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Tucson, AZ
May 15, 2015
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INTRODUCTION

Purpose of Arizona-Mexico Economic Indicators

In December 2014, the Economic and Business Research Center at the University of Arizona’s Eller College of Management, with collaboration and financial support from four of Arizona’s leading economic development organizations – Arizona-Mexico Commission, Arizona Commerce Authority, Arizona Department of Transportation, and Arizona Department of Tourism – launched the Arizona-Mexico Economic Indicators at https://azmex.eller.arizona.edu. The motivation for building this new set of online indicators is to monitor Arizona’s trade and competitiveness in the U.S.-Mexico region across a range of key economic categories such as Arizona’s trade, border crossings, commodity flows through border ports of entry, and economic trends in Mexico. While designed primarily to meet the needs of organizations engaged with improving Arizona’s trade and competitiveness, the AZMEX website will also be a useful tool for citizens, business leaders, and public sector decision makers interested in the unique opportunities the border region has to offer. The project’s overarching theme is that presentation of the most up-to-date factual knowledge on the region will enhance understanding and appreciation of the importance of Arizona’s economic relationships with Mexico.

Connection with previous reports

The original set of regional economic indicators focusing on the Arizona-Sonora Region was compiled by the University of Arizona in 2000 under the auspices of the Arizona-Mexico Commission and in collaboration with several institutions in Sonora, Mexico. The last report in this series was completed in 2009 and is available in pdf format on our website at http://ebr.eller.arizona.edu/. While some core indicator groups have been retained from these previous studies, the emphasis and scope of the AZMEX website and this report has been broadened in response to the changing economic landscape, as well as, interest on the part of many Arizonans in extending their understanding of economic relationships with Mexico beyond Sonora.

About this Annual Report

While the AZMEX website is a dynamic tool providing access to the most recent data at any time, the Annual Report is prepared as a detailed profile of Arizona’s trade and competitiveness in the U.S.-Mexico region relative to other border states on an annual basis. By taking a “snapshot” of these indicators at a single point in time, the Annual Report provides a benchmark for year-over-year comparisons, and for evaluating major changes within each indicator group as well as across sections. The focus of the Annual Report is to show where Arizona stands relative to previous period(s), and equally important, how Arizona’s progress compares to other border states.

The Report is organized into the following sections: Population, Economic Output, Exports to Mexico, Exports to Canada, Border Crossings, Commodity Flows, Foundations of Export-Based Economy, Foundations of Knowledge-Based Economy, Educational Attainment, and Foreign Direct Investment. Each section describes the significance of relevant indicators and highlights important changes and trends. In addition, charts illustrating trends and comparisons are presented. Directly following the “Introduction” is a “Summary of Findings” section which provides readers with a quick scan of important changes as they pertain to Arizona. Findings are organized according to positive changes, declines, upward trends (over the decade), downward trends (over the decade), increases in Arizona’s share among border states, decreases in Arizona’s share among border states, and trends in Mexico, Sonora, and Sinaloa. This summary outlines areas where Arizona is making progress, as well as, areas Arizona is falling behind relative to other U.S. border states.
INTRODUCTION

Methodology

Indicators are presented in respective units of measurement, such as dollar value of exported merchandise, number of vehicles and passengers crossing the border, or as percentages of totals. To facilitate the comparison of trends with other border states (last decade wherever applicable) index numbers are used with the first year in the series serving as a base year, e.g., year 2004=100. This method allows for easy visual comparison of relative changes, especially in situations when units such as states or volume of trade through border ports of entry differ greatly in size. Arizona’s competitiveness in the U.S.-Mexico region relative to other border states is represented by a simple proxy measure of percentage share with a focus on changes between two periods.
SUMMARY OF FINDINGS

The Annual Report 2015 provides measures of changes in Arizona’s trade and competitiveness from a year ago and for the last decade.

Compared to a year ago, Arizona experienced:

- **POSITIVE changes** in the following areas:
  - Arizona’s total population grew 1.2% (2012-2013);
  - Arizona real GDP grew, albeit by a very small margin 1.1% (2012-2013); in doing so it maintained a four year growth trend;
  - Arizona’s exports to Mexico increased 22.2% (2013-2014);
  - Arizona’s manufacturing exports to Mexico increased 18.5% (2013-2014);
  - Vehicle and passenger crossings are up 4.2% and 5.9% at Arizona BPOE (2013-2014); as are buses (8.3%) and bus passengers (1.4%);
  - U.S. exports to Mexico through Arizona BPOE increased 1.7% (2013-2014);
  - U.S. exports of electric and electronic products to Mexico through Arizona BPOE increased 3.7% (2013-2014);
  - U.S. imports of electric and electronic products from Mexico through Arizona BPOE increased 4.5% (2013-2014);
  - Arizona manufacturing employment is up 0.7% over a year ago (2013-2014);
  - Arizona’s % of population over 25 with a BA or higher increased 0.4% (2012-2013).

For more detail visit: https://azmex.eller.arizona.edu/
## SUMMARY OF FINDINGS

Compared to a year ago, Arizona experienced:

<table>
<thead>
<tr>
<th>DECLINE in the following areas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona’s <strong>real GDP per capita</strong> declined 0.01% (2012-2013);</td>
</tr>
<tr>
<td>Arizona’s total <strong>exports to Canada</strong> and <strong>manufacturing exports to Canada</strong> declined 3.6% and 4.4%, respectively (2013-2014);</td>
</tr>
<tr>
<td><strong>Pedestrian crossings, train crossings and truck crossings</strong> are down at Arizona BPOE, 11.8%, 8.2%, and 0.2%, respectively (2013-2014);</td>
</tr>
<tr>
<td><strong>Total commodity flow values</strong> are down 3.9% at Arizona BPOE (2013-2014);</td>
</tr>
<tr>
<td><strong>U.S. exports of machinery/equipment products and transportation products to Mexico via Arizona BPOE</strong> are down 6.6% and 16.0%, respectively (2013-2014);</td>
</tr>
<tr>
<td><strong>U.S. imports from Mexico through Arizona BPOE</strong> declined 7.5%; specifically, <strong>U.S. imports of transportation products from Mexico through Arizona BPOE</strong> declined 18.8% (2013-2014);</td>
</tr>
<tr>
<td><strong>U.S. imports of fresh produce from Mexico through Arizona BPOE</strong> declined 2.9% (2013-2014);</td>
</tr>
<tr>
<td>Arizona’s share of <strong>manufacturing employment</strong> as a percentage of southern border states declined 0.3% (2012-2013);</td>
</tr>
<tr>
<td><strong>Computer and Electronic product manufacturing employment</strong> in Arizona declined 5.4% (2013-2014);</td>
</tr>
<tr>
<td><strong>Aerospace products and parts manufacturing employment</strong> in Arizona declined 4.2% (2013-2014);</td>
</tr>
<tr>
<td><strong>Pharmaceutical and Medicine manufacturing employment</strong> in Arizona declined 2.4% (2012-2013);</td>
</tr>
<tr>
<td>The <strong>number of patents per 1 million population</strong> in Arizona declined 0.5% (2012-2013);</td>
</tr>
<tr>
<td>The <strong>number of engineers and the number of life and physical scientists</strong> declined 0.7% and 2.6%, respectively (2012-2013).</td>
</tr>
</tbody>
</table>
SUMMARY OF FINDINGS

Compared to a decade ago, Arizona experienced:

UPWARD TRENDS in the following areas:

- Arizona’s population increased 28.4% (2000-2013);
- Share of Arizona’s population 65 and over increased from 13.0% to 15.4% (2000-2013);
- Arizona’s real GDP increased 16.8% (2003-2013);
- Arizona has experienced 124.2% growth in the dollar value of exports to Mexico (2004-2014);
- Arizona’s exports to Canada grew 56.1% (2004-2014);
- Arizona’s exports of manufacturing products to Mexico and Canada increased 48.7% and 48.6%, respectively (2004-2014);
- Number of truck crossings through all Arizona BPOE increased 17.8% (2004-2014);
- The biggest increase in truck crossings occurred at Nogales BPOE, 26.0% (2004-2014);
- Number of truck crossings through Douglas BPOE increased 17.6% (2004-2014);
- Number of train crossings and bus crossings through Nogales BPOE increased 79.1% and 37.7%, respectively (2004-2014);
- Douglas is the only BPOE in Arizona that saw the number of pedestrian crossings increase, 87.1% (2004-2014);
- Employment in Arizona’s pharmaceutical and medicine manufacturing increased 83.3% (2004-2013);
- Number of patents in Arizona in 2014 was 55.3% more than in 2004;
- Number of life and physical scientists increased 36.2% (2003-2012);
- Percent of population 25 years and older with bachelor degrees or higher increased 16.6% (2005-2013).
SUMMARY OF FINDINGS

Compared to a decade ago, Arizona experienced:

DOWNWARD TRENDS in the following areas:

- Share of Arizona’s population under 15 years of age declined from 22.4% to 20.3% (2000-2010);

- Arizona’s real GDP per capita declined 2.9% (2003-2013);

- Number of truck crossings decreased at San Luis, Lukeville, Naco, and Sasabe by 22.4%, 89.3%, 22.8% and 100%, respectively (2004-2014);

- Number of bus crossings through Arizona BPOE decreased 3.3% (2004-2014);

- Number of personal vehicle crossings decreased through every Arizona BPOE, between 8.0% at Nogales and 58.8% at Sasabe (2004-2014);

- Number of vehicle passenger crossings through Arizona BPOE decreased at every port, from 24.7% at San Luis, 31.7% at Nogales, to 75.2% at Naco (2004-2014);

- Except of Douglas, all Arizona BPOE experienced decline in pedestrian crossings, from as low as 1.2% at San Luis, to 52.9% at Nogales and 56.6% at Lukeville (2004-2014);

- Number of employees in Arizona’s high-tech manufacturing decreased 3.0% (2007-2013);

- Employment in Arizona’s computer and electronic manufacturing decreased 16.5% (2004-2013);

- Number of engineering occupations decreased 4.7% (2003-2012);

- Number of individuals in households with internet access decreased 1.3% (2009-2012).
SUMMARY OF FINDINGS

Compared to a decade ago, Arizona’s share of southern border states:

