

## February 24, 2022 2021-2023 Employment Projections

Doug Walls, Labor Market Information Director



## Industry Projections Methodology: Estimation Process

- The short-term projections estimate employment eight quarters (two years) from the base period
  - Historic Q2 2021 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 2023
- 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 <u>census</u> 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
  - <u>QCEW</u>: Employment for federal, state and local government establishments is categorized in the industry that best describes the business activity
  - <u>CES</u>: 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:
  - Nonfarm employment
  - Self-employed workers
  - Private household workers
  - Railway workers
  - Religious organization workers
  - Farm workers
- Projection 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
  - This includes disruptions caused by COVID-19-related outbreaks
- Government agencies will operate within their budgets
- Population distribution will not differ significantly
- 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 <a href="https://www.azcommerce.com/media/1545673/lt\_proj\_method.pdf">https://www.azcommerce.com/media/1545673/lt\_proj\_method.pdf</a>



## Arizona Industry Highlights

- Arizona employment is projected to grow by 266,325 jobs, or 4.2% annually, from 3,109,190 jobs in Q2 2021 to 3,375,515 jobs in Q2 2023
- All eleven industry sectors are projected to add jobs
- Education and Health Services is projected to add the largest number of jobs (52,422 jobs, or 4.1% annualized growth)
- Leisure and Hospitality is projected to record the largest percentage gain, growing 6.7% annually (44,296 jobs)



#### Arizona Total Employment



Source: Arizona Office of Economic Opportunity

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



#### Arizona Total Employment



#### Arizona Employment Annualized Change

Source: Arizona Office of Economic Opportunity

NOTE: Projected change is not estimated for periods between the base and projected periods, and is only included for illustrative purposes.

Annualized employment growth reflects the annual change over a two-year period.

Total employment is projected to grow by 266,325 jobs, or 4.2% annually from Q2 2021 to Q2 2023



# National Economic Trends



### U.S. CES Employment: COVID-19 Pandemic Impact

U.S. Total Nonfarm Employment



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

- Employment declined by 14.7% (22,362,000) jobs from February 2020 to April 2020
- Between April 2020 and December 2021, 84% (18,790,000 jobs) of the U.S. Nonfarm pandemic job losses have been recovered



#### **Unemployment Rate**



- The unemployment rate increased from 3.5% in February 2020 to 14.8% in April 2020
- From April 2020 to January 2022, the unemployment rate declined by 10.8 percentage points to 4.0%



#### Real Gross Domestic Product (GDP)



• Real GDP increased at an annual rate of 6.9% in the fourth quarter of 2021, up from an increase of 2.3% in the third quarter



Source: Bureau of Economic Analysis Real GDP

#### TSA Weekly Airport Throughput



Source: Transportation Security Administration

Weekly throughput trended downward in early January 2022, but started to trend upward in early February 2022



#### Effective Federal Funds Rate Percentage



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

The effective federal funds rate has remained at near zero since April 2020 to minimize the economic impact caused by the COVID-19 pandemic

 The Federal Reserve Board of Governor's indicated its intentions to increase the federal funds rate in 2022<sup>1</sup>



#### Year-Over-Year CPI Percent Change



<sup>\*</sup>Phoenix MSA estimates are released every

- Year-over-year consumer price index (CPI) growth remains at ten-year highs
- Supply and demand imbalances because of the pandemic have contributed to high CPI growth rates<sup>1</sup>



#### Population Growth



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

U.S. population continues to grow, but at a decelerating pace

U.S. population grew at a historically low rate in 2021

• The slowdown is because of falling birth rates, declining international migration and increasing mortality

Arizona population has consistently outpaced US population growth over the past ten years



# Arizona Economic Trends



### Arizona CES Employment: COVID-19 Pandemic Impact

#### Arizona Total Nonfarm Employment



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

- Employment declined by 11.1% (331,500) jobs from February 2020 to April 2020
- Between April 2020 and December 2021, 104% (345,900 jobs) of the Arizona Nonfarm pandemic job losses have been recovered



