

Regional Economic Analysis in the Age of Big Data



Bridging the Gap between Big Data and Decision Makers

*“ A good sketch is better
than a long speech ”*

-Napoleon Bonaparte

*“ A good sketch is better
than a long spreadsheet ”*

-Napoleon Bonaparte

Background

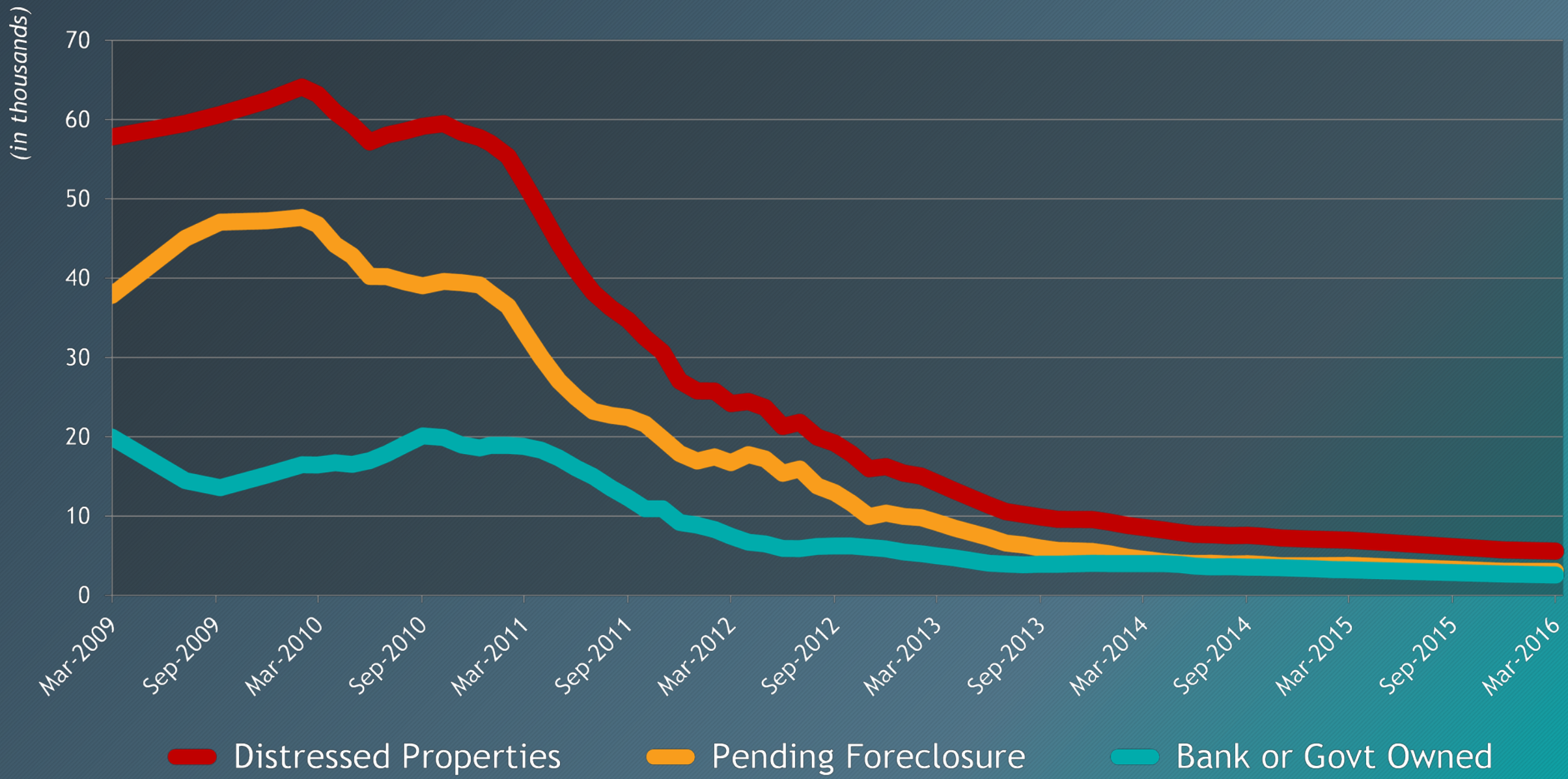


MAG Region: By the Numbers

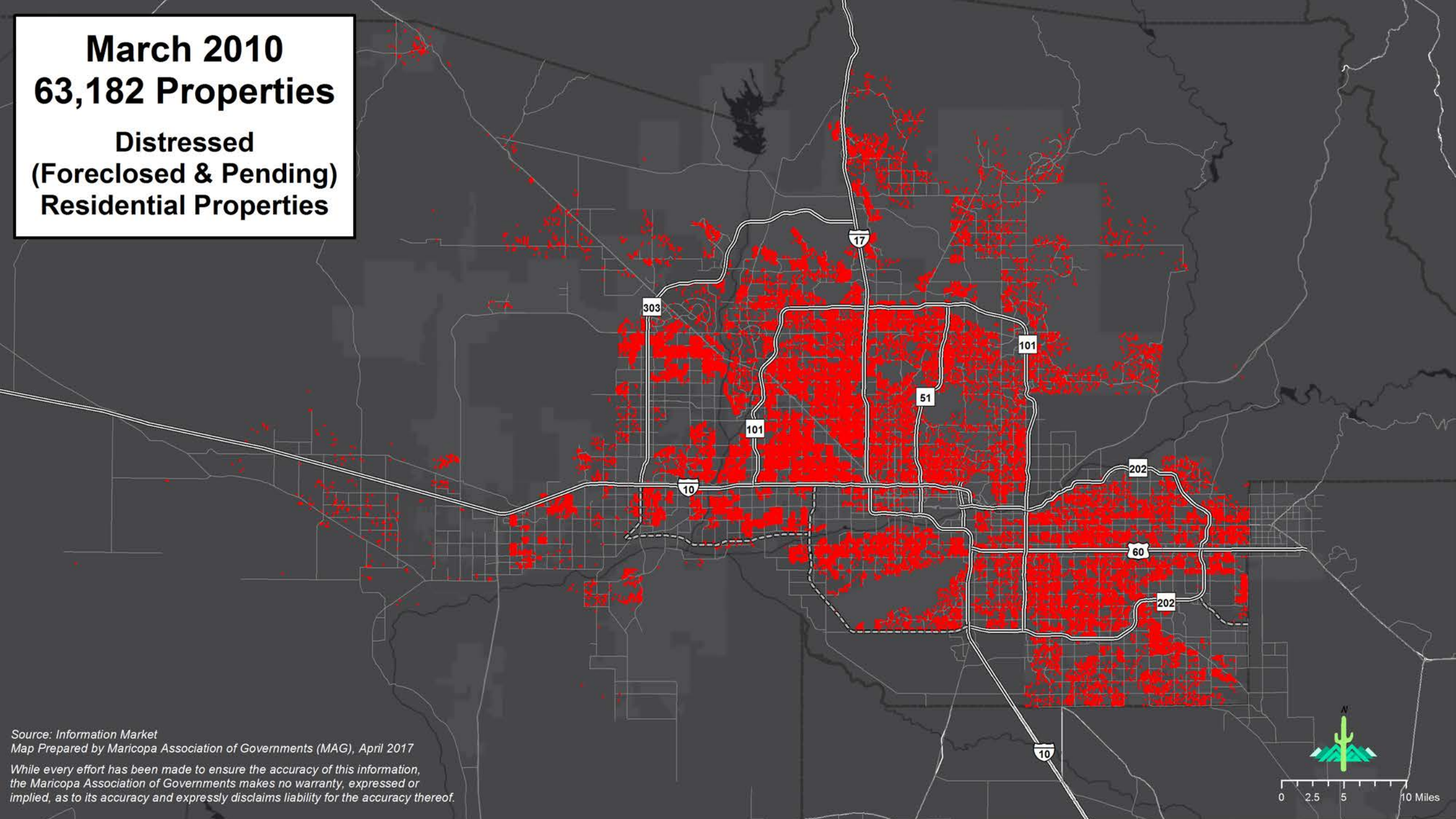


4.163 million
of residents by jurisdiction

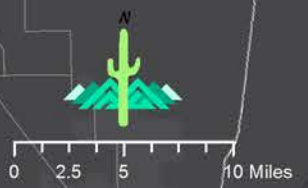
Distressed Properties in Maricopa County: March 2009 - March 2016



