

Beyond Data Collection and Maintenance

Updates on Big Data @ MAG

Interactive Data Viewers



Demographic



Employment



RAD



MapLIT



Land Use



Bikeways



Projections



Active Transportation



Neighborhoods



Spine Study

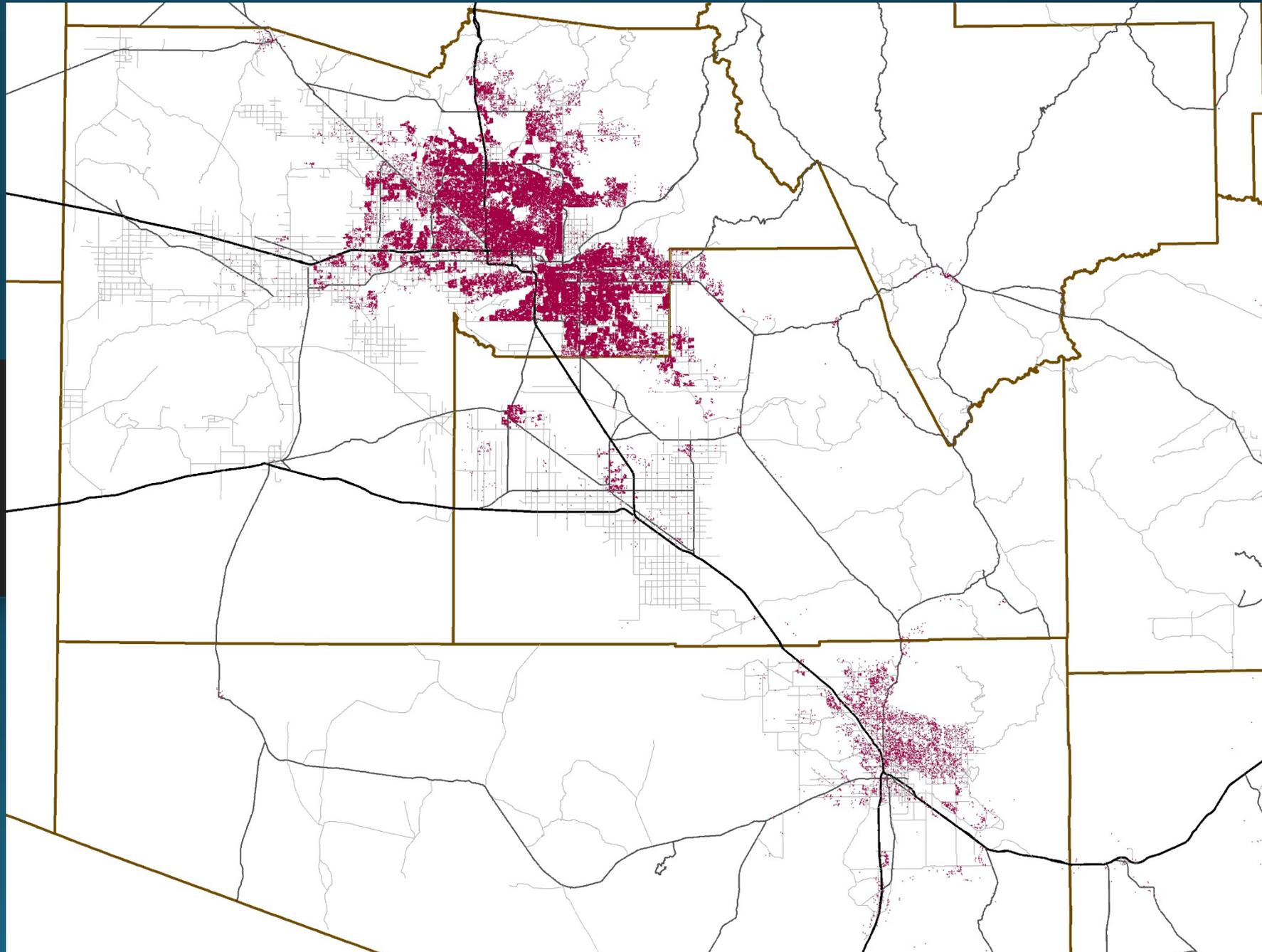
<http://maps.azmag.gov>

Labor Force Analytics

ASU Graduates 1980 – 2016

Total : 348,438
In AZ: 214,197 (61.2%)
In Phoenix: 193,793
