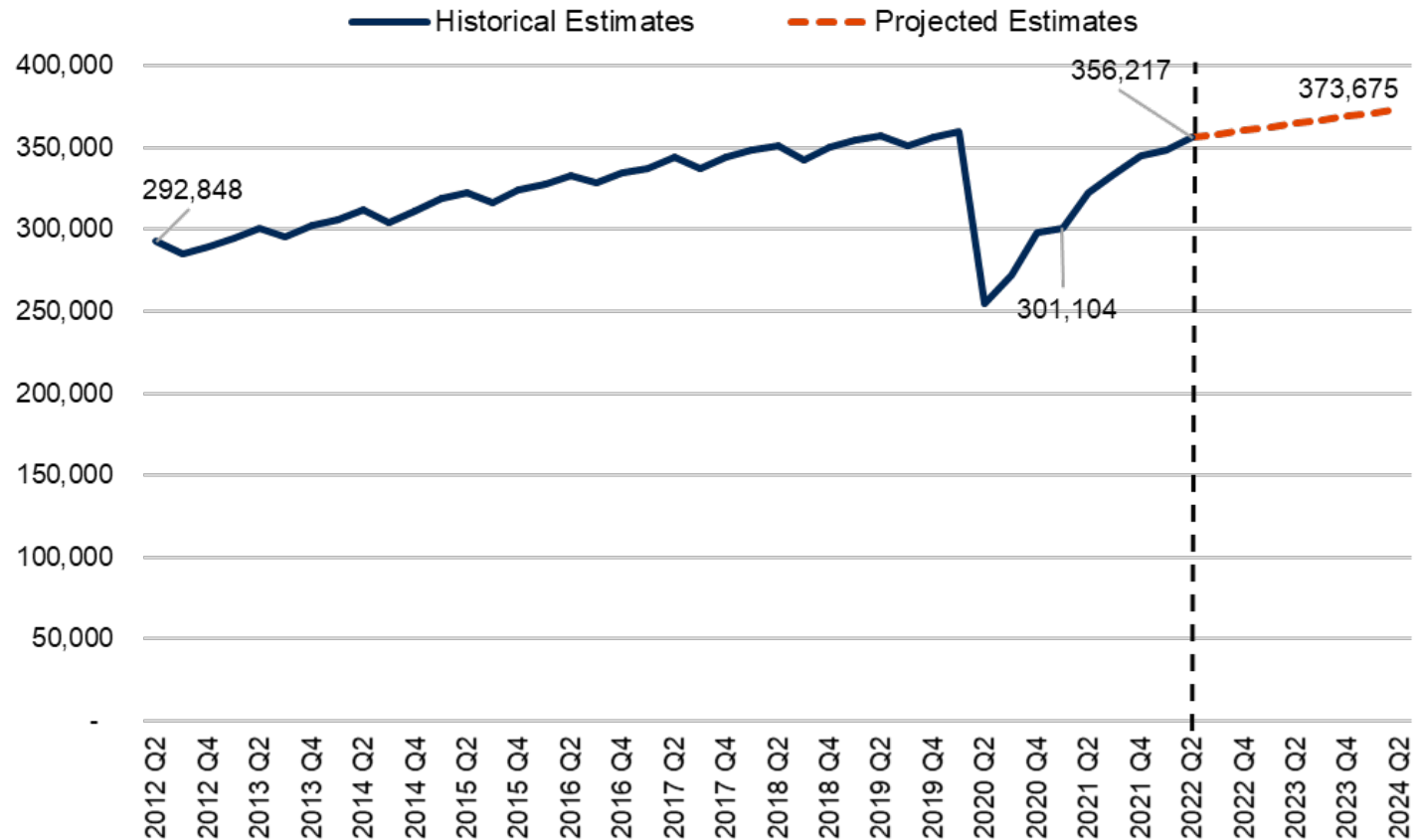
¹Employment change from 2020 Q2 - 2022 Q2

²Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

- Warehousing and Storage is projected to record the largest job gains within the sector
- The Warehousing and Storage industry has grown dramatically as more consumers purchase goods through online retailers

