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# 2019-2021 Employment Projections

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# Industry Projections Methodology: Estimation Process

- Projections are estimated using historical industry employment trends
- Estimates are refined by a review of current United States and Arizona economic developments
- Short-term projections estimate employment from Q3 2019 to Q2 2021
  - Historic data are used for base-year Q2 2019 employment levels
  - Employment estimates for Q2 2019 are the latest available data published by the BLS QCEW program
  - Projected data are modeled for forecast-year Q2 2021 employment levels

# Industry Projections Methodology: Estimation Process

- The principle data source was the Quarterly Census of Employment and Wages (QCEW) data analyzed at the individual employer level
  - Near census of all employment subject to unemployment insurance tax law (92%-95% of total Arizona Employment)
- The industry classification structure differs slightly from CES industry classification
  - Notably: State and local government education employment is categorized in NAICS 611: Educational Services

# Industry Projections Methodology: Data Source

- Industry Projections Estimates **Include**:
  - Nonfarm employment by subsector group (3-digit NAICS)
  - Self-employed workers who work for profit or fees in their own business, profession, trade, or farm
  - Private household workers employed as domestic workers
  - Railway workers
  - Religious organization employees
  - Farm workers
- Industry Projections Estimates **Exclude**:
  - Unpaid family workers
  - Active duty military service men and woman

# 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://laborstats.az.gov/employment-forecasts>

# Substate Regions

Projected employment was estimated for 12 substate regions including:

## Seven Arizona Counties

- Coconino, Maricopa, Pima, Pinal, Santa Cruz, Yavapai, and Yuma 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

# Arizona Industry Highlights

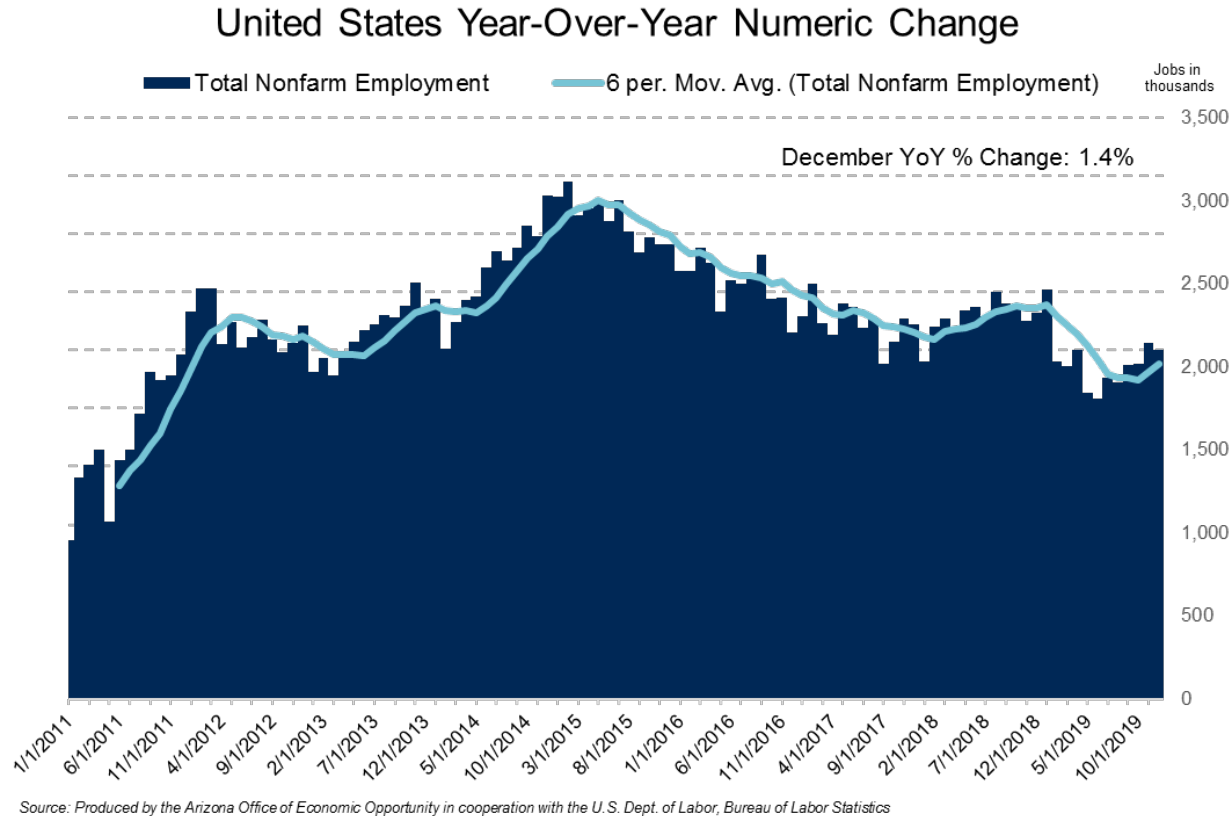
- Total Arizona employment is projected to grow by 159,473 jobs over the two-year period, reaching 3,246,996 jobs in Q2 2021
- Total Arizona employment is projected to grow 2.6% annually from Q2 2019 – Q2 2021, in line with the 2.5% growth rate recorded from Q2 2017 – Q2 2019
- All eleven industry sectors are projected to add jobs
- Educational and Health Services is projected to add the largest number of jobs (37,911 jobs or 2.9% annualized growth)
- Construction is projected to record the largest percentage gain, growing 6.7% annually (23,881 jobs)
- Construction is projected to be the fastest growing industry in 8 of 11 substate regions

# National Economic Trends

- U.S. employment continues to grow, though at a declining rate
- The Consumer Sentiment Index remains at post-recession highs
- The U.S. quits rate remains at post-recession highs
- The Federal Reserve has increased the effective federal funds rate over the past several years
- U.S. population continues to grow, but at a decelerating pace
- U.S. manufacturing growth slows



# U.S. Nonfarm Employment



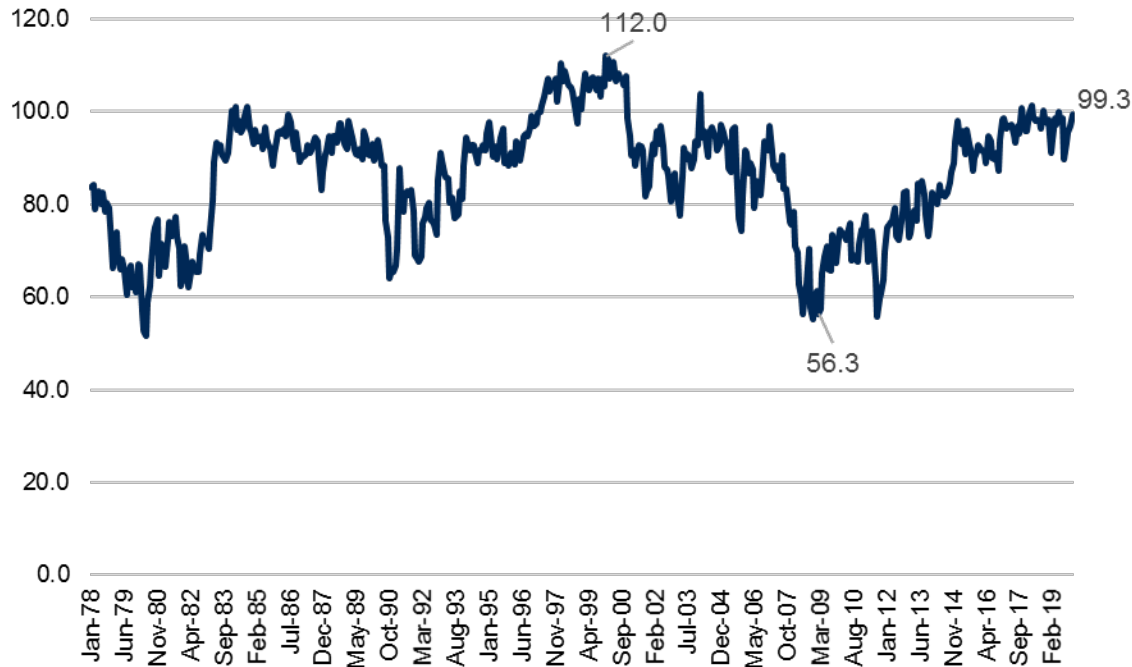
December marked 112 consecutive months of year-over-year nonfarm growth

- '03 – '07 expansion: 53 consecutive months
- '92 – '01 expansion: 111 consecutive months

U.S. employment growth is slowing

- U.S. employment grew 1.4% year-over-year in 2019 down from 1.6% in 2018 and 2017