In Tucson : 5,946

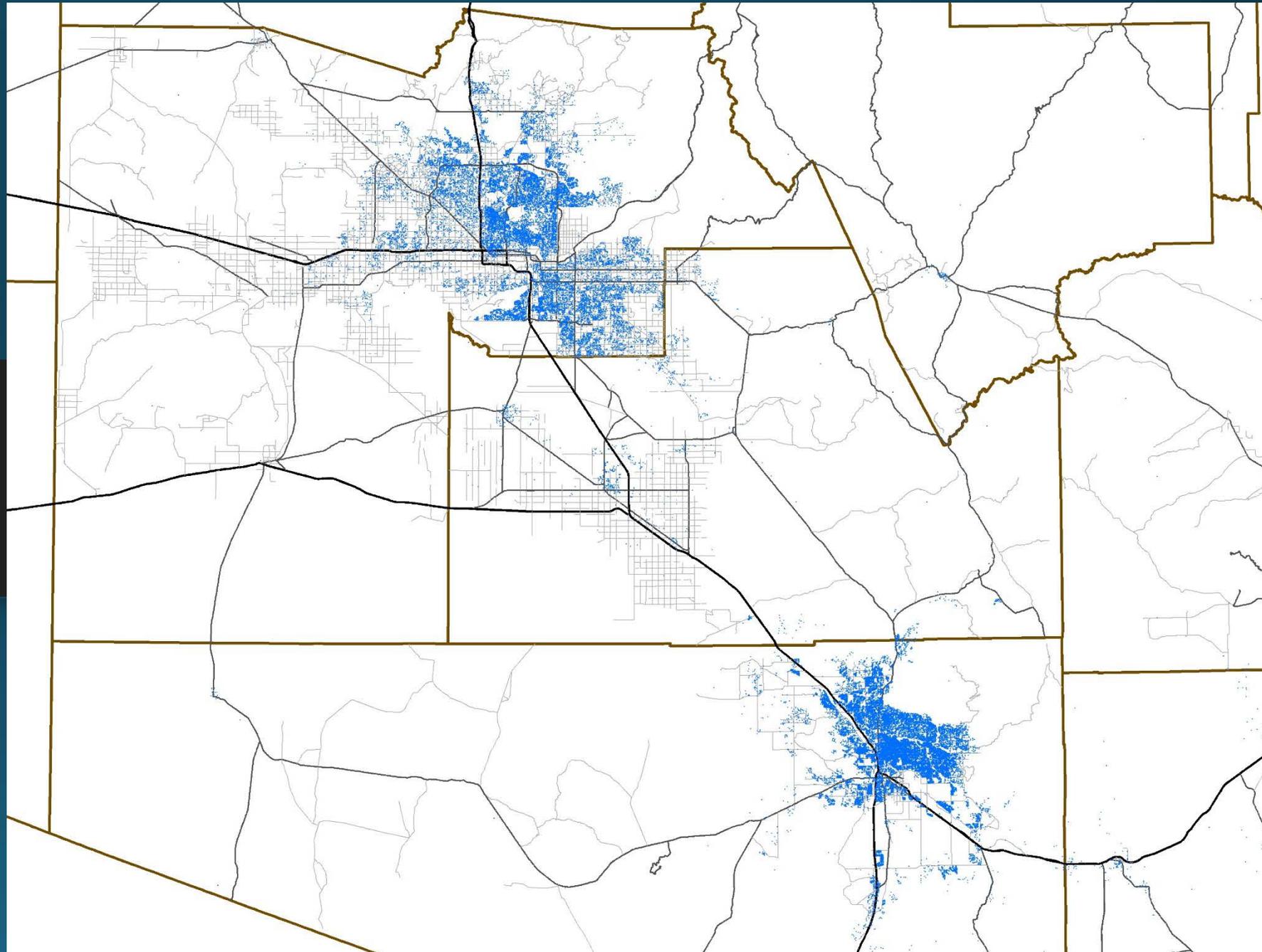
Since 2000: 67.3% in AZ



U of A Graduates 1980 – 2016

Total : 183,321
In AZ: 92,634 (50.5%)
In Phoenix: 31,561
In Tucson : 50,417

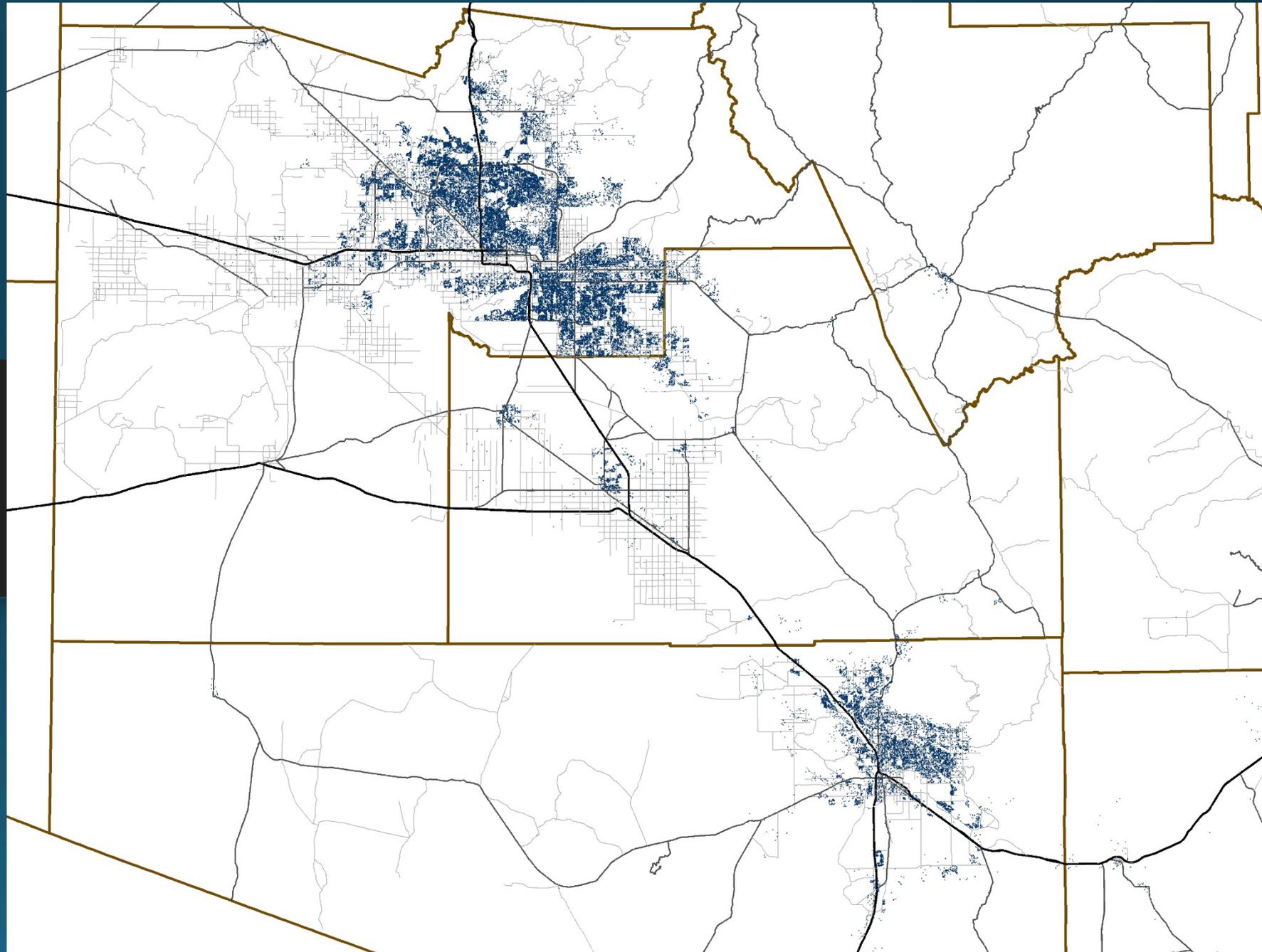
Since 2000: 56.4% in AZ



NAU Graduates 1980 – 2017

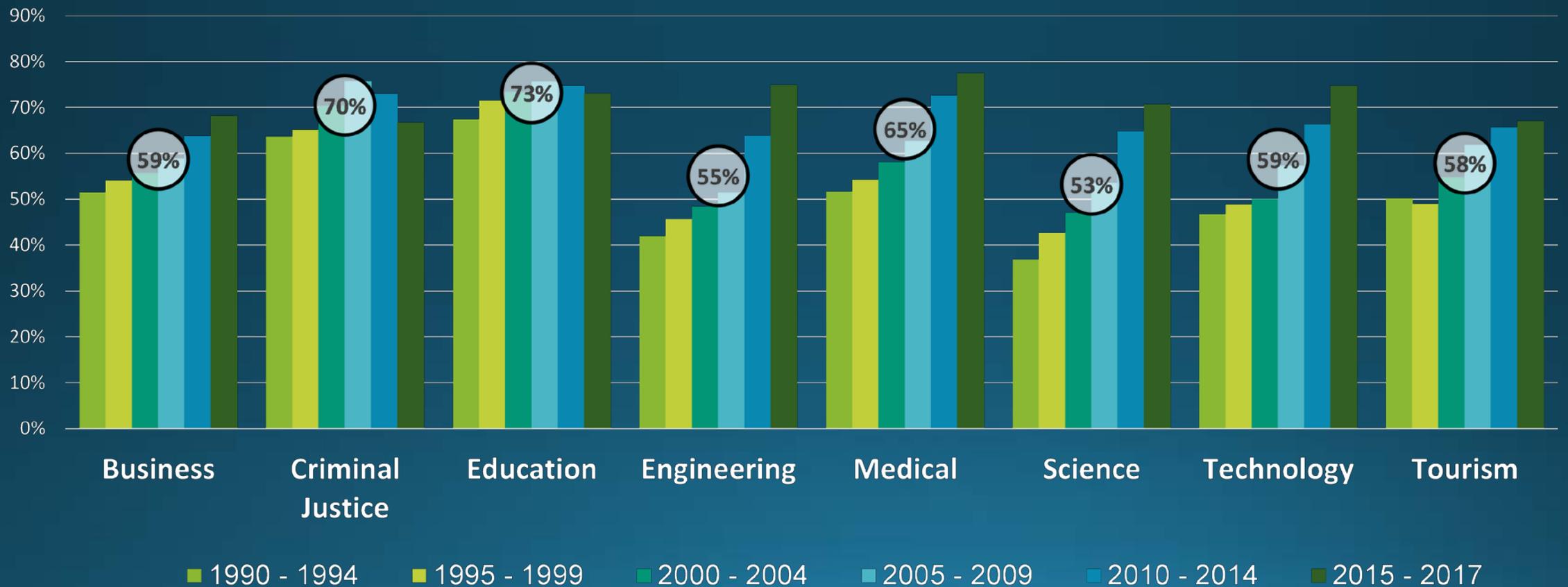
Total : 136,758
In AZ: 88,141 (64.5%)
In Phoenix: 49,630
In Tucson : 10,049