March 2010
63,182 Properties
Distressed
(Foreclosed & Pending)
Residential Properties

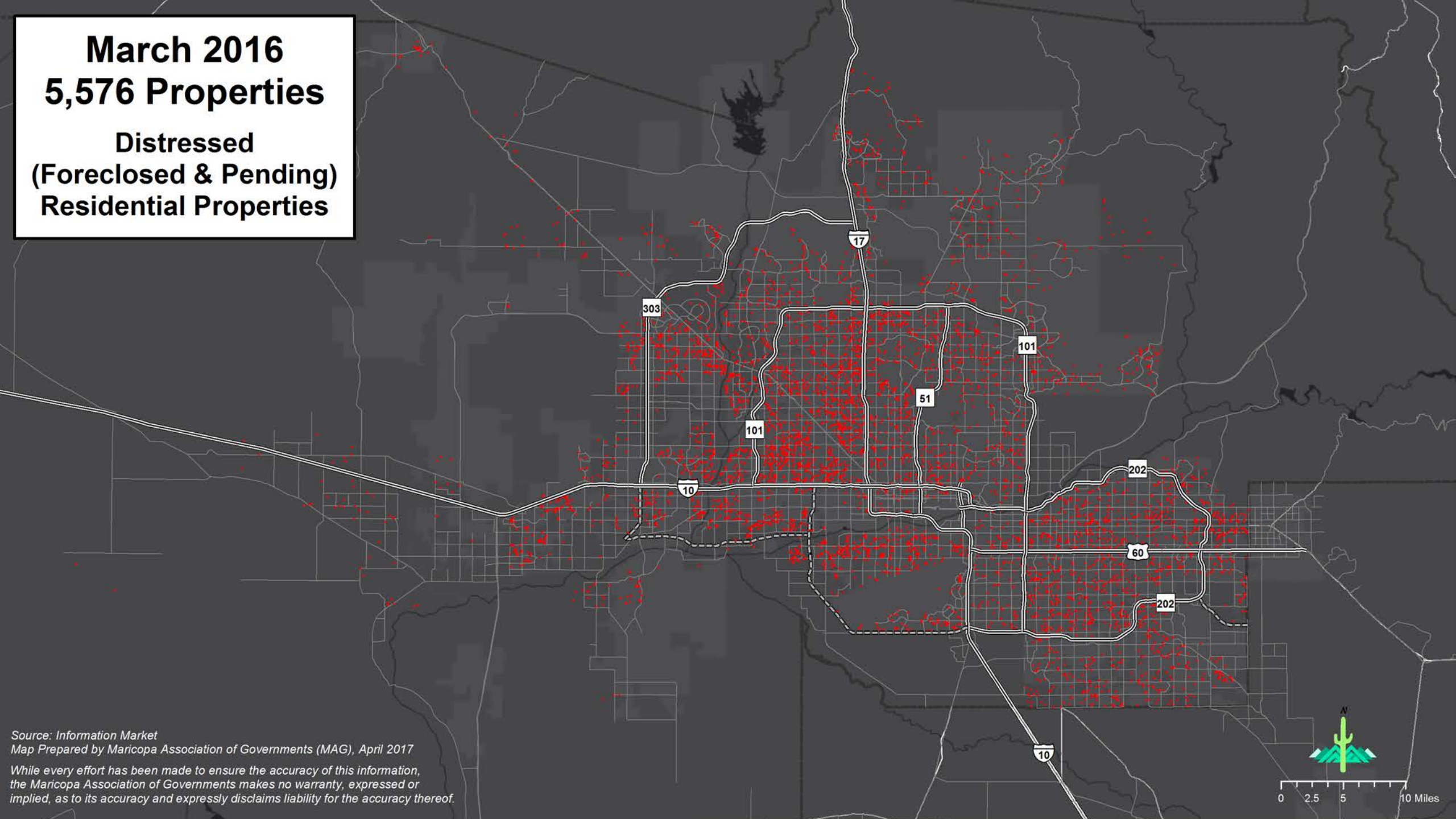


Source: Information Market
Map Prepared by Maricopa Association of Governments (MAG), April 2017
While every effort has been made to ensure the accuracy of this information,
the Maricopa Association of Governments makes no warranty, expressed or
implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.



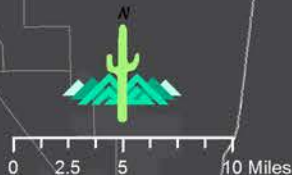
March 2016 5,576 Properties

**Distressed
(Foreclosed & Pending)
Residential Properties**



Source: Information Market
Map Prepared by Maricopa Association of Governments (MAG), April 2017

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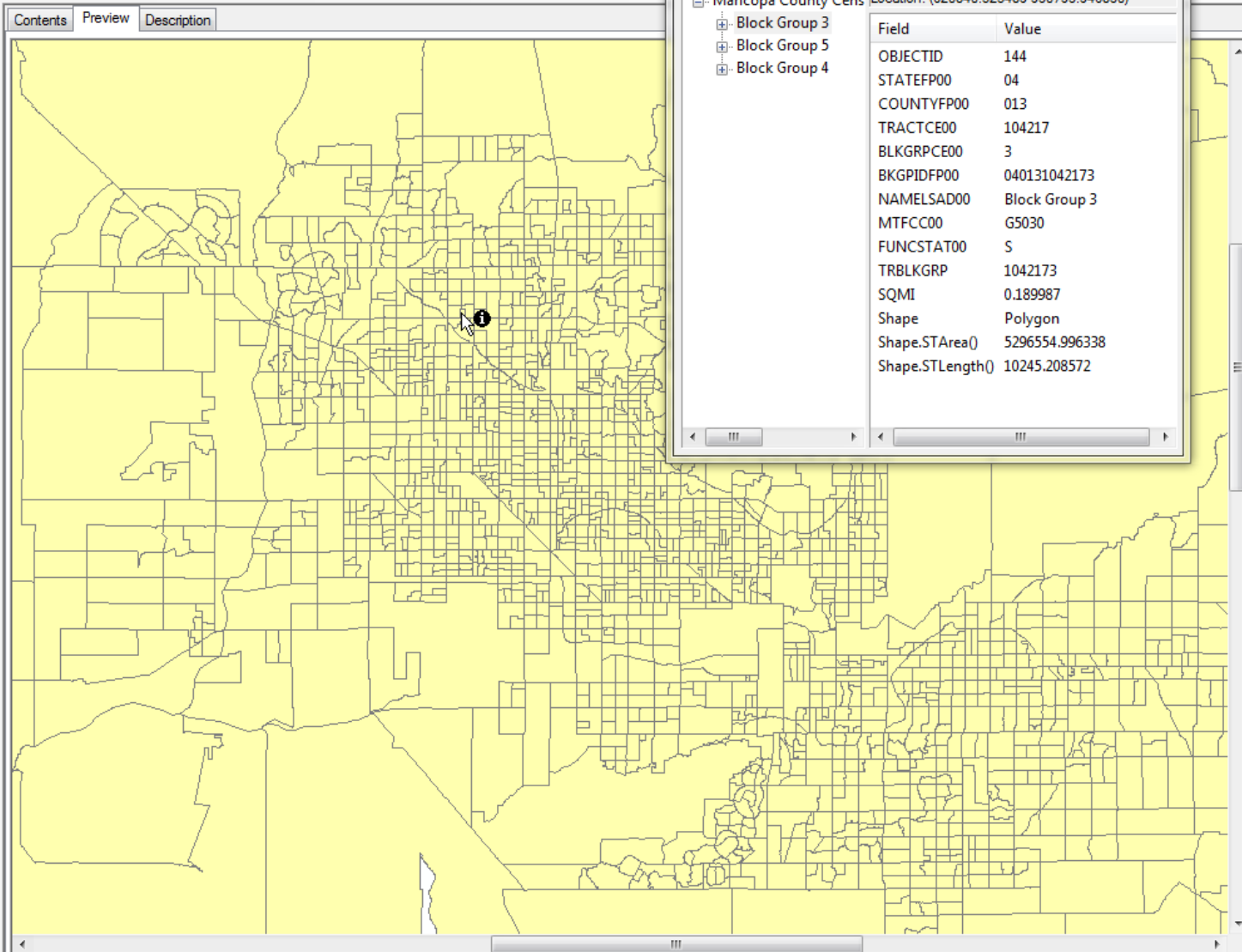
Renewed Focus on Data Analytics