**INCREASED** in the following areas:

- Arizona’s share of border states’ exports to Mexico increased 8.9% (2004-2014);
- Arizona’s share of border states’ train crossings from Mexico increased 34.9% (2004-2014);
- Arizona’s share of border states’ bus crossings from Mexico increased 21.7% (2004-2014);
- Arizona’s share of border states’ personal vehicle crossings from Mexico increased 9.3% (2004-2014);
- Arizona’s share of U.S. exports to Mexico via border states increased 21.2% (2004-2014);
- Arizona’s share of U.S. exports of electric and electronic manufacturing products to Mexico via border states increased 9.0% (2004-2014);
- Arizona’s share of U.S. exports of transportation manufacturing products to Mexico via border states increased 55.5% (2004-2014);
- Arizona’s share of U.S. imports of transportation manufacturing products from Mexico via border states increased 140.0% (2004-2014);
- Arizona’s share of border states’ employment in aerospace manufacturing increased 0.21% (2004-13);
- Arizona’s share of border states’ employment in pharmaceutical and medicine manufacturing increased 52.1% (2003-13);
- Arizona’s share of border states’ life and physical scientist increased 9.5% (2003-11).
SUMMARY OF FINDINGS

Compared to a decade ago, Arizona's share of southern border states:

<table>
<thead>
<tr>
<th>Decreased in the following areas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>▶ Arizona’s share of border states’ <strong>GDP</strong> decreased 6.4% (2003-13);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>manufacturing exports to Mexico</strong> decreased 25.4% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>exports to Canada</strong> and <strong>manufacturing exports to Canada</strong> decreased 20.8% and 13.5%, respectively (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>truck crossings</strong> decreased 2.0% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>vehicle passenger crossings</strong> decreased 3.7% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>pedestrian crossings</strong> decreased 19.9% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of U.S. imports of electric and electronic <strong>manufacturing products</strong> via border states decreased 17.2% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of U.S. imports of fresh produce via border states decreased 41.0% (2004-2014);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>high-tech manufacturing employment</strong> decreased 3.0% (2007-13);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>employment in computer and electronic manufacturing</strong> decreased 0.5% (2004-13);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>patents</strong> decreased 20.6% (2004-13);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>engineering occupations</strong> decreased 17.0% (2003-12);</td>
</tr>
<tr>
<td>▶ Arizona’s share of border states’ <strong>population with access to internet</strong> decreased 11.5% (2009-12).</td>
</tr>
</tbody>
</table>
SUMMARY OF FINDINGS

Selected indicators for Mexico, Sonora, and Sinaloa:

UPWARD TRENDS:

- Sonora’s population increased 24.9% (2000-2012);
- Sonora’s real GDP increased 24.6% (2003-2012);
- Mexico’s IMMEX employment increased 17.4% (2008-2014);
- Border states’ IMMEX employment increased 16.6% (2008-2014);
- Sonora’s IMMEX employment increased 18.5% (2008-2014); and grew 3.6% (2013-2014);
- Sonora’s share of border states’ IMMEX employment increased 1.7% (2008-14);
- Mexico’s FDI increased 17.2% (2004-14);
- Sonora’s FDI increased 7.2% (2004-2014); and increased 148.2% (2013-2014);
- Sinaloa’s FDI increased 156.6% (2004-2014);
- Sonora’s share of Mexico’s FDI increased 56.8% (2004-2014).

DOWNWARD TRENDS:

- Share of Sonora’s population under 15 years of age declined from 32.4% to 29.1% (2000-2010);
- Sonora’s share of Mexico border states’ IMMEX employment decreased by 2% (2013-2014).
- FDI in Sinaloa has decreased by 59.6% (2012-2014);
- Sonora’s share of border states’ FDI decreased 8.5% (2004-2014).
Population growth is an indicator of the attractiveness of a region for businesses and people; higher growth rates are commonly associated with economic growth and enhanced quality of life. Population levels also indicate both the volume of producers and consumers in regional economy. Age composition provides insight into the changing relationship between working age and dependent populations.

Arizona’s Population

In 2013, Arizona’s population reached 6.6 million, an increase of 1.2% from a year ago. Arizona’s population has increased by almost 1.5 million persons since 2000. Arizona’s share of border states’ population has also increased from 8.3% in 2000 to 9.0% in 2013. (Figure 1)

While substantially smaller than California and Texas, Arizona’s population has grown faster than both. Between 2000 and 2013, Arizona’s population increased 28.4%, compared to 26.3% in Texas, 14.5% in New Mexico, and 12.8% in California. (Figure 2)

Sonora’s Population

Between 2002 and 2012, Sonora’s population grew by 500,000 persons, climbing from 2.2 million to 2.7. Sonora’s share of the population in Mexico’s border states also increased from 13.2% in 2002 to 13.5% in 2012. (Figure 3)
In 2013, 15.4% of Arizona’s population was 65 years and older, a 2.4 percentage point increase over 2000. Other border states also experienced an increase in their over 65 population. However, Arizona has the highest share of population 65 and older. (Figure 4)

The share of the population under 15 in Arizona declined from 22.4% in 2000, to 20.3% in 2013. Among border states, Texas has the largest share of population under 15 with 22.3%. (Figure 5)

**Mexican Border States’ Population**

Mexico’s border states and Sinaloa have higher percentages of young persons than U.S. border states, but have also experienced declines in young age groups. In Sonora, 29.1% of its population was 15 years or younger in 2010, a decrease from 32.4% in 2000. In Sinaloa, the percentage under 15 years old declined from 33.7% in 2000, to 28.6% in 2010. (Figure 6)

**Population characteristics and trends:**
- 2000-2013: Arizona had the fastest growing population and highest share of 65+ among U.S. border states
- 2000-2010: Sonora’s population is smaller than Arizona’s, grew more slowly, but has higher percentage of young people
Table 1: Real GDP (mil $2009)

<table>
<thead>
<tr>
<th>Year</th>
<th>AZ</th>
<th>CA</th>
<th>NM</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>224,332</td>
<td>1,758,592</td>
<td>74,787</td>
<td>989,941</td>
</tr>
<tr>
<td>2004</td>
<td>232,272</td>
<td>1,830,408</td>
<td>79,315</td>
<td>1,035,837</td>
</tr>
<tr>
<td>2005</td>
<td>250,193</td>
<td>1,904,175</td>
<td>79,710</td>
<td>1,056,501</td>
</tr>
<tr>
<td>2006</td>
<td>265,285</td>
<td>1,963,460</td>
<td>80,894</td>
<td>1,118,318</td>
</tr>
<tr>
<td>2007</td>
<td>272,794</td>
<td>1,993,361</td>
<td>81,125</td>
<td>1,165,041</td>
</tr>
<tr>
<td>2008</td>
<td>264,823</td>
<td>1,987,642</td>
<td>81,372</td>
<td>1,173,481</td>
</tr>
<tr>
<td>2009</td>
<td>243,331</td>
<td>1,906,376</td>
<td>81,356</td>
<td>1,167,233</td>
</tr>
<tr>
<td>2010</td>
<td>245,032</td>
<td>1,924,438</td>
<td>81,179</td>
<td>1,201,992</td>
</tr>
<tr>
<td>2011</td>
<td>251,462</td>
<td>1,957,114</td>
<td>82,096</td>
<td>1,252,007</td>
</tr>
<tr>
<td>2012</td>
<td>259,043</td>
<td>2,009,936</td>
<td>83,057</td>
<td>1,338,578</td>
</tr>
<tr>
<td>2013</td>
<td>261,924</td>
<td>2,050,693</td>
<td>84,310</td>
<td>1,387,598</td>
</tr>
</tbody>
</table>

Source: Bureau of Economic Analysis

Gross domestic product (GDP) is the total output of a country or a state produced in a year. It is a direct measure of the size of an economy. Per capita GDP is useful as a measure of relative performance. A rise in per capita GDP signals growth in the economy.

Arizona’s Gross Domestic Product

Arizona’s real GDP in 2013 was $261.9 billion (chained $2009), a 1.1% gain from a year ago, the lowest year-over-year percent gain in real GDP from among southern border states. Although trending upward for the previous five years, 2013 was still 4% below its pre-recession peak of $272.8 billion in 2007. Texas grew the fastest in 2013 at 3.7%, followed by California at 2.0%, and New Mexico at 1.5%. U.S. real GDP grew 1.8% in 2013. (Table 1)

Arizona’s share of border states’ GDP declined from 7.9% in 2003 to 7.4% in 2013. (Figure 7)

Arizona’s GDP grew faster than other border states until the great recession. Following the recession, Arizona’s growth rate resembles more closely the slower growth of California and New Mexico. Texas is the only border state so far which has surpassed its pre-recession levels for real GDP. (Figure 8)
In 2013, Arizona’s real per capita GDP (chained $2009) was $39,526, a 0.01% decline over a year ago, and the lowest GDP per capita among southern border states. Arizona was the only border state to experience a decline in per capita GDP in 2013. Other border states saw growth of between 1.35% (California) and 2.1% in Texas, U.S. real per capita GDP grew 1.1%. (Figure 9)

Sonora’s real GSP was 37,528.7 million (constant 2008 pesos) in 2012, a 5.7% increase over a year ago. This was faster growth than Sinaloa, or Mexico nationally. Sonora’s 2012 real GSP was 43.2% higher than it was a decade ago in 2003. (Figure 10)

Sonora’s real per capita GSP was 134,870.9 in 2012 (constant 2008 pesos), the third largest among the border states. At a 2012 exchange rate of 13.2, this is roughly equal to 10,253 ($US). This represented a 3.6% increase over a year ago and the second fastest growth rate, outpaced only by Chihuahua’s 4.9%. (Figure 11)

How Does Arizona Compare?
- Arizona’s real GDP and real GDP/capita suggest slower recovery after the recession than other border states.
- Sonora’s real per capita GSP has followed a similar trend to Mexico, however, is consistently higher than national levels.