# U.S. Consumer Sentiment



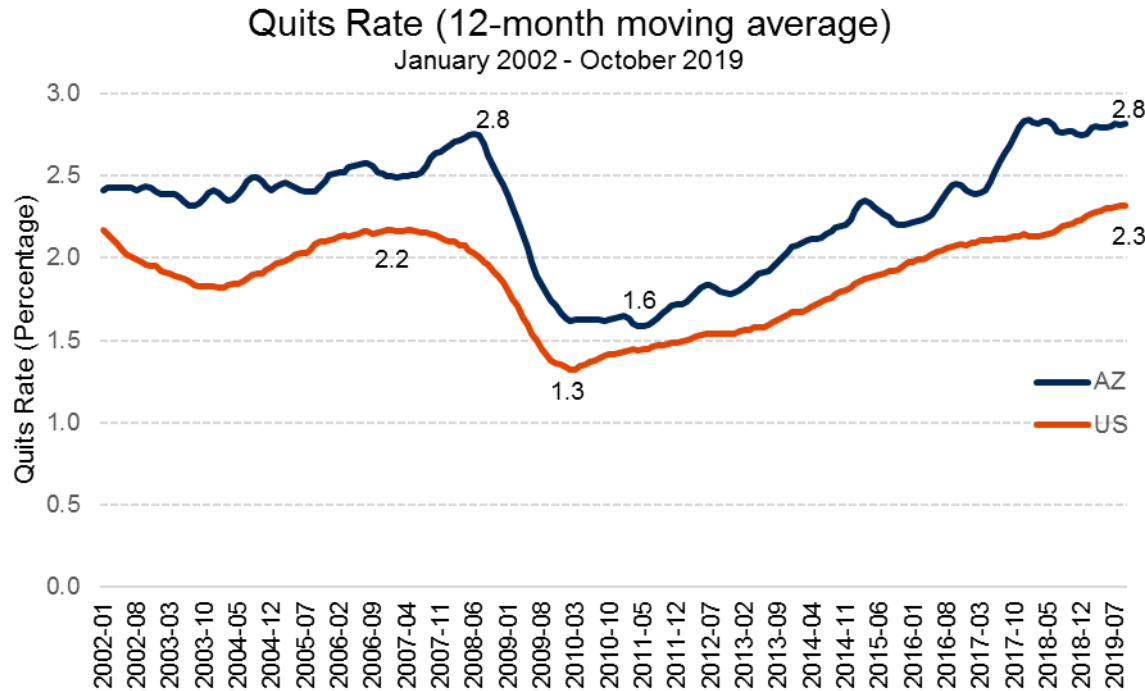
Source: Surveys of Consumers, University of Michigan

Consumer sentiment gauges consumers' outlook on short- to long-term economic trends and personal finance

Consumer sentiment has remained at historic highs over the past three years

- Sentiment was at 99.3 in December 2019, up slightly from 98.3 last December

# Voluntary Turnover



Source: U.S. Bureau of Labor Statistics

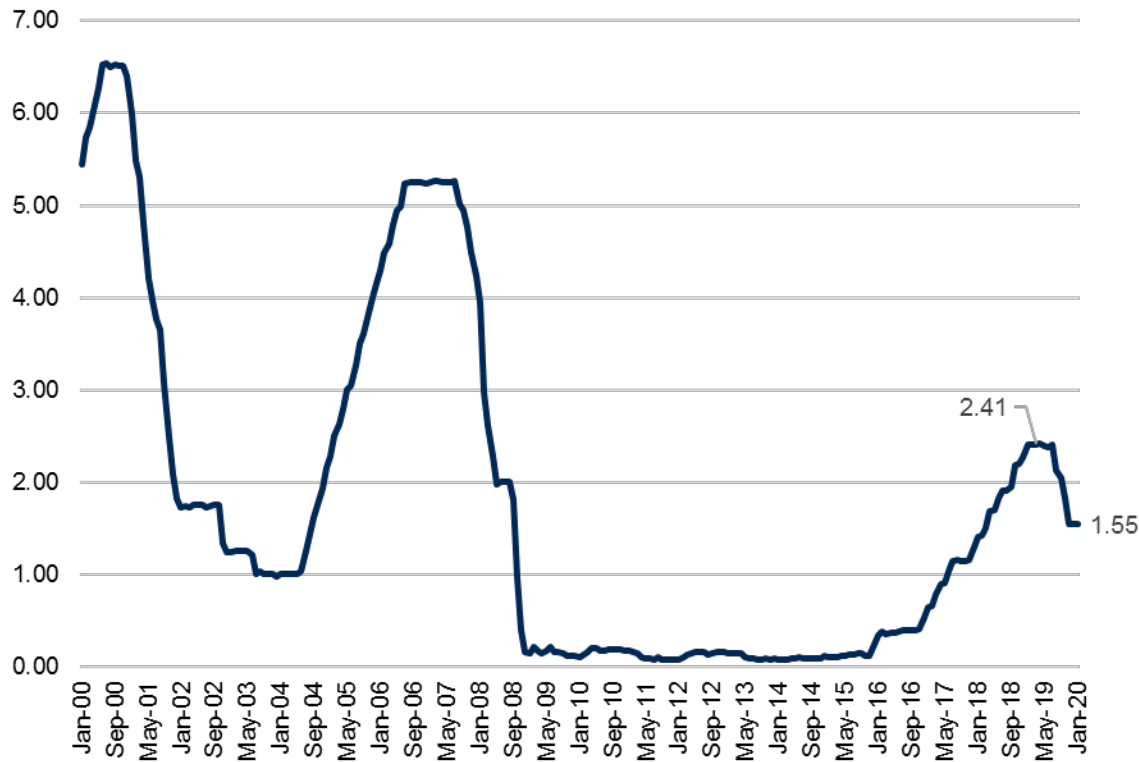
Quits Rate: the share of those employed who *voluntarily* leave their jobs

- U.S. and Arizona quits rates have increased to historic highs
- A high quits rate is an indication of people's confidence in their ability to find a better job

Arizona has a high quits rate compared with other states

- Currently, Arizona has the 8<sup>th</sup> highest quits rate among U.S. states

# Effective Federal Funds Rate

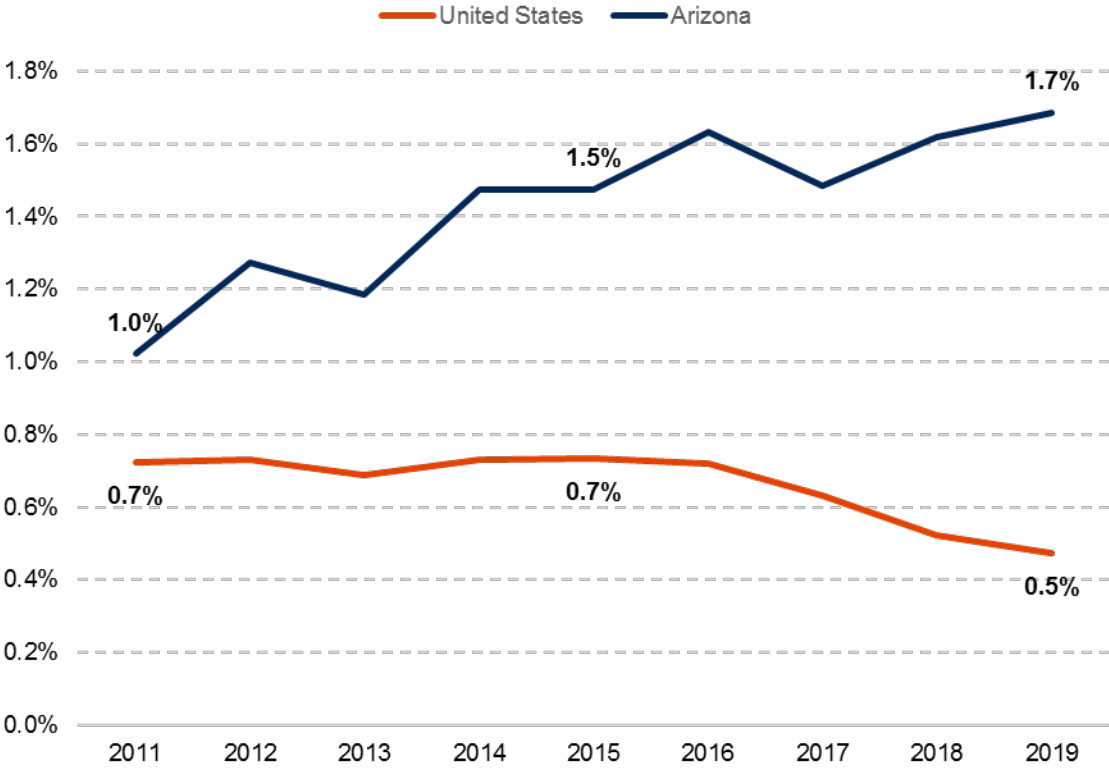


Source: Board of Governors of the Federal Reserve System

The Federal Reserve Open Market Committee recently signaled that there would be no change to current rate objectives<sup>2</sup> in the near future

- Construction and Financial Activities employment will likely benefit from continued low rates

