EWNI EDUCATION & WORKFORCE NEEDS INDEX

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Identifying Challenges and Opportunities States Face

Alabama
Our People
Our Workforce
Our Economy

Strong Start, Strong Finish: An Education-to-Workforce Vision for Alabama

Strong Start, Strong Finish

Governor Kay Ivey

- Governor Ivey has established a strategic vision for aligning Alabama's education and workforce programs from Pre-K to the workforce to provide for a seamless education-to-workforce continuum for all Alabamians.
- Governor Ivey has set a postsecondary education attainment goal of adding 500,000 credential holders to Alabama's workforce by 2025.
- Governor Ivey has set a goal to increase Alabama's labor force participation rate of 57.6% to the national average by 2025.

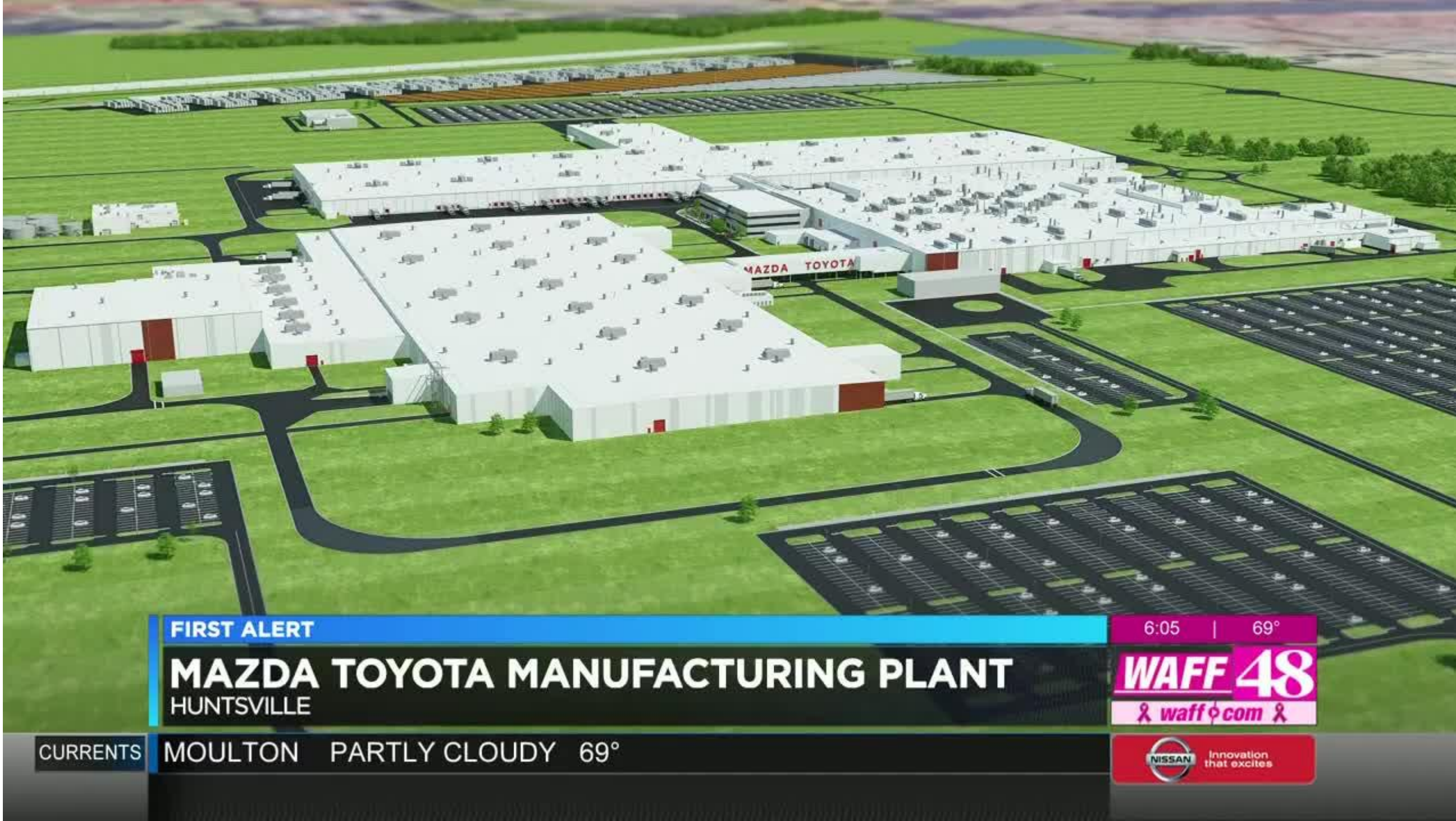
21
First Airbus Aircraft Proudly
Made in the U.S.A.
AIRBUS

AUSTAL
USA

HYUNDAI
HYUNDAI MOTOR MANUFACTURING ALABAMA

Honda Manufacturing of Alabama, LLC

Toyota Motor Manufacturing, Alabama (TMMAL)