Since 2000: 68.8% in AZ

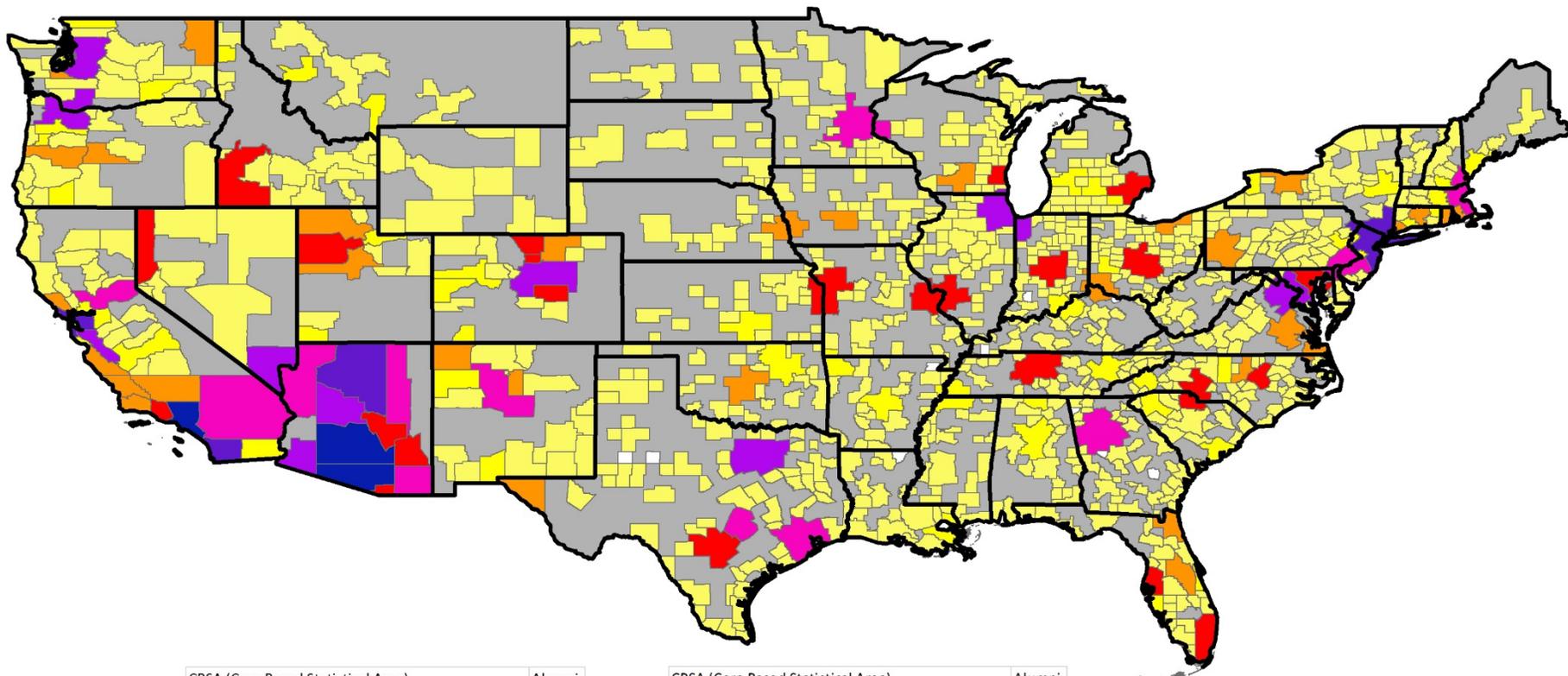


Retention: Graduates Who Stay in Arizona

Arizona Retention Rate by Select Degree Category 1990-2017

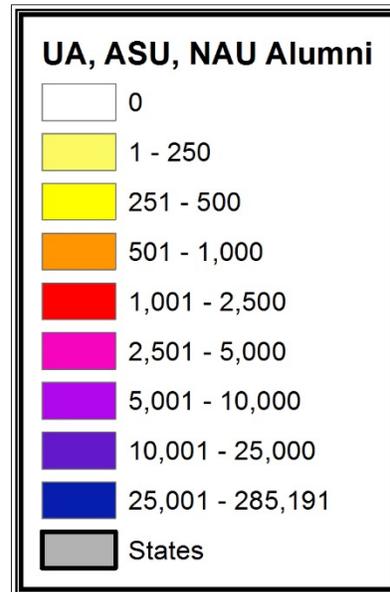


U of A, ASU, NAU Alumni by CBSA



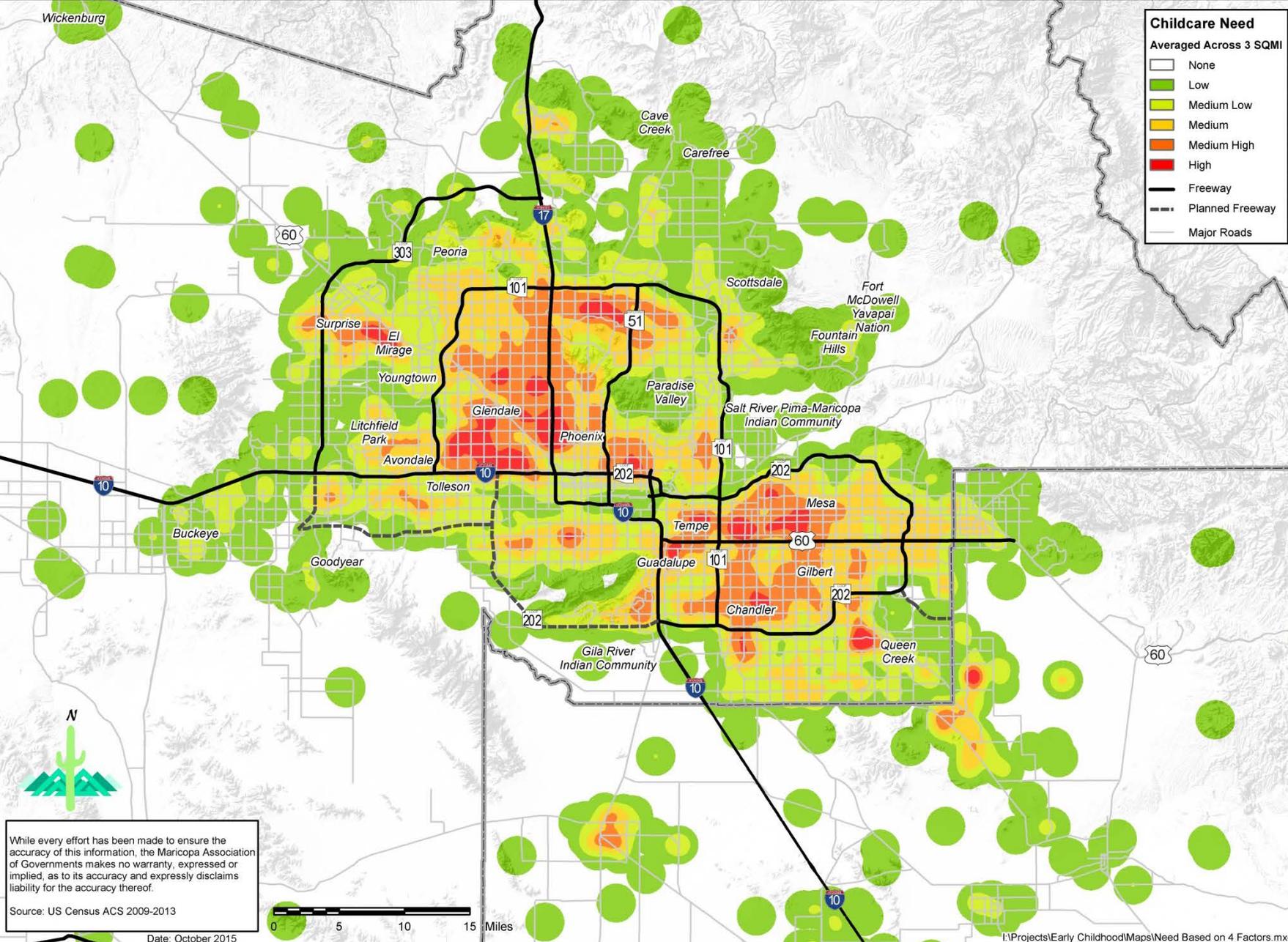
CBSA (Core Based Statistical Area)	Alumni
Phoenix-Mesa-Scottsdale, AZ	285,191
Tucson, AZ	67,346
Los Angeles-Long Beach-Anaheim, CA	25,527
Flagstaff, AZ	15,911
San Diego-Carlsbad, CA	12,184
San Francisco-Oakland-Hayward, CA	11,512
New York-Newark-Jersey City, NY-NJ-PA	10,510
Chicago-Naperville-Elgin, IL-IN-WI	9,920
Denver-Aurora-Lakewood, CO	9,679
Seattle-Tacoma-Bellevue, WA	9,288
Prescott, AZ	8,908
Washington-Arlington-Alexandria, DC-VA-MD-WV	7,400
Portland-Vancouver-Hillsboro, OR-WA	6,689
Dallas-Fort Worth-Arlington, TX	6,510
Yuma, AZ	6,202
San Jose-Sunnyvale-Santa Clara, CA	5,140
Las Vegas-Henderson-Paradise, NV	5,053
Riverside-San Bernardino-Ontario, CA	4,628
Sierra Vista-Douglas, AZ	4,319
Houston-The Woodlands-Sugar Land, TX	4,168
Show Low, AZ	4,083
Austin-Round Rock, TX	3,786
Minneapolis-St. Paul-Bloomington, MN-WI	3,662
Boston-Cambridge-Newton, MA-NH	3,575
Sacramento--Roseville--Arden-Arcade, CA	3,443