Database Connections\GISMAG.sde\gismag.DATALOADER.Census\gismag.DATALOADER.CENSUS_2000_MARICOPA_BLOCK_GROUPS

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- gismag.DATALOADER.Assessor
 - gismag.DATALOADER.Aviation
 - gismag.DATALOADER.Bikeways
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 - gismag.DATALOADER.Boundaries_Statewide
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 - gismag.DATALOADER.Desert_Spaces
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 - gismag.DATALOADER.Economy
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 - gismag.DATALOADER.Employers
 - gismag.DATALOADER.Environmental_Quality



Identify Results

Layers: Maricopa County Census Block Groups, 2000 (2007)

Location: (620840.323489 950795.946850)

Field	Value
OBJECTID	144
STATEFP00	04
COUNTYFP00	013
TRACTCE00	104217
BLKGRPC00	3
BKGPIDFP00	040131042173
NAMELSAD00	Block Group 3
MTFCC00	G5030
FUNCSTAT00	S
TRBLKGRP	1042173
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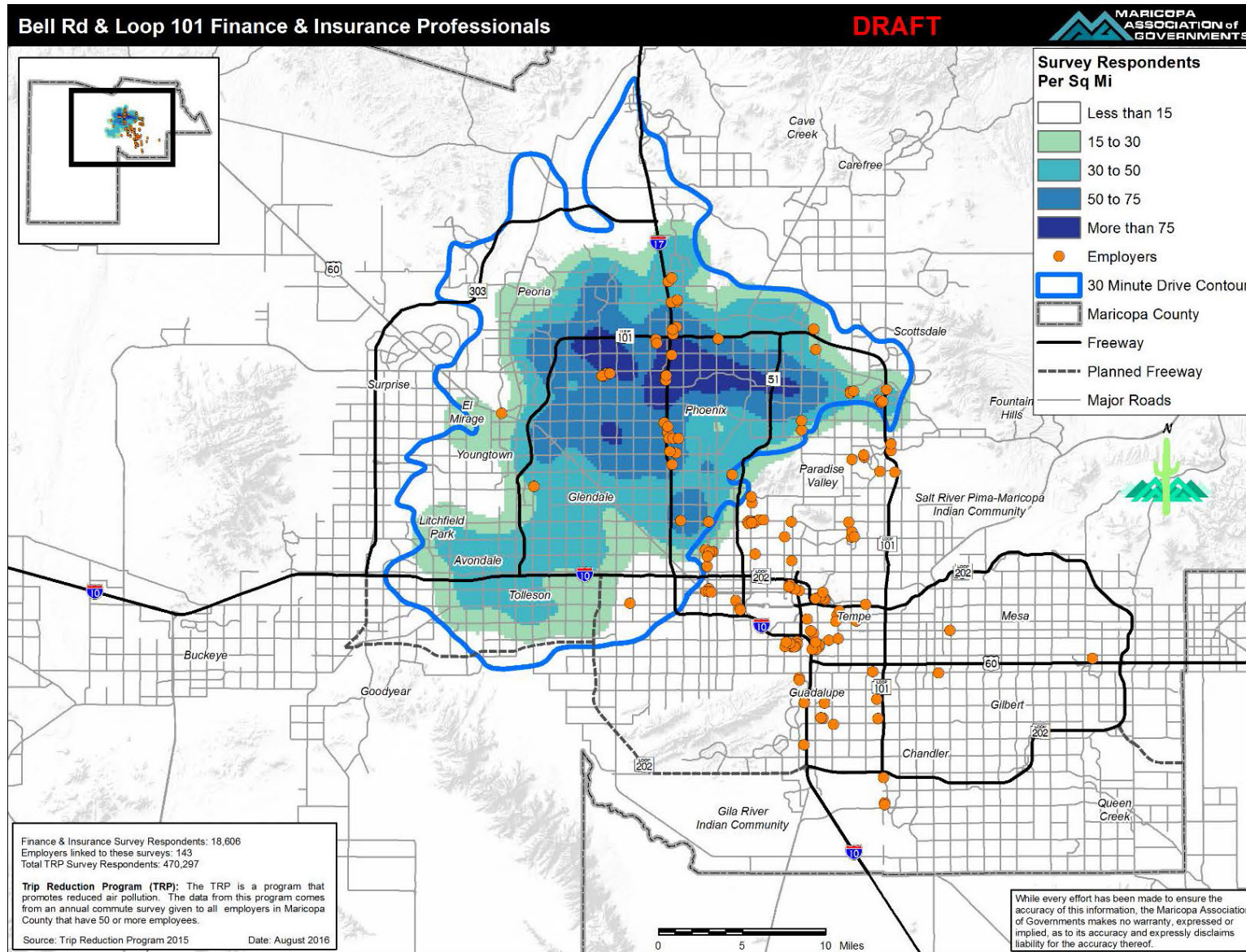
SDE Feature Class selected

620840.3235 950795.9468 Feet

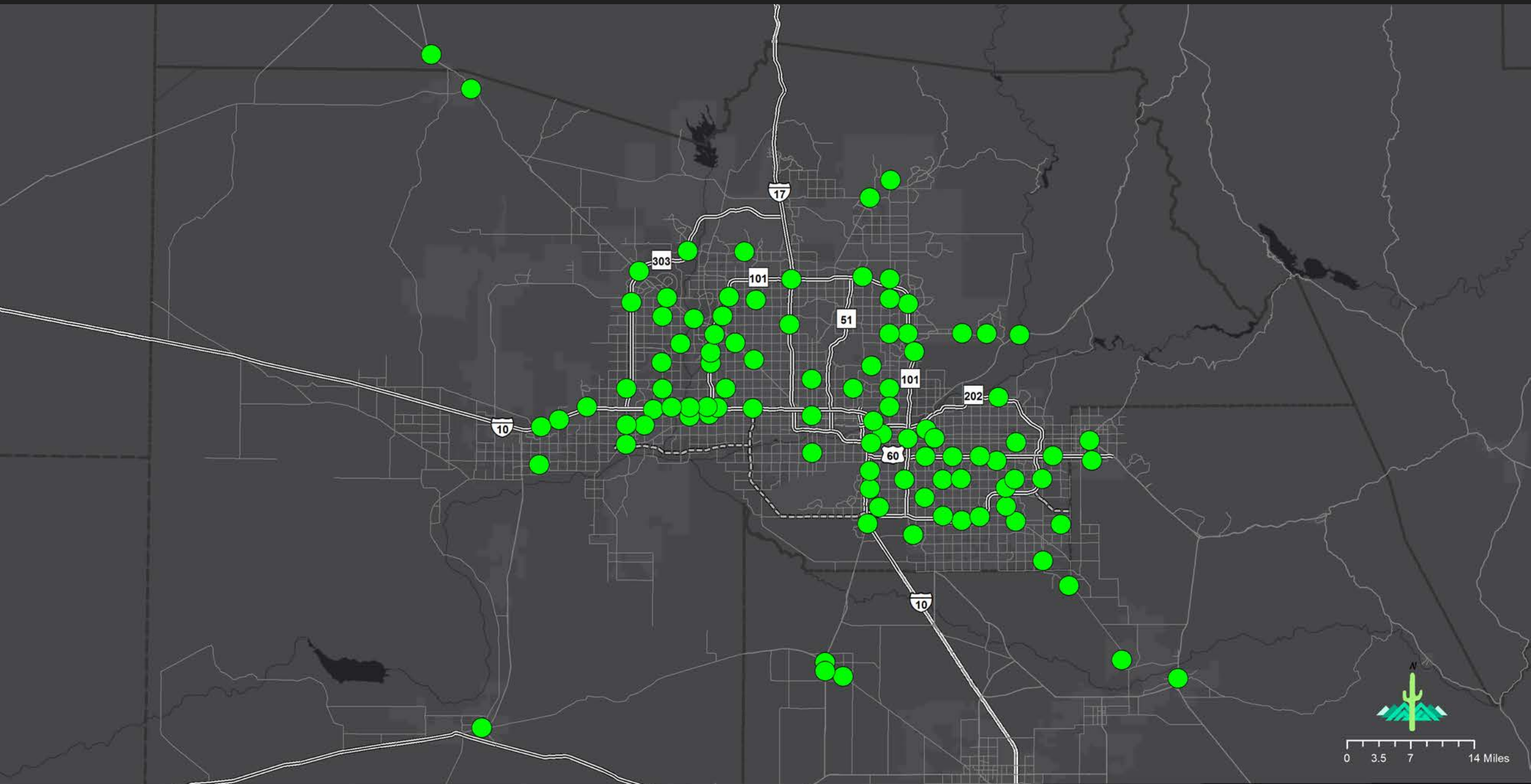
"Data just don't leap off the page and convert themselves into high-quality, useful information."