Source: Bureau of Economic Analysis, INEGI
Exports to Mexico

In 2014, Texas exported the largest dollar value of exports to Mexico among southern border states at $102.6 billion. This was followed by California, with $25.4 billion. Arizona came in third with $8.6 billion, and New Mexico exported the smallest dollar value of $1.5 billion. (Table 2)

Arizona's $8.6 billion in exports to Mexico in 2014 was a 22.2% increase over 2013’s $7.2 billion. Arizona's exports to Mexico have increased steadily since 2009, growing at rates between 4% and 22% annually. Arizona's percent share of exports to Mexico of southern border states has also increased. In 2014, its share was 6.3% up from 5.3% in 2013. (Figure 12)

Among southern border states, Arizona’s growth in exports to Mexico has tracked closely with its neighbors, increasing 124% since 2004. New Mexico experienced the most rapid recent growth, with 2014 levels having increased 334.8% since 2004. (Table 13)
Manufacturing Exports to Mexico

The dollar value of Arizona’s manufacturing exports to Mexico was $5.4 billion in 2014. This ranked Arizona third among southern border states. Texas exported the largest dollar value of manufacturing products at $97.3 billion, and New Mexico was fourth at $1.5 billion. (Table 3)

Arizona’s manufacturing exports to Mexico accounted for 63% of the state’s total exports to Mexico in 2014, and grew 18.5% year-over-year. Arizona’s growth was far faster than California’s 5.7%, Texas’ 1.2%, and the U.S. overall at 5.5%. Only New Mexico saw faster growth in 2014 at 101.1%. Arizona’s border state share of manufacturing exports to Mexico increased 0.5% in 2014 to 4.3%. (Figure 14)

Arizona trails California and Texas in total dollar value of manufacturing exports. However, between 2004 and 2014, Arizona experienced 48.7% growth in this sector, faster than California’s 44.0%, but behind Texas at 122.7%. Although New Mexico has by far the smallest dollar volume of trade, it experienced 360% growth during this time. (Figure 15)

How Does Arizona Compare?

- 63% of Arizona’s exports to Mexico are in manufacturing products (2014)
- Arizona’s manufacturing exports to Mexico increased by 18.5% (2014), much faster growth than either California, Texas, or the U.S. overall
Although Arizona’s exports to Canada form a smaller share of totals than exports to Mexico, they are significant as an important driver of regional economic activity. The dynamics of Arizona’s exports to Canada provide a composite measure of both Arizona’s integration into the North American production-sharing system and competitiveness in Canada’s consumer markets.

**Exports to Canada**

Arizona’s exports to Canada were valued at $2.2 billion in 2014. This ranked Arizona third, behind Texas (1st place) and California (2nd). Texas exported the largest dollar value to Canada among southern border states at $31.1 billion, whereas New Mexico had the lowest value at $0.2 billion. (Table 4)

Arizona’s $2.2 billion in exports to Canada in 2014 was a 3.6% decrease over 2013’s $2.3 billion, and brought Arizona's percent share of southern border states’ exports to Canada down to 4.2%. (Figure 16)

Arizona has experienced slower growth in exports to Canada than other southern border states, particularly New Mexico. However, in 2014, Arizona's exports to Canada were 56% higher than 2004 levels, prior to the great recession. By contrast, Texas has achieved a 148% increase over 2004. (Figure 17)
Manufacturing Exports to Canada

In 2014, Texas lead among southern border states with $22.9 billion in manufacturing exports to Canada. Arizona was third among southern border states with $1.8 billion. (Table 5)

The 2014 dollar value of Arizona’s manufacturing exports to Canada was a 4.4% decrease over 2013’s $1.9 billion. Arizona's percent share of manufacturing exports to Canada among southern border states also decreased 0.1 percentage points, to 4.4% (2014). (Figure 18)

Arizona's manufacturing exports to Canada in 2014 were 48% higher than they were in 2004. Arizona has experienced slower growth than Texas or New Mexico in the dollar value of manufacturing exports to Canada, but is slightly ahead of California. New Mexico has experienced the most rapid growth, peaking at 222.9% of 2004 levels in 2011, falling to 96% higher than 2004 in 2014. (Figure 19)

Table 5: Mfg. Exports to Canada ($bil)

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<thead>
<tr>
<th>YEAR</th>
<th>AZ</th>
<th>CA</th>
<th>NM</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1.2</td>
<td>10.4</td>
<td>0.1</td>
<td>11.7</td>
</tr>
<tr>
<td>2005</td>
<td>1.4</td>
<td>11.3</td>
<td>0.1</td>
<td>13.6</td>
</tr>
<tr>
<td>2006</td>
<td>1.6</td>
<td>12.1</td>
<td>0.2</td>
<td>14.8</td>
</tr>
<tr>
<td>2007</td>
<td>1.8</td>
<td>13.9</td>
<td>0.2</td>
<td>15.6</td>
</tr>
<tr>
<td>2008</td>
<td>2.0</td>
<td>15.3</td>
<td>0.2</td>
<td>17.5</td>
</tr>
<tr>
<td>2009</td>
<td>1.5</td>
<td>11.8</td>
<td>0.2</td>
<td>12.5</td>
</tr>
<tr>
<td>2010</td>
<td>1.5</td>
<td>13.4</td>
<td>0.2</td>
<td>16.9</td>
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<tr>
<td>2011</td>
<td>1.7</td>
<td>14.4</td>
<td>0.3</td>
<td>20.1</td>
</tr>
<tr>
<td>2012</td>
<td>1.8</td>
<td>14.5</td>
<td>0.3</td>
<td>22.2</td>
</tr>
<tr>
<td>2013</td>
<td>1.9</td>
<td>15.8</td>
<td>0.3</td>
<td>23.0</td>
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<tr>
<td>2014</td>
<td>1.8</td>
<td>15.4</td>
<td>0.2</td>
<td>22.9</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

How Does Arizona Compare?

- Arizona has seen 48% growth over the last decade in manufacturing exports to Canada, faster growth than California
- Arizona was third among southern border states in manufacturing exports to Canada (2014)
Arizona’s border ports of entry (BPOE) play a pivotal role in facilitating commercial exchanges between the U.S., Canada, and Mexico. The dynamics of personal vehicle, pedestrian and bus crossings reflect the regional significance of border ports of entry for personal transportation, tourism and trade. Commercial travel and freight in the form of train and truck crossings contextualize border ports of entry as of national and North American significance.

Truck Crossings

Arizona’s six border ports of entry (BPOE) facilitated 380,751 truck crossings in 2014. This was a 0.2% decrease from a year ago. Nogales facilitated the largest volume of truck crossings of Arizona BPOE, with 312,000 in 2014. Douglas was second, with 33,100, and San Luis was third with 31,970. (Table 6)

Truck crossings represent an important segment of commercial border crossing activity along the U.S. – Mexico border. Trucks carry the largest value and volume of merchandise across the border, and are the primary means of transportation for Mexican fresh produce. In 2014, the Arizona BPOE share of southern truck crossings decreased 0.3%. (Figure 20)

Nogales is Arizona’s largest border port of entry. This port has experienced steady, yet slow growth in truck crossings since 2004. Douglas and Nogales are the only Arizona BPOE which have experienced enough growth in the volume of truck crossings to bring them back above 2004 levels. (Figure 21)
Nogales ranks among the top southern border ports in volume of truck crossings. In 2014, 312,000 trucks crossed the border at Nogales. Among major southern BPOE, Laredo facilitated the largest volume of truck crossings, with 1.9 million in 2014. El Paso was second with 759,130 crossings. (Table 7)

Truck crossings through the Nogales port increased 26% between 2004 and 2014. Major ports such as Calexico East and El Paso experienced much slower growth, at 4.2%, and 5.5%, respectively. Traffic through Laredo increased 39.9% over the decade, while the smallest port, Santa Teresa saw an increase of 200.1%. All ports experienced declines during the great recession. However, since the recession, growth has been most consistent in Laredo. (Figure 22)

Nogales is Arizona’s largest port of entry and a major U.S. port of entry for Mexican fresh produce. The seasonal variability associated with the import of fresh produce through Nogales is reflected in higher truck crossing volumes during winter months (Dec. – May). (Figure 23)

### Table 7: Major BPOE’s Northbound Truck Crossings (000’s)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Nogales</th>
<th>Calexico</th>
<th>El Paso</th>
<th>Hidalgo</th>
<th>Laredo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>248</td>
<td>312</td>
<td>720</td>
<td>454</td>
<td>1,392</td>
</tr>
<tr>
<td>2005</td>
<td>266</td>
<td>320</td>
<td>741</td>
<td>491</td>
<td>1,456</td>
</tr>
<tr>
<td>2006</td>
<td>290</td>
<td>307</td>
<td>745</td>
<td>458</td>
<td>1,519</td>
</tr>
<tr>
<td>2007</td>
<td>295</td>
<td>323</td>
<td>783</td>
<td>487</td>
<td>1,564</td>
</tr>
<tr>
<td>2008</td>
<td>304</td>
<td>326</td>
<td>759</td>
<td>476</td>
<td>1,555</td>
</tr>
<tr>
<td>2009</td>
<td>277</td>
<td>277</td>
<td>644</td>
<td>419</td>
<td>1,382</td>
</tr>
<tr>
<td>2010</td>
<td>308</td>
<td>304</td>
<td>710</td>
<td>459</td>
<td>1,586</td>
</tr>
<tr>
<td>2011</td>
<td>287</td>
<td>313</td>
<td>715</td>
<td>453</td>
<td>1,696</td>
</tr>
<tr>
<td>2012</td>
<td>308</td>
<td>322</td>
<td>725</td>
<td>482</td>
<td>1,790</td>
</tr>
<tr>
<td>2013</td>
<td>312</td>
<td>326</td>
<td>739</td>
<td>511</td>
<td>1,846</td>
</tr>
<tr>
<td>2014</td>
<td>312</td>
<td>325</td>
<td>759</td>
<td>530</td>
<td>1,948</td>
</tr>
</tbody>
</table>

Source: Bureau of Transportation Statistics

### Figure 22: Major BPOE’s Northbound Truck Crossings (2004=100)

Source: Bureau of Transportation Statistics

### Figure 23: Nogales District’s (All AZ BPOE) Monthly Truck Crossings

Source: Bureau of Transportation Statistics

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### How Does Arizona Compare?