CBSA (Core Based Statistical Area)	Alumni
Albuquerque, NM	3,238
Atlanta-Sandy Springs-Roswell, GA	3,061
Lake Havasu City-Kingman, AZ	3,028
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,929
Miami-Fort Lauderdale-West Palm Beach, FL	2,389
Oxnard-Thousand Oaks-Ventura, CA	2,197
Colorado Springs, CO	2,094
Nogales, AZ	1,978
Detroit-Warren-Dearborn, MI	1,950
Salt Lake City, UT	1,918
Boise City, ID	1,776
San Antonio-New Braunfels, TX	1,730
Kansas City, MO-KS	1,679
St. Louis, MO-IL	1,648
Payson, AZ	1,625
Baltimore-Columbia-Towson, MD	1,599
Safford, AZ	1,404
Boulder, CO	1,383
Charlotte-Concord-Gastonia, NC-SC	1,287
Fort Collins, CO	1,279
Anchorage, AK	1,269
Tampa-St. Petersburg-Clearwater, FL	1,260
Reno, NV	1,128
Columbus, OH	1,124
Milwaukee-Waukesha-West Allis, WI	1,114



Child Care/Early Learning Pipeline

Concentration of Childcare Need Based on 4 Factors



Combined Need (4 factors):

Kids Age 3 to 4

Non-Hispanic Population

Families Above Poverty Level With Kids Under Age 5

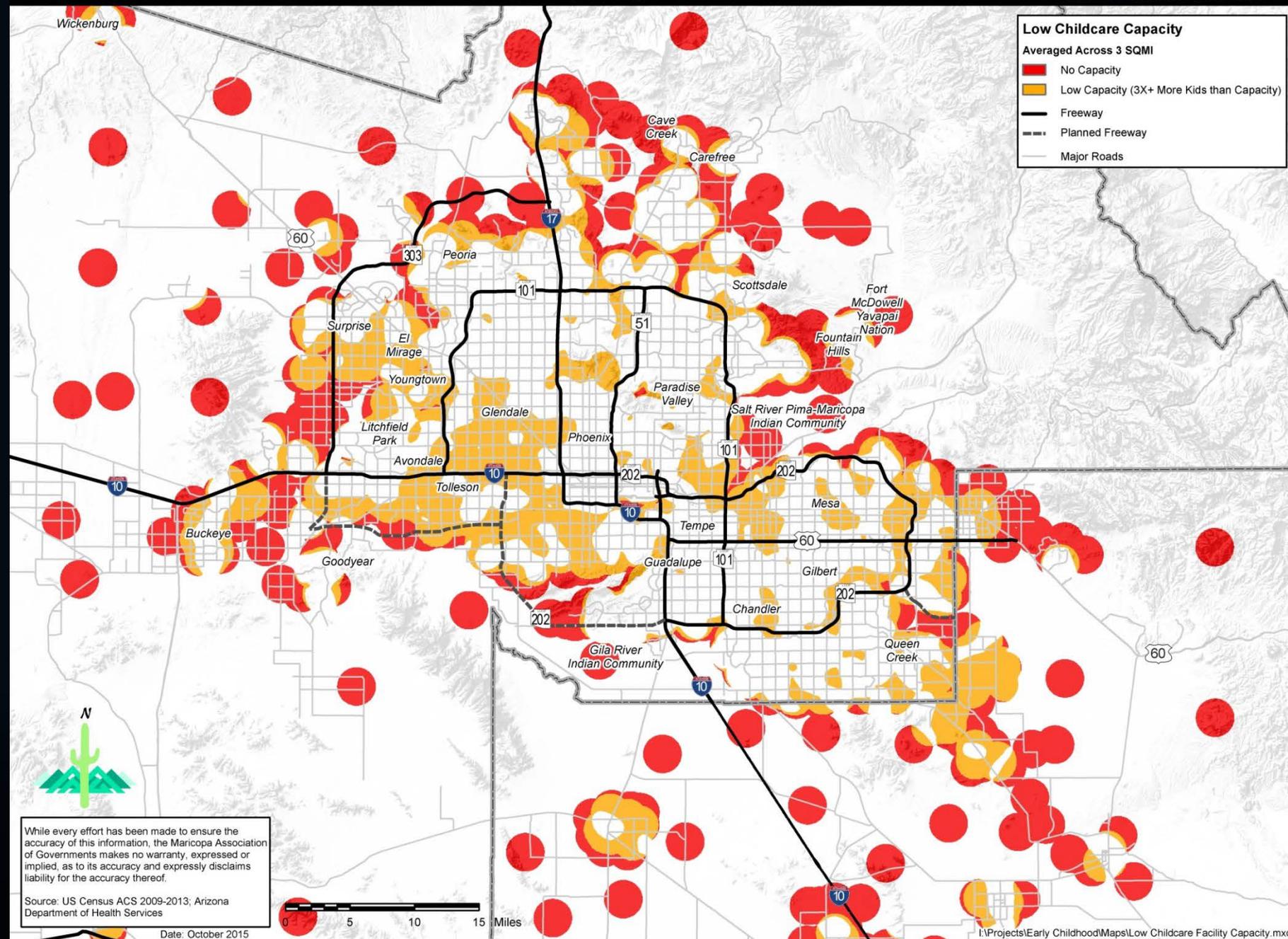
Kids Under Age 6 Parent(s) Working

Concentration of Low Childcare Facility Capacity

Gaps

Lack of facility (3 miles)