-Slotnick & Orland

Travel Time within 30 Minutes to Bell Road and Loop 101 Finance and Insurance



Commute Shed Intersections



Graphic Design

S2101: VETERAN STATUS
2015 American Community Survey 1-Year
 Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Data and Documentation section.
 Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

Subject	Arizona							
	Veterans		Percent		Nonveterans		Percent	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
Civilian population 18 years and over	488,758	+/-9,342	9.4%	+/-0.2	4,700,162	+/-9,646	90.6%	+/-0.2
SEX								
Male	448,524	+/-8,692	91.8%	+/-0.6	2,097,828	+/-8,881	44.6%	+/-0.1
Female	40,234	+/-3,112	8.2%	+/-0.6	2,602,334	+/-3,530	55.4%	+/-0.1
AGE								
18 to 34 years	40,974	+/-3,791	8.4%	+/-0.7	1,530,837	+/-4,753	32.6%	+/-0.1
35 to 54 years	106,596	+/-5,870	21.8%	+/-0.9	1,576,712	+/-5,910	33.5%	+/-0.1
55 to 64 years	82,568	+/-3,570	16.9%	+/-0.7	731,229	+/-3,902	15.6%	+/-0.1
65 to 74 years	132,964	+/-3,664	27.2%	+/-0.7	519,894	+/-4,044	11.1%	+/-0.1
75 years and over	125,656	+/-3,766	25.7%	+/-0.7	341,490	+/-3,678	7.3%	+/-0.1
65 and over	258,620		52.9%		861,384		18.4%	
MEDIAN INCOME IN THE PAST 12 MONTHS (IN 2015)								
Civilian population 18 years and over with income	36,837	+/-623	(X)	(X)	26,071	+/-216	(X)	(X)
Male	37,248	+/-707	(X)	(X)	31,048	+/-337	(X)	(X)
Female	31,467	+/-1,456	(X)	(X)	22,253	+/-246	(X)	(X)
EDUCATIONAL ATTAINMENT								
Civilian population 25 years and over	480,885	+/-9,116	(X)	(X)	4,044,440	+/-9,697	(X)	(X)
Less than high school graduate	24,095	+/-2,391	5.0%	+/-0.5	606,844	+/-14,460	15.0%	+/-0.4
High school graduate (includes equivalency)	114,076	+/-4,755	23.7%	+/-1.0	995,651	+/-15,130	24.6%	+/-0.4
Some college or associate's degree	203,000	+/-7,162	42.2%	+/-1.1	1,328,776	+/-17,236	32.9%	+/-0.4
Bachelor's degree or higher	139,714	+/-4,990	29.1%	+/-0.9	1,113,169	+/-14,562	27.5%	+/-0.4
EMPLOYMENT STATUS								
Civilian population 18 to 64 years	230,138	+/-7,744	(X)	(X)	3,838,778	+/-8,122	(X)	(X)
Labor force participation rate	(X)	(X)	74.1%	+/-1.5	(X)	(X)	72.5%	+/-0.4
Civilian labor force 18 to 64 years	170,427	+/-7,045	(X)	(X)	2,783,594	+/-16,501	(X)	(X)
Unemployment rate	(X)	(X)	5.0%	+/-0.9	(X)	(X)	6.8%	+/-0.3
POVERTY STATUS IN THE PAST 12 MONTHS								
Civilian population 18 years and over for whom	482,054	+/-9,284	(X)	(X)	4,580,688	+/-9,479	(X)	(X)
Income in the past 12 months below poverty	34,231	+/-3,069	7.1%	+/-0.6	730,309	+/-18,722	15.9%	+/-0.4
Income in the past 12 months at or above poverty	447,823	+/-8,428	92.9%	+/-0.6	3,850,379	+/-20,756	84.1%	+/-0.4
DISABILITY STATUS								
Civilian population 18 years and over for whom	482,054	+/-9,284	(X)	(X)	4,580,688	+/-9,479	(X)	(X)
With any disability	143,119	+/-5,029	29.7%	+/-0.9	658,311	+/-12,971	14.4%	+/-0.7
Without any disability	338,935	+/-8,255	70.3%	+/-0.9	3,922,377	+/-15,567	85.6%	+/-0.7



STATE OF ARIZONA - 2015 VETERAN QUICK FACTS

Veterans

53%
65 Years or Older

42%
Some college or Associate's

29%
Bachelor's Degree or higher

74%
In the labor force

5.0%
Unemployed

7.1%
Income Below Poverty

30%
With Any Disability

Nonveterans

18%
65 Years or Older

33%
Some college or Associate's

28%
Bachelor's Degree or higher

73%
In the labor force

6.8%
Unemployed

15.9%
Income Below Poverty

14%
With Any Disability

Sources: U.S. Census Bureau, 2015 American Community Survey (ACS) 1-Year Estimates. Prepared by Maricopa Association of Governments, www.azmag.gov
 Notes: Age percentages are for the population 18 years and older. Educational Attainment percentages are for the population 25 years and older. Labor Force percentages are for civilian population ages 18 to 64. Poverty is derived using the Federal Poverty Guidelines. Poverty based on reported income of the civilian population ages 18 years and older for whom poverty status is determined. Disability status is for the civilian non-institutionalized population ages 18 and older. Data are estimates based on sample surveys and subject to error. Refer to www.census.gov/acs for more details.

Graphic Design

PROJECT INSURE

West Valley Pro: Labor Analytics - Financial Services
Glendale, Arizona



West Valley Population Quick Hits

Population	1.5 Million
Working Age Population	960,000
Median Worker Age	39.0
Some College or Associate's Degree	330,000
Bachelor's Degree or Higher	198,000
Professional Workers Commuting Out of West Valley	69%
New Employer Opportunity Gap in Finance/ Insurance Hiring	280%

30 Minute Commute Shed Quick Hits: Loop 101 & Bell Road

Population	1.5 Million
Working Age Population	1 Million
Total Management, Business & Financial Occupations	102,993
Management Occupations	65,840
Business & Financial Operations Occupations	37,153
Total Arizona State University Business Alumni	10,370
Business Graduates (Accountancy, Business, Finance, Marketing) 1980-1994	3,156
Business Graduates (Accountancy, Business, Finance, Marketing) 1995-2004	3,207
Business Graduates (Accountancy, Business, Finance, Marketing) 2005-2014	4,007



West Valley Pro



West Valley Worker Profile

1.5 Million People Live in the West Valley



- ✓ 960,000 Working Age Population
- ✓ 330,000 Some College or Associate's Degree
- ✓ 198,000 Bachelor's Degree or Higher



By The Numbers: 30 Minute Commute Shed



Worker Occupations

Management, Business, and Financial Occupations	102,993
Management	65,840
Business and Financial Operations	37,153