- Nogales has experienced rapid growth (26%) since 2004, much faster than Calexico East and El Paso
- Nogales is Arizona’s largest port of entry; and the busiest port for truck crossings facilitating 312,010 crossings in 2014
BORDER CROSSINGS

Table 8: Major BPOE’s Northbound Train Crossings

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Nogales</th>
<th>Calexico</th>
<th>El Paso</th>
<th>Hidalgo</th>
<th>Laredo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>444</td>
<td>273</td>
<td>744</td>
<td>0</td>
<td>3,443</td>
</tr>
<tr>
<td>2005</td>
<td>785</td>
<td>415</td>
<td>1,618</td>
<td>0</td>
<td>3,499</td>
</tr>
<tr>
<td>2006</td>
<td>653</td>
<td>485</td>
<td>2,449</td>
<td>0</td>
<td>3,850</td>
</tr>
<tr>
<td>2007</td>
<td>588</td>
<td>591</td>
<td>2,691</td>
<td>0</td>
<td>3,994</td>
</tr>
<tr>
<td>2008</td>
<td>640</td>
<td>417</td>
<td>2,473</td>
<td>0</td>
<td>3,921</td>
</tr>
<tr>
<td>2009</td>
<td>563</td>
<td>253</td>
<td>1,502</td>
<td>0</td>
<td>2,716</td>
</tr>
<tr>
<td>2010</td>
<td>602</td>
<td>243</td>
<td>1,046</td>
<td>0</td>
<td>3,036</td>
</tr>
<tr>
<td>2011</td>
<td>709</td>
<td>252</td>
<td>1,152</td>
<td>0</td>
<td>3,413</td>
</tr>
<tr>
<td>2012</td>
<td>657</td>
<td>252</td>
<td>1,392</td>
<td>0</td>
<td>3,492</td>
</tr>
<tr>
<td>2013</td>
<td>866</td>
<td>250</td>
<td>1,357</td>
<td>0</td>
<td>3,629</td>
</tr>
<tr>
<td>2014</td>
<td>795</td>
<td>252</td>
<td>1,990</td>
<td>0</td>
<td>3,758</td>
</tr>
</tbody>
</table>

Source: Bureau of Transportation Statistics

Nogales has the oldest rail crossing of any border port of entry along the U.S. – Mexico border, dating back to 1882. Since opening, the railroad has served primarily mining and agricultural industries. At present, one of the most important commodities is auto manufacturing at the Ford Company in Hermosillo, Sonora. Vehicles built at the plant are shipped via rail to U.S. and Canadian markets.

Train Crossings

Train crossings are vital for the transport of merchandise across the U.S. – Mexico border, particularly for the auto industry in Sonora, as well as the transport of commodities such as cement and garbanzo beans. Nogales ranked third among major ports in 2014, with 795 train crossings. Laredo facilitated the largest volume of train crossings in 2014, with 3,758 crossings, followed by El Paso with 1,990. (Table 8)

Arizona train crossings declined 17.6% in 2014. Arizona’s share of train crossings at southern border ports also decreased from 9.3% in 2013, to 7.6% in 2014. (Figure 24)

Nogales has experienced steady growth in the last decade, with 79.1% growth compared to 2004, ranking it second among select major ports. (Figure 25)

How Does Arizona Compare?

- Train traffic via Nogales increased 79.1% between 2004 and 2014, its growth surpassed only by traffic via El Paso which grew 167.5% over the decade.
Bus Crossings

The Nogales port of entry facilitated 9,423 bus crossings in 2014, an 8.0% increase over 2013, and accounted for 77.0% of all bus crossings at Arizona BPOE. Among select southern BPOE, Laredo facilitated the largest volume of bus crossings with 41,230 in 2014. Calexico East ranked behind Nogales with 2,785 bus crossings. (Table 9)

Arizona BPOE facilitated 12,236 bus crossings in 2014, an 8.3% gain over 2013. Arizona's percent share of bus crossings among major southern border ports in 2014 was 5.7%, an increase of 0.4 percentage points from 2013. (Figure 26)

Between 2004 and 2014, bus crossing volume at the Nogales BPOE expanded 37.7%. Although still a rather small port, Calexico East grew dramatically over the decade, with 2014 levels 585.9% higher than in 2004 reflecting the recent expansions at that port. Overall the volume of crossings at all southern BPOE declined 20.5% during this time period. (Figure 27)

How Does Arizona Compare?
- 9,423 buses crossed the border at Nogales in 2014, for an 8.3% gain in 2014
- Between 2004 and 2014, bus crossings at Nogales expanded 37.7%, a much larger increase than at the other major large ports of El Paso (22.8%), Laredo (8.8%), and Hidalgo (-20.5%)

Table 9: Major BPOE’s Northbound Bus Crossings

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Nogales</th>
<th>Calexico</th>
<th>El Paso</th>
<th>Hidalgo</th>
<th>Laredo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>6,842</td>
<td>406</td>
<td>17,551</td>
<td>32,701</td>
<td>37,902</td>
</tr>
<tr>
<td>2005</td>
<td>8,988</td>
<td>284</td>
<td>15,993</td>
<td>27,964</td>
<td>35,841</td>
</tr>
<tr>
<td>2006</td>
<td>11,521</td>
<td>1,518</td>
<td>14,843</td>
<td>27,344</td>
<td>37,105</td>
</tr>
<tr>
<td>2007</td>
<td>12,375</td>
<td>1,170</td>
<td>18,530</td>
<td>28,942</td>
<td>37,106</td>
</tr>
<tr>
<td>2008</td>
<td>11,585</td>
<td>1,669</td>
<td>24,716</td>
<td>33,127</td>
<td>39,122</td>
</tr>
<tr>
<td>2009</td>
<td>11,096</td>
<td>2,451</td>
<td>19,474</td>
<td>28,407</td>
<td>43,342</td>
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<tr>
<td>2010</td>
<td>9,872</td>
<td>1,897</td>
<td>22,852</td>
<td>20,031</td>
<td>44,121</td>
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<tr>
<td>2011</td>
<td>9,144</td>
<td>3,193</td>
<td>23,421</td>
<td>20,992</td>
<td>42,980</td>
</tr>
<tr>
<td>2012</td>
<td>8,068</td>
<td>2,564</td>
<td>22,798</td>
<td>20,476</td>
<td>38,368</td>
</tr>
<tr>
<td>2013</td>
<td>8,699</td>
<td>2,571</td>
<td>21,595</td>
<td>22,521</td>
<td>38,017</td>
</tr>
<tr>
<td>2014</td>
<td>9,423</td>
<td>2,785</td>
<td>21,554</td>
<td>26,087</td>
<td>41,230</td>
</tr>
</tbody>
</table>

Source: Bureau of Transportation Statistics

Figure 26: AZ’s Northbound Bus Crossings

Source: Bureau of Transportation Statistics

Figure 27: Major BPOE’s Northbound Bus Crossings (2004=100)

Source: Bureau of Transportation Statistics
Personal vehicles are the primary mode of transportation for people crossing the border. These data record crossings by local residents for business, shopping, and visiting family and friends. Data are available only for northbound crossings, and include all personal vehicles regardless of nationality.

Personal Vehicle Crossings

Personal vehicles facilitate the largest travel volume of any mode along the U.S. – Mexico Border. Nogales is the busiest port in Arizona, with 3.3 million personal vehicles crossing in 2014, up 3.9% from 2013. Other major ports for vehicle crossings are San Luis (3 million) and Douglas (1.6 million). (Table 10)

In 2014, 8.5 million personal vehicles crossings were facilitated by Arizona border ports of entry, a 4.2% increase from 2013. Arizona’s percent share of vehicle crossings at major southern border ports, however, decreased from 12.3% to 12.2% in 2014. (Figure 28)

All Arizona border ports of entry saw gains in 2014 lead by Sasabe with a 12.3% increase over a year ago, followed by Lukeville (9.1%), Douglas (6.9%), Naco (4.8%), Nogales (3.9%), and San Luis (2.7%). However, none of the six ports recovered personal vehicle traffic volumes to the 2004 levels. (Figure 29)
While Nogales is Arizona’s busiest port, it has the smallest volume of personal vehicle traffic among the major southern BPOE, with 3.3 million crossers it comes in just behind Calexico East, California, at 3.4 million. El Paso, Texas, leads with 11.6 million. (Table 11)

However, Arizona’s share of border traffic has seen steady increase. In 2014, Arizona’s share was up 9.3% from its 2004 level, and in the past 5 years its share has seen a 17.8% gain. Arizona BPOE now account for 12.2% of crossings at southern BPOE.

Growth in vehicle crossings through Nogales BPOE has tracked closely other major ports. While smaller in number, Nogales has experienced more post-recession growth than other major ports such as El Paso, Hidalgo, and Laredo, Texas. Nogales has recovered 92% of its 2004 volume. Calexico East, California, is the only port that has recovered to 2004 crossing volumes, now up 7.6% from its 2004 level. Overall traffic through southern BPOE declined 23.6% between 2004 and 2014. (Figure 30)

Seasonal variability is visible in personal vehicle crossing trends at Arizona BPOE. Crossings tend to be lower in February, and higher in May. (Figure 31)

How Does Arizona Compare?

- Nogales has experienced more post-recession growth than other major ports such as El Paso, Hidalgo, and Laredo
- All Arizona BPOE saw gains in 2014, with Sasabe growing 12.3% and overall traffic at Arizona BPOE growing 4.2%
**The dynamics of personal vehicle passenger crossings through Arizona-Sonora border ports of entry reflect the composite effects of both the economic ties between Arizona and Sonora, as well as border crossing procedures that affect wait times.**

### Personal Vehicle Passengers

Nogales facilitated 6.8 million passenger crossings in 2014, followed by San Luis with 5.5 million, and Douglas with 2.8 million. *(Table 12)*

16.4 million personal vehicle passenger crossings were facilitated by Arizona BPOE in 2014. This was a 5.9% increase from 2013. Arizona’s share of personal vehicle passenger crossings as a percentage of all southern BPOE has grown since 2011. *(Figure 32)*

In 2014, Arizona’s share of southern personal vehicle passenger crossings was 12.7%. Passenger crossings at all AZ BPOE have declined since 2004. San Luis has seen the most recent growth, recovering to 75.3% of 2004 levels by 2014. This is followed by Nogales at 68.3%. *(Figure 33)*

Most southern BPOE experienced a steady decline between 2004 and 2011, falling between 20.1% in Calexico East, and 46.9% in Nogales. Nogales however has seen by far the most rapid recent growth (40.5% since 2011), followed by El Paso (28.1% since 2011).