#### Arizona CES Employment: December 2021



Arizona Year-Over-Year Employment Gain/Loss by Sector

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

## Employment increased in all eleven Arizona supersectors in 2021



#### Arizona CES Employment: December 2021



All seven Arizona metro areas recorded positive YoY job growth

• Five of seven Arizona metro areas recorded larger YoY job gains than the United States



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

#### Labor Force Growth



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

- The Arizona labor force grew for more than 7 years before the COVID-19 pandemic
- The Arizona labor force has surpassed the pre-pandemic (Feb 2020) level by more than 70,000 individuals (2%)
- By comparison, U.S. labor force level was down 1.3% from the pre-pandemic level



### Population Change for States From July 2010 to July 2020



Arizona has recorded strong population growth in recent years

 Arizona's population growth from 2010-2020 ranked 5th in the nation



Source: US Census Bureau Population and Housing Unit Estimates Program

#### Population Change for States From July 2020 to July 2021



- Arizona's population grew by 1.4% in 2021
- Arizona's population growth ranked fourth in the nation behind ID, UT, MT
- It is assumed that Arizona's population growth will continue to be among the fastest in the nation through the projected period



## Impact of COVID-19 on Economic Activity

**Favorable Developments** 

- 69.3% of Arizonans received at least one dose of COVID-19 vaccine as of 2/16/2022, per the Arizona Department of Health Services (ADHS)
- ADHS expanded eligibility for COVID-19 boosters to include ages 12 and up
- New positive cases of COVID-19 declined in February 2022 after reaching peaks in January because of the Omicron variant



# Employment Projection Highlights



#### **Projected Industry Employment Change**



#### Arizona Supersector Employment 2021-2023 Total Numeric Change





#### Historic and Projected Total Employment by Arizona Region

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)		
Region	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)	
Arizona	97	0.002%	266,325	4.2%	
Apache County	-1,141	-2.9%	1,067	2.8%	
Cochise County	-3	-0.004%	2,673	3.5%	
Coconino County	-5,354	-3.9%	5,614	4.3%	
Gila County	-697	-2.1%	1,001	3.1%	
Graham County	367	1.7%	750	3.4%	
Greenlee County	-151	-1.4%	304	2.8%	
La Paz County	-267	-1.9%	562	4.0%	
Maricopa County	19,234	0.4%	199,513	4.4%	
Mohave County	2,210	1.9%	4,716	3.9%	
Navajo County	-465	-0.8%	1,619	2.7%	
Pima County	-11,638	-1.4%	30,521	3.8%	
Pinal County	1,024	0.7%	6,060	4.1%	
Santa Cruz County	-661	-2.2%	726	2.4%	
Yavapai County	-352	-0.2%	5,852	4.0%	
Yuma County	-548	-0.4%	4,952	3.4%	

Source: Arizona Office of Economic Opportunity

- Maricopa County is projected to account for 75% of total projected job gains
- Pima County is projected to account for 11% of total projected job gains



#### **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 7.1% over the past 5 years prior to the pandemic

As of Q2 2021, Construction employment surpassed pre-pandemic level by 1.3%

Construction is projected to grow by 20,776 jobs, or 5.6% annually



### Construction Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Construction	6,957	2.0%	20,776	<b>5.6%</b>
Construction of Buildings	1,809	2.6%	4,681	6.2%
Heavy and Civil Engineering Construction	321	0.7%	1,084	2.4%
Specialty Trade Contractors	4,827	2.1%	15, <mark>011</mark>	6.0%
1 Employment change from Q2 2019 - Q2 2021 2 Employment change from Q2 2021 - Q2 2023 Source: Arizona Office of Economic Opportunity				

- Growth in Construction employment is projected to continue into 2023
- Demand for residential housing remains high, although anticipated interest rate increases may slow down demand for residential housing<sup>2</sup>