Leisure and Hospitality Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

NOTE: Q3 2021- Q2 2023 numbers reflect average quarterly projected growth

- Leisure and Hospitality had an average annual growth of 2.9% in the five years prior to the pandemic
- As of Q2 2022, Leisure and Hospitality employment is still below its pre-pandemic level by 1.1% (-3,425 jobs)
- Leisure and Hospitality is projected to gain 17,485 jobs, or grow by 2.4% annually

Leisure and Hospitality Historic and Projected Job Change

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Leisure and Hospitality	101,581	18.3%	17,458	2.4%
Arts, Entertainment, and Recreation	17,413	18.0%	4,578	3.6%
Performing Arts, Spectator Sports, and Related Industries	4,873	34.2%	1,176	5.2%
Museums, Historical Sites, and Similar Institution	831	12.7%	323	4.1%
Amusement, Gambling, and Recreation Industries	11,709	15.5%	3,079	3.2%
Accommodation and Food Services	84,168	18.3%	12,880	2.2%
Accommodation, including Hotels and Motels	12,779	18.2%	4,199	4.6%
Food Services and Drinking Places	71,389	18.3%	8,681	1.7%

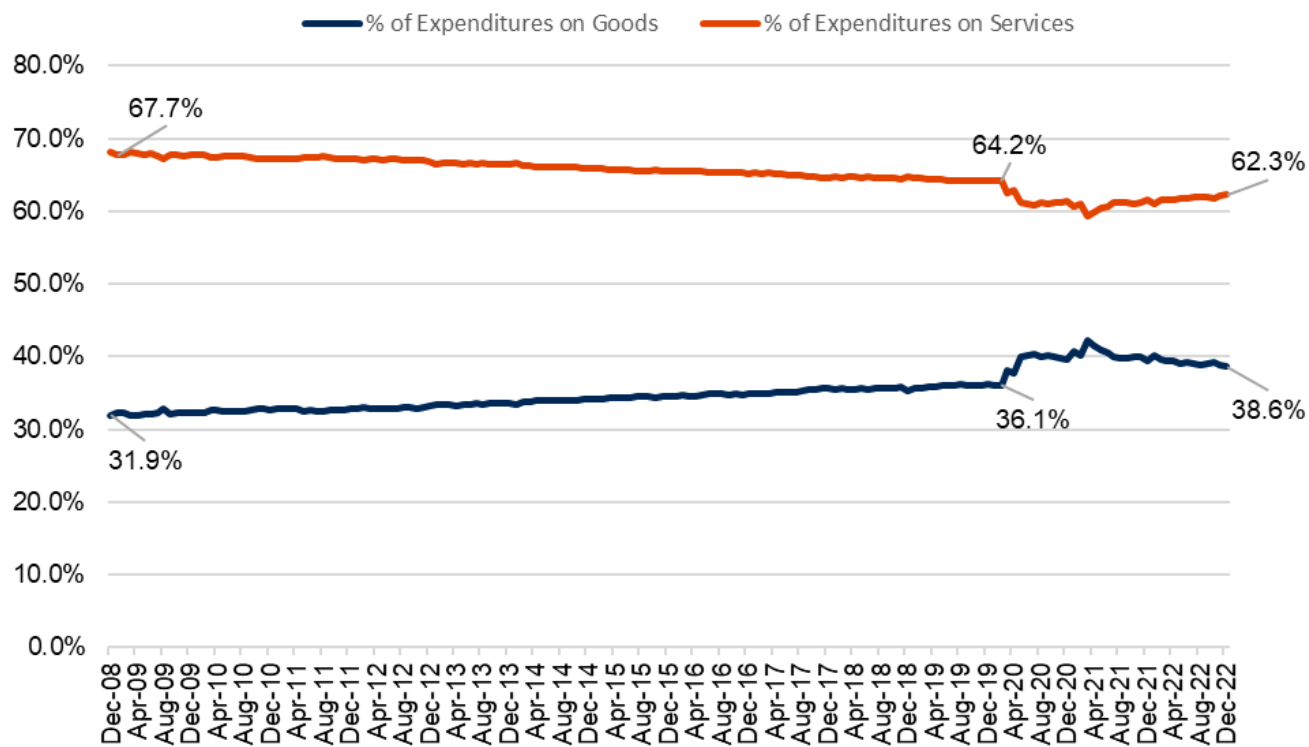
¹Employment change from 2020 Q2 - 2022 Q2

²Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

- Food Services and Drinking Places is projected to record the largest job gains (8,681 jobs)
- Performing Arts is projected to record the fastest job growth (5.2%)

Share of U.S. Personal Consumption Expenditure by Spending Category

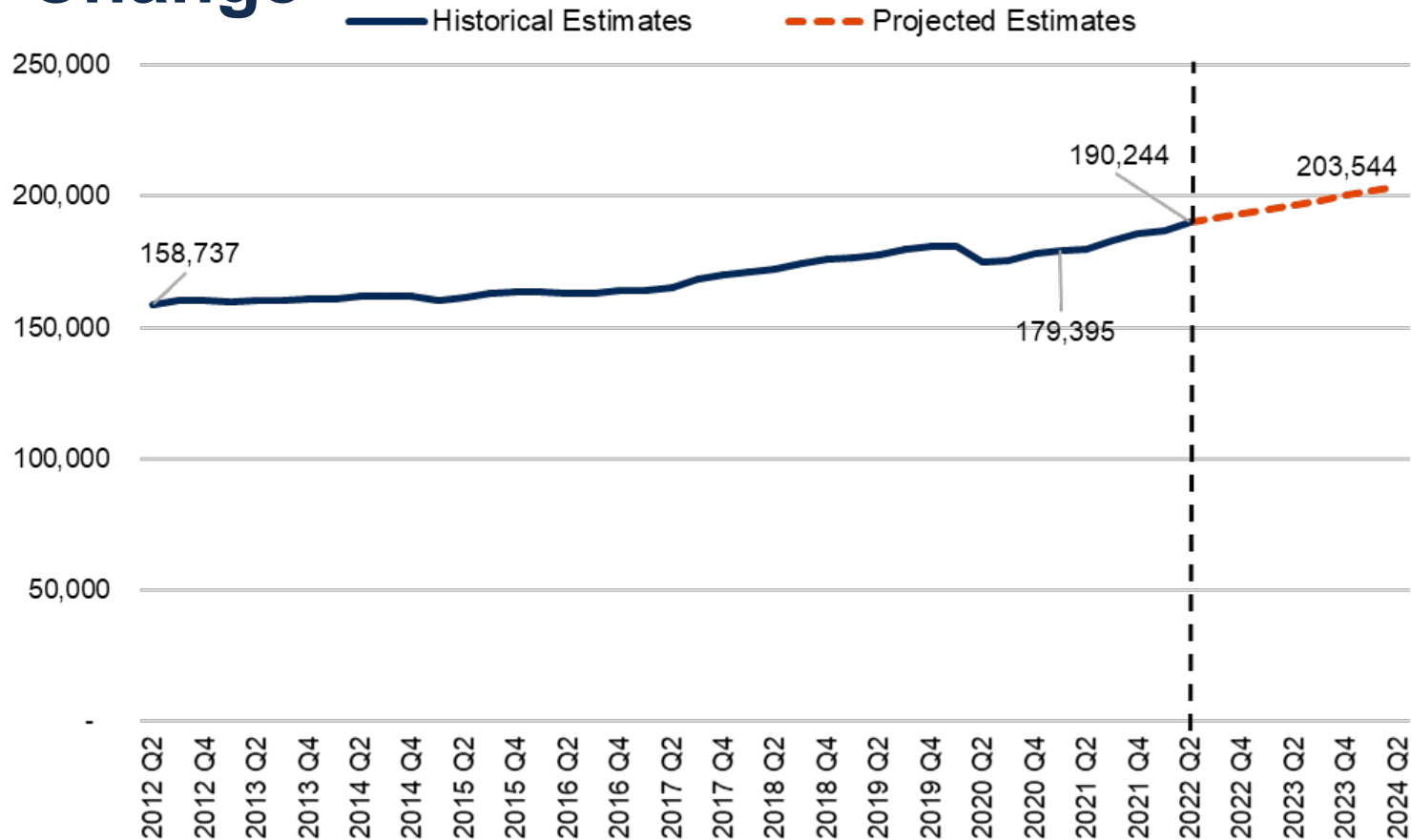


Source: Bureau of Economic Analysis

Consumer spending habits shifted away from services and towards goods purchasing at the start of the pandemic