# Population Growth



Source: U.S. Census Bureau

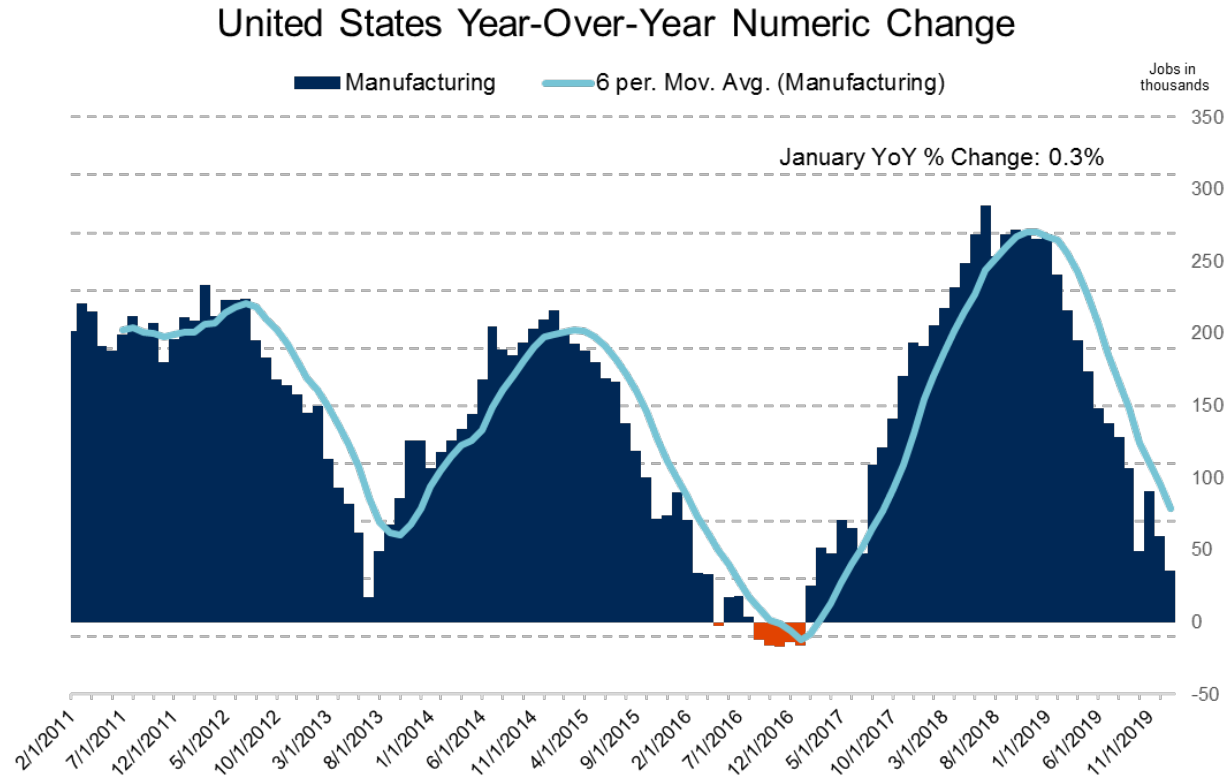
U.S. population growth has slowed over the past 4 years

The slowdown is due, in part, to falling birth rates and declining international migration

- 2019 international migration levels were the lowest in nine years

Arizona’s population growth rate has increased over the past nine years, outpacing overall U.S. population growth

# Historical Manufacturing Employment

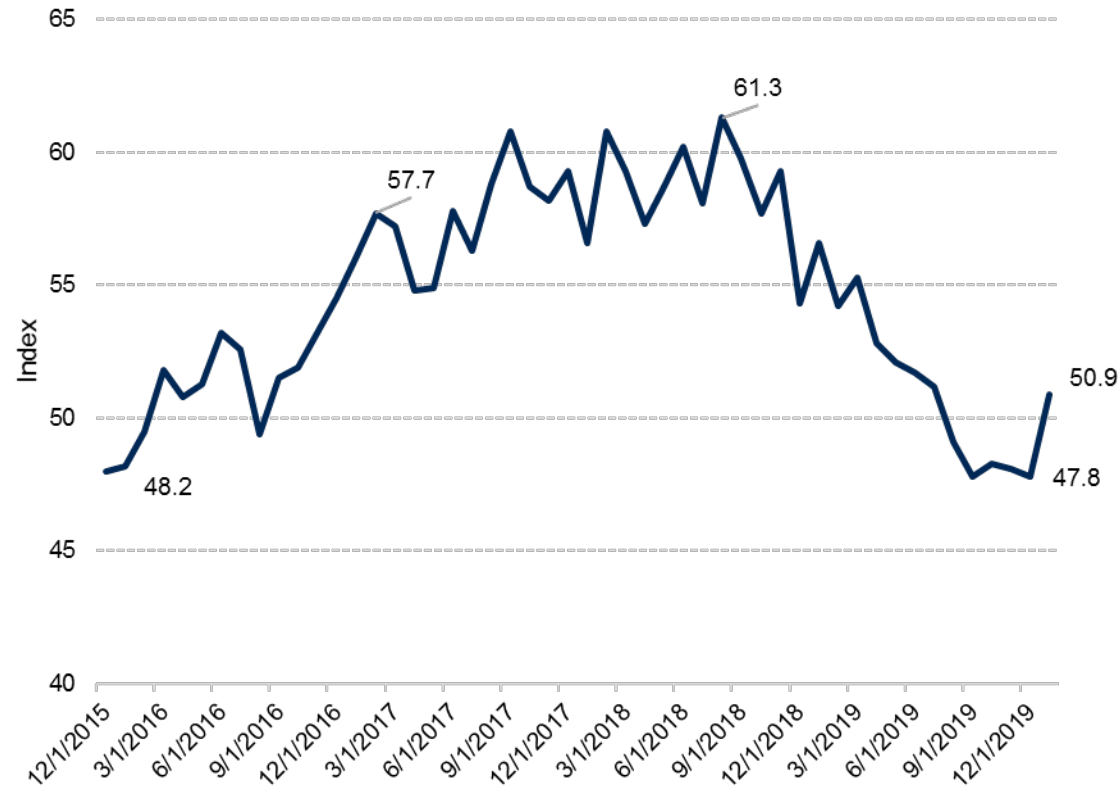


U.S. Manufacturing growth has slowed to multi-year lows, which may be related to the 2018-2019 protective tariffs

Researchers at the U.S. Federal Reserve found that:

- The 2018 tariffs were associated with reductions in manufacturing employment and increases in producer prices<sup>2</sup>
- Benefits of tariff protections were more than offset by rising input costs and retaliatory tariffs<sup>2</sup>

# U.S. Manufacturing Purchasing Managers Index (PMI)



Source: Institute of Supply Management

Sentiment among manufacturers has been low according to the PMI

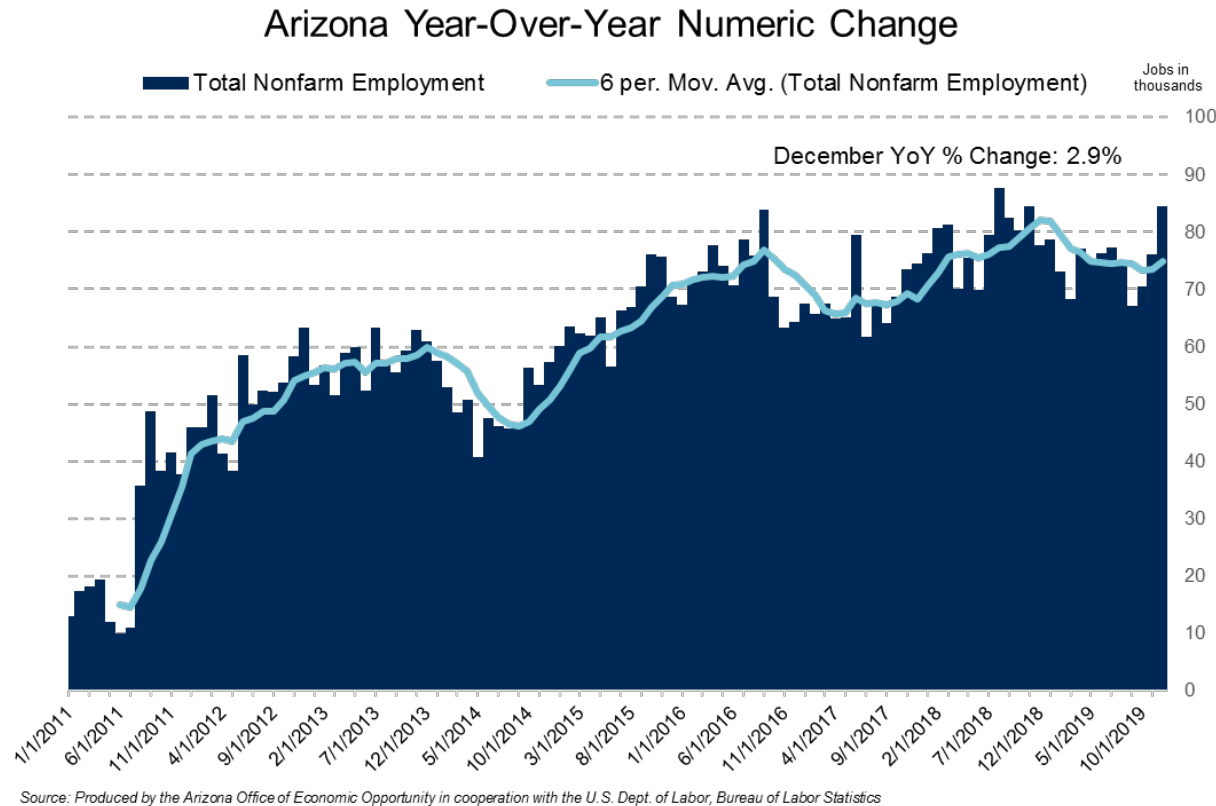
- A PMI above 50 designates an overall expansion of the manufacturing economy
- A PMI below 50 signifies a shrinking of the manufacturing economy