#### Arizona New Private Housing Units Authorized by Building Permits



Source: U.S. Census Bureau

- Building permit authorizations reached a peak back in 2005 before declining during the 2007 economic recession
- Between 2010 through 2021, building permit authorizations have steadily increased
- Building permit authorizations reached their highest level in more than 10 years in December 2020
- 5,527 building permits were authorized in December 2021, down 574 (9.4%) from December 2020



#### Residential Housing Inventory: Active Listing Count in Arizona



Supply of housing remains low

Active housing listing counts declined by 58.2% from Jan 2020 to Jan 2022



#### Arizona Homeownership Rate



- The homeownership rate has continued to increase over the past five years
- The homeownership rate rebounded from a historic low of 60.5% in Q4 2015 to 66.5% in Q4 2021



#### Arizona Rental Vacancy Rate



Source: U.S. 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



#### 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 3.9% in the 5 years prior to the pandemic
- As of Q2 2021, 77% (19,446 jobs) of the pandemic job losses had been recovered
- Health Care and Social Assistance is projected to increase by 41,979 jobs, or 4.9% annually



#### The Aging U.S. Population



- The number of people reaching retirement age will increase dramatically in 2022 before peaking in 2023<sup>3</sup>
- Research has shown that nearly half of lifetime medical expenditures is incurred during the senior years (age 65+)<sup>4</sup>
- Health care job growth will be driven, in part, by increasing demand for health care services from older adults


# Percentage of Population Ages 65+ for the United States, Annual, Not Seasonally Adjusted



From 1990 to 2020, the share of individuals 65+ in the United States has increased from 12.6% to 16.6%

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



# Health Care and Social Assistance Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Health Care and Social Assistance	7,898	1.0%	41,979	4.9%
Ambulatory Health Care Services	10,479	3.0%	18,051	4.8%
Hospitals	1,521	0.7%	8,292	3.5%
Nursing and Residential Care Facilities	-3,622	-3.2%	5,695	5.1%
Social Assistance	-480	-0.4%	9,941	7.2%
1 Employment change from Q2 2019 - Q2 2021 2 Employment change from Q2 2021 - Q2 2023 Source: Arizona Office of Economic Opportunity				

- Health Care and Social Assistance is projected to increase by 4.9% annually from 2021-2023
  - Growth will be partly driven by increasing population growth and an aging population
- Nursing and residential care employment is projected to surpass pre-pandemic levels by Q2 2023



#### Transportation and Warehousing Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

- Transportation and Warehousing had an average annual growth of 6.4% in the 5 years prior to the pandemic
- As of Q2 2021, Transportation and Warehousing employment surpassed its pre-pandemic level by 10.2% (11,759 jobs)
- The sector is projected to increase by 21,855 jobs, or 8.3% annually



#### U.S. Retail E-Commerce Sales



 E-commerce sales have accounted for an increasing percentage of total retail sales



#### Transportation and Warehousing Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Transportation and Warehousing	20,716	9.3%	21,855	8.3%
Warehousing and Storage	19,956	33.6%	13,101	13.5%
Transit and Ground Passenger Transportation	-2,536	-12.9%	1, <mark>960</mark>	11.7%
Scenic and Sightseeing Transportation	-235	-17.4%	107	10.1%
Couriers and Messengers	4,461	16.4%	2,893	8.1%
Support Activities for Transportation	107	0.4%	1,442	4.6%
Truck Transportation	828	1.7%	1,716	3.4%
Air Transportation	-1,416	-5.1%	704	2.7%
1 Employment change from Q2 2019 - Q2 2021 2 Employment change from Q2 2021 - Q2 2023 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



#### Retail Sales Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

- Retail Trade had an average annual growth of 1.2% in the 5 years prior to the pandemic
- As of Q2 2021, 122% (32,707 jobs) of the pandemic job losses have been recovered
- Retail Sales is projected to increase by 13,430 jobs, or 2% annually