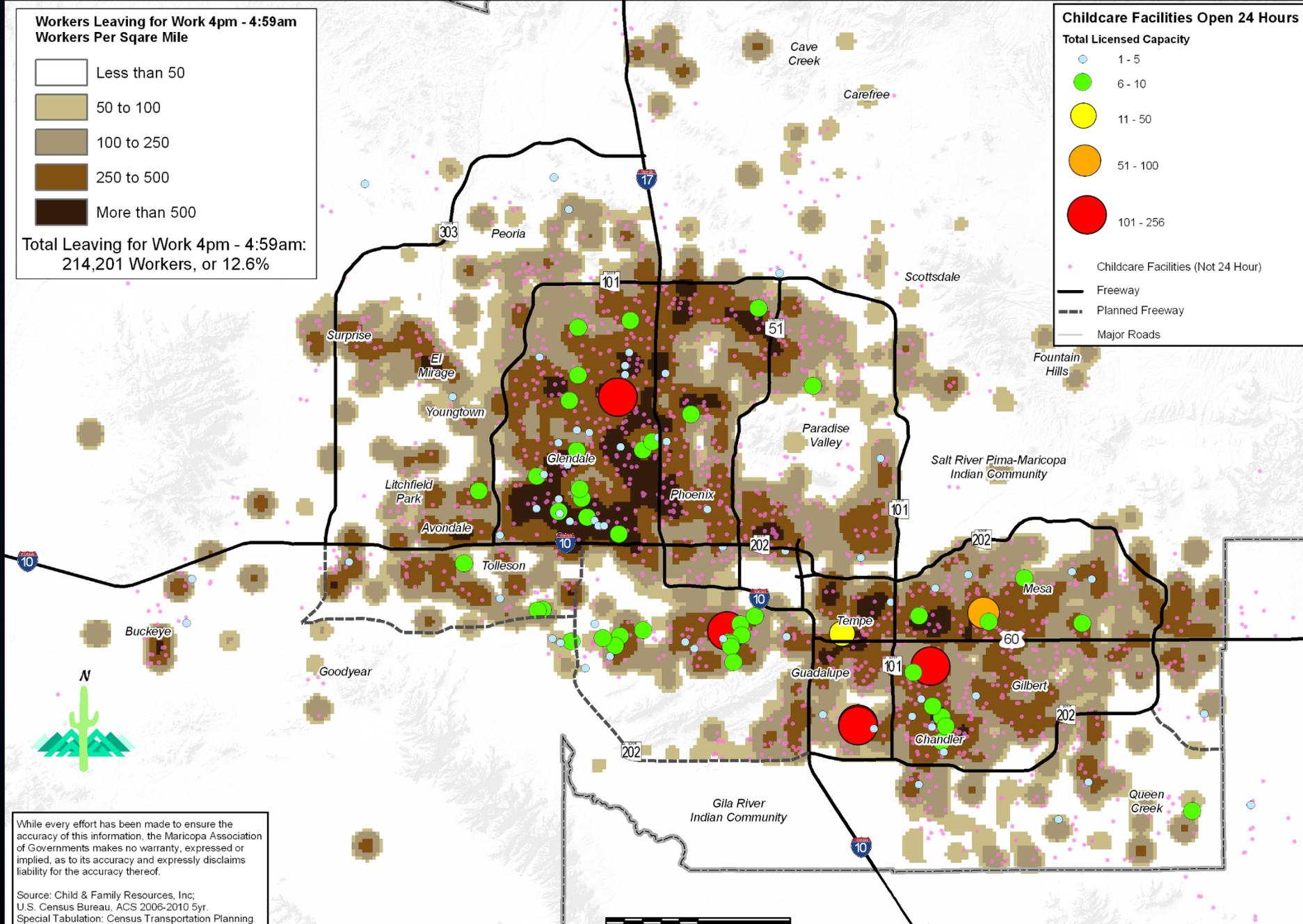
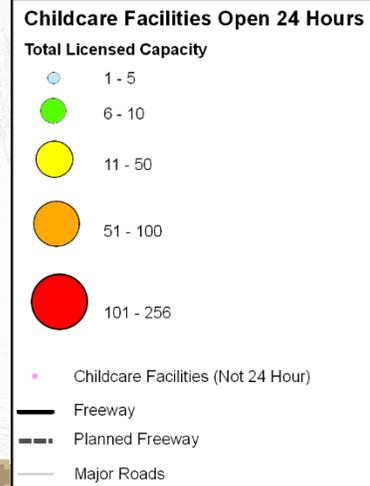
Low capacity (3X more kids)



Childcare Facility Capacity Open 24 Hours 7 Days a Week

Non-traditional work hours

12.6% work 4pm to 5am



While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Source: Child & Family Resources, Inc;
 U.S. Census Bureau, ACS 2006-2010 5yr.
 Special Tabulation: Census Transportation Planning