# Arizona Economic Trends

- Arizona is currently experiencing one of the longest periods of employment expansion in recent history
- Arizona's population growth has been among the fastest of all 50 states
- Tens of thousands of individuals are entering into the labor force, bolstering Arizona's workforce capacity
- Arizona Manufacturing essentially unaffected by national trade policy



# Arizona Nonfarm Employment



December marked 110 consecutive months of year-over-year total nonfarm growth

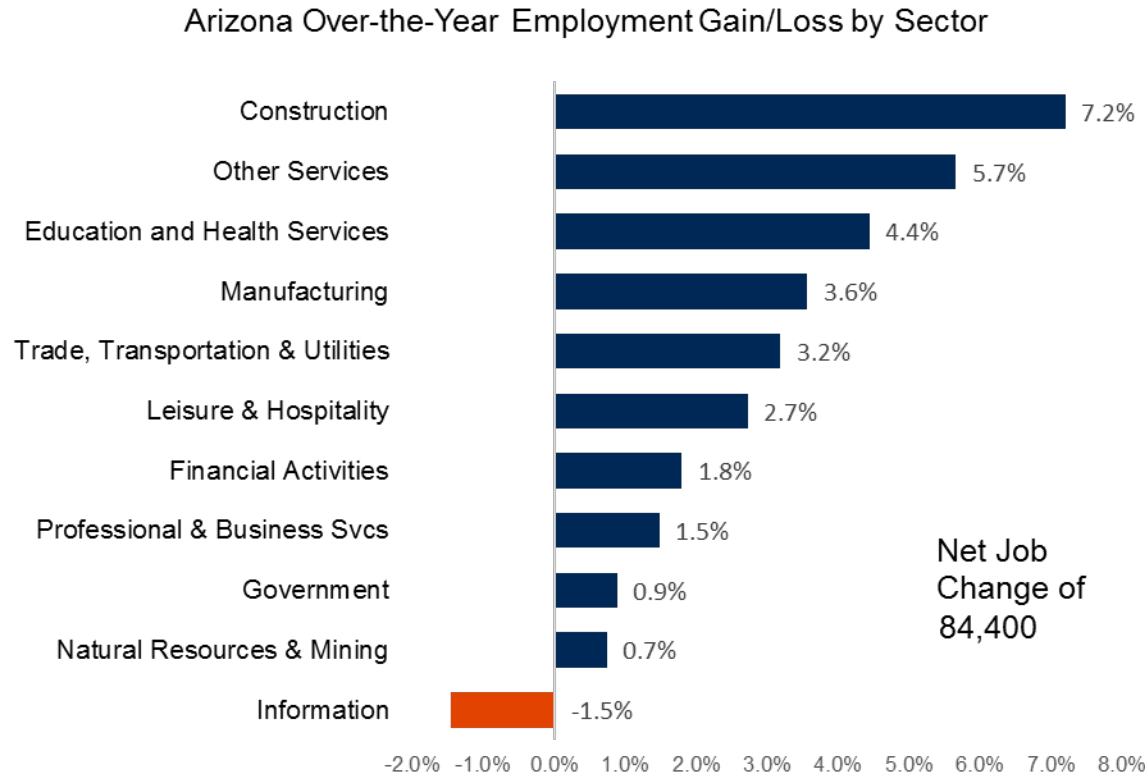
- '02 – '08 expansion: 66 consecutive months
- '91 – '01 expansion: 124 consecutive months

Arizona employment increased by 595,900 jobs from Dec. 2010 to Dec. 2019, growing 2.4% annually

Employment gains have increased as the expansion grows older

- Arizona recorded its largest job gains in 2018 and 2019
- The United States recorded its largest job gains in 2014 and 2015

# Arizona Monthly CES Employment: December 2019



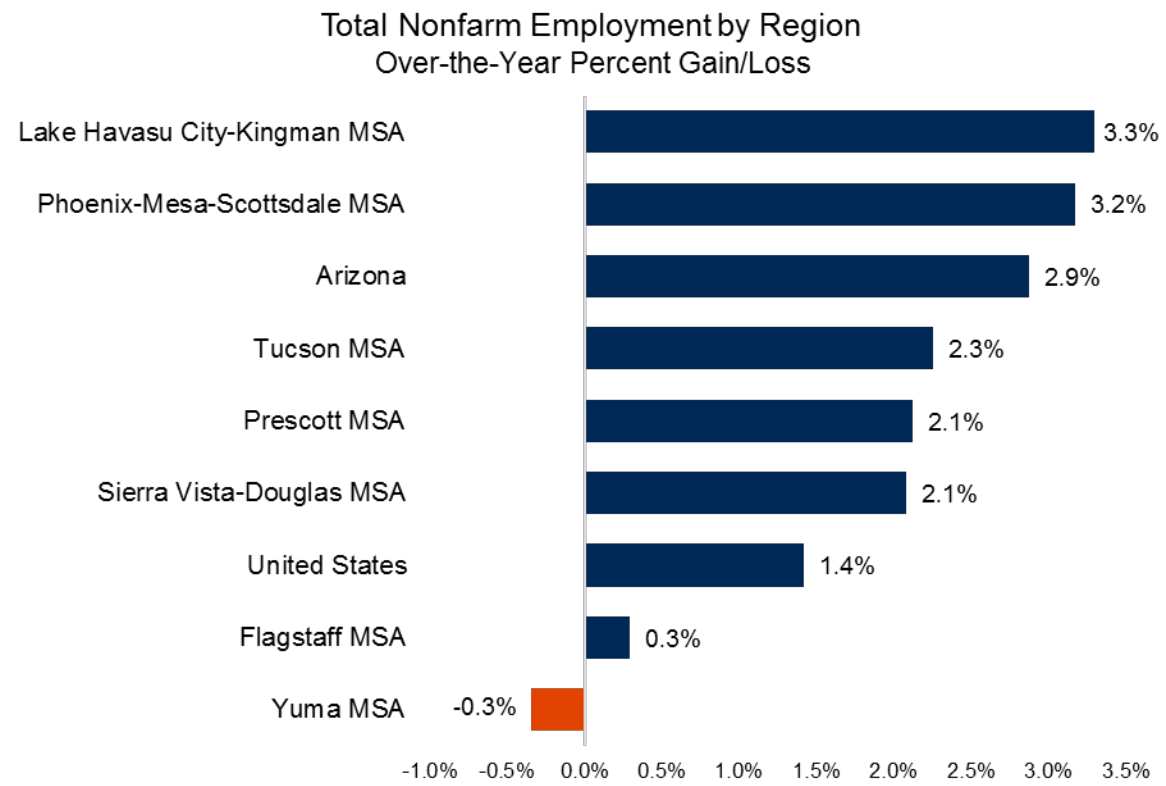
Employment growth has been wide-ranging across most industry sectors within Arizona

Compared with other U.S. states, Arizona YoY job growth is among the strongest in the nation

- Private Sector ranked 2<sup>nd</sup> in the nation
- Manufacturing ranked 2<sup>nd</sup> in the nation
- Construction ranked 5<sup>th</sup> in the nation
- Trade, Trans. & Utilities ranked 1<sup>st</sup> in the nation
- Ed. & Health Services ranked 2<sup>nd</sup> in the nation

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

# Arizona Monthly CES Employment: December 2019

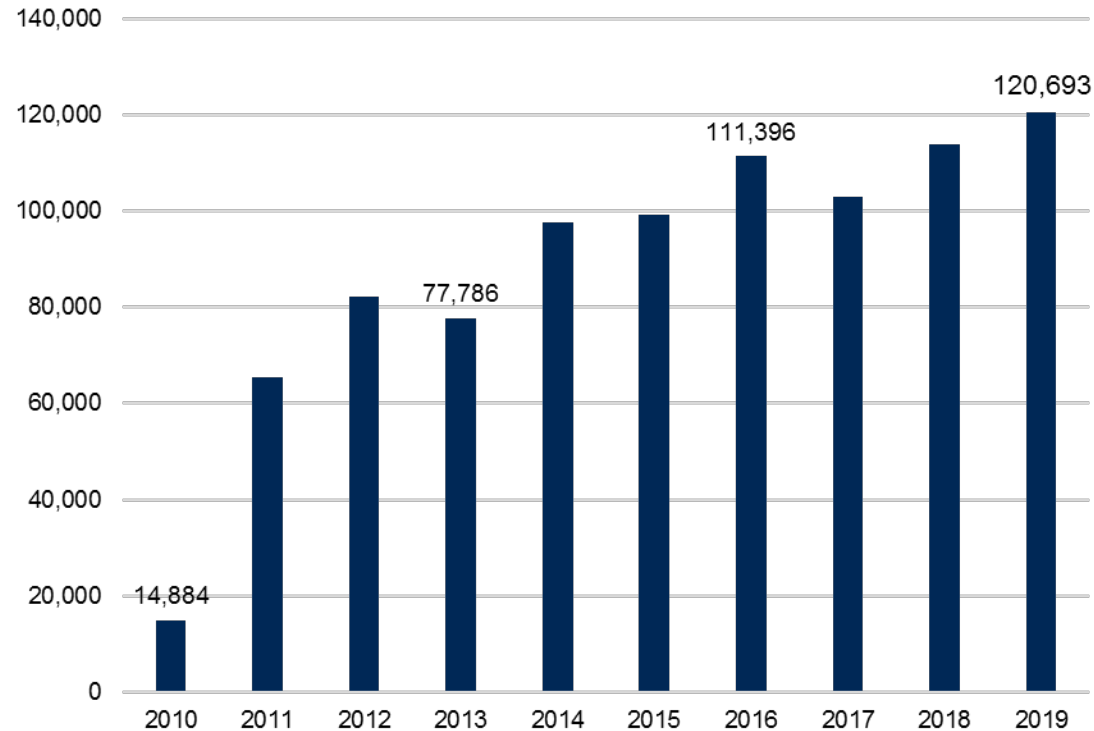


Employment growth has been wide-ranging across most of Arizona’s seven metro areas