- Services spending as a percentage of total spending declined by 3.9 percentage points over a three-month period (Feb. 2020 to May 2020)
- Since May 2020, spending on services has increased, but not returned to its pre-pandemic norm as portions of the services economy started to reopen

Manufacturing Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

NOTE: Q3 2021- Q2 2023 numbers reflect average quarterly projected growth

- Manufacturing had an average annual growth of 1.9% in the past five years prior to the pandemic (Q1 2015 - Q1 2020)
- As of Q2 2022, Manufacturing employment surpassed its pre-pandemic level by 5.1% (9,067 jobs)
- Manufacturing is projected to grow by 13,300 jobs, or 3.4% annually

Ten Largest Manufacturing Subsectors by Employment

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Manufacturing	15,467	4.3%	13,300	3.4%
Chemical Manufacturing	1,892	11.7%	1,485	7.5%
Computer and Electronic Product Manufacturing	-697	-1.0%	3,567	5.2%
Plastics and Rubber Products Manufacturing	919	8.1%	502	3.9%
Food Manufacturing	2,008	7.0%	1,060	3.3%
Transportation Equipment Manufacturing	3,916	5.6%	2,509	3.2%
Nonmetallic Mineral Product Manufacturing	727	4.6%	549	3.2%
Miscellaneous Manufacturing	1,128	4.5%	539	2.0%
Fabricated Metal Product Manufacturing	2,133	5.0%	917	2.0%
Machinery Manufacturing	-137	-0.9%	238	1.6%
Furniture and Related Product Manufacturing	507	4.3%	109	0.9%

¹Employment change from 2020 Q2 - 2022 Q2

²Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

- Chemical Manufacturing is projected to record the fastest growth rate
- The largest gains are projected to come from Computer and Electronic Product Manufacturing

Financial Activities Historic and Projected Job Change

Sector	Historic Change ¹ (2020-2022)		Projected Change ² (2022-2024)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Finance and Insurance	3,715	1.1%	-4,825	-1.4%
Securities, Commodity Contracts, and Other Financial Investments and Related Activities	1,101	2.8%	369	0.9%
Insurance Carriers and Related Activities	-1,499	-1.3%	-1,931	-1.7%
Credit Intermediation and Related Activities	3,920	2.1%	-3,279	-1.7%

¹Employment change from 2020 Q2 - 2022 Q2

²Employment change from 2022 Q2 - 2024 Q2

Source: Arizona Office of Economic Opportunity

- As a whole, Finance and Insurance is projected to record negative net annual growth (-1.4%)
- Securities, Commodity Contracts, and Other Financial Investments and Related Activities is the only subsector projected to record growth (0.9% annually).

REPORT SUMMARY

- Total employment is projected to grow by 1.4% annually from Q2 2022 to Q2 2024
- Ten of the 11 private sector industries are projected to add jobs
 - Financial Activities' employment is projected to decrease 0.6% annually.
- All 15 Arizona counties are projected to add jobs
- Growth is projected to be led by Manufacturing (3.4% annually), Information (3.3% annually), Leisure and Hospitality (2.4% annually), and Professional and Business Services (1.8% annually)



WORKS CITED

1. Board of Governors of the Federal Reserve System (US), (2022 January 26). Federal Reserve Issues FOMC Statement; <https://www.federalreserve.gov/newsevents/pressreleases/monetary20220126a.htm>. Retrieved February 16, 2022.(slide 12&13)
2. CNBC. (2022, February 9). Homebuyer demand for mortgages drops 10%, as higher interest rates price some people out. <https://www.cnbc.com/2022/02/09/homebuyer-demand-for-mortgages-drops-10percent.html>. (slide 29)
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UPCOMING RELEASES

- March 9, 2023:
January 2023 Press Release
- March 23, 2023:
February 2023 Press Release

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**THANK
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