### U.S. Real Personal Consumption Expenditures

#### Annualized Rate; Chained 2012 dollars



- Personal consumption expenditures increased by
  7.1% from December 2020 to December 2021
  - In December 2021, personal consumption expenditures surpassed its pre-pandemic level by 3.2%
- Personal consumption spending will help drive future job growth in Retail Sales



#### Retail Sales Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Retail Trade	12,425	1.9%	13,430	2.0%
Motor Vehicle and Parts Dealers	3,033	3.1%	5,084	4.9%
Furniture and Home Furnishings Stores	82	0.4%	388	1.9%
Electronics and Appliance Stores	-1,446	-7.6%	- <mark>5</mark> 43	-3.2%
Building Material and Garden Equipment and Supplies Dealers	4,952	8.9%	2,579	4.0%
Food and Beverage Stores	2,584	2.2%	1,576	1.3%
Health and Personal Care Stores	1,301	3.4%	531	1.3%
Clothing and Clothing Accessories Stores	-3,636	-9.8%	-669	-2.1%
Sporting Goods, Hobby, Book, and Music Stores	-277	-1.3%	-370	-1.8%
General Merchandise Stores	1,519	1.2%	578	0.4%
Miscellaneous Store Retailers	-81	-0.2%	941	2.2%
Nonstore Retailers	4,710	14.8%	2,865	7.1%
Gasoline Stations	-316	-0.9%	470	1.3%
1 Employment change from Q2 2019 - Q2 2021				
2 Employment change from Q2 2021 - Q2 2023 Source: Arizona Office of Economic Opportunity				

- Motor Vehicle and Parts Dealers is projected to record the largest job gains (5,084)
- Nonstore Retailers is projected to record the fastest job growth (7.1%)



#### Leisure and Hospitality Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

- Leisure and Hospitality had an average annual growth of 2.5% in the 5 years prior to the pandemic
- As of Q2 2021, 64.3% (67,559 jobs) of the pandemic job losses had been recovered
- Leisure and Hospitality is projected to gain 44,296 jobs, or grow by 6.7% annually



#### Leisure and Hospitality Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)
Leisure and Hospitality	-35,205	<mark>-5</mark> .1%	44,296	<mark>6.7%</mark>
Arts, Entertainment, and Recreation	-8,359	-7.0%	9,679	8.6%
Performing Arts, Spectator Sports, and Related Industries	-2,559	-13.9%	1,635	10.6%
Museums, Historical Sites, and Similar Institution	-743	-9.2%	510	7.0%
Amusement, Gambling, and Recreation Industries	- <mark>5,057</mark>	-5.4%	7,534	8.4%
Accommodation and Food Services	-26,846	-4.7%	34,617	6.3%
Accommodation, including Hotels and Motels	-15,577	-15.7%	11,346	13.9%
Food Services and Drinking Places	-11,269	-2.4%	23,271	4.9%
1 Employment change from Q2 2019 - Q2 2021				
2 Employment change from Q2 2021 - Q2 2023				
Source: Arizona Office of Economic Opportunity				

- Leisure and Hospitality is projected to reach its pre-pandemic employment level by Q2 2023
- Food Services and Drinking Places is projected to record the largest job gains (23,271 jobs)
- Accommodation is projected to record the fastest job growth (13.9%)



#### 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 ints pre-pandemic norm as portions of the services economy started to reopen



#### Manufacturing Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

- Manufacturing had an average annual growth of 2.5% in the past 5 years prior to the pandemic
- As of Q2 2021, 75.9% (4,855 jobs) of the pandemic job losses have been recovered
- It is projected to grow by 15,421 jobs, or 4.2% annually