- In December 2019, five of seven Arizona metro areas recorded stronger YoY growth than the United States

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

# Arizona Annual Population Change



Source: U.S. Census Bureau

Arizona has recorded strong population growth in recent years

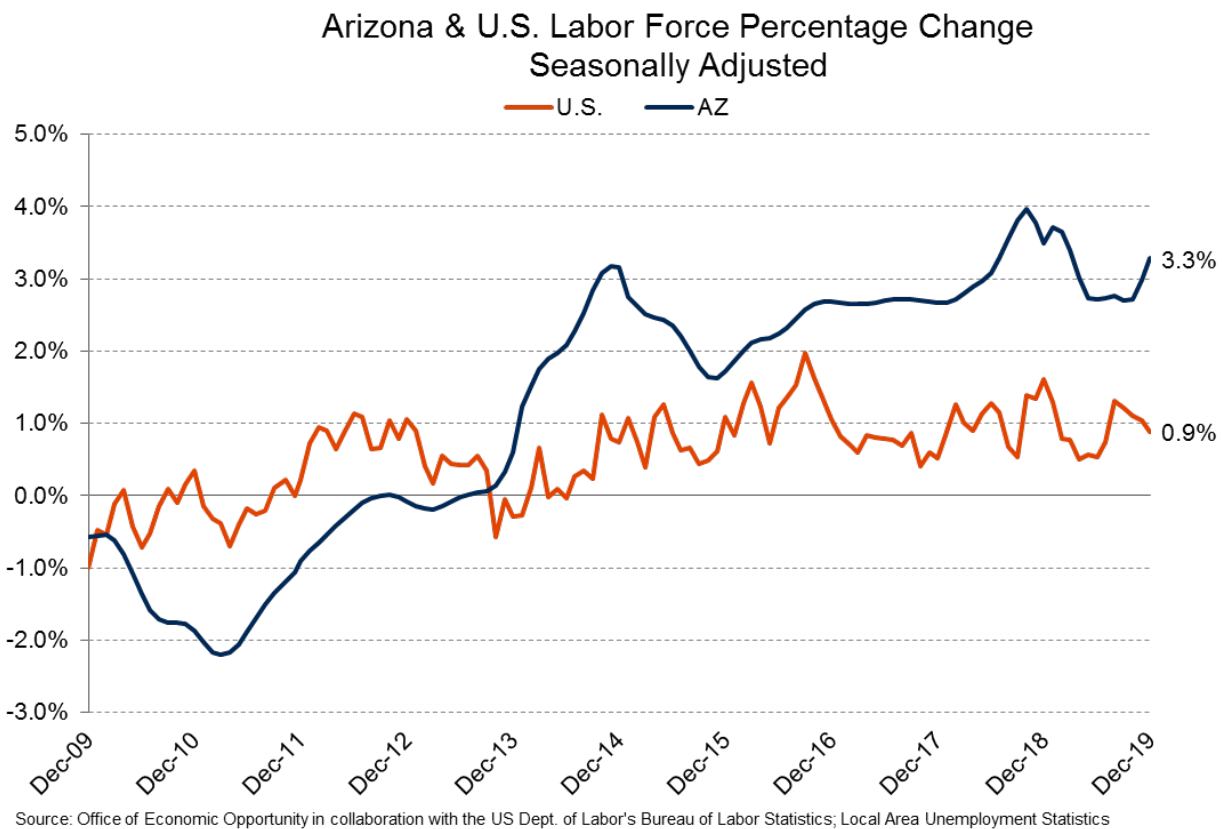
- Arizona population growth ranked 3<sup>rd</sup> in the nation in 2019 and 4<sup>th</sup> in 2018

Arizona's strong population growth is due, in part, to migration into the state

- Arizona migration growth ranked 3<sup>rd</sup> in the nation in 2019

It is anticipated that Arizona's strong population growth will continue through the projected period

# Labor Force Growth

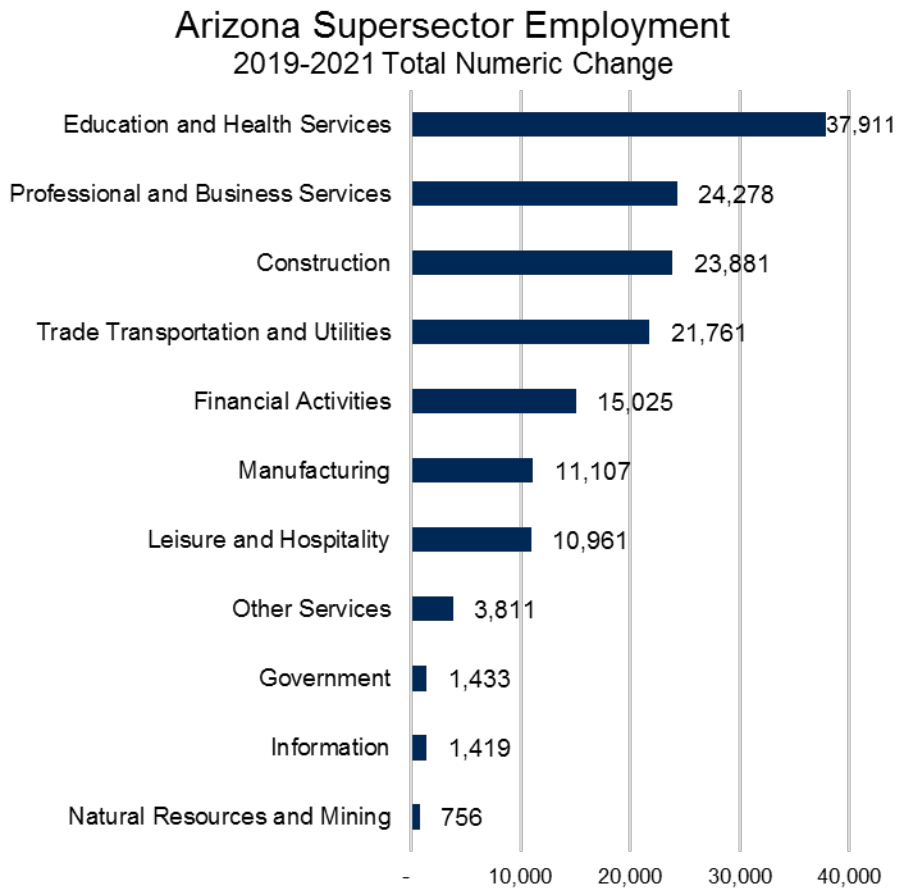
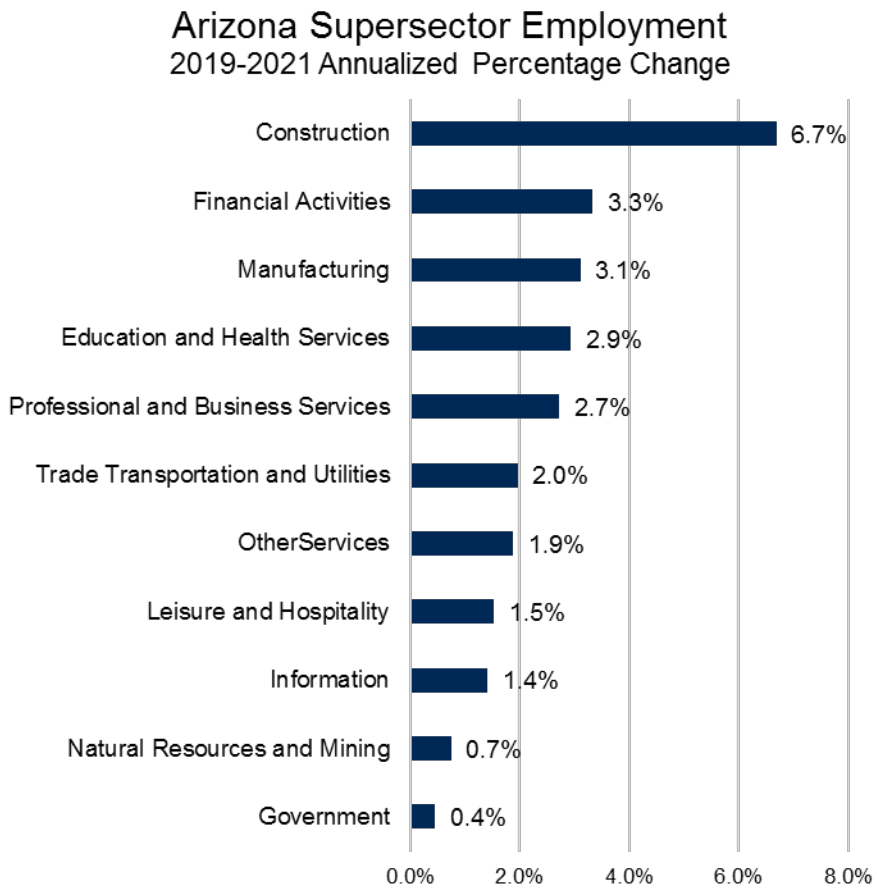