College Alumni

Arizona State University Business Alumni	10,370
Business Graduates: 2005 to 2014	4,007
Business Graduates: 1995 to 2004	3,207
Business Graduates: 1980 to 1994	3,156

Sources: U.S. Census Bureau, 2014 American Community Survey 5-year Estimates; Maricopa County Trip Reduction Program; Prepared by Maricopa Association of Governments 2016

Graphic Design

Demographic Profile: 2010 Navajo Nation Reservation and Off-Reservation Trust Land (Arizona part)

Subject	Number	Percent	Subject	Number	Percent
Total Population	101,835	100.0	HISPANIC OR LATINO ORIGIN AND RACE		
SEX AND AGE			Total Population	101,835	100.0
Male.....	50,071	49.2	Hispanic or Latino (of any race).....	2,003	2.0
Female.....	51,764	50.8	Mexican.....	1,419	1.4
Under 5 Years.....	9,008	8.8	Puerto Rican.....	97	0.1
5 to 9 Years.....	9,164	9.0	Cuban.....	13	0.0
10 to 14 Years.....	9,811	9.6	Other Hispanic or Latino [4].....	474	0.5
15 to 19 Years.....	10,684	10.5	Not Hispanic or Latino.....	99,832	98.0
20 to 24 Years.....	7,675	7.5	White alone.....	2,106	2.1
25 to 34 Years.....	11,704	11.5			
35 to 44 Years.....	11,849	11.6	RELATIONSHIP		
45 to 54 Years.....	13,022	12.8	Total Population	101,835	100.0
55 to 59 Years.....	4,992	4.9	In Households.....	101,299	99.5
60 to 64 Years.....	4,129	4.1	Householder.....	29,232	28.7
65 to 74 Years.....	5,673	5.6	Spouse [5].....	11,562	11.4
75 to 84 Years.....	3,115	3.1	Child.....	38,797	38.1
85 Years and over.....	1,009	1.0	Own child under 18 years.....	23,688	23.3
Median Age (years).....	28.6	(X)	Other relatives.....	18,146	17.8
18 Years and over.....	67,252	66.0	Under 18 years.....	10,636	10.3
Male.....	32,596	32.0	Nonrelatives.....	3,562	3.5
Female.....	34,656	34.0	Unmarried partner.....	2,601	2.6
21 Years and over.....	61,371	60.3	In group quarters.....	536	0.5
62 Years and over.....	12,016	11.8	Institutionalized population.....	82	0.1
65 Years and over.....	9,797	9.6	Noninstitutionalized population.....	454	0.4
Male.....	4,151	4.1			
Female.....	5,646	5.5	HOUSEHOLD BY TYPE		
RACE			Total households	29,232	100.0
One race.....	100,237	98.4	Family households (families) [6].....	21,935	75.0
White.....	2,305	2.3	With own children under 18 years.....	10,448	35.7
Black or African American.....	137	0.1	Husband/wife family.....	11,552	39.6
American Indian and Alaska Native.....	97,349	95.6	With own children under 18 years.....	5,736	19.6
Asian.....	241	0.2	Female householder, no husband present.....	7,700	26.3
Asian Indian.....	34	0.0	With own children under 18 years.....	3,558	12.2
Chinese.....	17	0.0	Nonfamily households [6].....	7,297	25.0
Filipino.....	138	0.1	Householder living alone.....	6,521	22.3
Japanese.....	16	0.0	Householder 65 years and over.....	1,967	6.7
Korean.....	9	0.0	Households with individuals under 18 years.....	14,322	49.0
Vietnamese.....	4	0.0	Households with individuals 65 years and over.....	7,621	26.1
Other Asian [1].....	23	0.0	Average household size.....	3.47	(X)
Native Hawaiian and Other Pacific Islander.....	25	0.0	Average family size [5].....	4.12	(X)
Native Hawaiian.....	10	0.0	HOUSING OCCUPANCY		
Guamanian or Chamorro.....	6	0.0	Total housing units	38,272	100.0
Samoan.....	7	0.0	Occupied housing units.....	29,232	76.4
Other Pacific Islander [2].....	2	0.0	Vacant housing units.....	9,040	23.6
Some other race.....	180	0.2	For seasonal, recreational or occasional use.....	4,291	11.2
Two or more races.....	1,588	1.6	Homeowner vacancy rate (percent) [7].....	0.0	(X)
Race alone or in combination with one or more races: [3]			Rental vacancy rate (percent) [8].....	8.4	(X)
White.....	3,346	3.3	HOUSING TENURE		
Black or African American.....	462	0.5	Occupied housing units	29,232	100.0
American Indian or Alaskan Native.....	98,851	97.1	Owner-occupied housing units.....	21,778	74.5
Asian.....	352	0.3	Renter-occupied housing units.....	7,454	25.5
Native Hawaiian and Other Pacific Islander.....	79	0.1	Average household size of owner-occupied units.....	3.47	(X)
Some other race.....	376	0.4	Average household size of renter-occupied units.....	3.46	(X)

Notes:

(X) Not applicable; [1] Other Asian alone, or two or more Asian categories; [2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories; [3] In combination with one or more of the other races listed. The six numbers may add to more than the total population, and the six percentages may add to more than 100 percent because individuals may report more than one race; [4] This category is composed of people whose origins are from the Dominican Republic, Spain, and Spanish-speaking Central or South American countries. It also includes general origin responses such as "Latino" or "Hispanic." [5] "Spouse" represents spouse of the householder. It does not reflect all spouses in a household. Responses of "same-sex spouse" were edited during processing to "unmarried partner." [6] "Family households" consist of a householder and one or more other people related to the householder by birth, marriage, or adoption. They do not include same-sex married couples even if the marriage was performed in a state issuing marriage certificates for same-sex couples. Same-sex couple households are included in the family households category if there is at least one additional person related to the householder by birth or adoption. Same-sex couple households with no relatives of the householder present are tabulated in nonfamily households. "Nonfamily households" consist of people living alone and households which do not have any members related to the householder. [7] The homeowner vacancy rate is the proportion of the homeowner inventory that is vacant "for sale." It is computed by dividing the total number of vacant units "for sale only" by the sum of owner-occupied units, vacant units that are "for sale only," and vacant units that have been sold but not yet occupied; and then multiplying by 100. [8] The rental vacancy rate is the proportion of the rental inventory that is vacant "for rent." It is computed by dividing the total number of vacant units "for rent" by the sum of the renter-occupied units, vacant units that are "for rent," and vacant units that have been rented but not yet occupied; and then multiplying by 100.



Navajo Nation Demographic Profile

Land Area

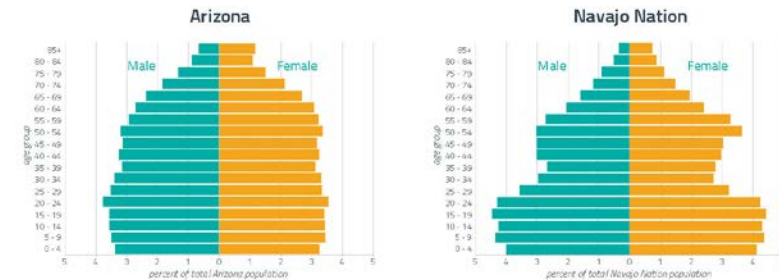
Arizona has a land area of about 114,000 square miles. Just over 27 percent of that area, or about 31,000 square miles, is Tribal Lands. The Navajo Nation is the largest in Arizona with almost 16,000 square miles of land in the state. The Nation also crosses into Utah and New Mexico, for a total land area of about 24,000 square miles.