---

**Table 12: AZ BPOE’s Northbound Vehicle Passengers (000’s)**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Douglas</th>
<th>Lukeville</th>
<th>Naco</th>
<th>Nogales</th>
<th>San Luis</th>
<th>Sasabe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>4,422</td>
<td>1,156</td>
<td>2,123</td>
<td>9,955</td>
<td>7,356</td>
<td>102</td>
</tr>
<tr>
<td>2005</td>
<td>4,675</td>
<td>1,167</td>
<td>1,119</td>
<td>8,767</td>
<td>6,691</td>
<td>101</td>
</tr>
<tr>
<td>2006</td>
<td>4,507</td>
<td>1,269</td>
<td>907</td>
<td>8,401</td>
<td>5,207</td>
<td>90</td>
</tr>
<tr>
<td>2007</td>
<td>4,032</td>
<td>1,297</td>
<td>861</td>
<td>8,587</td>
<td>4,713</td>
<td>103</td>
</tr>
<tr>
<td>2008</td>
<td>3,566</td>
<td>1,188</td>
<td>705</td>
<td>8,472</td>
<td>4,417</td>
<td>79</td>
</tr>
<tr>
<td>2009</td>
<td>3,893</td>
<td>1,088</td>
<td>661</td>
<td>7,636</td>
<td>4,234</td>
<td>67</td>
</tr>
<tr>
<td>2010</td>
<td>2,893</td>
<td>695</td>
<td>512</td>
<td>6,729</td>
<td>3,860</td>
<td>37</td>
</tr>
<tr>
<td>2011</td>
<td>2,615</td>
<td>539</td>
<td>465</td>
<td>5,289</td>
<td>3,941</td>
<td>30</td>
</tr>
<tr>
<td>2012</td>
<td>2,610</td>
<td>581</td>
<td>493</td>
<td>5,730</td>
<td>4,575</td>
<td>26</td>
</tr>
<tr>
<td>2013</td>
<td>2,704</td>
<td>625</td>
<td>509</td>
<td>6,510</td>
<td>5,089</td>
<td>26</td>
</tr>
<tr>
<td>2014</td>
<td>2,822</td>
<td>653</td>
<td>526</td>
<td>6,798</td>
<td>5,537</td>
<td>31</td>
</tr>
</tbody>
</table>

*Source: Bureau of Transportation Statistics*
Among major southern BPOE, El Paso, Texas, facilitates the largest volume of vehicle passenger crossings. This is followed by Laredo, Texas. Nogales was slightly ahead of Calexico East, California, with 6.8 million passenger crossings in 2014, a 4.4% increase over 2013. All major BPOE saw increases in 2014, with the exception of Hidalgo, which decreased by 3.7%. (Table 13).

While all major southern BPOE experienced a decline in vehicle passengers during the recession of 2009, Calexico is the only major port of entry that has not only recovered but surpassed its 2004 volume. In recent years, personal vehicle passenger crossings through the Nogales, El Paso and Laredo ports of entry have experienced steady growth. (Figure 34)

Since the early 2000’s, periods of economic slowdown, together with increased wait times at border crossings have reduced the number of personal vehicle crossings and the number of passengers, although not at the same rate. (Figure 35)

How Does Arizona Compare?

- Nogales has faster growth than major ports such as Hidalgo and Laredo in vehicle passenger crossings since 2011
- 16.4 million personal vehicle passenger crossings crossed via Arizona BPOE in 2014, up 5.9% from 2013
- All major southern ports experienced a temporary decline following the great recession

### Table 13: Major BPOE’s Northbound Vehicle Passengers (000’s)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Nogales</th>
<th>Calexico</th>
<th>El Paso</th>
<th>Hidalgo</th>
<th>Laredo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>9,955</td>
<td>6,362</td>
<td>28,108</td>
<td>15,515</td>
<td>15,033</td>
</tr>
<tr>
<td>2005</td>
<td>8,767</td>
<td>6,493</td>
<td>29,181</td>
<td>13,989</td>
<td>14,017</td>
</tr>
<tr>
<td>2006</td>
<td>8,401</td>
<td>7,771</td>
<td>28,000</td>
<td>12,632</td>
<td>14,244</td>
</tr>
<tr>
<td>2007</td>
<td>8,587</td>
<td>7,004</td>
<td>23,675</td>
<td>13,305</td>
<td>13,368</td>
</tr>
<tr>
<td>2008</td>
<td>8,472</td>
<td>7,144</td>
<td>21,806</td>
<td>13,468</td>
<td>15,398</td>
</tr>
<tr>
<td>2009</td>
<td>7,636</td>
<td>5,731</td>
<td>18,377</td>
<td>12,074</td>
<td>12,729</td>
</tr>
<tr>
<td>2010</td>
<td>6,729</td>
<td>5,152</td>
<td>17,920</td>
<td>10,692</td>
<td>10,858</td>
</tr>
<tr>
<td>2011</td>
<td>5,289</td>
<td>5,082</td>
<td>14,941</td>
<td>9,040</td>
<td>8,458</td>
</tr>
<tr>
<td>2012</td>
<td>5,730</td>
<td>5,530</td>
<td>15,908</td>
<td>9,484</td>
<td>8,768</td>
</tr>
<tr>
<td>2013</td>
<td>6,510</td>
<td>5,916</td>
<td>17,545</td>
<td>9,609</td>
<td>9,588</td>
</tr>
<tr>
<td>2014</td>
<td>6,798</td>
<td>6,438</td>
<td>19,135</td>
<td>9,252</td>
<td>10,335</td>
</tr>
</tbody>
</table>

Source: Bureau of Transportation Statistics

### Figure 34: Major BPOE’s Northbound Vehicle Passengers (2004=100)

Since the early 2000’s, periods of economic slowdown, together with increased wait times at border crossings have reduced the number of personal vehicle crossings and the number of passengers, although not at the same rate. (Figure 35)

### Figure 35: # Vehicles & Vehicle Passengers through Nogales District (2004=100)

Source: Bureau of Transportation Statistics
BORDER CROSSINGS

The dynamics of pedestrian crossings through the Arizona-Sonora border ports of entry reflect the composite effects of both the economic and familial ties between Arizona and Sonora, as well as border crossing procedures that affect wait times.

Pedestrian Crossings

Nogales is Arizona’s busiest port for pedestrian crossings, with 2.9 million crossers in 2014. This is followed closely by San Luis with 2.3 million, and from a distance by Douglas with 1.0 million. (Table 14)

In 2014, 6.3 million passenger crossings were facilitated by Arizona BPOE. This was an 11.8% decline from 2013. Passenger crossings at Arizona BPOE have steadily declined since 2007, as has Arizona’s percent share of pedestrian crossings at southern border ports. (Figure 36)

Nogales’ 2.9 million crossers in 2014 represented a 0.9% decline from 2013. Two other major Arizona ports, San Luis and Douglas, experienced declines of 1.2% and 43.9%, respectively. Sasabe and Lukeville were the only ports to experience increases. Small crossing volumes at these ports make them susceptible to enormous rates of growth and decline. Lukeville pedestrian crossings increased 9.8%, and Sasabe 87.5% in 2014. (Figure 37)
Nogales ranks among major southern BPOE in pedestrian crossing volumes. Nogales’ 2.9 million pedestrian crossings in 2014 ranked it third among select southern ports. El Paso, Texas, was first with 6.6 million pedestrian crossings and Calexico East, California, came in last with 310,000. \(\text{Table 15}\)

Pedestrian crossings grew rapidly at the Nogales BPOE in the early 2000’s, but since in 2007, pedestrian crossings have declined to 52.9% of 2004 levels. All other BPOE recovered faster following the great recession. \(\text{Figure 38}\)

The number of passengers has grown faster at Arizona border ports than the number of pedestrians. This may reflect increased border crossing wait times for pedestrians. The Arizona housing bubble is also visible in the trend for pedestrian crossings, suggesting that a large number of pedestrian crossers may be crossing for work related purposes. While passengers travel for business and leisure. \(\text{Figure 39}\)

**Table 15: Major BPOE’s Northbound Pedestrian Crossings (000’s)**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Nogales</th>
<th>Calexico</th>
<th>El Paso</th>
<th>Hidalgo</th>
<th>Laredo</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>6,131</td>
<td>3</td>
<td>8,442</td>
<td>2,012</td>
<td>4,507</td>
</tr>
<tr>
<td>2005</td>
<td>6,930</td>
<td>1</td>
<td>7,614</td>
<td>1,774</td>
<td>4,356</td>
</tr>
<tr>
<td>2006</td>
<td>7,726</td>
<td>13</td>
<td>7,500</td>
<td>1,989</td>
<td>4,246</td>
</tr>
<tr>
<td>2007</td>
<td>7,723</td>
<td>9</td>
<td>8,454</td>
<td>2,169</td>
<td>4,625</td>
</tr>
<tr>
<td>2008</td>
<td>6,568</td>
<td>18</td>
<td>8,029</td>
<td>2,090</td>
<td>3,874</td>
</tr>
<tr>
<td>2009</td>
<td>4,038</td>
<td>34</td>
<td>7,638</td>
<td>2,257</td>
<td>4,090</td>
</tr>
<tr>
<td>2010</td>
<td>3,971</td>
<td>59</td>
<td>6,930</td>
<td>2,245</td>
<td>3,588</td>
</tr>
<tr>
<td>2011</td>
<td>3,526</td>
<td>118</td>
<td>6,172</td>
<td>1,998</td>
<td>3,090</td>
</tr>
<tr>
<td>2012</td>
<td>3,239</td>
<td>319</td>
<td>6,091</td>
<td>2,073</td>
<td>3,206</td>
</tr>
<tr>
<td>2013</td>
<td>2,912</td>
<td>317</td>
<td>6,015</td>
<td>2,062</td>
<td>3,559</td>
</tr>
<tr>
<td>2014</td>
<td>2,886</td>
<td>310</td>
<td>6,572</td>
<td>2,290</td>
<td>3,447</td>
</tr>
</tbody>
</table>

Source: Bureau of Transportation Statistics

**Figure 38: Major BPOE’s Northbound Pedestrian Crossings (2004=100)**

**Figure 39: # Pedestrian & Vehicle Passengers through Nogales District (2004=100)**

Source: Bureau of Transportation Statistics

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**How Does Arizona Compare?**

- 2.9 million pedestrians crossed the border at Nogales in 2014, ranking it third among major BPOE
- Pedestrian crossings have declined 52.9% over the last decade (2004-2014)
Arizona BPOE play a pivotal role in facilitating trade exchanges between the U.S. and Mexico. The dynamics of commodity flows reflect the composite effects of both the national and local border-specific economies, as well as the physical and human infrastructure capacities of border ports of entry.