FIRST ALERT

MAZDA TOYOTA MANUFACTURING PLANT

HUNTSVILLE

6:05 | 69°

WAFF 48

waff.com

CURRENTS MOULTON PARTLY CLOUDY 69°

NISSAN Innovation that excites

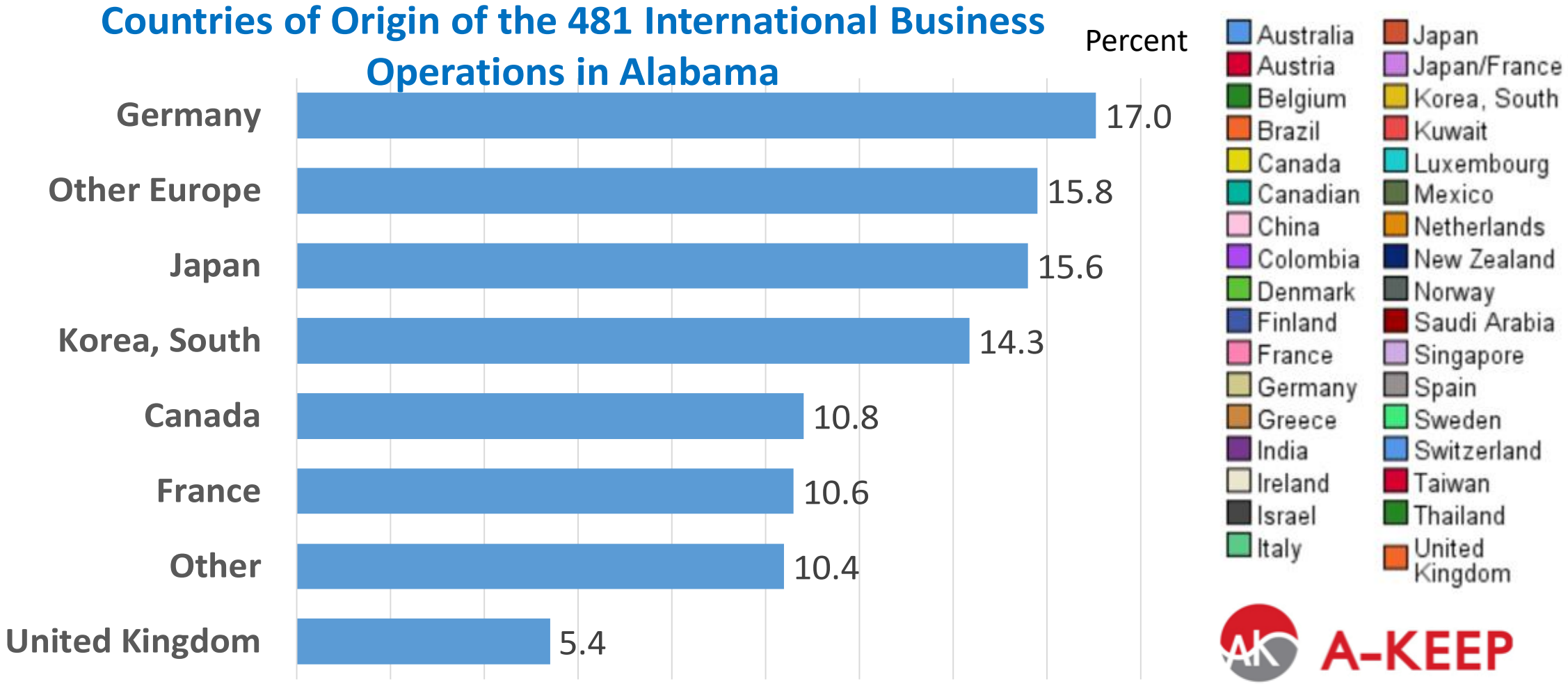
Clear Choice For Space Command

US News voted Huntsville the best place to live in the United States in 2022-2023.

US News analyzed 150 large metropolitan areas in the U.S., paying attention to the quality of job markets, housing affordability, quality of life, desirability and net migration.