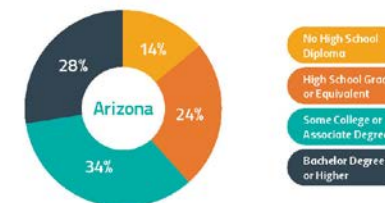
Largest Land Area Among All Arizona Tribal Lands



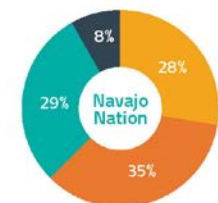
Age Distribution

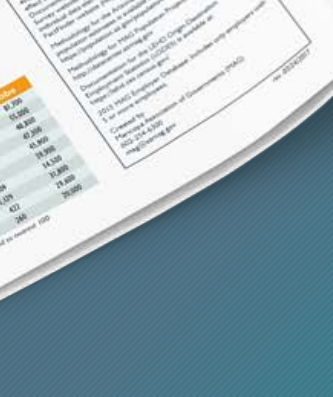


Educational Attainment



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





Commute Shed Analytics

30 Minute A.M. Inbound Travel Time to Glendale Ave and State Route 101, Glendale



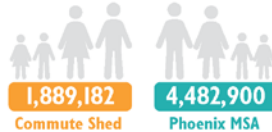
The Phoenix-Mesa-Scottsdale Metropolitan Statistical Area (MSA) is made up of Maricopa County and Pinal County. For this document, the MSA is referred to as the Phoenix MSA. Within the Phoenix MSA, the average commute time is about 26 minutes, which is slightly less than the US average. Rounding to a 30 minute commute time provides a useful picture of the residents, workers, and employers near a given location. Note: for some rural communities, a 45 minute commute shed was used because a wider area of analysis was necessary.

The map to the right shows the area from which a worker can commute in 30 minutes or less to a location near Glendale Avenue and State Route 101, Glendale. The analysis in this document compares data from within this 30 minute commute shed to similar data for the MSA and the nation.

This analysis provides a brief overview of available data for the commute shed. To inquire about a more detailed analysis refer to the contact information on page 4.



2015 Population



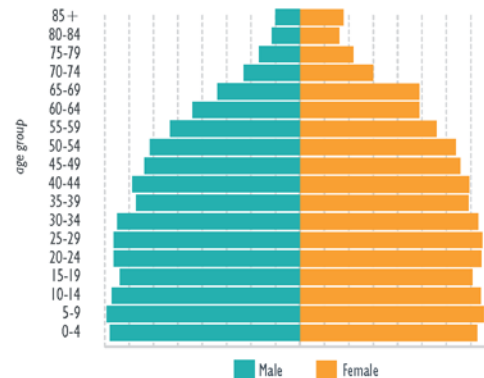
Source: Arizona Office of Economic Opportunity 2015 Population Estimates

Projected Population

2020 Projection	2030 Projection	2040 Projection	2050 Projection
Commute Shed 2,068,823	Commute Shed 2,358,661	Commute Shed 2,544,045	Commute Shed 2,662,606
Phoenix MSA 4,944,400	Phoenix MSA 5,884,900	Phoenix MSA 6,831,700	Phoenix MSA 7,733,900

Source: Maricopa Association of Governments (MAG), 2016 Population Projections. The Phoenix MSA is the Phoenix-Mesa-Scottsdale Metropolitan Statistical Area (MSA). Its geographic boundary includes the combined area of Maricopa and Pinal counties.

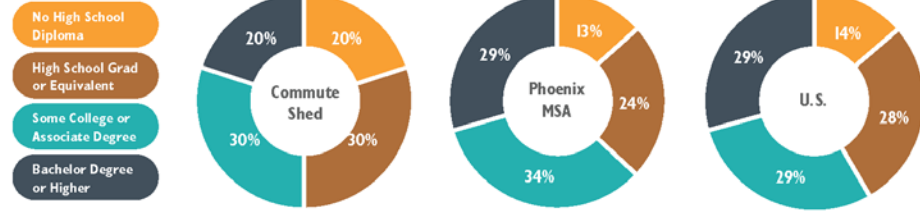
Age Distribution in Commute Shed



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

Educational Attainment

for the population age 25 years and older



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

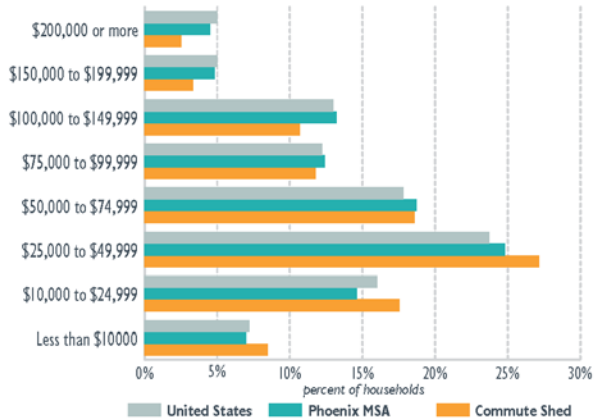
ASU and UofA Graduates by Degree

Thanks to a partnership with Arizona State University and University of Arizona, MAG has collected degree data on graduates by place of residence. While not a complete picture of graduates, this table is a representation of college degrees earned by residents from 1980 to 2016.

Degree Category	Phoenix MSA	Commute Shed	Degree Category	Phoenix MSA	Commute Shed
Aerospace	2,298	332	Law	4,852	1,728
Agriculture	1,595	461	Mathematics	1,571	489
Art	8,156	2,533	Medical	40,483	13,054
Business	47,343	13,396	Multiple	9,126	2,095
Criminal Justice	3,639	2,031	Political	6,010	1,949
Design & Construction	7,078	1,857	Science	9,575	3,208
Education	35,924	13,523	Social	21,281	7,518
Engineering	15,937	3,280	Technology	13,061	2,828
Information	23,285	7,415	Tourism	1,782	587

Source: Arizona State University (ASU); University of Arizona (UofA)

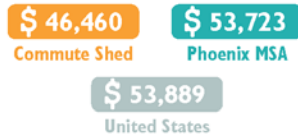
Household Income



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

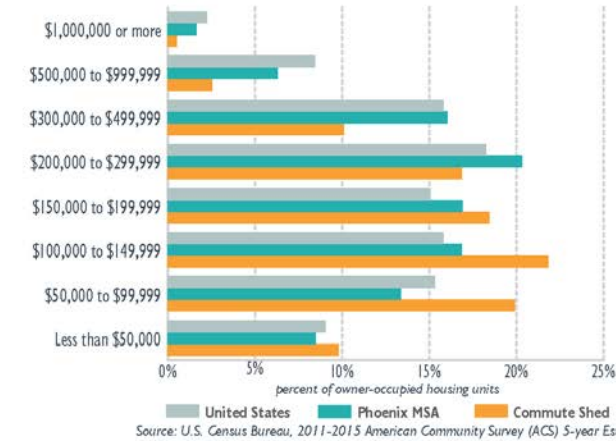


Median Household Income



Housing Values

for owner-occupied housing units



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



Median Home Value

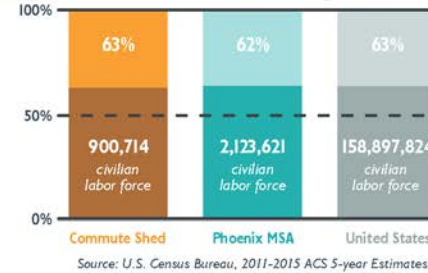


Source: U.S. Census Bureau, 2011-2015 ACS 5-year Estimates

Median Sales Price



Labor Force Participation Rate



Source: U.S. Census Bureau, 2011-2015 ACS 5-year Estimates

The labor force participation rate is the percentage of the population age 16 and over who are either employed or are unemployed but looking for a job. In the United States the participation rate hovered between 66 and 67 percent until the Great Recession. Since then the rate declined to around 63 percent and has remained at that level since 2014.

The chart to the left shows the relative labor force participation rates and total civilian labor force for the commute shed, Phoenix MSA, and the U.S. The chart below shows the top ten occupations for the commute shed, their percentage of the commute shed's workforce, and where those ten occupations rank in the U.S. and Phoenix MSA.