The Arizona labor force has been growing for nearly 6.5 years

The Arizona labor force is currently growing three times as fast as the U.S. labor force

Arizona's labor force growth rate ranked 4<sup>th</sup> among U.S. states in Dec. 2019

# Projected Industry Employment Change



Source: Arizona Office of Economic Opportunity

# Projected Total Employment by Arizona Region

Region	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Arizona	151,284	2.5%	159,473	2.6%
City of Phoenix	39,979	2.1%	34,095	1.7%
Coconino County	1,352	1.0%	1,225	0.9%
Maricopa County	126,515	3.0%	132,648	3.0%
Balance of Maricopa Cnty	86,536	3.8%	98,553	4.1%
Mohave and La Paz	2,915	2.4%	2,484	2.0%
Northeastern Arizona	-405	-0.3%	212	0.2%
Pima County	11,944	1.5%	14,102	1.7%
Pinal County	2,412	1.8%	2,302	1.7%
Santa Cruz County	241	0.8%	382	1.2%
Southeastern Arizona	1,066	0.9%	1,147	0.9%
Yavapai County	2,292	1.6%	3,037	2.1%
Yuma County	2,627	2.0%	1,911	1.4%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

## Industry Highlight: Construction

Sector	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Construction	24,930	8.1%	23,881	6.7%
Construction of Buildings	6,676	11.2%	6,925	9.5%
Heavy and Civil Engineering Construction	2,944	7.3%	2,898	6.3%
Specialty Trade Contractors	15,310	7.4%	14,058	5.9%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

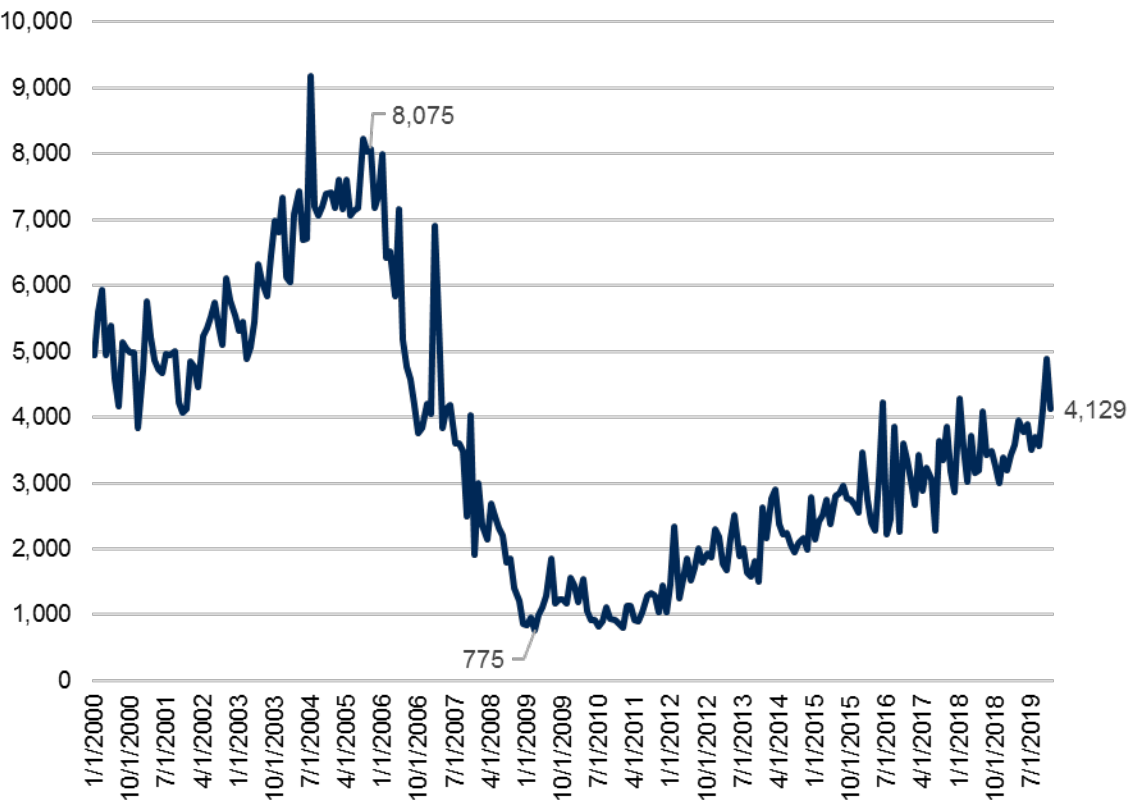
<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

Strong growth in Construction employment is projected to continue into 2021 as demand to purchase and rent residential housing remains high



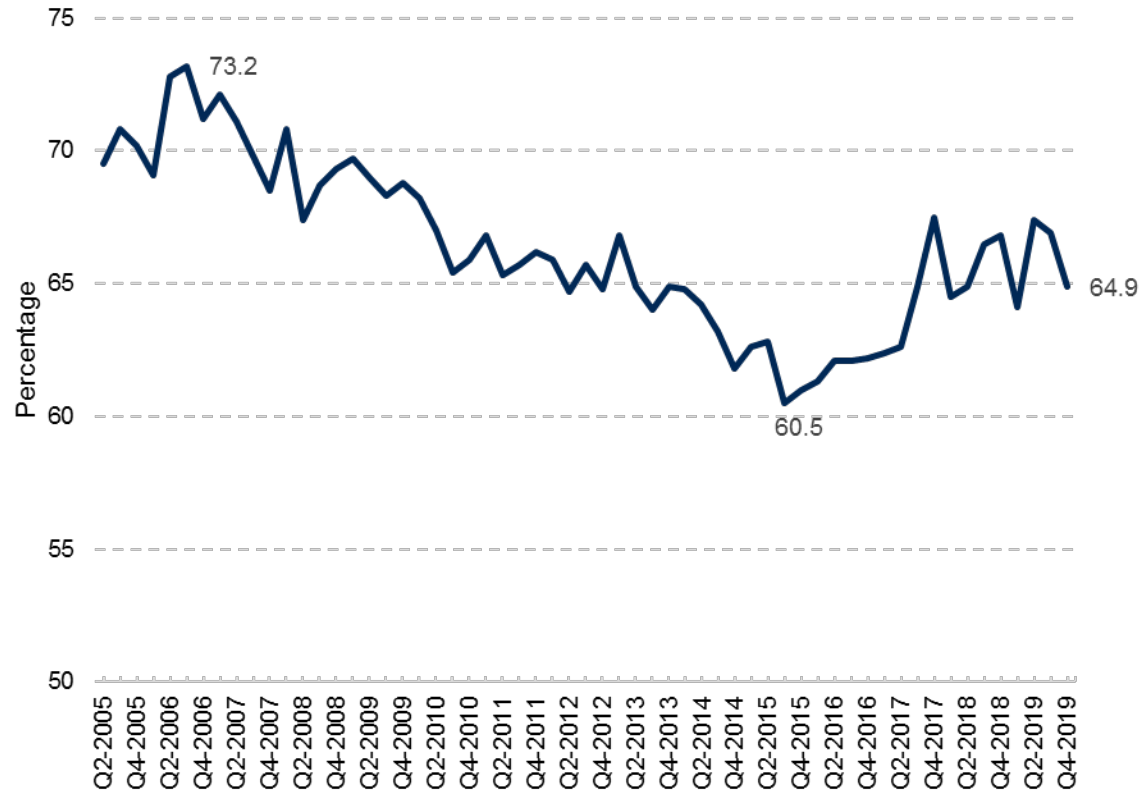
# Arizona New Private Housing Units Authorized by Building Permits



Source: U.S. Census Bureau

Supply of new residential housing has steadily increased over the past nine years, though demand continues to be high

