Update & Outlook
Arizona/Phoenix/Western States

55th Annual Economic Forecast Luncheon
November 28, 2018

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W. P. Carey
School of Business
Arizona State University
Arizona 97 Month Expansion Is Source For High Business & Consumer Satisfaction

Thousands of Employees (Seasonally Adjusted)

- Peak – October 2007: 2,686 Employees
- Trough – September 2010: 2,373 Employees
- October 2018: 2,880 Employees

U. S. Bureau of Labor Statistics, St. Louis Federal Reserve Bank
Arizona 4th in Growth of Gross State Product in 2017

Top 10 GSP Growth States 

GSP Decreased

Arizona Ranked 6th In First Half of 2018

Ranked by % Change: (2017 over 2016)

U. S. Bureau of Economic Analysis  
& W. P. Cary School of Business
Arizona 5th in Personal Income Gains Among States in 2017

Top 10 Personal Income Growth States

1. Rhode Island
2. New Hampshire
3. North Dakota
4. Ohio
5. California
6. Nevada
7. Iowa
8. Florida
9. Minnesota
10. Arizona

Ranked by % Change: (2017 over 2016)

U. S. Bureau of Economic Analysis & W. P. Cary School of Business

Arizona Ranked 5th In First Half of 2018

Ranked by % Change: (2017 over 2016)
Arizona and U.S. Unemployment Rates Continue to Decline From 2010 Cycle Peak

October 2018

<table>
<thead>
<tr>
<th></th>
<th>Arizona</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest in 10 Years</td>
<td>4.7%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Lowest in 49 Years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. Bureau of Labor Statistics, St. Louis Federal Reserve Bank
Arizona Ranks 7th in Non-Farm Job Creation Year-To-Date 2018


Color Code
- Top 10
- Others Faster Than U.S.
- Slower Than U.S.
- Lost Jobs

U. S. Bureau of Labor Statistics
& W. P. Cary School of Business
Western Blue Chip Forecasters Project Utah and Nevada Repeat As Employment Growth Leaders for U.S. in 2019

<table>
<thead>
<tr>
<th>State</th>
<th>% Growth YTD</th>
<th>U.S. Rank YTD</th>
<th>% Growth 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>3.4</td>
<td>1</td>
<td>3.1</td>
</tr>
<tr>
<td>Nevada</td>
<td>3.2</td>
<td>2</td>
<td>2.7</td>
</tr>
<tr>
<td>Idaho</td>
<td>3.1</td>
<td>3</td>
<td>2.2</td>
</tr>
<tr>
<td>Washington</td>
<td>3.0</td>
<td>4</td>
<td>2.6</td>
</tr>
<tr>
<td>Texas</td>
<td>2.9</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>Colorado</td>
<td>2.7</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Arizona</td>
<td>2.7</td>
<td>7</td>
<td>2.5</td>
</tr>
<tr>
<td>Oregon</td>
<td>2.4</td>
<td>9</td>
<td>2.3</td>
</tr>
<tr>
<td>California</td>
<td>2.1</td>
<td>10</td>
<td>1.6</td>
</tr>
<tr>
<td>Wyoming</td>
<td>2.0</td>
<td>12</td>
<td>1.4</td>
</tr>
<tr>
<td>New Mexico</td>
<td>1.8</td>
<td>17</td>
<td>1.4</td>
</tr>
<tr>
<td>Montana</td>
<td>1.2</td>
<td>31</td>
<td>1.2</td>
</tr>
<tr>
<td>United States</td>
<td>1.6</td>
<td>1.4</td>
<td></td>
</tr>
</tbody>
</table>

Notes: YTD is growth from Jan. – October 2018 vs same period in 2017; Arizona and U.S. forecasts from W. B. Carey School of Business; state forecasts from Western Blue Chip Forecast at http://seidmaninstitute.com/western-blue-chip/
## Arizona’s Leading Growth Industries

**U.S. Rank & Percent Change: Year-To-Date 2018**

<table>
<thead>
<tr>
<th>Arizona Industry</th>
<th>U.S. Rank</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonfarm Employment</td>
<td>7</td>
<td>2.7</td>
</tr>
<tr>
<td>Construction</td>
<td>1</td>
<td>9.8</td>
</tr>
<tr>
<td>Educational (Private)</td>
<td>1</td>
<td>5.2</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>2</td>
<td>5.2</td>
</tr>
<tr>
<td>State Government</td>
<td>3</td>
<td>5.1</td>
</tr>
<tr>
<td>Prof., Technical, Scientific</td>
<td>5</td>
<td>5.0</td>
</tr>
<tr>
<td>Food Services</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>Information Services</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>Finance &amp; Insurance</td>
<td>7</td>
<td>2.4</td>
</tr>
</tbody>
</table>

*Job Growth USA, W. P. Carey School of Business; Year-To-Date through October 2018*
Arizona New Jobs YTD October