Major Occupations of Residents for the civilian employed population 16 years and over	Commute Shed Percentage	Phoenix MSA Percentage	United States Percentage
Office and administrative support	15.5	14.9	13
Management, business, and financial	12.7	15.4	15.1
Sales and related	11.4	12.1	10.6
Healthcare practitioners, technical, and support	7	7.4	8.2
Construction and extraction	6.3	4.8	5.1
Food preparation and serving related	6.2	5.9	5.9
Building and grounds cleaning and maintenance	5.8	4.4	3.9
Production	5.1	4.3	6
Education, training, and library	4.6	5.2	6
Computer, engineering, and science	4.1	5.7	5.5

Source: U.S. Census Bureau, 2011-2015 American Community Survey (ACS) 5-year Estimates
Note: not all occupations are listed; percentages may not add up to 100 percent

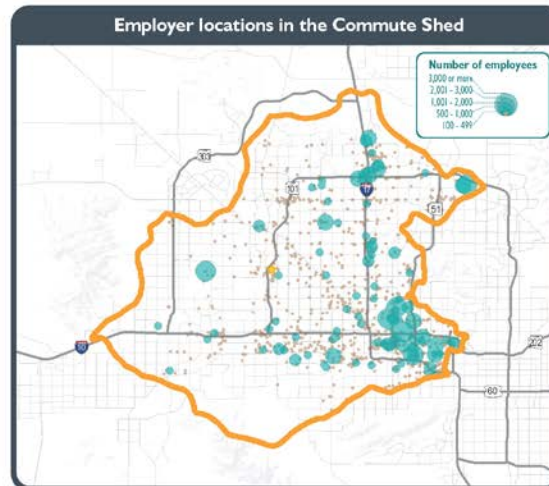
Top Employers

The map to the right shows the locations of each of the employers with five or more employees within the commute shed. The size of the dots indicates the size of the employer based on its total number of employees. Below is a list of the top ten employers, based on total number of employees, within the commute shed.

The table at the bottom left groups similar employers together in Industry Clusters, and ranks the top ten Industry Clusters within the commute shed by the total number of employees in the cluster.

Top 10 Employers	Jobs
State Of Arizona	18,600
Banner Health	13,600
County Of Maricopa	11,100
City Of Phoenix	10,400
Honeywell	7,800
Walmart	7,000
Frys Food Stores	5,600
American Express	5,500
United States Department Of The Air Force	5,400
Wells Fargo	5,000

Source: 2015 MAG Employer Database, numbers rounded



Worker Commute Flows



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

Top 10 Industry Clusters by Jobs

Industry Cluster	Businesses	Jobs
Health Care	1,753	76,200
Business Svcs	2,268	74,100
Government, Social, & Advocacy Svcs	1,589	73,500
Retail	2,275	69,600
Consumer Svcs	2,797	60,500
Education	782	56,900
Finance, Insurance, & Real Estate (FIRE)	1,273	56,600
Construction	2,020	55,600
Transportation & Distribution	1,406	55,100
Hospitality, Tourism, & Recreation	454	14,700

Source: 2015 MAG Employer Database; Jobs numbers rounded to nearest 100

Contact Information

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

About the Data Sources

Commute shed boundaries are derived from the MAG travel demand forecasting models which incorporate the HERE speed database. Data can be found online here: mag.ms2cloud.com/tdms/ui/tdts/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. The degree of uncertainty for an estimate is represented through the use of a margin of error (MOE). In addition to sampling variability, the ACS estimates are subject to nonsampling error. 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>).

Methodology for the Arizona Office of Economic Opportunity population estimates is available at: <https://population.az.gov/population-estimates>

Methodology for MAG Population Projections is available at: <http://datacenter.azmag.gov>

Documentation for the LEHD Origin-Destination Employment Statistics (LODES) is available at: <https://lehd.ces.census.gov>

2015 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

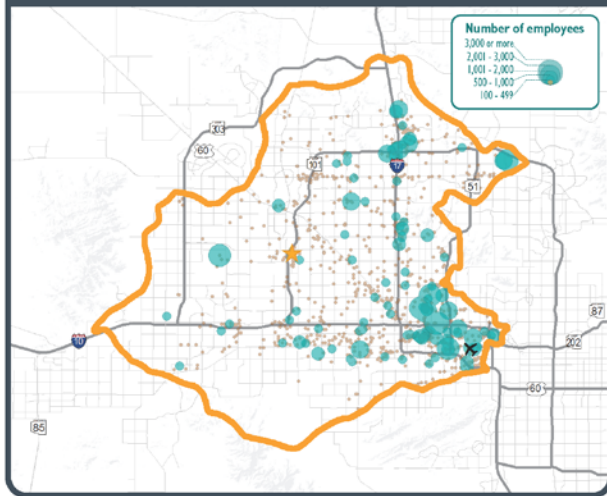
Commute Shed Analytics

30 Minute A.M. Inbound Travel Time to Glendale Avenue and State Route 101, Glendale



This report shows information for the area from which a worker can normally commute in 30 minutes or less to a location near Glendale Avenue and State Route 101, Glendale on a weekday morning. The boundary is referred to as a commute shed.

Employer Locations in the Commute Shed



Top 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.

18,100 Total Employers
659,100 Total Jobs
For employers with five or more employees

Top 10 Employers	Jobs
State Of Arizona	18,600
Banner Health	13,600
County Of Maricopa	11,100
City Of Phoenix	10,400
Honeywell	7,800
Walmart	7,000
Frys Food Stores	5,600
American Express	5,500
United States Department Of The Air Force	5,400
Wells Fargo	5,000

Source: 2015 MAG Employer Database, numbers rounded

Top 10 Industry Clusters

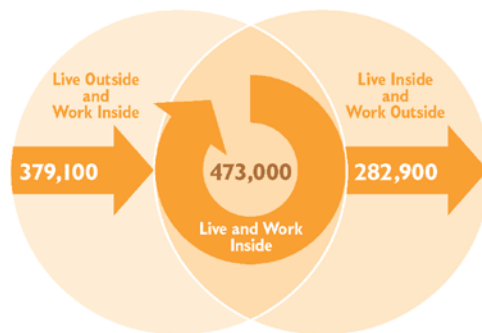
Industry Clusters group employers by their main industry. Listed below are the top ten industry clusters for businesses located within the commute shed. Ranking is based on total jobs for each cluster within the commute shed.

Industry Cluster	Businesses	Jobs
Health Care	1,750	76,200
Business Svcs	2,270	74,100
Government, Social, & Advocacy Svcs	1,590	73,500
Retail	2,280	69,600
Consumer Svcs	2,800	60,500
Education	780	56,900
Finance, Insurance, & Real Estate (FIRE)	1,270	56,600
Construction	2,020	55,600
Transportation & Distribution	1,410	55,100
Hospitality, Tourism, & Recreation	450	14,700

Source: 2015 MAG Employer Database; Jobs numbers rounded to nearest 100

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	Occupation Category	Workers
Arts, design, entertainment, sports, and media	11,000	Installation, maintenance, and repair	31,900
Building and grounds cleaning and maintenance	47,700	Management, business, and financial	104,300
Community, legal, and social service	21,300	Material moving	24,200
Computer, engineering, and science	33,800	Office and administrative support	127,500
Construction and extraction	51,400	Personal care and service	32,200
Education, training, and library	37,500	Production	42,200
Farming, fishing, and forestry	2,600	Protective service	19,500
Food preparation and serving related	50,700	Sales and related	93,900
Healthcare practitioners, technical, and support	57,600	Transportation	31,300

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

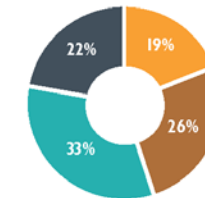
Population and Housing Demographics for the Commute Shed



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

Year	Population
2015	1,889,000
2020	2,069,000
2030	2,359,000
2040	2,544,000
2050	2,663,000

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



- 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



33 years

Source: 2015 ACS 5-year Estimates

Median Household Income



\$ 46,500

Source: 2015 ACS 5-year Estimates

Year	Jobs
2015	863,000
2020	984,000
2030	1,107,000
2040	1,258,000
2050	1,403,000

Source: Maricopa Association of Governments

Median Home Sales Price



Jan 1, 2015 to Dec 31, 2015

\$ 190,000

Source: Information Market

Contact Information

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

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/ttdms.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>).