#### Ten Largest Manufacturing Subsectors by Employment

	Historic Change <sup>1</sup> (2019-2021)		Projected Change <sup>2</sup> (2021-2023)	
Sector	Numeric Change	% Change (Quarterly)	Numeric Change	% Change (Annual)
Manufacturing	1,994	0.6%	15,421	4.2%
Electrical Equipment, Appliance, and Component Manufacturing	-153	-2.3%	639	9.7%
Computer and Electronic Product Manufacturing	-483	-0.7%	4,295	6.4%
Beverage and Tobacco Product Manufacturing	1,404	16.1%	642	5.7%
Furniture and Related Product Manufacturing	62	0.5%	592	4.6%
Food Manufacturing	-489	-1.6%	1,311	4.3%
Apparel Manufacturing	39	4.5%	36	3.8%
Transportation Equipment Manufacturing	-140	-0.2%	2,602	3.7%
Miscellaneous Manufacturing	263	1.0%	925	3.5%
Machinery Manufacturing	268	1.8%	427	2.7%
Fabricated Metal Product Manufacturing	286	0.7%	1,062	2.5%
1 Employment change from Q2 2019 - Q2 2021 2 Employment change from Q2 2021 - Q2 2023 Source: Arizona Office of Economic Opportunity				

• The ten largest manufacturing subsectors all are projected to gain jobs over the projected period



#### Arizona Real Manufacturing GDP Seasonally Adjusted (in \$billions)



Source: U.S. Bureau of Economic Analysis

- Arizona Q3 2021 manufacturing GDP surpassed its pre-pandemic level (\$32.5 billion compared with \$31.1 billion) in Q1 2020
- U.S. manufacturing GDP has recovered a majority of the lost GDP, though it remains below pre-pandemic levels (\$2.31 trillion compared with \$2.23 trillion)



#### Information Historic and Projected Job Change



Source: Arizona Office of Economic Opportunity

- Information had an average annual growth of 1.6% in the 5 years prior to the pandemic
- As of Q2 2021, 45.7% (2,882 jobs) of the pandemic job losses had been recovered
- This sector is projected to gain 3,286 jobs, or grow by 3.4% annually



#### Information Historic and Projected Job Change

	Historic Change <sup>1</sup> (2019-2021)			l Change <sup>2</sup> -2023)	
Sector	Numeric Change	% Change (Annual)	Numeric Change	% Change (Annual)	
Information	<mark>-2,800</mark>	-2.8%	3,286	3.4%	
Motion Picture and Sound Recording Industries	-3,138	-27.1%	1,598	20.3%	
Publishing Industries (except Internet)	1,149	5.8%	1,187	5.3%	
Broadcasting (except Internet)	-227	-3.1%	-74	-1.1%	
Telecommunications	-1,602	-5.3%	-862	-3.1%	
Data Processing, Hosting and Related Services	990	4.7%	714	3.1%	
Other Information Services	28	0.3%	723	7.0%	
1 Employment change from Q2 2019 - Q2 2021					
2 Employment change from Q2 2021 - Q2 2023					
Source: Arizona Office of Economic Opportunity					

- Information is not projected to reach its pre-pandemic employment level in the forecast period
- Motion Picture and Sound Recording is projected to record the largest job gains as domestic box office grosses recover from the COVID-19 losses.



## **Report Summary**

- Total employment is projected to grow by 4.2% annually from Q2 2021 to Q2 2023
- All private sector industries are projected to add jobs, though some are not projected to reach pre-pandemic employment levels
  - Self-Employed, Natural Resources and Mining and Information
- All 15 Arizona counties are projected to add jobs
- Growth is projected to be led by Leisure and Hospitality (6.7% annually), Construction (5.6% annually), Manufacturing (4.2% annually) and Education and Health Services (4.1% annually)



## Works Cited

- Board of Governors of the Federal Reserve System (US), (2022 January 26). Federal Reserve Issues FOMC Statement; <u>https://www.federalreserve.gov/newsevents/pressreleases/monetary20220126a.htm</u>. 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 28)
- 3. 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
- 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



## <u>Questions?</u>

### **Upcoming Release Schedule:**

January Employment Report on March 10<sup>th</sup> February Employment Report on March 24<sup>th</sup>

### <u>Contact</u>

Website: Laborstats.az.gov Email: <u>Laborinfo@oeo.az.gov</u> Phone: 602-771-2222