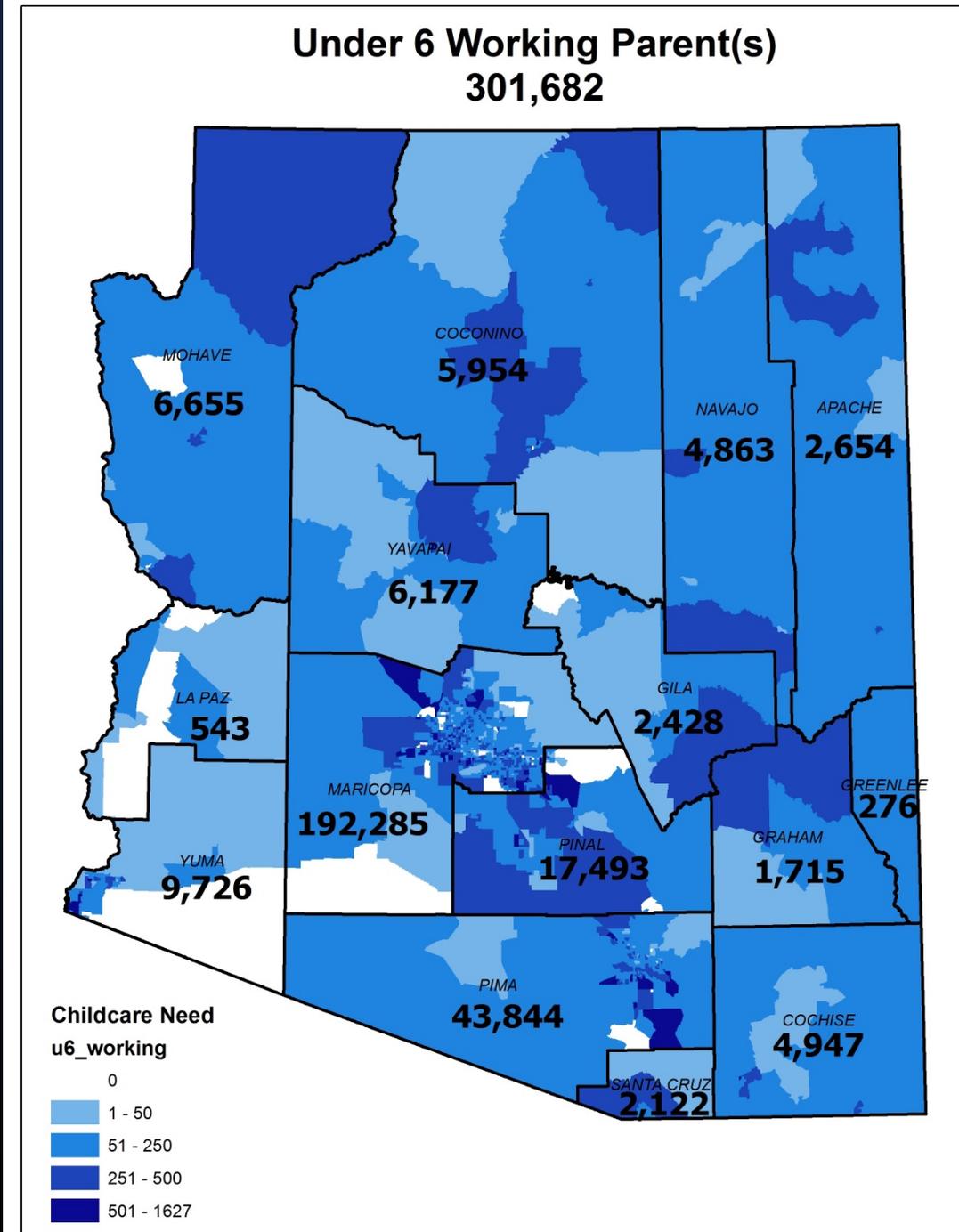
Date: January 2016

Children Under 6 With Working Parents

- Child Care Resource & Referral method – childcare use
- Child Care Resource and Referral (CCR&R) - Annual Fact Sheet

www.arizonachildcare.org/data-and-research.html

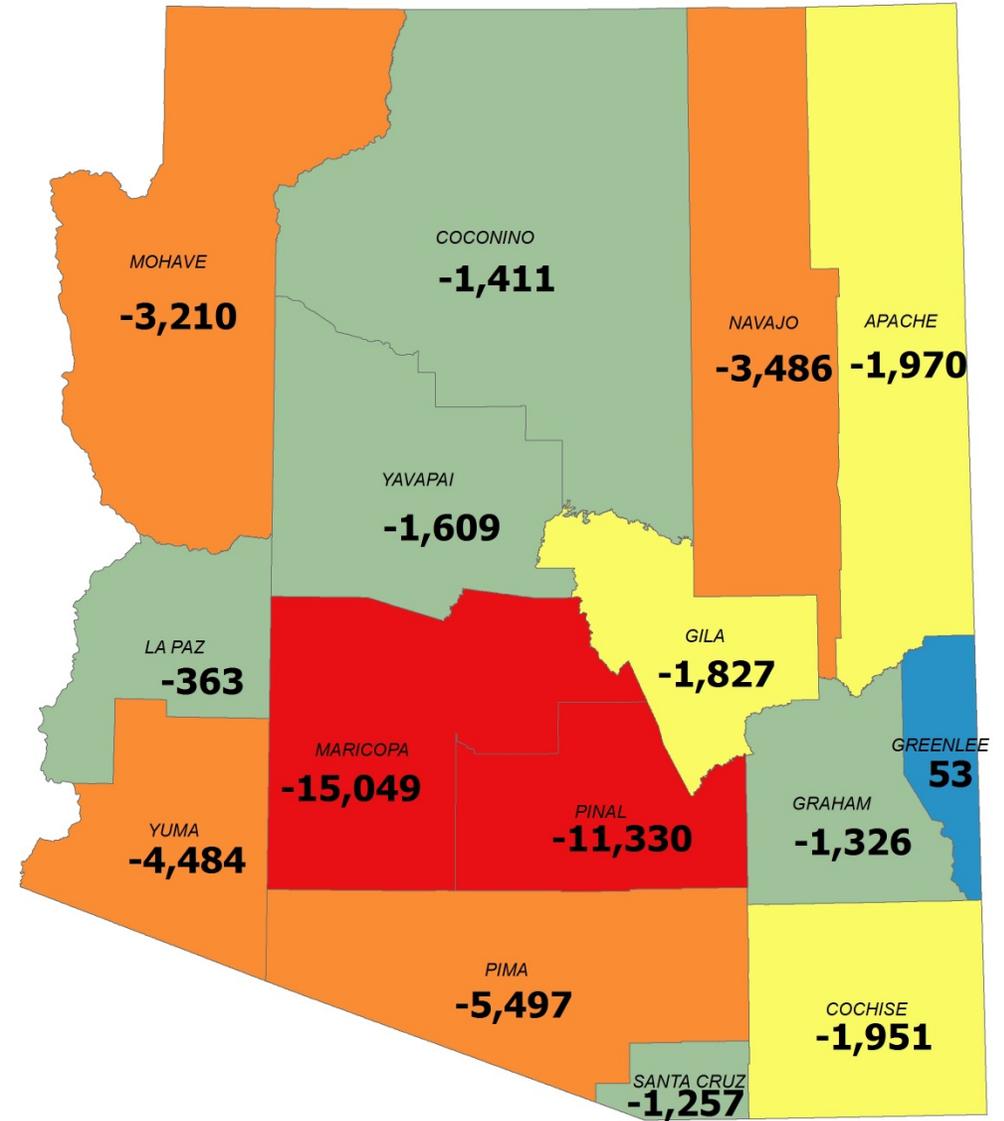
- Age: 0 to 5
 - living with both parents, both parents in labor force
 - living with one parent, parent in labor force
- **TOTAL : 301,682**



Calculated Gap

- Childcare Capacity Minus Kids Under 6 With Working Parents
- **TOTAL : -54,717**

Gap - Capacity - Under 6 with Working Parents -54,717



From Data to Analytics

Supporting Economic Development

Commute Shed Infographics

- Partnerships:
 - Member Agencies
 - MAG Divisions
- 100 intersections
- Process
 - Create Isochrones
 - Develop design template
 - Automate process
 - Member Agency Review



Commute Shed Analytics

30 Minute A.M. Inbound Travel Time to 59th Ave and Bell Rd, Glendale



This report shows information for the area from which a worker can normally commute in 30 minutes or less to a location near 59th Ave and Bell Rd, Glendale on a weekday morning. The boundary is referred to as a commute shed.



Employers in the Commute Shed

The map to the left shows the locations of each employer with five or more employees within the commute shed. The size of the dot indicates the size of the employer based on its total number of employees.

24,020 Total Employers
716,320 Total Jobs
 For employers with five or more employees

Top Private Employers	Jobs
Banner Health	14,780
American Express	7,130
Honorhealth	6,350
Frys Food Stores	5,810
Dignity Health	5,760
Walmart	5,640
Bank Of America	5,170
Wells Fargo	5,080
Jpmorgan Chase Bank National Association	5,030
Honeywell	4,380

Source: 2016 MAG Employer Database
 Does not include employers in the public or education sectors

Top 10 Industry Clusters

Industry Clusters group employers by their main industry. Listed below are the top ten industry clusters for businesses located within the commute shed. Ranking is based on total jobs for each cluster within the commute shed.