# Arizona Homeownership Rate

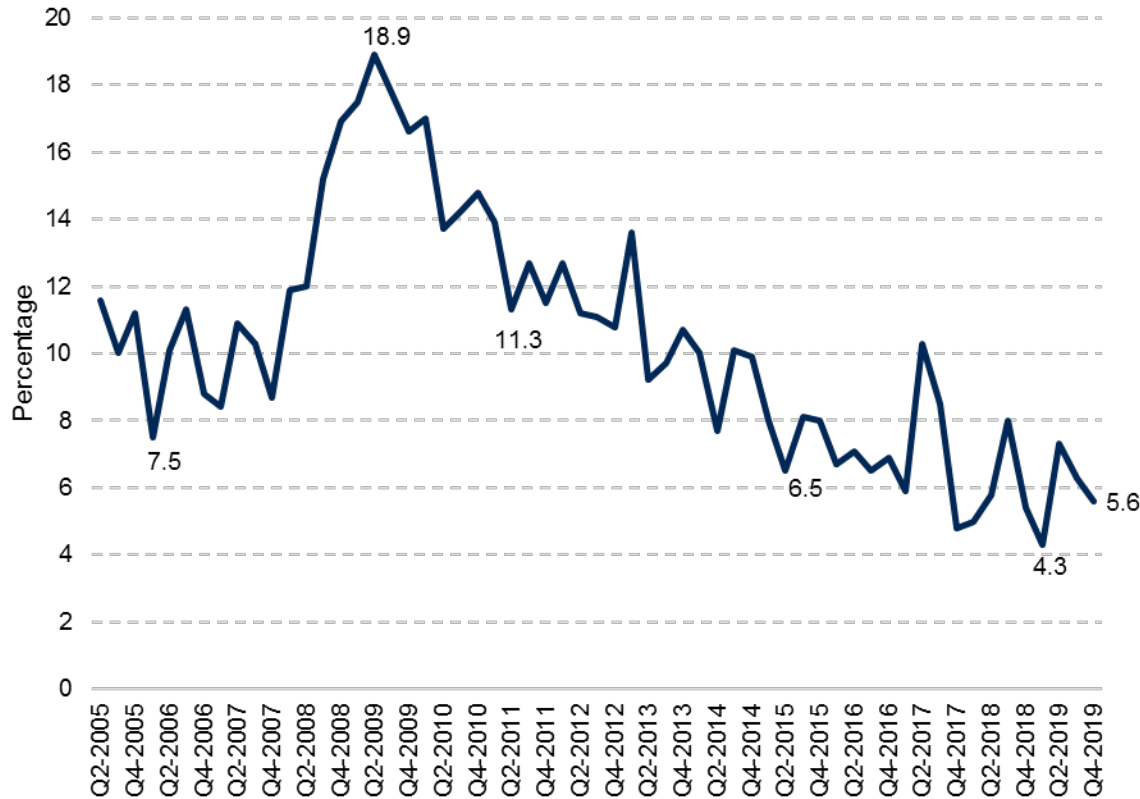


Source: US Census Bureau

## Demand for residential housing continues

- Homeownership rates have continued to increase over the past four years
- Homeownership rates rebounded from historic lows of 60.5% in 2015 to 64.9% in 2019

# Arizona Rental Vacancy Rate



Source: US Census Bureau

Demand for rental housing continues to outpace supply

- Rental vacancy rates have declined to historic lows over the past decade

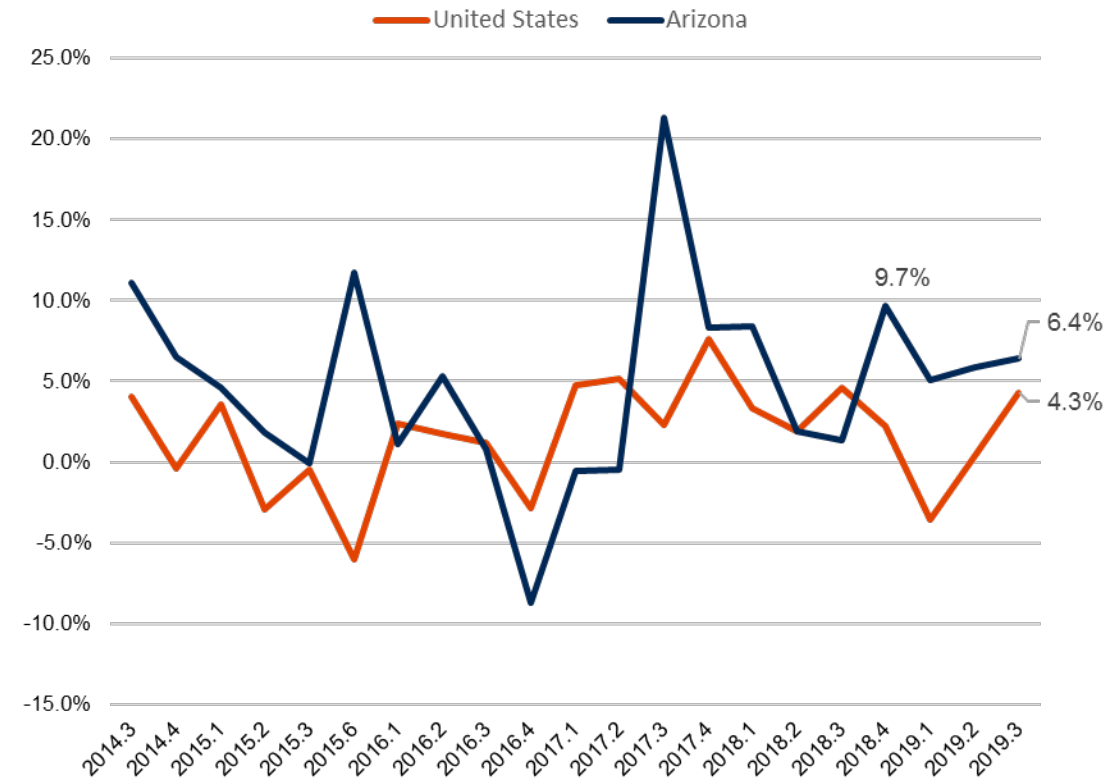
Construction employment is projected to increase as new residential housing is needed to meet demand

# Arizona Economic Trends

- Arizona is currently experiencing one of the longest periods of employment expansion in recent history
- Arizona's population growth has been among the fastest of all 50 states
- Tens of thousands of individuals are entering into the labor force, bolstering Arizona's workforce capacity
- Arizona Manufacturing essentially unaffected by national trade policy

# Real Manufacturing GDP

Seasonally Adjusted Annual Rate



Source: U.S. Bureau of Economic Analysis

Arizona manufacturing GDP has recorded positive growth for the past two years

Arizona manufacturing GDP has outpaced U.S. manufacturing GDP over the past year

# Industry Highlight: Durable Goods Manufacturing

Sector	Historic Change <sup>1</sup>		Projected Change <sup>2</sup>
	2015-2017	2017-2019	2019-2021
Manufacturing	3,736	11,868	11,107
Durable Goods	-386	8,933	7,879
Non-Durable Goods	4,122	2,935	3,228

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

Arizona Manufacturing recorded a dramatic shift over the past two years

- From 2015-2017, Durable Goods Mfg. accounted for 0% of the job gains within Manufacturing
- From 2017-2019, Durable Goods Mfg. accounted for 75% of Manufacturing job gains

# Industry Highlight: Durable Goods Manufacturing

Sector	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Manufacturing	11,868	3.5%	11,107	3.1%
Transportation Equipment Manufacturing	4,825	7.8%	3,554	5.0%
Computer and Electronic Product Manufacturing	231	0.4%	588	0.9%
Fabricated Metal Product Manufacturing	1,327	3.4%	1,344	3.2%
Miscellaneous Manufacturing	1,089	4.6%	1,030	4.0%
Machinery Manufacturing	776	5.5%	659	4.2%
Furniture and Related Product Manufacturing	88	0.7%	49	0.4%
Primary Metal Manufacturing	335	4.5%	367	4.5%
Electrical Equipment, Appliance, and Component Manufacturing	262	4.3%	288	4.4%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

It is projected that both Durable and Non-Durable Manufacturing will continue to record strong job gains over the two year period

# Industry Highlight: Health Care and Social Assistance

Sector	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Health Care and Social Assistance	24,060	3.1%	30,092	3.6%
Ambulatory Health Care Services	11,223	3.4%	13,016	3.7%
Hospitals	5,151	2.3%	7,402	3.2%
Nursing and Residential Care Facilities	3,727	3.4%	4,963	4.2%
Social Assistance	3,959	3.1%	4,711	3.5%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

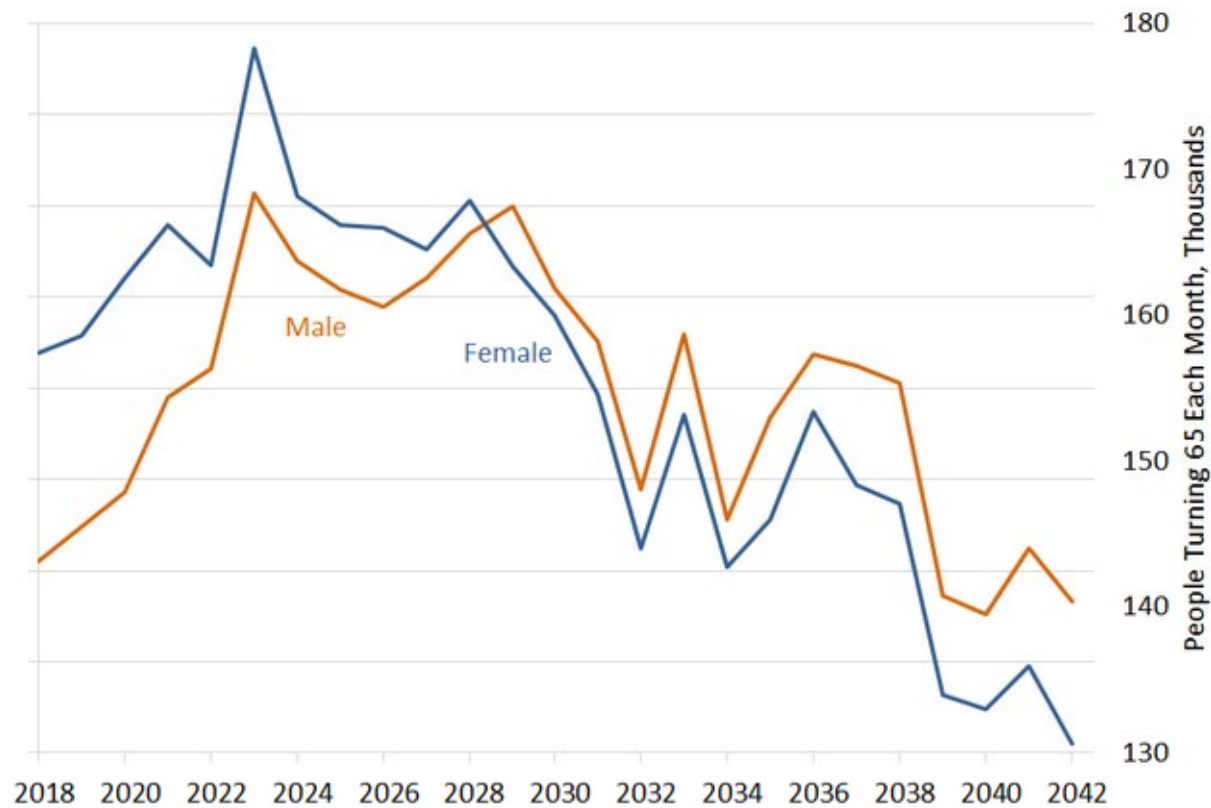
Source: Arizona Office of Economic Opportunity