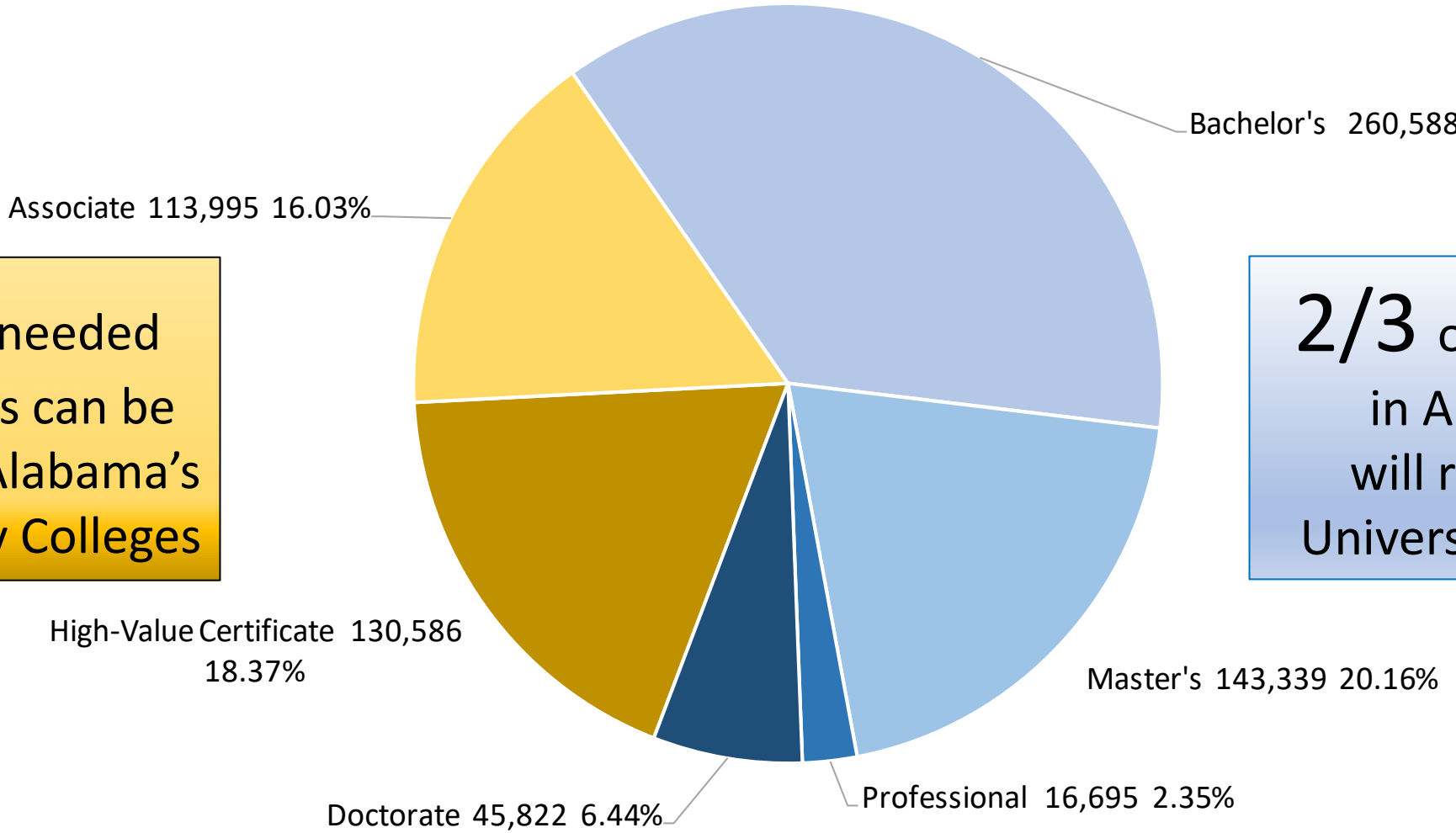
New Economic Realities

Impact of International Investment in Alabama (481 Locations)



A-KEEP
ALABAMA-KOREA EDUCATION AND ECONOMIC PARTNERSHIP

500,000 Credentials Needed by 2025



1/3 of needed credentials can be earned at Alabama's Community Colleges

2/3 of new jobs in Alabama will require a University degree

Statewide Strategies Often Mask Regional and Local Needs

EWNI
EDUCATION &
WORKFORCE
NEEDS INDEX

What is it?

The Education and Workforce Needs Index (EWNI), in development, is a focused interface that will enable users to assess the well-being of their states and regions to more easily identify key areas of success and challenge in developing education and workforce capital. The overall index utilizes 16 well-researched and field-tested measures across three categories: education, workforce, and population demand.

At every stage in the quest to target focus areas and craft viable solutions, the ultimate goal is for users to have access to downloadable images for presentations and documents as well as data for further analysis.

What is the intended outcome?

The intended outcome is to quickly and easily identify the areas of greatest need in addressing education and workforce challenges. In fast-changing and advancing economic conditions, more informed decisions related to policy and practice are made regarding the development of education and workforce capital that is based on sound data, information, and a framework designed to bridge the divides amid data, research, policy, and practice.

The Dilemma of Resources for Leaders

- **Once upon a time, economic data was sparse.** Leaders direct more on personal observation and applied random data to justify their efforts.

- **Then information became ubiquitous.** Data was everywhere, but people tended to focus on information that validated their efforts, rather than concentrating on information that would identify the real issues and prospective solutions. Because so much information was available from which to choose, important data was unknown, ignored, or not emphasized.

- **But not all data is created equal.** What data is actually essential to effective and onward decision-making? What data is irrelevant or tangential? What data can keep the leadership team focused on what is mission critical?

- **The EWNI was designed to help leadership teams.** Focusing on information that matters for developing education and economic strategy is critical.

Public Use Microdata Areas (PUMAs)

The unit of analysis for the annual U.S. Census Bureau American Community Survey.

What are Public Use Microdata Areas (PUMAs)?

- Non-overlapping, statistical geographic areas that partition each state or equivalent entity into geographic areas containing no fewer than 100,000 people.
- Cover entirety of United States, Puerto Rico, Guam, and the U.S. Virgin Islands.
- Defined every ten years for the tabulation and dissemination of the decennial census and American Community Survey (ACS) Public Use Microdata Sample (PUMS) data.
- Also used in the publication of the ACS and Puerto Rico Community Survey period estimates.