**Job Growth Notes**
- Arizona added 73,000 new jobs through October 2018
- The construction industry was the source of the most new jobs (14,160), at an annual growth rate of 9.8%, first in the nation
- There were 8,430 new manufacturing jobs, at an annualized growth rate of 5.2%, second in the nation
- The Greater Phoenix metro area has accounted for 88 percent of all new jobs in Arizona so far this year

<table>
<thead>
<tr>
<th>Industry</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>14,160</td>
</tr>
<tr>
<td>Business Services</td>
<td>10,770</td>
</tr>
<tr>
<td>Food Services</td>
<td>10,230</td>
</tr>
<tr>
<td>Health Care</td>
<td>9,280</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>8,430</td>
</tr>
<tr>
<td>Financial Activities</td>
<td>5,480</td>
</tr>
<tr>
<td>Educational (Private)</td>
<td>4,810</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>3,850</td>
</tr>
<tr>
<td>Trans./Warehousing</td>
<td>3,820</td>
</tr>
<tr>
<td>State Government</td>
<td>3,320</td>
</tr>
</tbody>
</table>

*YTD is Year-To-Date October 2018 vs. same period 2017

U. S. Bureau of Labor Statistics
Deja Vu All Over Again? Is There an Arizona Construction Bubble? Economy Now Diverse

Construction accounted for 9% of all Arizona Jobs in 2006

Construction accounted for 5.7% of all U.S. Jobs in 2006

U.S. Bureau of Labor Statistics, St. Louis Federal Reserve Bank
Accelerating Arizona Job Growth Sets Foundation for Gains in 2019

Thousands of New Jobs Year-Over-Year

U. S. Bureau of Labor Statistics
# Arizona Economic Outlook

*Greatest Risk is National Economy*

<table>
<thead>
<tr>
<th>Arizona Indicators</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jobs (thousands)</td>
<td>63.9</td>
<td>72.0</td>
<td>71.0</td>
</tr>
<tr>
<td>Employment (% change)</td>
<td>2.4</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Unemployment Rate (December)</td>
<td>4.7</td>
<td>4.5</td>
<td>3.9</td>
</tr>
<tr>
<td>Population (% change)</td>
<td>1.6</td>
<td>1.6</td>
<td>1.5</td>
</tr>
<tr>
<td>Single Family Permits (thousands)</td>
<td>28,072</td>
<td>32,285</td>
<td>35,510</td>
</tr>
</tbody>
</table>

_W. P. Carey School of Business based on data available November 2018_
Arizona To Add 71,000 Jobs in 2019

Annual Job Creation

<table>
<thead>
<tr>
<th>Year</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>25,900</td>
</tr>
<tr>
<td>2012</td>
<td>51,300</td>
</tr>
<tr>
<td>2013</td>
<td>57,300</td>
</tr>
<tr>
<td>2014</td>
<td>49,700</td>
</tr>
<tr>
<td>2015</td>
<td>66,100</td>
</tr>
<tr>
<td>2016</td>
<td>72,100</td>
</tr>
<tr>
<td>2017</td>
<td>63,900</td>
</tr>
<tr>
<td>2018</td>
<td>72,000</td>
</tr>
<tr>
<td>2019</td>
<td>71,000</td>
</tr>
</tbody>
</table>

Forecast

U. S. Bureau of Labor Statistics & W. P. Carey School of Business
Arizona Ranked 6th Fastest in Population Growth in 2017

Top 10 Growth States

Lost Population

U. S. States Ranked by Percent Change 2016-2017

U. S. Census Bureau, Dec. 2017
Arizona Ranked 5th Among All States for Domestic In-Migration

Gained In-Migrants  Lost Out-Migrants

28 States in Red Lost Domestic Population to 22 States in Green

U. S. Census Bureau, Dec. 2017
Arizona 2019 Population Growth Will Yield 106,000 New Residents

Population Growth Notes
• Arizona 1977 – 2007 Annual Average growth was 3.2%, four times the U.S. rate
• 2019 will be the third consecutive year of growth exceeding 100,000 new residents

Percent Change

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.9</td>
</tr>
<tr>
<td>2012</td>
<td>1.2</td>
</tr>
<tr>
<td>2013</td>
<td>1.1</td>
</tr>
<tr>
<td>2014</td>
<td>1.4</td>
</tr>
<tr>
<td>2015</td>
<td>1.4</td>
</tr>
<tr>
<td>2016</td>
<td>1.6</td>
</tr>
<tr>
<td>2017</td>
<td>1.6</td>
</tr>
<tr>
<td>2018</td>
<td>1.6</td>
</tr>
<tr>
<td>2019</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Forecast

U.S. Census Bureau & W. P. Carey School of Business, November, 2018
Headwinds For Housing

- Lot Costs
- Labor Costs
- Labor Availability
- Materials Costs
- Interest Rates
- Loan Approvals
- Affordability
Metro Phoenix Home Prices are Rising More Rapidly than Wages

Phoenix Metro Home Prices up 58% since 2010*

*Note: Q1 2018 home prices = 78% of 2006 peak

5th Year of Home Building Gains
10% Arizona Rise Expected in 2019

Arizona Single Family Permits

U.S. Census Bureau &
W. P. Carey School of Business, November 2018
## Return of “Drive Til You Qualify?!”