### U.S. Exports to Mexico

In 2014, Arizona’s BPOE facilitated $12.7 billion worth of U.S. exports to Mexico, an increase of $210 million (1.7%) from a year ago. With the exception of 2007 and 2009, the value of U.S. exports moving through Arizona BPOE has increased every year throughout the last decade. (Table 16)

In 2014, 6.4% of U.S. exports through border states to Mexico travelled via Arizona BPOE, an increase of 1.1% from Arizona’s 5.3% share of this traffic a decade ago. The 2014 share declined slightly, although the dollar value of exports surpassed that of a year ago. (Figure 40)

Exports through Nogales increased 145.7% from 2004 to 2014. With the exception of San Ysidro (314.7%), all other major BPOE experienced slower growth in the same period. (Figure 41)

### How Does Arizona Compare?

- In 2014, Arizona’s share of border states commodity flows declined from 6.8% to 6.4%
- In 2014, exports through Nogales increased more than through other major BPOE (except San Ysidro, California)
The dynamics of electric and electronic manufacturing product exports through Arizona’s border ports of entry reflect the composite effects of manufacturing integration between Arizona and Mexico, as well between Mexico, Canada, and other U.S. states that use Arizona’s border ports for their exports to Mexico.

U.S. Exports of Electric and Electronic Products

In 2014, $2.9 billion worth of U.S. electric and electronic manufacturing products to Mexico passed through Arizona BPOE, up 3.7% from 2013. With the exception of 2008 and 2009 (recession), the last decade has been a period of growth. (Table 17)

Arizona BPOE’s share of U.S. exports of electric and electronic products through border states was 5.5% in 2014, a slight increase from 5.1% a decade ago. Despite a dollar value increase, the share of exports travelling via Arizona BPOE has declined. (Figure 42)

Exports of electric and electronic products through Nogales increased 126.0% from 2004 to 2014 (Figure 43). Only Eagle Pass and Laredo, Texas, experienced larger increases, 228.4% and 200.7% respectively. (Figure 43)

How Does Arizona Compare?

- 2013-2014: Arizona’s share of border states increased from 5.1% to 5.5%
- 2004-2014: Exports through Nogales BPOE increased 126%, only Laredo and Eagle Pass, Texas, grew faster

### Table 17: U.S. Exports of Electric & Electronic Products via Border States ($mil)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AZ</th>
<th>CA</th>
<th>NM</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1,180.2</td>
<td>4,252.9</td>
<td>43.9</td>
<td>18,201.4</td>
</tr>
<tr>
<td>2005</td>
<td>1,434.6</td>
<td>4,079.8</td>
<td>34.5</td>
<td>17,575.4</td>
</tr>
<tr>
<td>2006</td>
<td>1,717.1</td>
<td>4,129.7</td>
<td>31.5</td>
<td>18,880.2</td>
</tr>
<tr>
<td>2007</td>
<td>2,205.9</td>
<td>4,904.1</td>
<td>75.7</td>
<td>23,563.9</td>
</tr>
<tr>
<td>2008</td>
<td>1,970.8</td>
<td>4,840.6</td>
<td>81.2</td>
<td>25,016.8</td>
</tr>
<tr>
<td>2009</td>
<td>1,851.7</td>
<td>4,318.3</td>
<td>1,169.7</td>
<td>22,990.3</td>
</tr>
<tr>
<td>2010</td>
<td>2,090.8</td>
<td>5,237.7</td>
<td>3,878.2</td>
<td>28,375.9</td>
</tr>
<tr>
<td>2011</td>
<td>2,398.0</td>
<td>5,528.9</td>
<td>5,860.1</td>
<td>29,687.8</td>
</tr>
<tr>
<td>2012</td>
<td>2,911.3</td>
<td>5,899.7</td>
<td>5,941.5</td>
<td>32,194.5</td>
</tr>
<tr>
<td>2013</td>
<td>2,802.4</td>
<td>6,321.7</td>
<td>6,263.9</td>
<td>35,015.3</td>
</tr>
<tr>
<td>2014</td>
<td>2,907.3</td>
<td>7,111.5</td>
<td>7,250.9</td>
<td>36,314.1</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

### Figure 42: U.S. Exports of Electric & Electronic Products via AZ BPOE's

Source: U.S. Census Bureau

### Figure 43: U.S. Exports of Electric & Electronic Products via So. BPOE’s (2004=100)

Source: U.S. Census Bureau

Arizona-Mexico Economic Indicators, www.azmex.eller.arizona.edu
Mexico’s transportation equipment manufacturing sector has become one of the keystones of the North American industrial integration. A recent expansion of the Ford Motor Company in Sonora has enhanced the role of Arizona’s BPOE, most notably Nogales, for exports of transportation equipment to Mexico.

U.S. Exports of Transportation Products

In 2014, $1.8 billion worth of U.S. transportation equipment was exported to Mexico through Arizona BPOE. This was $354 million less than a year ago. (Table 18)

Arizona BPOE accounted for 5.2% of U.S. exports of transportation equipment manufacturing products shipped through all southern BPOE in 2014, an increase from the 3.3% share of a decade ago. The 2014 share also represents a drop from 6.5% a year ago. (Figure 44)

Exports of transportation equipment manufacturing products through Nogales increased 280.5% from 2004 to 2014. Only Otay Mesa in California experienced a larger increase, 307.1% over the same period. (Figure 45)

How Does Arizona compare?

- In 2014, Arizona BPOE’s share of southern border ports declined from 6.5% to 5.2%
- 2004-2014: Exports through Nogales increased 280.5%. A growth rate surpassing other major BPOE (except Otay Mesa, California)
Imports through Arizona border ports of entry reflect the composite effects of both the trade between Arizona and Mexico, and other U.S. states that use Arizona’s border ports to import goods from Mexico. Also reflected in commodity flow dynamics are the infrastructure capacities of border ports of entry.

**U.S. Imports from Mexico**

In 2014, Arizona BPOE facilitated $17.9 billion worth of U.S. imports from Mexico, a decrease of $1.5 billion, or 7.5% from a year ago. With the exception of 2009 (economic recession), the value of U.S. imports from Mexico through Arizona BPOE has grown over the last decade. *(Table 19)*

In 2014, Arizona BPOE’s share of U.S. imports from Mexico through border states was 7.3%, unchanged from a decade ago. During last decade Arizona BPOE’s share has fluctuated between 7.3% (2004) and 9.2% (2006). The 2014 share is a 1.2% decline over 2013, reflecting a decrease in the dollar value of imported goods. *(Figure 46)*

Imports through the Nogales BPOE increased 102.0% from 2004 to 2014. With the exception of Eagle Pass in Texas (371.9%), all other major BPOE experienced slower growth in the same period. *(Figure 47)*

**How Does Arizona Compare?**

- In 2014, Arizona BPOE’s share of southern border ports declined from 8.5% to 7.3%
- 2004-2014: Imports through Nogales increased 102%, more than other major BPOE (except Eagle Pass, Texas)

---

**Table 19: U.S. Imports via Border States ($mil)**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AZ</th>
<th>CA</th>
<th>NM</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>9,154.1</td>
<td>20,927.5</td>
<td>777.7</td>
<td>108,591.4</td>
</tr>
<tr>
<td>2005</td>
<td>10,562.4</td>
<td>24,001.7</td>
<td>791.8</td>
<td>116,306.0</td>
</tr>
<tr>
<td>2006</td>
<td>13,921.8</td>
<td>28,597.2</td>
<td>776.3</td>
<td>132,139.7</td>
</tr>
<tr>
<td>2007</td>
<td>14,005.8</td>
<td>30,366.4</td>
<td>959.8</td>
<td>141,342.2</td>
</tr>
<tr>
<td>2008</td>
<td>13,667.5</td>
<td>30,239.4</td>
<td>882.4</td>
<td>143,193.8</td>
</tr>
<tr>
<td>2009</td>
<td>11,648.0</td>
<td>25,898.7</td>
<td>2,971.8</td>
<td>115,054.1</td>
</tr>
<tr>
<td>2010</td>
<td>14,532.6</td>
<td>28,817.2</td>
<td>8,447.2</td>
<td>150,273.7</td>
</tr>
<tr>
<td>2011</td>
<td>15,918.5</td>
<td>29,836.4</td>
<td>10,381.9</td>
<td>175,123.0</td>
</tr>
<tr>
<td>2012</td>
<td>16,448.0</td>
<td>31,192.1</td>
<td>11,827.4</td>
<td>191,036.0</td>
</tr>
<tr>
<td>2013</td>
<td>19,339.6</td>
<td>32,092.5</td>
<td>10,295.6</td>
<td>192,748.2</td>
</tr>
<tr>
<td>2014</td>
<td>17,885.7</td>
<td>35,617.0</td>
<td>9,608.7</td>
<td>204,146.5</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

**Figure 46: U.S. Imports via AZ BPOE’s**

Source: U.S. Census Bureau

**Figure 47: U.S. Imports via So. BPOE’s (2004=100)**

Source: U.S. Census Bureau
Electric and electronic manufacturing products are the top commodity imported via Arizona’s border ports of entry, and a key component of the North American production sharing system.

U.S. Imports of Electric and Electronic Products

In 2014, Arizona BPOE facilitated $3.2 billion worth of electric and electronic manufacturing imports from Mexico, an increase of $135.9 million, or 4.5% over a year ago. 2014 imports are below the peak of $3.3 billion in 2007. Overall, the value of these imports via Arizona BPOE has more than doubled since 2004. (Table 20)

Arizona BPOE accounted for 4.1% of U.S. imports of electric and electronic manufacturing products from Mexico through border states in 2014. Despite a dollar value increase, Arizona BPOE’s share is lower in the post-recession period. The 2014 share is a slight increase over a year ago; but a decrease from 4.2% a decade ago. (Figure 48)

Imports of electric and electronic products from Mexico through Nogales increased 85% (2004 to 2014). Except for El Paso, Texas, all other major BPOE experienced larger increases with Otay Mesa, California leading with 283.7% growth since 2004. (Figure 49)

How Does Arizona Compare?

- In 2014, AZ BPOE’s share increased from 3.9% to 4.1%
- 2004-2014: Imports through Nogales grew slower than other major BPOE
Mexico’s transportation equipment manufacturing sector has become one of the keystones of North American industrial integration. A recent expansion of the Ford Motor Company in Sonora has enhanced the role of Arizona’s BPOE, most notably Nogales, for the import of cars and other transportation equipment from Mexico.