Industry Cluster	Businesses	Jobs
Health Care	2,710	88,460
Business Svcs	2,910	83,990
Retail	3,080	82,550
Consumer Svcs	4,330	75,740
Finance, Insurance, & Real Estate (FIRE)	2,030	73,220
Government, Social, & Advocacy Svcs	1,730	67,180
Construction	2,180	55,530
Education	1,030	51,580
Transportation & Distribution	1,490	44,600
Hospitality, Tourism, & Recreation	640	22,590

Source: 2016 MAG Employer Database

Worker Commute Flows

for workers living and/or working in the commute shed



Source: U.S. Census Bureau, Longitudinal-Employer Household Dynamics Program (LEHD) Origin-Destination Employment Statistics (LODES)

Major Occupations of Residents in the Commute Shed for the civilian employed population (workers) 16 years and over

Occupation Category	Workers	Pct	Occupation Category	Workers	Pct
Arts, design, entertainment, sports, and media	11,880	1.6	Installation, maintenance, and repair	26,240	3.5
Building and grounds cleaning and maintenance	40,040	5.3	Management, business, and financial	108,360	14.4
Community, legal, and social service	20,050	2.7	Material moving	18,200	2.4
Computer, engineering, and science	35,130	4.7	Office and administrative support	110,840	14.8
Construction and extraction	44,480	5.9	Personal care and service	30,380	4.0
Education, training, and library	34,640	4.6	Production	34,990	4.7
Farming, fishing, and forestry	2,200	0.3	Protective service	16,380	2.2
Food preparation and serving related	45,690	6.1	Sales and related	91,280	12.2
Healthcare practitioners, technical, and support	54,520	7.3	Transportation	24,910	3.3

Source: U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-year Estimates

Population and Housing Demographics for the Commute Shed

Year	Population
2015	1,700,000
2020	1,849,000
2030	2,093,000
2040	2,252,000
2050	2,361,000

Sources: Arizona Office of Economic Opportunity; Maricopa Association of Governments (MAG)

Year	Jobs
2015	847,000
2020	953,000
2030	1,055,000
2040	1,154,000
2050	1,254,000

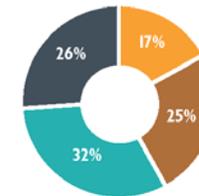
Source: Maricopa Association of Governments

Median Home Sales Price



Source: Information Market

Highest Level of Education for the population age 25 years and older



- No High School Diploma
- High School Grad or Equivalent
- Some College or Associate Degree
- Bachelor Degree or Higher

Source: U.S. Census Bureau, 2015 American Community Survey (ACS) 5-year Estimates

Median Age of Residents



Median Household Income



Contact Information

City of Glendale
business@glendaleaz.com
 623-930-2983

The data in these tables are rounded and percents may not add to 100 due to rounding. Commute shed boundaries are derived from the MAG travel demand forecasting models which incorporate the HERE speed database. Boundaries are created using three hour morning peak drive times (6AM to 9AM). Data can be found online here: <http://mag.ms2cloud.com/bdms.ui/ttds/dashboard/index?loc=MAG>

U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-Year Estimates: ACS data are based on a sample and are subject to sampling variability and nonsampling error. The degree of uncertainty for an estimate is represented through the use of a margin of error (MOE). The MOE and effect of nonsampling error is not represented in these tables. Documentation can be found on the ACS website (www.census.gov/acs). The MOE can be found on the American FactFinder website (<http://factfinder2.census.gov>).

2016 MAG Employer Database: Includes only employers with 5 or more employees.

Created by Maricopa Association of Governments (MAG) 602-254-6300 or mag@azmag.gov

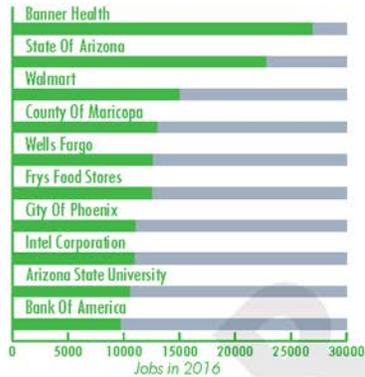
BUSINESS, JOBS, AND INDUSTRY HIGHLIGHTS

Maricopa Association of Governments (MAG)



Top 10 Employers

by total jobs in 2016



Source: 2016 Arizona COG/MPO Employer Database

Industry Cluster	Jobs
Business Services	199,960
Construction	120,230
Consumer Goods Manufacturing	22,030
Consumer Services	177,470
Education	125,490
Finance, Insurance, Real Estate (FIRE)	146,950
Government, Social, and Advocacy Services	118,840
Health Care	171,550
High Tech Manufacturing and Development	67,240
Hospitality, tourism, and recreation	65,350
Media, Publishing and Entertainment	14,220
Metal Inputs and Transportation Related Manufacturing	21,960
Non-Metallic Manufacturing	18,670
Resource Dependent Activities	17,530
Retail	185,800
Telecommunications	18,650
Transportation and Distribution	102,110

Note: Data are for businesses with 5 or more employees only
Source: 2016 Arizona COG/MPO Employer Database

Key Industries

Key Industries are a vital component of Arizona's economy. These six key industries contribute to economic growth throughout the state. Output from key industries is essential to the successful operation of many other industries.



Note: Data are for businesses with 5 or more employees only
Source: 2016 Arizona COG/MPO Employer Database

Foreign Direct Investment (FDI)

In Arizona there are 1,530 Foreign-Owned Businesses with a total of 5,570 locations. These businesses provide 132,210 jobs. The top Foreign-Owned Businesses in Arizona come from a variety of countries.



Foreign Direct Investment (FDI) is a key economic driver. For regions across the U.S., FDI brings additional capital, creates jobs, encourages transfer of technology and knowledge, and allows for a wider promotion of products.

Foreign-Owned Businesses in the Region



Rank	Country	Jobs
1	Canada	21,290
2	United Kingdom	13,540
3	Japan	9,600
4	Germany	7,790
5	France	7,180
6	Netherlands	6,130
7	Italy	5,280
8	Switzerland	3,660
9	Ireland	3,160
10	Spain	2,520

Source: 2016 Arizona COG/MPO Employer Database

Business Name	Jobs
Circle K Stores Inc	3,800
Marriott	3,050
Burger King	2,460
Petsmart Inc	2,430
Freescale Semiconductor Inc	2,010

Source: 2016 Arizona COG/MPO Employer Database

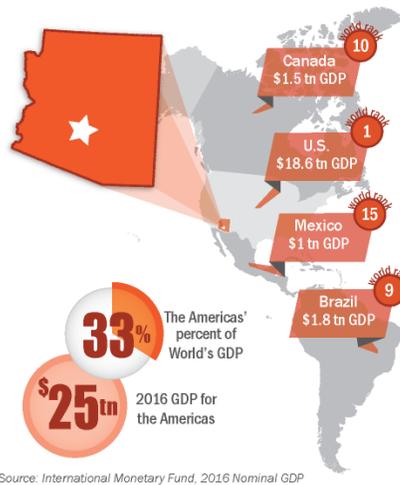
Maricopa Association of Governments
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www.azmag.gov

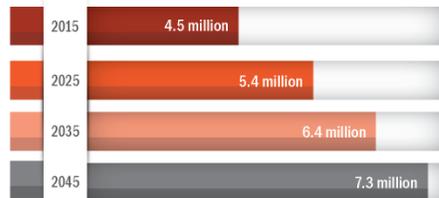
PHOENIX IS HOT



Connecting the Americas



Projected Population Growth



Downtown Tech Companies



People and Jobs



Business Startup



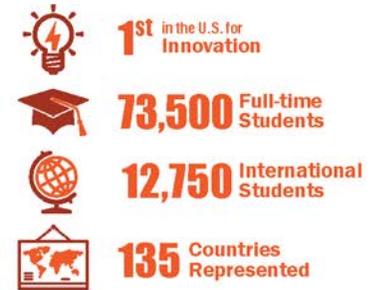
Among the Best



....the best business case was made to locate the headquarters in Phoenix. It came down to workforce quality and pro-business environment. That's why we're coming.

