"Extra Innings" as Arizona expansion continues well into 2020 and beyond

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment (% change)</td>
<td>2.8</td>
<td>2.6</td>
<td>2.3</td>
</tr>
<tr>
<td>New Jobs (thousands)</td>
<td>79</td>
<td>74</td>
<td>70</td>
</tr>
<tr>
<td>Population (% change)</td>
<td>1.7</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>New Residents (thousands)</td>
<td>123</td>
<td>115</td>
<td>110</td>
</tr>
<tr>
<td>Single Family Permits</td>
<td>32,127</td>
<td>33,000</td>
<td>34,745</td>
</tr>
</tbody>
</table>
Arizona Has Added 579,000 Jobs Since Current Expansion Began 109 Months Ago

Thousands of Employees (Seasonally Adjusted)

Peak - October 2007    2,687,000 Employees
Trough – September 2010    2,373,000 Employees

October 2019    2,952,000 Employees

U. S. Bureau of Labor Statistics, St. Louis Federal Reserve Bank
Arizona and U.S. Unemployment Rates Dip to Record Lows From 2010 Cycle Peak

United States

U.S. Nov 2019 3.5%
Lowest in 50 Years

Arizona

AZ July 2018 4.7%
Lowest in 10 Years

21st STRAIGHT MONTH U.S. UNEMPLOYMENT AT OR BELOW 4%

U.S. Bureau of Labor Statistics
Arizona Ranks 3\textsuperscript{rd} in US With 2.6\% Job Creation Year-To-Date 2019

U. S. Bureau of Labor Statistics & W. P. Cary School of Business
These Top 5 Arizona Growth Industries Make Up 7 Out of 10 New Jobs This Year

<table>
<thead>
<tr>
<th>Industry</th>
<th>Jobs</th>
<th>Growth</th>
<th>Rank in US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>16,900</td>
<td>+11%</td>
<td>3rd</td>
</tr>
<tr>
<td>Health Care</td>
<td>14,000</td>
<td>+3.7%</td>
<td>6th</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>7,700</td>
<td>+4.5%</td>
<td>4th</td>
</tr>
<tr>
<td>Science, Tech</td>
<td>6,900</td>
<td>+4.5%</td>
<td>8th</td>
</tr>
<tr>
<td>Transport &amp; Warehousing</td>
<td>6,400</td>
<td>+6.5%</td>
<td>1st</td>
</tr>
</tbody>
</table>
Health Care is A Recession-Resistant Growth Driver For the Arizona Economy

Health Care Job Growth: Arizona vs. All States

- 2015: 3rd
- 2016: 2nd
- 2017: 4th
- 2018: 8th
- 2019: 6th

390,000 Jobs

Health care has twice as many workers as construction or manufacturing in Arizona

43% of Residents

Two out of every five Arizona residents receives Medicaid or Medicare health funding

Walmart, Healthcare or University: Largest Single Employer in 90 Percent of States
Arizona To Add 70,000 Jobs in 2020

Total Employment to Reach Record High 3 Million

U. S. Bureau of Labor Statistics & W. P. Carey School of Business
Utah, Idaho, Nevada, Arizona Projected To Set 2020 Pace for Western States

Forecast: Non-Farm Job Growth 2020

Western Blue Chip Economic Forecast
W. P. Carey School of Business
Arizona Population: 2018

- 14th Largest State (7.2 mil)
- 3rd Largest in West (behind Calif., Wash.)
- 4th Fastest Growth in U.S. (1.7%)
- 4th In New Residents (122.8K)
- 2nd in Domestic Migration (83,240)
- 17th in International Migration (14,335)

U. S. Census Bureau, December 2018
Arizona Ranked 4th Fastest (1.7%) In Population Growth in 2018

Top 10 Growth States

Lost Population

Alaska
Hawaii

U. S. States Ranked by Percent Change 2017-2018

U. S. Census Bureau, Dec. 2018
Arizona is 2\textsuperscript{nd} Favored Destination for Movers From Other U.S. States

27 States in Red Lost Domestic Population to 23 States in Green

\textit{U. S. Census Bureau, Dec. 2018}
U.S. Population is Growing but Fewer People Move Each Year

United States: Number of Movers and Mobility rate, 1948-2019

Note: The residential mobility rate is defined as the percentage of the population that was not in their housing unit in the previous year.