### U.S. Imports of Transportation Products from Mexico

In 2014, $6.7 billion worth of transportation products were imported from Mexico through Arizona BPOE. This was $1.5 billion, or 18.8% less than a year ago. (Table 21)

Arizona BPOE facilitated 7.3% of U.S. transportation manufacturing imports from Mexico through border states in 2014. This was a 4.2% increase over a decade ago, however it was also a drop from 10.0% a year ago. (Figure 50)

Imports of transportation products through Nogales increased 302.8%, slightly behind Otay Mesa’s 317.7% increase. Eagle Pass outperformed all major BPOE with 730.2% growth during the same decade, 2004-2014. (Figure 51)

### How Does Arizona Compare?

- In 2014, Arizona’s share of border states decreased from 10.0% to 7.3%
- 2004-2014: Imports through Nogales grew 302.8%, outperformed by Otay Mesa, California, and Eagle Pass, Texas

#### Table 21: U.S. Imports of Transportation Products via Border States ($mil)

<table>
<thead>
<tr>
<th>YEAR</th>
<th>AZ</th>
<th>CA</th>
<th>NM</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1,738.7</td>
<td>1,589.3</td>
<td>94.6</td>
<td>34,809.5</td>
</tr>
<tr>
<td>2005</td>
<td>2,375.2</td>
<td>2,420.6</td>
<td>89.7</td>
<td>35,126.9</td>
</tr>
<tr>
<td>2006</td>
<td>5,215.4</td>
<td>3,148.7</td>
<td>113.7</td>
<td>38,140.1</td>
</tr>
<tr>
<td>2007</td>
<td>4,598.0</td>
<td>2,634.7</td>
<td>158.8</td>
<td>42,698.9</td>
</tr>
<tr>
<td>2008</td>
<td>5,040.8</td>
<td>2,833.9</td>
<td>160.3</td>
<td>38,570.6</td>
</tr>
<tr>
<td>2009</td>
<td>4,258.3</td>
<td>2,542.5</td>
<td>103.6</td>
<td>29,658.3</td>
</tr>
<tr>
<td>2010</td>
<td>5,839.1</td>
<td>3,135.7</td>
<td>148.9</td>
<td>45,612.5</td>
</tr>
<tr>
<td>2011</td>
<td>6,128.2</td>
<td>3,518.9</td>
<td>100.3</td>
<td>54,255.1</td>
</tr>
<tr>
<td>2012</td>
<td>5,394.2</td>
<td>4,145.1</td>
<td>130.9</td>
<td>64,945.4</td>
</tr>
<tr>
<td>2013</td>
<td>8,214.9</td>
<td>4,549.9</td>
<td>170.6</td>
<td>69,441.8</td>
</tr>
<tr>
<td>2014</td>
<td>6,673.0</td>
<td>5,857.1</td>
<td>202.5</td>
<td>79,386.4</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

#### Figures

- Figure 50: U.S. Imports of Transportation Products via AZ BPOE’s
- Figure 51: U.S. Imports of Transportation Products via So. BPOE’s (2004=100)

Source: U.S. Census Bureau
In 2014, Arizona BPOE facilitated $2.9 billion worth of fresh produce imports from Mexico, which was $87.0 million less than a year ago. (Table 22)

Arizona BPOE accounted for 31.4% of U.S. fresh produce imports from Mexico through border states in 2014, a decrease from 53.3% a decade ago. Arizona’s 2014 share was the lowest it has been in the last decade. (Figure 52)

The Nogales BPOE facilitated the highest dollar value of imported fresh produce from Mexico, followed closely by Hidalgo, Texas. However, from 2004 to 2014 all major BPOE surpassed Nogales BPOE growth of 63.8%. Most notably Laredo, Texas, with 610.4% growth, and Hidalgo, Texas, with 491.2% growth. (Figure 53)

How Does Arizona Compare?

- In 2014, Arizona’s share of border states decreased from 35.7% to 31.4%
- 2004-2014: Imports of fresh produce+ through all major BPOE surpassed Nogales, especially Texas’ BPOE Laredo and Hidalgo
The dynamics of fresh produce movement through Arizona BPOEs reflect climate-related seasonality of agricultural production in Sinaloa and Sonora, as well as the physical and human infrastructure capabilities of border ports of entry to facilitate efficient and secure movement of fresh produce across the border.

Of the three top BPOEs importing fresh produce from Mexico, Nogales has the highest monthly variability: 77.1% was imported from December through May in comparison with 59% through Hidalgo, and 56.6% through Laredo, in 2014. (Table 23)

Imports of fresh produce through Arizona’s BPOE have a distinctive seasonal character with peaks during winter months from December through May each year. (Figure 54)

Fresh produce imports from Mexico through the Nogales BPOE have higher seasonal fluctuations than imports through Hidalgo and Laredo in Texas. Increases in seasonality through Texas BPOE suggest an increase in imports of winter fresh produce. (Figure 55)

How Does Arizona Compare?

- Arizona BPOEs have a higher concentration of imports during winter months than other BPOEs
- 2004-2014: Imports of winter fresh produce have been increasing at BPOEs outside of Arizona
High-tech manufacturing is a pivotal driver of Arizona’s export-based economy. In addition to its increasingly important role in international trade, high-tech industries are characterized by higher productivity, highly skilled workers, and higher wages. The dynamics of Arizona’s employment in high-tech manufacturing industries provide a measure of Arizona’s capacity to build and sustain an export-based economy.

Arizona’s Employment

In 2012, Arizona’s high-tech manufacturing industries employed 142,324 people, an increase of 3,317 or 2.4% from a year ago. High-tech manufacturing includes occupational categories such as pharmaceutical and medicine, computer and peripheral, communications equipment, semiconductor and electronics, electronic instrument, aerospace, and software publishing. 2014 high-tech manufacturing employment was still below the 2007 level of 146,759 employees. (Table 24)

Despite recovery after the recession, Arizona’s share of U.S. border states’ high-tech manufacturing employment has declined from 8.1% in 2007 to 7.6% in 2012. (Figure 56)

In 2013, Arizona’s computer and electronic manufacturing employment decreased by 1,600 employees or 4.2% from a year ago. However, Arizona’s share of U.S. border states remained above 9%, fluctuating between 9.7% in 2006 and 9.1% in 2009. (Figure 57)
In 2014, Arizona’s aerospace manufacturing industries employed 25,200 employees, a decrease of a little over one thousand employees from a year ago. Since the peak in 2009, employment has declined, and in 2013, was on par with 2004 levels.  
(Table 25)

After relatively stronger growth than other border states between 2005 and 2009, Arizona’s share of U.S. border states’ aerospace products and parts manufacturing employment dropped below 19%. In 2013, Arizona’s share was 18.1%, a slight decrease from a year ago.  
(Figure 58)

Although small in absolute numbers, pharmaceutical and medicine products manufacturing employment experienced the fastest growth of 83.3% from 2004 to 2013. Arizona’s share of U.S. border states increased from 1.9% in 2004 to 3.1% in 2013.  
(Figure 59)

Note: indicators in export-based economy utilize BLS, Current Employment Statistics and Quarterly Census of Employment and Wages. The most current full year of data available from CES is 2014, and QCEW is 2013.

## How Does Arizona Compare?
- High tech manufacturing employment in Arizona has not yet recovered to pre-recession levels
- Arizona has a significant percentage of border states’ aerospace manufacturing employment

### Table 25: Employment in Aerospace Products and Parts Mfg. (000’s)

<table>
<thead>
<tr>
<th>Year</th>
<th>AZ</th>
<th>CA</th>
<th>TX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>26.4</td>
<td>73.7</td>
<td>46.0</td>
</tr>
<tr>
<td>2005</td>
<td>26.6</td>
<td>73.4</td>
<td>47.8</td>
</tr>
<tr>
<td>2006</td>
<td>26.7</td>
<td>73.0</td>
<td>49.0</td>
</tr>
<tr>
<td>2007</td>
<td>27.3</td>
<td>72.8</td>
<td>48.0</td>
</tr>
<tr>
<td>2008</td>
<td>28.9</td>
<td>73.7</td>
<td>48.7</td>
</tr>
<tr>
<td>2009</td>
<td>29.3</td>
<td>72.4</td>
<td>48.0</td>
</tr>
<tr>
<td>2010</td>
<td>27.2</td>
<td>73.1</td>
<td>48.1</td>
</tr>
<tr>
<td>2011</td>
<td>26.5</td>
<td>71.5</td>
<td>48.5</td>
</tr>
<tr>
<td>2012</td>
<td>26.7</td>
<td>71.1</td>
<td>48.0</td>
</tr>
<tr>
<td>2013</td>
<td>26.3</td>
<td>72.0</td>
<td>47.3</td>
</tr>
<tr>
<td>2014</td>
<td>25.2</td>
<td>71.4</td>
<td>44.7</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics, CES

### Figure 58: AZ’s Employment in Aerospace Products and Parts Mfg.

### Figure 59: AZ’s Employment in Pharmaceutical and Medicine Products Mfg.

Source: Bureau of Labor Statistics, QCEW
The maquiladora plants, together with other companies producing products for export, including automobile manufacturers; form IMMEX program employment. IMMEX accounts for more than 80 percent of all manufacturing exports from Mexico and the largest share of trade between the U.S. and Mexico. The majority of IMMEX employment is concentrated in border states, including Sonora.

**IMMEX (Maquiladora) Employment in Mexico**

In 2014, IMMEX employment in Mexico’s border states was 1,339,189, a 5.7% increase from a year ago. Nationwide, IMMEX employment increased 5.8% from a year ago. *(Table 26)*

Mexico’s border states accounted for 61.1% of all IMMEX employment in Mexico, more or less a steady share since 2010. *(Figure 60)*

In 2014, Baja California and Chihuahua had the largest numbers of employees in the IMMEX sector; Sonora, with 113,130 had the smallest. *(Figure 61)*

The Maquiladora Program, initiated in mid-1960s as assembly platforms for U.S. manufacturers, continued to grow under NAFTA, and by 2006 employed 1.2 million people. The PITEX Program was established in 1990 and by 2006 included all motor vehicle assembly plants and most of their parts suppliers in Mexico.
Manufacturing establishments account for 89% of total IMMEX employment. The non-manufacturing activities, which include agriculture and mining activities, account for 11%. Transportation equipment manufacturing, which includes Mexico’s burgeoning auto industry, is the strongest sector accounting for 32% of IMMEX manufacturing employment.