Advantages

- Available annually (detailed Public Use File)
- More accurately reflect demographic patterns by population density (urban and rural)
- Ability to ore finely disaggregate (by age-group, race, gender, occupation, education level, labor force status, etc.)

Disadvantages

- Smaller sample size (1% American Community Survey versus 5% Decennial Long Form)
- Ability to finely disaggregate (standard errors)
- Communication of geographic boundaries (counties versus PUMAs)

Education and Workforce Needs Index

Factors and Measures

Education

- Ages 18 to 64 with a High School Diploma Only
- Ages 25 to 64 with an Associates Degree
- Ages 25 to 64 with a Bachelor's Degree
- Difference in College Attainment between Young and Older Adults
- Ages 18 to 29 with No College Credential, Not Enrolled

Workforce

- Working-Age Participation in the Labor Force
- Unemployment
- Employment in Manufacturing and Extraction
- Median Personal Income (total personal income)
- Median Annual Wage Income (full-time workers)
- Adults with SSI or Welfare Income

Population

- Population Ages 0 to 19
- Population Ages 20 to 44
- Annual % Change in Population Under 65
- Ages 25 to 64 in Poverty

EWNI Correlation Factors

EWNI Measure	Education					Workforce					
	High School Completion Only	Associate Completion	Bachelor's Completion	Difference between Young and Old	Enrollment of Non-College Degree Holders	Not Participating in Labor	Unemployment	Employment in Volatile Industries	Median Wages for Full-Time Workers	Total Personal Income	Percentage on Public Assistance
High School Completion Only		0.38	**-0.93**	-0.19	0.67	0.67	0.31	0.37	-0.77	**-0.82**	0.56
Associate Completion	0.38		-0.37	-0.18	0.25	0.09	-0.20	0.33	-0.30	-0.33	0.40
Bachelors Completion	**-0.93**	-0.37		0.20	-0.69	-0.69	-0.40	-0.33	**0.86**	**0.90**	-0.48
Difference between Young and Old	-0.19	-0.18	0.20		-0.25	-0.27	**0.05**	-0.11	0.11	0.09	-0.24
Enrollment of Non College Degree-Holders	0.67	0.25	-0.69	-0.25		0.45	0.23	0.23	-0.58	-0.56	0.34
Not Participating in Labor Force	0.67	0.09	-0.69	-0.27	0.45		0.48	0.13	-0.59	-0.61	0.60
Unemployment	0.31	-0.20	-0.40	**0.05**	0.23	0.48		-0.19	-0.38	-0.39	0.15
Employment in Volatile Industries	0.37	0.33	-0.33	-0.11	0.23	0.13	-0.19		-0.20	-0.24	0.20
Median Wages for Full-Time Workers	-0.77	-0.30	**0.86**	0.11	-0.58	-0.59	-0.38	-0.20		**0.93**	-0.46
Total Personal Income	**-0.82**	-0.33	**0.90**	0.09	-0.56	-0.61	-0.39	-0.24	**0.93**		-0.39
Percentage on Public Assistance	0.56	0.40	-0.48	-0.24	0.34	0.60	0.15	0.20	-0.46	-0.39	