- Richard Fennessy, CEO
Kudelski Security
Cheseaux-sur-Lausanne, Switzerland

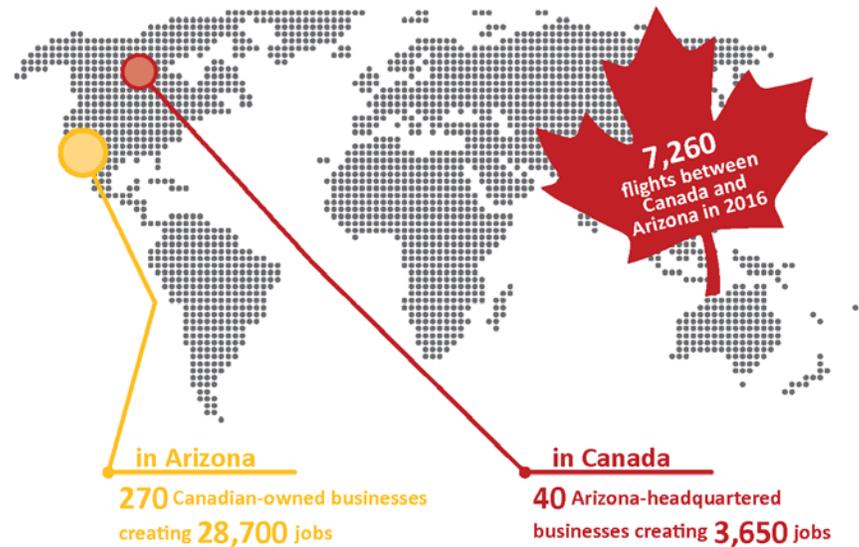
Arizona State University



Top 10 Countries for Internationally Owned Companies In the Phoenix Metro Area



Arizona Connections to Canada



Origin of Canadian Owned Businesses



Source: MAG 2016 Employer Database

Air Travel Connection



893,500

Air travellers between Arizona and Canada in 2016

99%

Travel to/from the Phoenix Metro Area



from Calgary, AB



from Vancouver, BC



from Toronto, ON



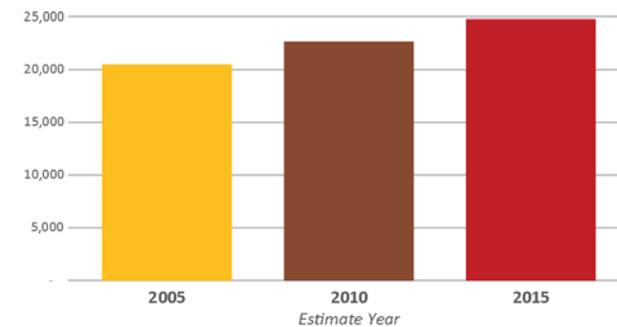
from Edmonton, AB

Note: These data account for direct flights between Arizona and Canada, both to and from
 Source: USDOT, Bureau of Transportation Statistics

Foreign Born Population in Phoenix Metro



Phoenix Metro Residents Born in Canada



Source: U.S. Census Bureau, American Community Survey 1-year estimates: 2005, 2010, 2015



Prepared by the Maricopa Association of Governments (MAG)
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Arizona's Export Economy

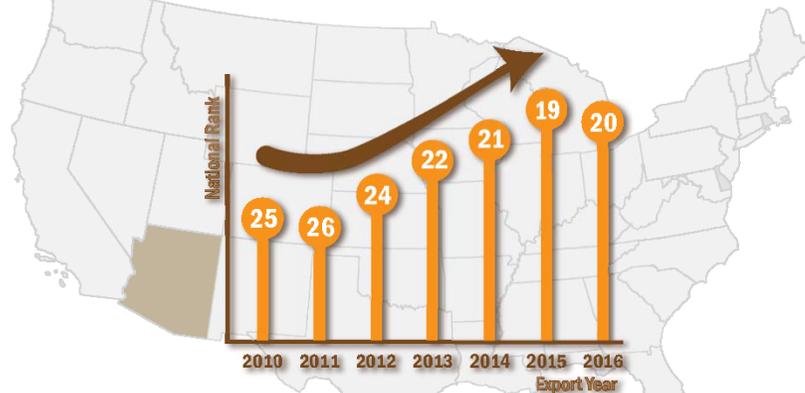
\$22 Billion

Total Value of Arizona's Exports in 2016

Since 2010, commodities exported from Arizona have increased 40%. For 2016 Arizona had \$22 billion in exports keeping it among the top 20 states for total export value. Of the \$22 billion in exports, 75.5% were exports to Arizona's top 10 trading partners. And, with a combined total of over \$10 billion in exports for 2016, Mexico and Canada continue to be Arizona's top trading partners.

Arizona's National Rank

Rank in Value of Export Commodities: 2010 and 2016



Source: U.S. Census Bureau, Economic Indicators Division, USA Trade Online: U.S. Import and Export Merchandise trade statistics.

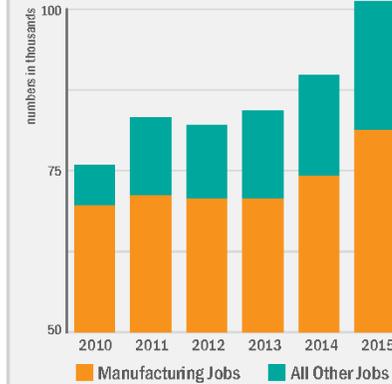
Top 10 Countries Arizona Exported to in 2016



Source: U.S. Census Bureau, 2016 International Trade Data

In 2015 there were just over 101,000 U.S. jobs supported by goods exported from Arizona.

Jobs Supported by Goods Exports in Arizona 2005 to 2015



80%
80% of jobs are supported by manufactured goods exports



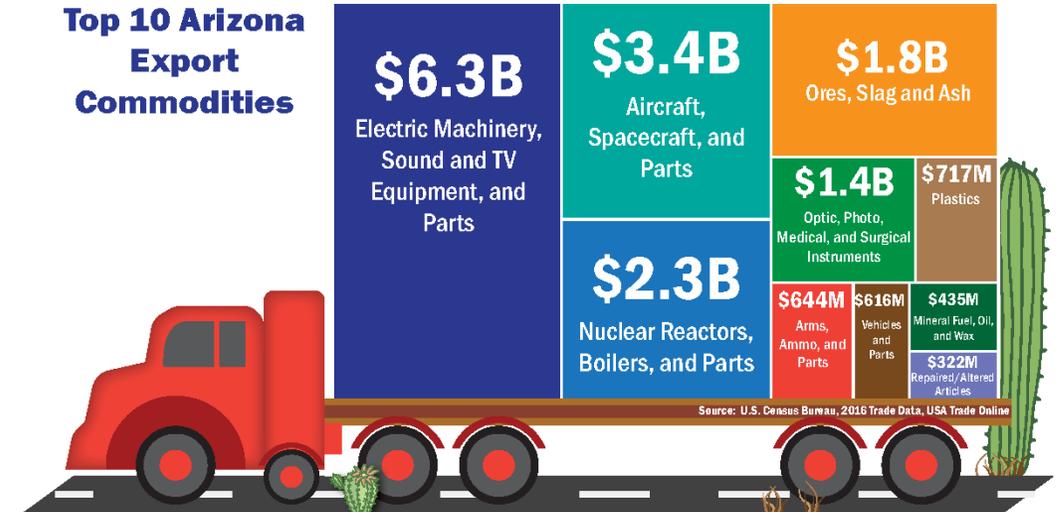
34%
Export Jobs Growth
Jobs supported by Arizona goods exports grew 34% from 2010 to 2015



17%
Manufacturing Growth
Export jobs in manufacturing grew 17% from 2010 to 2015

Source: International Trade Administration, Employment and Trade Data, Preliminary 2015 numbers

Top 10 Arizona Export Commodities



Source: U.S. Census Bureau, 2016 Trade Data, USA Trade Online

All Thanks to the IS Team!



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