In 2014, Sonora’s IMMEX employment increased 3.6% from a year ago compared to the Mexico border states’ average of 5.7%. Compared to 2008, Sonora’s IMMEX employment increased 18.5%, slightly more than the border states’ overall average of 16.6%. (Table 27)

Sonora’s share of the border states’ total decreased slightly from 8.6% in 2013 to 8.4% in 2014, but remained between 8.3% and 8.6% throughout the 2008-2014 period. (Figure 62)

From 2008 to 2014 Sonora’s growth in IMMEX employment of 18.5% kept up a moderate trend, between faster growth of Coahuila and Nuevo León (41.0% and 23.2%), and slower growth of Baja California (7%), Chihuahua (13.2%), and Tamaulipas (5.3%). Mexico’s average growth during the same period was 17.4%. (Figure 63)

Table 27: Sonora and Mexico IMMEX (maquiladora) Employment (000’s)

<table>
<thead>
<tr>
<th>Year</th>
<th>Son.</th>
<th>Son % share of MEX Border States</th>
<th>MEX Border States</th>
<th>MEX Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>95</td>
<td>8.31</td>
<td>1,149</td>
<td>1,868</td>
</tr>
<tr>
<td>2009</td>
<td>82</td>
<td>8.44</td>
<td>970</td>
<td>1,618</td>
</tr>
<tr>
<td>2010</td>
<td>91</td>
<td>8.46</td>
<td>1,074</td>
<td>1,770</td>
</tr>
<tr>
<td>2011</td>
<td>97</td>
<td>8.57</td>
<td>1,135</td>
<td>1,860</td>
</tr>
<tr>
<td>2012</td>
<td>103</td>
<td>8.64</td>
<td>1,197</td>
<td>1,962</td>
</tr>
<tr>
<td>2013</td>
<td>109</td>
<td>8.62</td>
<td>1,267</td>
<td>2,072</td>
</tr>
<tr>
<td>2014</td>
<td>113</td>
<td>8.45</td>
<td>1,339</td>
<td>2,193</td>
</tr>
</tbody>
</table>

Source: INEGI

How Does Sonora Compare?

- Since 2008, despite fluctuations, Sonora has retained over 8% of Mexico’s IMMEX employment
- Sonora has experienced more growth since 2008 than Chihuahua, Baja California, or Tamaulipas

Figure 62: Sonora’s IMMEX (maquiladora) Employment

Source: INEGI

Figure 63: IMMEX (Maquiladora) Employment in MEX Border States (2008=100)

Source: INEGI
Knowledge is recognized as a driver of productivity and economic growth. Knowledge accumulation provides new or improved products and services, contributes to technological change, and directly enhances living standards. The knowledge economy can be measured directly in terms of the number of “knowledge workers” such as engineers and scientists among all occupations. It can also be measured in terms of overall human capital based on completed education levels.

**Patents**

In 2014, 2517 patents were issued in Arizona. This was a 13.1% increase over a year ago, and brought Arizona’s share of patents in southern border states to 4.7%. (Figure 64)

Despite an increase in numbers of patents in Arizona, other border states performed better resulting in decline of Arizona’s share from 5.9% in 2004 to 4.7% in 2014.

**Engineering Occupations**

The number of engineers in Arizona increased by 300 between 2011 and 2012. This was a slight improvement over a year ago, yet still 1,620 engineers less than worked in the state in 2003. (Table 28)

Despite a small increase in 2012, the number of engineers in Arizona has declined steadily. In addition, Arizona’s percent of engineers among southern border states has also declined from 9.2% in 2003, to 7.6% in 2013. (Figure 65)
The number of life and physical scientists in Arizona decreased by 140 workers in 2012. However, Arizona’s number of life and physical scientists in 2012 was 2,450 higher than it was a decade ago, in 2003. In addition, Arizona’s share of life and physical scientists as a percentage of U.S. border states improved from 5.2% in 2009, to 5.8% in 2011. (Figure 66)

Internet access is increasingly necessary at individual, company, and societal levels for finding employment, expanding innovation, and remaining globally competitive. At the individual level, access to internet at home is especially important as an educational tool for middle- and high-school students. Access to internet profoundly affects participation in the knowledge economy.

The number of individuals living in households with internet access in Arizona declined from 4,813,000 in 2011 to 4,579,000 in 2012, while the number in all border states increased. (Table 29)

In 2012, 73.7% of Arizona’s population lived in households with internet access. This was a 3% decline from a year ago. Arizona’s share of border states’ individuals living in households with access to internet decreased from 9.8% in 2009 to 8.6% in 2012. (Figure 67)

**How Does Arizona Compare?**

- While the number of life and physical scientists in Arizona has decreased recently, over the last decade the state has added 2,450
- About 73.7% of Arizona’s population lists with internet access
Educational attainment is of key importance to individuals in finding better paying jobs and improving their standard of living. A strong relationship exists between educational attainment and a region’s economic performance. Regions with better-educated workers show higher GDP per capita and real wages. These regions also compete more successfully in the knowledge economy for high-tech industries and attraction of a talented workforce.

Of Arizona’s population 25 years and over, 27.4% had a bachelor’s degree or higher in 2013, a slight increase from a year ago, and substantial improvement from 23.5% in 2005. (Figure 68)

California has the largest share of individuals over 25 with a bachelor’s degree or higher, at 31.0%. This is followed by Texas (27.5%) and Arizona (27.4%). New Mexico is in fourth place with 26.4%. (Table 30)

Texas and New Mexico posted the largest year over year gains in the share of population over 25 with a bachelor’s degree or higher, with 0.8 and 0.3 percentage point increases, respectively (2013-2014). (Figure 69)

How Does Arizona Compare?
- Arizona ranks third in the percentage of population with a BA or higher (2013)
- The percentage of population over 25 with a BA or higher in Arizona increased by 0.1% (2012-2013)
**FOREIGN DIRECT INVESTMENT**

Foreign Direct Investment (FDI) is a key characteristic of international economic integration. Its importance to a host country is that it brings additional capital, creates jobs, and encourages the transfer of technology. Benefits to investor countries include access to an expanded labor force, and expanded opportunities for promotion of products in international markets. Mexico ranks among the top developing countries in the attraction of foreign investors seeking to expand into the NAFTA area.

In 2014, Sonora garnered $332.6 million in foreign direct investment, a 148.2% increase over 2013. While ranked second to last among border states in dollar value of foreign direct investment, Sonora’s year-over-year growth rate ranked first among Mexico’s border states. (Table 31)

Sonora’s $332.6 million in foreign direct investment in 2014 brought Sonora’s share of foreign direct investment as a percentage of Mexico’s border states up from 2.5% in 2013, to 7.2% in 2014. (Figure 71)

Foreign direct investment in Sonora has fluctuated significantly between 2004 and 2014. It reached a high point in 2008 at $1.29 billion and a low point in 2012 at $37.9 million. Nevertheless, 2014 FDI levels were 7.2% higher than in 2004. (Figure 72)

In 2014, Sinaloa received $141.4 million in foreign direct investment. Although Sinaloa’s 2014 foreign direct investment was less than a half of the foreign direct investment in Sonora, this was a substantial increase compared to 2004: 156%.

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**Table 31: FDI Sonora, Sinaloa and Mexico Total ($mil)**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Sinaloa</th>
<th>Sonora</th>
<th>Mexico Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>55.1</td>
<td>310.3</td>
<td>25,127.0</td>
</tr>
<tr>
<td>2005</td>
<td>29.5</td>
<td>266.9</td>
<td>24,693.7</td>
</tr>
<tr>
<td>2006</td>
<td>47.2</td>
<td>339.3</td>
<td>20,900.6</td>
</tr>
<tr>
<td>2007</td>
<td>44.5</td>
<td>469.1</td>
<td>32,213.2</td>
</tr>
<tr>
<td>2008</td>
<td>49.4</td>
<td>1,291.4</td>
<td>28,573.9</td>
</tr>
<tr>
<td>2009</td>
<td>20.6</td>
<td>271.4</td>
<td>17,643.7</td>
</tr>
<tr>
<td>2010</td>
<td>82.3</td>
<td>141.6</td>
<td>25,961.5</td>
</tr>
<tr>
<td>2011</td>
<td>80.5</td>
<td>160.7</td>
<td>23,559.9</td>
</tr>
<tr>
<td>2012</td>
<td>349.5</td>
<td>37.9</td>
<td>18,997.9</td>
</tr>
<tr>
<td>2013</td>
<td>255.9</td>
<td>134.0</td>
<td>44,198.8</td>
</tr>
<tr>
<td>2014</td>
<td>141.4</td>
<td>332.6</td>
<td>22,568.4</td>
</tr>
</tbody>
</table>

Source: INEGI

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**Figure 71: Sonora’s FDI**

Source: INEGI

**Figure 72: Sonora and Mexico FDI (2004=100)**

Source: INEGI
DATA SOURCES

- **Population**
  U.S. Census Bureau, Population Division; website: www.census.gov
  Instituto Nacional de Estadística Y Geografía (INEGI), Banco de Información; website: www3.inegi.org.mx

- **Economic Output**
  Instituto Nacional de Estadística Y Geografía (INEGI), Banco de Información Económica (BIE); website: www3.inegi.org.mx
  Economic Business and Research Center, Eller College of Management, The University of Arizona: Mexico intercensal population estimates calculated using a linear growth model

- **Exports to Mexico**
  U.S. Census Bureau via USA Trade; website: https://usatrade.census.gov/

- **Border Crossings**
  U.S. Department of Transportation, Office of the Assistant Secretary for Research and Technology (RITA), Bureau of Transportation Statistics (BTS); website: http://www.rita.dot.gov/bts/

- **Commodity Flows**
  U.S. Census Bureau via USA Trade; website: https://usatrade.census.gov/

- **Foundations of Export Based Economy**
    - Current Employment Statistics (CES); http://www.bls.gov/ces/
    - Quarterly Census of Employment And Wages (QCEW); http://www.bls.gov/cew/cewover.htm
  Instituto Nacional de Estadística Y Geografía (INEGI), Banco de Información Económica (BIE); website: www3.inegi.org.mx

- **Foundations of Knowledge Based Economy**
  U.S. Patent and Trademark Office; website: www.uspto.gov
  National Science Foundation; website: www.nsf.gov
  U.S. Department of Labor, Bureau of Labor Statistics (BLS); website: www.bls.gov
  U.S. Census Bureau, American Fact Finder; website: www.factfinder.census.gov

- **Foreign Direct Investment**
  Instituto Nacional de Estadística Y Geografía (INEGI), Banco de Información Económica (BIE); website: www3.inegi.org.mx