Source: Census Bureau, DB Global Research
Domestic Migration to Arizona Has Increased Steadily in Past 5 Years

U. S. Census Bureau, Dec. 2018
Arizona Population Growth: 2020
Fifth Consecutive Year of More Than 100,000 New Residents

U.S. Census Bureau and W. P. Carey School of Business
Millennials Are Out of the Basement and Now Driving Housing Markets

- Born 1981 – 1996
- Now 24 – 38 years old
- Median marriage age 28
- Household formations up
- Outnumber Boomers

And...they are coming to the Greater Phoenix Area

Millennial Desirability Ranking

<table>
<thead>
<tr>
<th>Rank</th>
<th>Metro Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dallas</td>
</tr>
<tr>
<td>2</td>
<td>Houston</td>
</tr>
<tr>
<td>3</td>
<td>Austin</td>
</tr>
<tr>
<td>4</td>
<td>Phoenix</td>
</tr>
<tr>
<td>5</td>
<td>Orlando</td>
</tr>
</tbody>
</table>

*Meyers Research, based on job growth, other economic indicators*
Millennials Dominate Phoenix Metro Mortgage Originations

Share of Primary Resident Mortgage Originations By Age

- 25-34: 26%
- 35-44: 23%
- 45-54: 19%
- 55-64: 14%
- 65 Plus: 11%
- 18-24: 6%

Realtor.com
Metro Phoenix Home Prices are Rising More Rapidly than Wages

Phoenix Metro Home Prices up 71% since 2010*
*(Note: Q2 2019 home prices = 84% of 2006 peak)

Phoenix Metro Wages up 29% since 2010

Index: 2010 = 100
Data through Q2 2019

6th Year of Home Building Gains

5% Arizona Rise Expected in 2020

Issues
• Land Costs
• Materials
• Labor
• Local Fees
• Affordability

Arizona Single Family Permits

<table>
<thead>
<tr>
<th>Year</th>
<th>Permits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>10,294</td>
</tr>
<tr>
<td>2012</td>
<td>16,121</td>
</tr>
<tr>
<td>2013</td>
<td>18,237</td>
</tr>
<tr>
<td>2014</td>
<td>17,281</td>
</tr>
<tr>
<td>2015</td>
<td>22,620</td>
</tr>
<tr>
<td>2016</td>
<td>24,409</td>
</tr>
<tr>
<td>2017</td>
<td>27,588</td>
</tr>
<tr>
<td>2018</td>
<td>32,127</td>
</tr>
<tr>
<td>2019</td>
<td>33,091</td>
</tr>
<tr>
<td>2020</td>
<td>34,745</td>
</tr>
</tbody>
</table>

Forecast

U.S. Census Bureau & W. P. Carey School of Business
<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment (% change)</td>
<td>3.4</td>
<td>2.9</td>
<td>2.8</td>
</tr>
<tr>
<td>New Jobs (thousands)</td>
<td>68</td>
<td>61</td>
<td>62</td>
</tr>
<tr>
<td>Population (% change)</td>
<td>2.0</td>
<td>2.0</td>
<td>1.9</td>
</tr>
<tr>
<td>New Residents (thousands)</td>
<td>96</td>
<td>97</td>
<td>94</td>
</tr>
<tr>
<td>Single Family Permits</td>
<td>22,072</td>
<td>24,148</td>
<td>25,126</td>
</tr>
</tbody>
</table>

- Continuing migration of new residents and business relocations will drive 2020 growth.
- Housing availability an issue as home prices and apartment rents rise.
Valley Commercial Real Estate
Construction Strong in 2020

**Industrial:** 6.8 million sq. ft. construction, 7.4 million sq. ft. absorption, 7.5% vacancy rate year end

**Office:** 2.1 million sq. ft. construction, 1.8 million sq. ft. absorption, 14.4% vacancy rate year end

**Retail:** 740,000 sq. ft. construction, 1.8 million sq. ft. absorption, 7.5% vacancy rate year end

*Greater Phoenix Blue Chip Forecast, W. P. Carey School of Business, in collaboration with Elliot D. Pollack & Company*
• 2018 best year for job growth (78K) since 2006; 2019 slower (74K); 2020 slower still (70K) as U.S. expansion loses steam

• Arizona will stay as top 10 state for job creation along with other Western states

• 2020 drivers: construction, health care, professional/technical, manufacturing, transportation & warehousing

• Good labor market and quality of life will attract domestic but U.S. business cycle is main risk to Arizona economy
• Phoenix is the third fastest metro area for job creation year to date, up 2.9%
• Phoenix is 1st in construction job growth, 3rd in transportation & distribution - finance boom has cooled, retail flat
• Home prices and rents are rising rapidly but still affordable vs. other hot metros
• Work force education lags Denver, Austin
• Support needed for innovative programs in skilled trades to meet demand
• Will 122° heat wave be “Phoenix Katrina?”
Extra Innings or Game Over?
Arizona/Phoenix/Western States

56th Annual
Economic Forecast Luncheon
December 11, 2019

Lee.McPheters@asu.edu

W.P. Carey School of Business
Arizona State University