N = 2,351

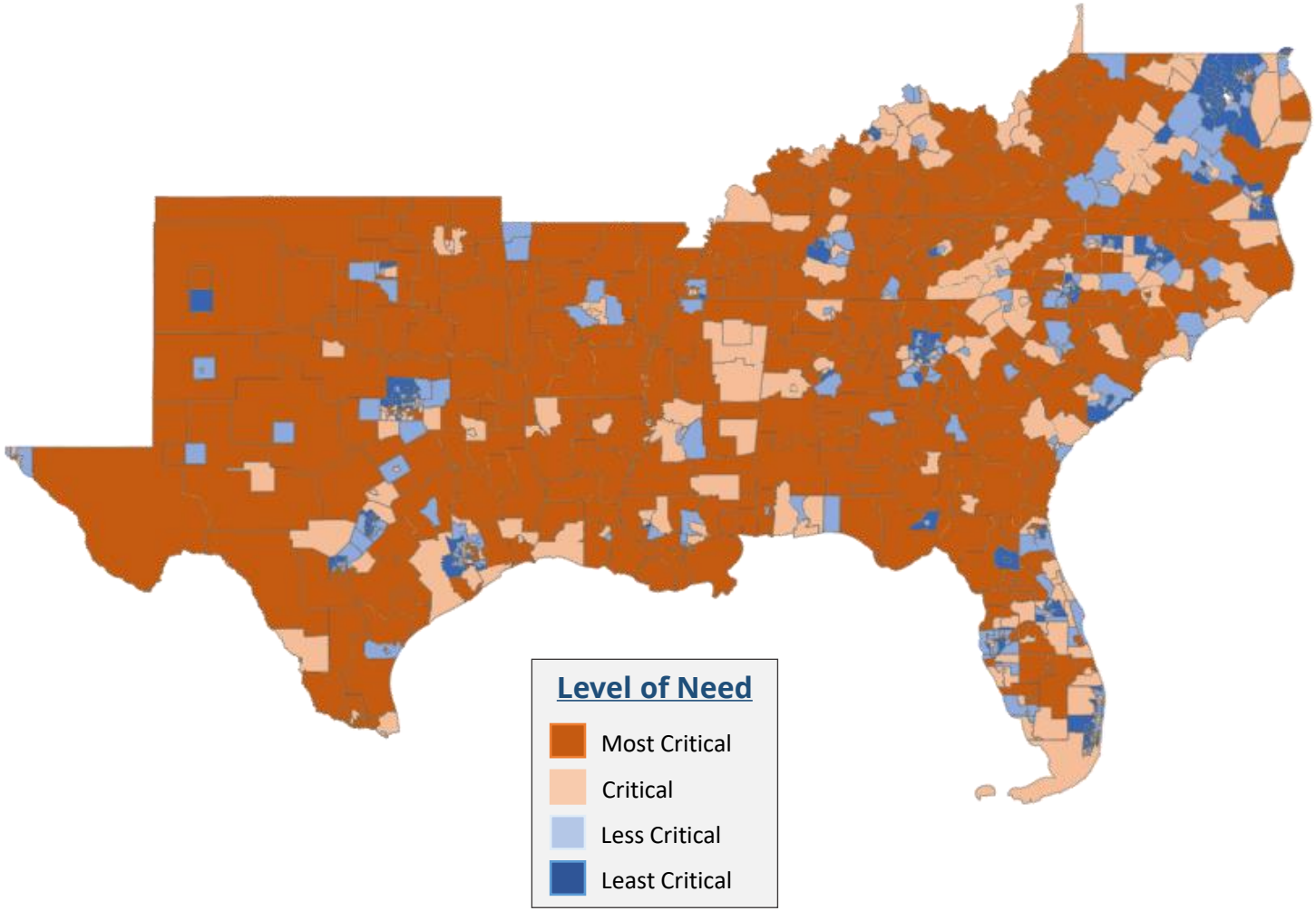
Not Significantly Correlated

Sig. < 0.01

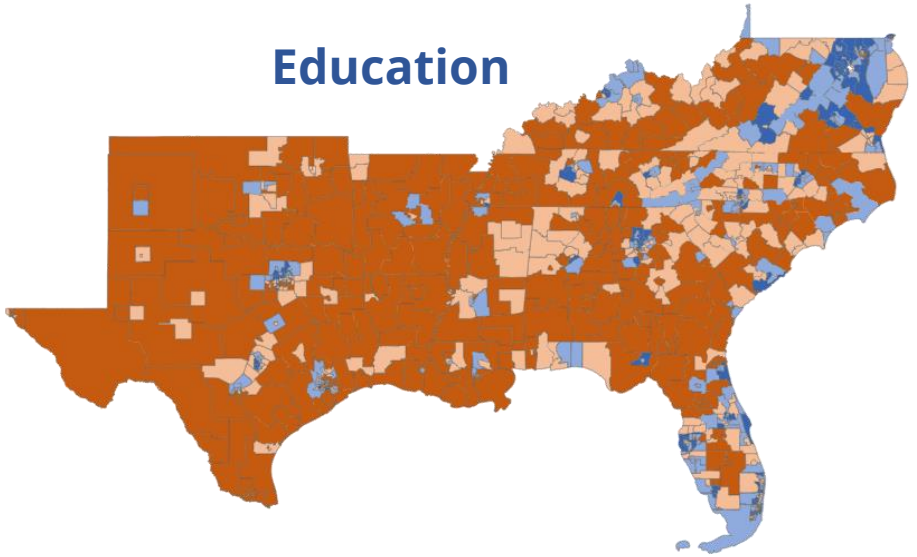
Highly Correlated (0.70 or greater)