2015 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

Automating the Process



Commute Shed Analysis
30 Minute A.M. Inbound Travel Time
Yuma Rd and Estrella Pkwy, Goodyear

The Phoenix-Mesa-Scottsdale Metropolitan Statistical Area (MSA) is made up of Maricopa County and Pinal County. For this document, the MSA is referred to as the Phoenix MSA. Within the Phoenix MSA, the average commute time is about 26 minutes, which is slightly less than the US average. Rounding to a 30 minute commute time provides a useful picture of the residents, workers, and employers near a given location. Note: for some rural communities, a 45 minute commute shed was used because a wider area of analysis was necessary.

The map to the right shows the area from which a worker can commute in 30 minutes or less to a location near Yuma Road and Estrella Parkway, Goodyear. The analysis in this document compares data from within this 30 minute commute shed to similar data for the MSA and the nation.

	2015 to 2020	2020 to 2030	2030 to 2040	2040 to 2050
Commute Shed	2.0%	1.7%	1.4%	1.1%
Phoenix MSA	2.0%	1.8%	1.5%	1.2%

2015 Population: 1,203,926
Projected 2040 Population: 4,482,900

Graphic Design Meets the Data Query



Keys to Success



Know Your Audience



Stakeholder Buy-in



The Right Team



Collaboration



QA/QC Checks



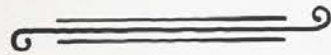
Professional Design

DESIGN TIPS

for turning good into great

"good is the mortal enemy of great"

-Jim Collins



1. Keep it Simple
2. Color Matters
3. Limit Fonts
4. Learn Good Design From Bad
5. Remember the Audience
6. Know your limitations
7. Understand the Data
8. Be Open to Change



Resources

Adobe Illustrator Variables

- <https://helpx.adobe.com/illustrator/using/data-driven-graphics-templates-variables.html>

Variable Importer Script Tutorials

- <http://hypertransitory.com/blog/2015/04/26/illustrator-variable-data>
- <http://prepression.blogspot.com.au/2015/03/illustrator-variableimporter-script-tutorial-1.html>

Infographic and Data Display Tips

- <https://blog.kissmetrics.com/12-infographic-tips/>
- <http://www.infobrandz.com/great-big-list-of-infographic-ideas/>
- (Book) [The Wall Street Journal Guide to Information Graphics: The Dos and Don'ts of Presenting Data, Facts, and Figures by Dona M. Wong \(available on Amazon\)](#)
- (Book) [Effective Data Visualization - The Right Chart for the Right data by Stephanie DH Evergreen](#)
- <http://flowingdata.com/>
- (Book) [Good Charts: The HBR Guide to Making Smarter, More Persuasive Data Visualizations by Scott Berinato](#)
- (Book) [The Visual Display of Quantitative Information by Edward R. Tufte \(available on Amazon\)](#)
- <http://colorschemer.com> and <http://colorbrewer2.org>

ACS 5-year Summary Files in MS Access databases (by State)

- <http://gisdiva.com/downloads/acs2015-5yr/>

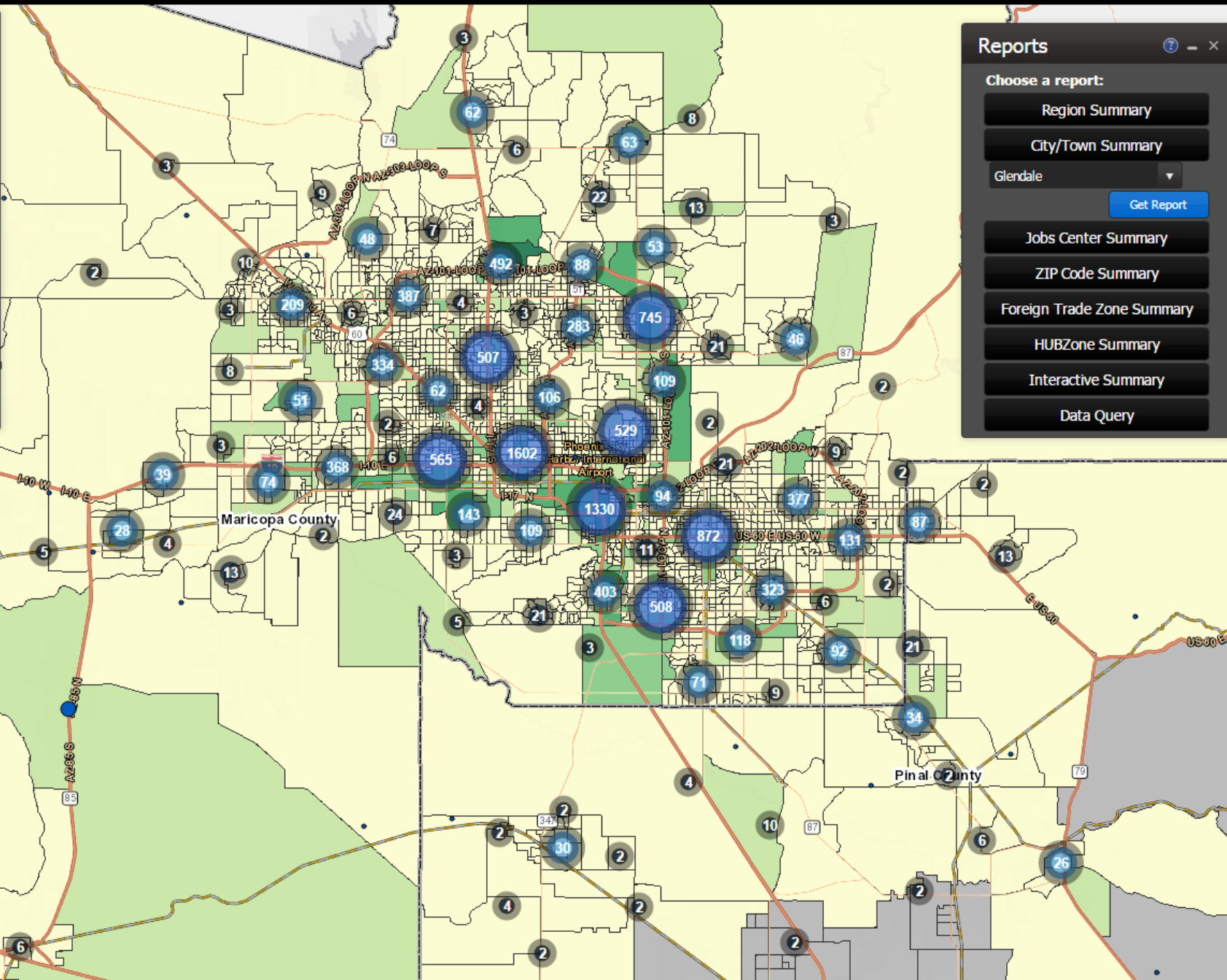
Maps

[Employment Cluster Definitions](#)

Choose a Map:

- All Industry Clusters**
- Business Services
- Construction
- Consumer Goods Manufacturing
- Consumer Services
- Education
- Finance, Insurance & Real Estate
- Government, Social & Advocacy Services
- Health Care
- High Tech Manufacturing & Development
- Hospitality, Tourism & Recreation

Advanced Map Options



Reports

Choose a report:

Region Summary

City/Town Summary

Glendale

Get Report

Jobs Center Summary

ZIP Code Summary

Foreign Trade Zone Summary

HUBZone Summary

Interactive Summary

Data Query

Legend

All Industry Clusters

(5+ employees)

Transparency Slider

Employers (25+ employees)

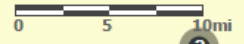
Enable Clustering

- 25 - 150 Employees
- 150 - 500 Employees
- 500 - 1,500 Employees
- 1,500 - 3,500 Employees
- 3500 - 8,811 Employees

Data Source: 2015 MAG Employer Database

Layers Options

- Employers
- Census Tracts
- ZIP Codes
- HUBZones
- MAG Region Boundary
- Job Centers 2014
- Municipal Planning Areas
- Foreign Trade Zones
- Streets
- Aerial Imagery





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