Greater Phoenix Single Family Permits Year-to-Date October 2018

<table>
<thead>
<tr>
<th>Location</th>
<th>Permits</th>
<th>% Change Vs. 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phoenix</td>
<td>3,164</td>
<td>29%</td>
</tr>
<tr>
<td>Pinal Co</td>
<td>2,285</td>
<td>29%</td>
</tr>
<tr>
<td>Mesa</td>
<td>2,116</td>
<td>-6%</td>
</tr>
<tr>
<td>Buckeye</td>
<td>1,867</td>
<td>1%</td>
</tr>
<tr>
<td>Maricopa Co.</td>
<td>1,531</td>
<td>61%</td>
</tr>
<tr>
<td>Gilbert</td>
<td>1,275</td>
<td>-7%</td>
</tr>
<tr>
<td>Surprise</td>
<td>1,172</td>
<td>78%</td>
</tr>
<tr>
<td>Peoria</td>
<td>1,143</td>
<td>-20%</td>
</tr>
<tr>
<td>Queen Creek</td>
<td>1,112</td>
<td>49%</td>
</tr>
<tr>
<td>Goodyear</td>
<td>1,059</td>
<td>18%</td>
</tr>
<tr>
<td>All Other Locations</td>
<td>2,571</td>
<td>9%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>19,925</td>
<td>15%</td>
</tr>
</tbody>
</table>

Rush Commute Time: Cotton Lane & Waddell, Surprise to 12th St. & Washington, Phoenix: **53 minutes**

*Home Builders Association of Central Arizona*
## Multi-Family Permits Above 8,000

### Greater Phoenix Multi-Family Permits

<table>
<thead>
<tr>
<th>PHOENIX MSA - PER CITY ANALYSIS</th>
<th>Phoenix</th>
<th>Mesa</th>
<th>Scottsdale</th>
<th>Tempe</th>
<th>Glendale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average Rent (3Q 2018)</strong></td>
<td>$984</td>
<td>$955</td>
<td>$1,390</td>
<td>$1,307</td>
<td>$915</td>
</tr>
<tr>
<td><strong>% Change (y-o-y)</strong></td>
<td>+5.8%</td>
<td>+5.8%</td>
<td>+6.3%</td>
<td>+7.4%</td>
<td>+6.3%</td>
</tr>
<tr>
<td><strong>Occupancy Rate (3Q 2018)</strong></td>
<td>95.3%</td>
<td>95.7%</td>
<td>94.6%</td>
<td>94.8%</td>
<td>95.4%</td>
</tr>
<tr>
<td><strong>% Change (y-o-y)</strong></td>
<td>+0.6%</td>
<td>+0.2%</td>
<td>+0.4%</td>
<td>+0.3%</td>
<td>+0.2%</td>
</tr>
<tr>
<td><strong>Units Delivered (3Q 2018, 50+)</strong></td>
<td>210</td>
<td>523</td>
<td>365</td>
<td>667</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Phoenix</th>
<th>Mesa</th>
<th>Scottsdale</th>
<th>Tempe</th>
<th>Glendale</th>
<th>Forecast</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,088</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>1,784</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>4,036</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>5,778</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>8,784</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>5,781</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>10,150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>9,102</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>8,484</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2019</td>
<td>8,141</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Greater Phoenix Blue Chip Forecast & ABI Multifamily**  
W. P. Carey School of Business, November 2019
## Greater Phoenix Outlook

<table>
<thead>
<tr>
<th>Phoenix Indicators</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment (thousands)</td>
<td>2,034</td>
<td>2,099</td>
<td>2,162</td>
</tr>
<tr>
<td>Employment Growth (% change)</td>
<td>2.8</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>New Jobs (thousands)</td>
<td>54.9</td>
<td>65.0</td>
<td>63.0</td>
</tr>
<tr>
<td>Population (% change)</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Single Family Permits (thousands)</td>
<td>20.5</td>
<td>23.4</td>
<td>26.2</td>
</tr>
</tbody>
</table>

*W. P. Carey School of Business, November 2018*
Greater Phoenix Outlook Summary: 2019

- Phoenix MSA adds 240 new residents daily
- Phoenix area accounts for nearly 90% of new jobs, 70% of housing permits, 60% of Arizona exports
- Phoenix MSA ranks 5th in job creation among large metro areas; 2nd in construction job growth
- But wage structure is 5% to 10% below U.S.; as home prices rise, affordability declines
- One of the most dynamic areas again in 2019
Arizona Economic Outlook Summary: 2019

- Arizona unemployment rate is at 10 year low.
- Key industries strong and growing: Construction, Manufacturing, and services such as Health Care, Information, and Professional/Technical Services
- Headwinds develop as interest rates, labor costs rise, expansion slows, still a leading growth state
- Population, start ups, and cost structure will drive growth in 2019 – U.S. business cycle is greatest risk