Health Care employment is projected to increase by 3.6% from 2019-2021

- Projected growth is slightly higher than 2017-2019 growth rate of 3.1%
- Growth will be driven, in part, by increasing population growth and an aging demographic profile



# The Aging U.S. Population



Source: Federal Reserve Bank of St. Louis

The number of people reaching retirement age will begin to increase dramatically in 2020 and 2021<sup>3</sup>

Research has shown that nearly half of lifetime medical expenditures is incurred during the senior years (age 65+)<sup>4</sup>

# Industry Highlight: Healthcare and Social Assistance

Region	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Arizona	24,060	3.1%	30,092	3.6%
City of Phoenix	5,662	2.3%	6,586	2.6%
Coconino County	-178	-0.9%	223	1.1%
Maricopa County	20,106	3.7%	23,555	4.1%
Maricopa Workforce Area	14,444	4.9%	16,969	5.3%
Mohave and La Paz	485	2.7%	362	2.0%
Northeastern Arizona	467	2.8%	361	2.0%
Pima County	1,727	1.4%	3,410	2.6%
Pinal County	245	1.8%	466	3.3%
Santa Cruz County	36	2.7%	47	3.3%
Southeastern Arizona	232	2.1%	231	2.0%
Yavapai County	294	1.3%	750	3.1%
Yuma County	647	4.4%	688	4.3%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

Growth in Healthcare employment is projected to occur statewide

- Shifts in population characteristics are likely to increase Healthcare employment throughout the state

# Industry Highlight: Transportation and Warehousing

Sector	Historic Change <sup>1</sup> (2017-2019)		Projected Change <sup>2</sup> (2019-2021)	
	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Transportation and Warehousing	13,955	7.4%	12,158	5.6%
Warehousing and Storage	7,035	17.8%	6,306	11.8%
Truck Transportation	2,515	5.8%	1,288	2.7%
Support Activities for Transportation	1,506	5.4%	1,261	4.1%
Couriers and Messengers	2,311	10.7%	2,614	9.9%
Transit and Ground Passenger Transportation	622	3.1%	505	2.4%
Scenic and Sightseeing Transportation	56	4.0%	33	2.2%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

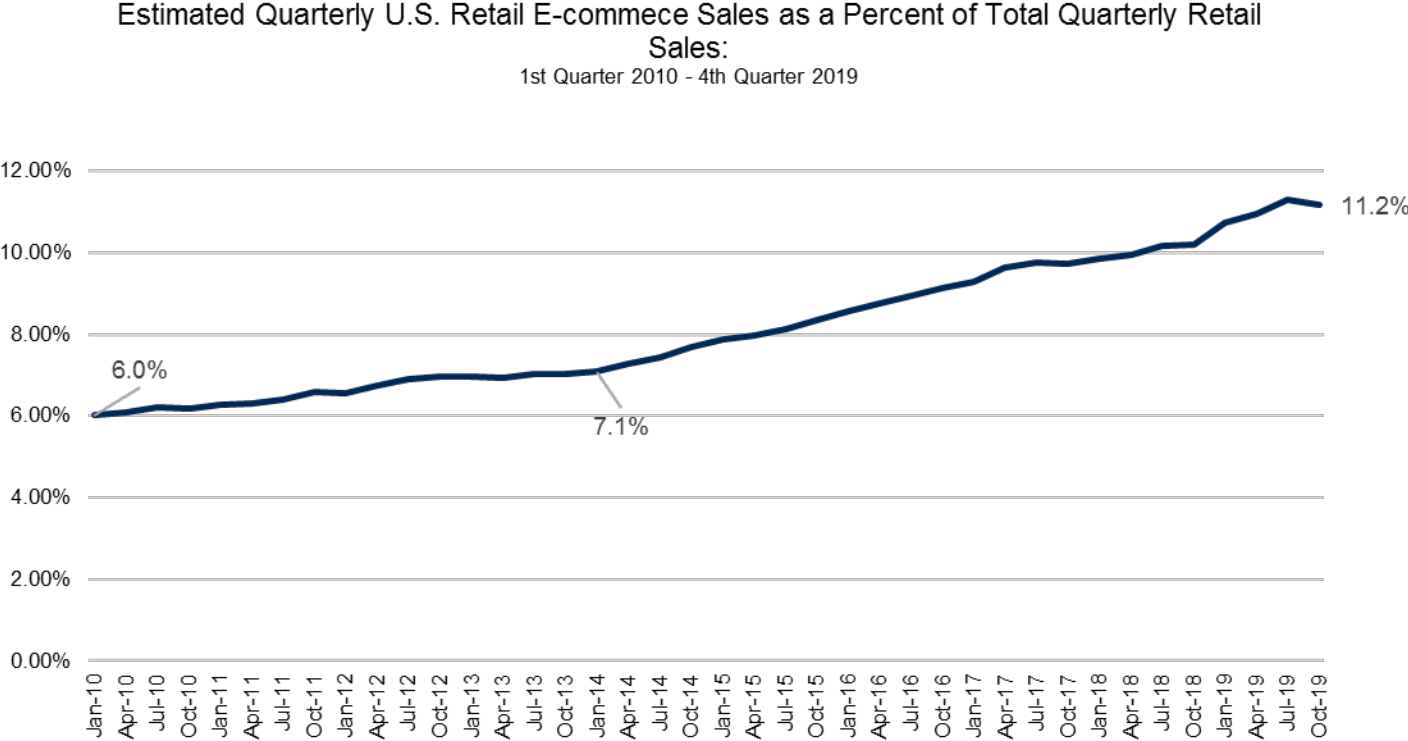
<sup>2</sup> Employment change from Q2 2019 - Q2 2021

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 nearly doubled over the past five years (2014-2019) and nearly tripled over the past ten years (2009-2019)
- The emergence of online retail has increased the demand for warehousing and storage jobs

# Industry Highlight: Transportation and Warehousing



Source: U.S. Census Bureau

# Industry Highlight: Retail Sales

## Declining Retail Sectors

	Historic Change <sup>1</sup> (2017-2019)	Projected Change <sup>2</sup> (2019-2021)
Sector	% Change (Annual)	% Change (Annual)
Furniture and Home Furnishings Stores	-2.0%	-2.9%
Electronics and Appliance Stores	-1.6%	-1.8%
Food and Beverage Stores	-0.1%	0.4%
Health and Personal Care Stores	0.6%	0.3%
Gasoline Stations	-1.3%	-1.1%
Clothing and Clothing Accessories Stores	-4.3%	-3.9%
Sporting Goods, Hobby, Book, and Music Stores	-2.3%	-2.9%
General Merchandise Stores	-0.9%	-1.2%

<sup>1</sup> Employment change from Q2 2017 - Q2 2019

<sup>2</sup> Employment change from Q2 2019 - Q2 2021

Source: Arizona Office of Economic Opportunity

## Growing Retail Sectors

	Historic Change <sup>1</sup> (2017-2019)	Projected Change <sup>2</sup> (2019-2021)
Sector	% Change (Annual)	% Change (Annual)
Miscellaneous Store Retailers	2.5%	2.0%
Motor Vehicle and Parts Dealers	2.8%	2.2%
Building Material and Garden Equipment and Supplies Dealers	2.8%	3.2%
Nonstore Retailers	8.3%	11.1%

Overall, Retail Trade is projected to grow 0.4% annually

# Report Summary

- Total employment is projected to continue gaining jobs, growing by 2.6% annually from Q2 2019 – Q2 2021
- All industry sectors and substate regions are projected to add jobs
- Growth is projected to be led by Construction (6.7% annually), Financial Activities (3.3% annually), Manufacturing (3.1% annually) and Education and Health Services (2.9% annually)
- Construction is projected to be the fastest growing industry in 8 of 11 substate regions
- Healthcare jobs will continue to grow across the state as demand for healthcare services is anticipated to increase

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4. 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

# Questions?

## Upcoming Release Schedule:

January Employment Report on March 12<sup>th</sup>

February Employment Report on March 26<sup>th</sup>

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