Southern United States

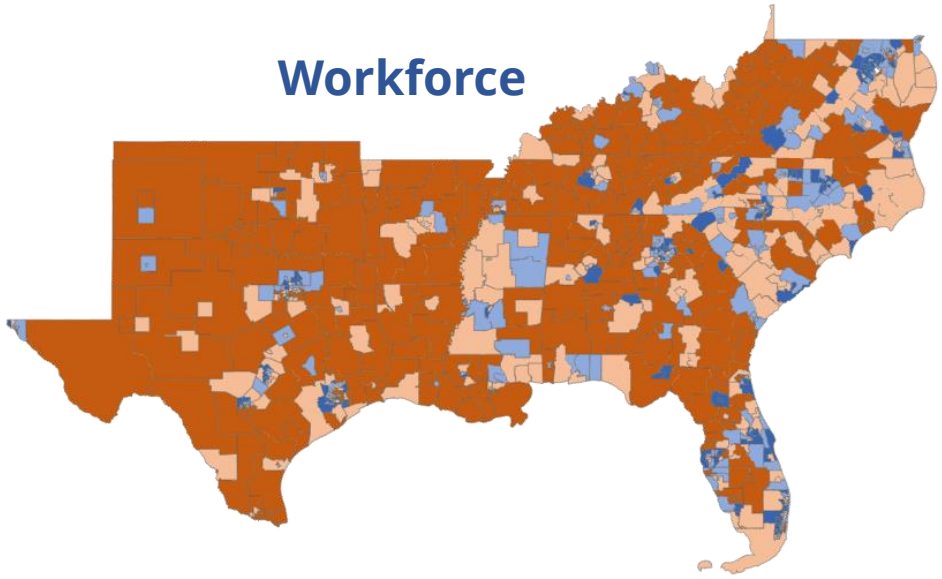
Overall Education and Workforce Need



Education

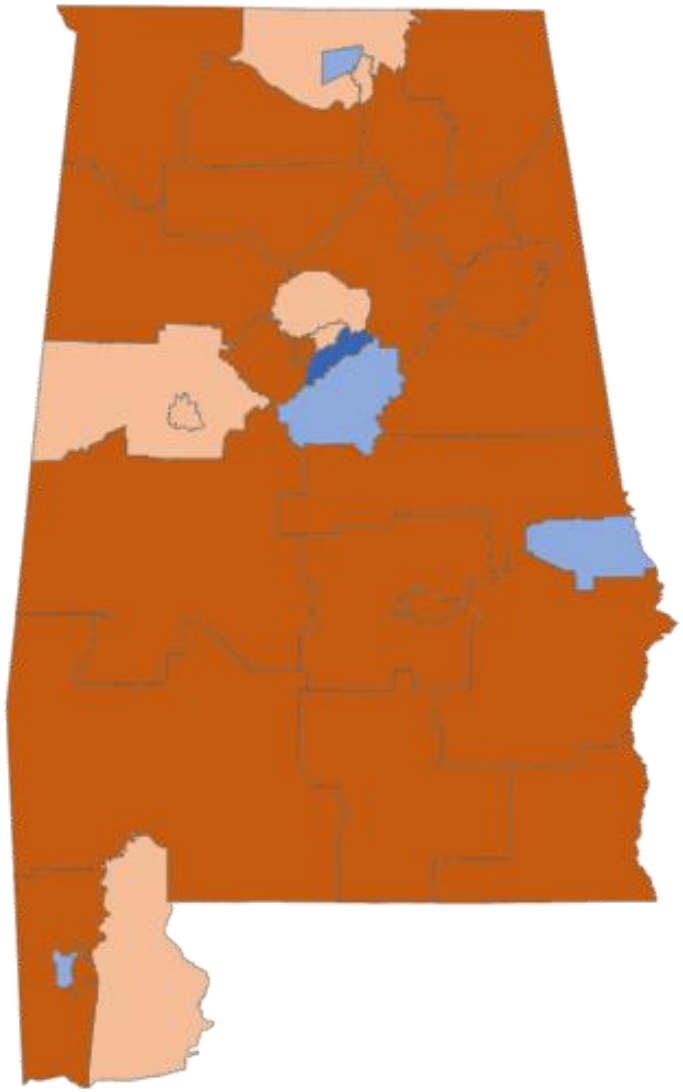


Workforce

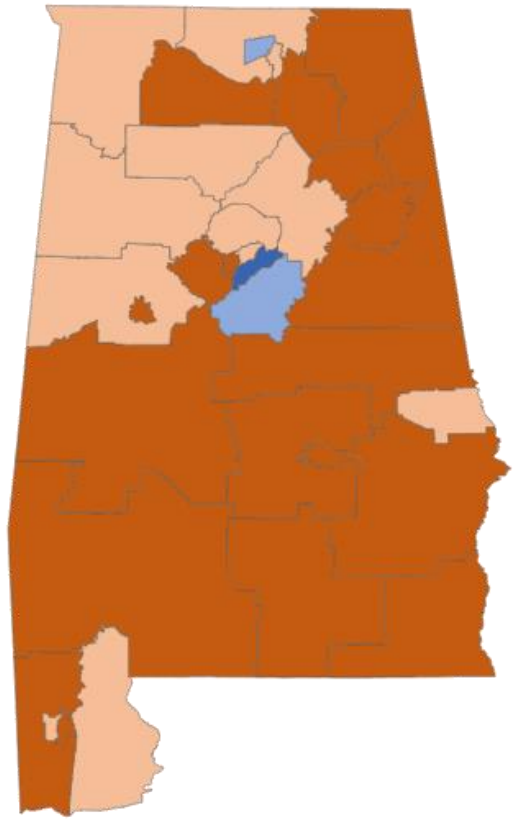


Alabama

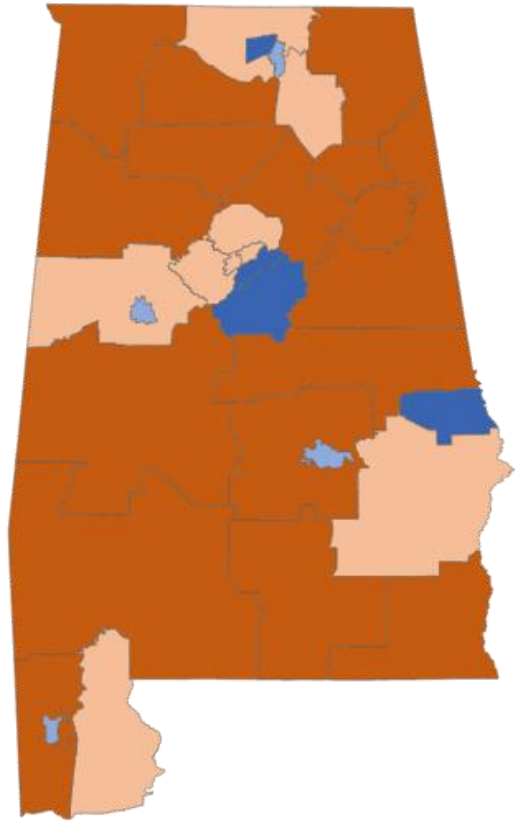
Overall Education and Workforce Need

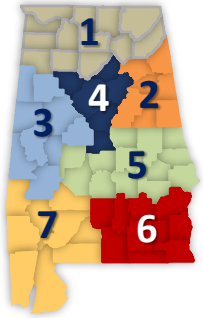


Education



Workforce





Alabama Workforce Regions

Alabama | Region 2 | Regions | U.S. Quartiles

Need or Challenge

Lowest — U.S. Median — Highest

Overall Education and Workforce Need

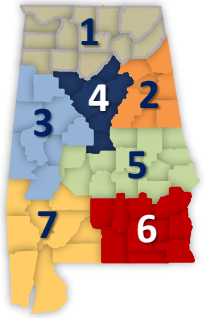
Education Need

- High School Completion Only
- Associate Degree Completion
- Completion of a Bachelor's Degree or Higher
- College Attainment of Young vs Older Adults
- Enrollment of Young Adults without a College Degree

Workforce Need

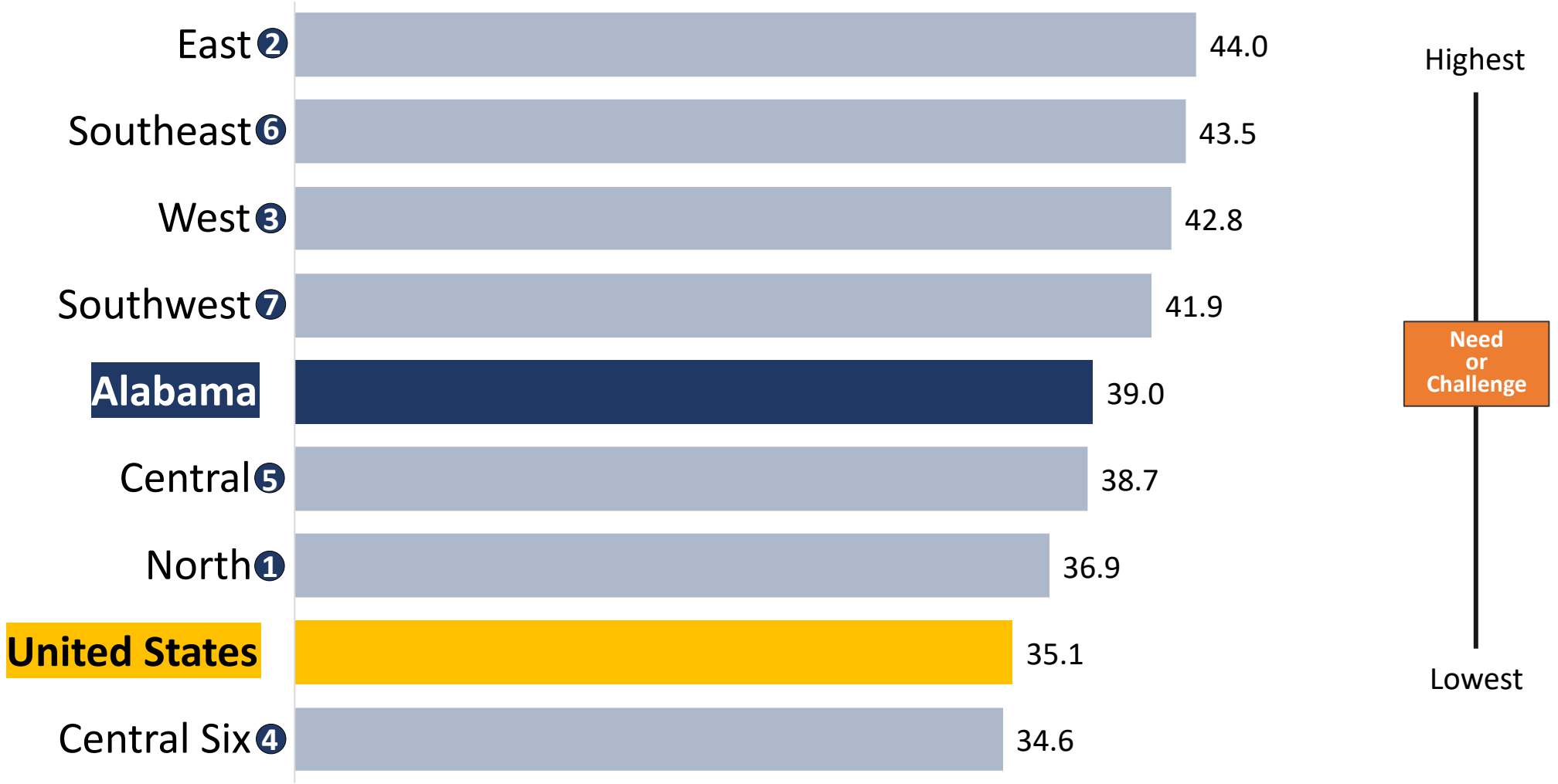
- Labor Force Participation
- Unemployment
- Employment in Volatile Industries
- Median Annual Wage Earnings for Full-Time Workers
- Personal Income
- Working-Age Adults with SSI or Welfare Income

EWNI

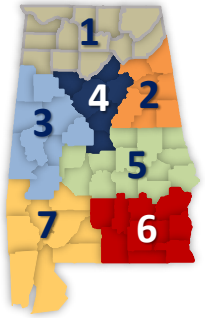


Alabama
Workforce Regions

Percentage of Adults 18 to 64 Years Old with a High School Diploma Only (2021)

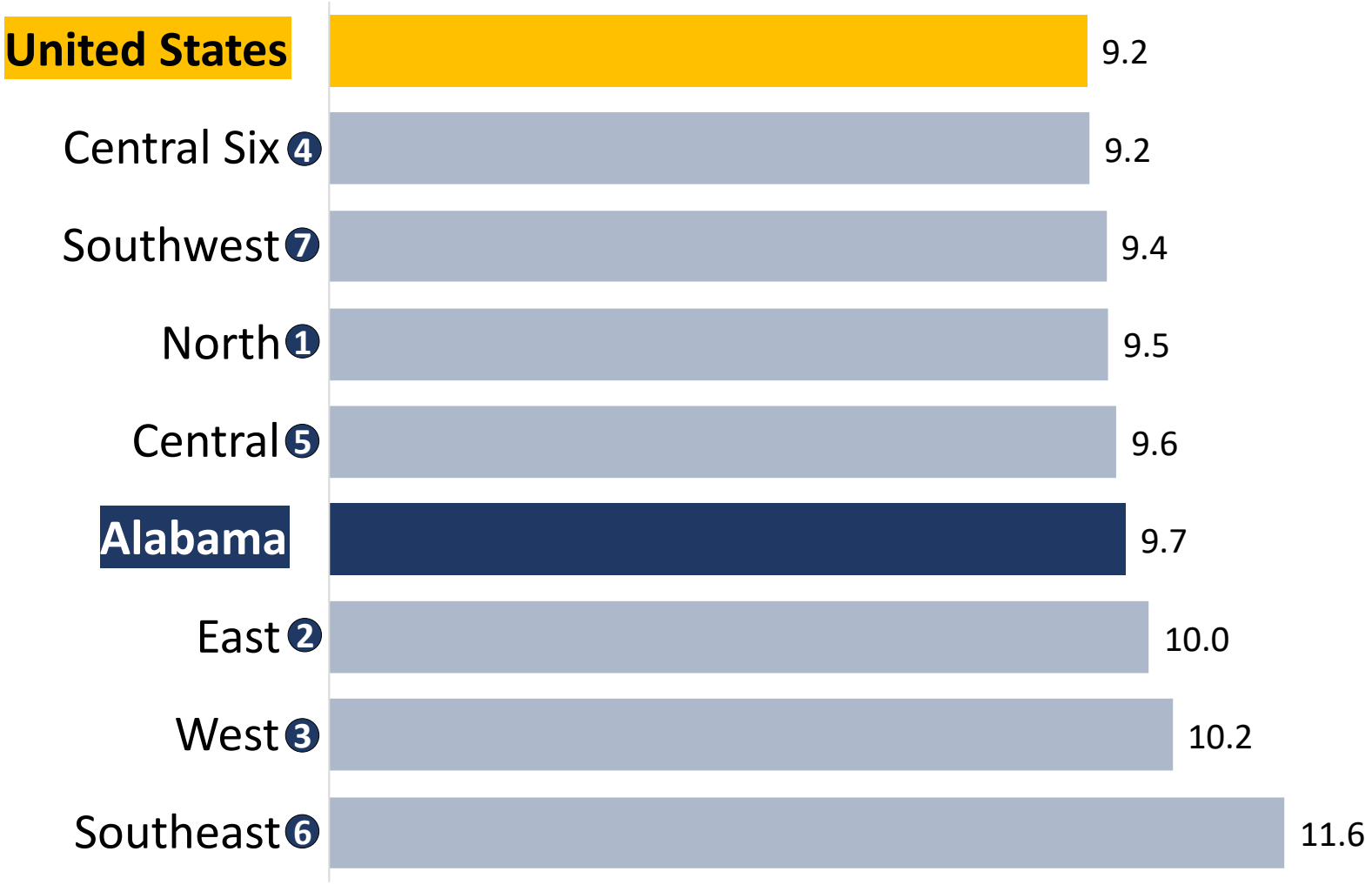


Source: United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]



Alabama
Workforce Regions

Percentage of Adults 25 to 64 Years Old with an Associates Degree (2021)



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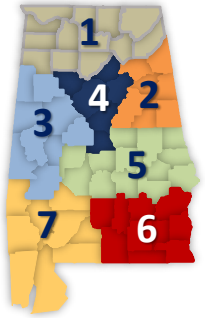
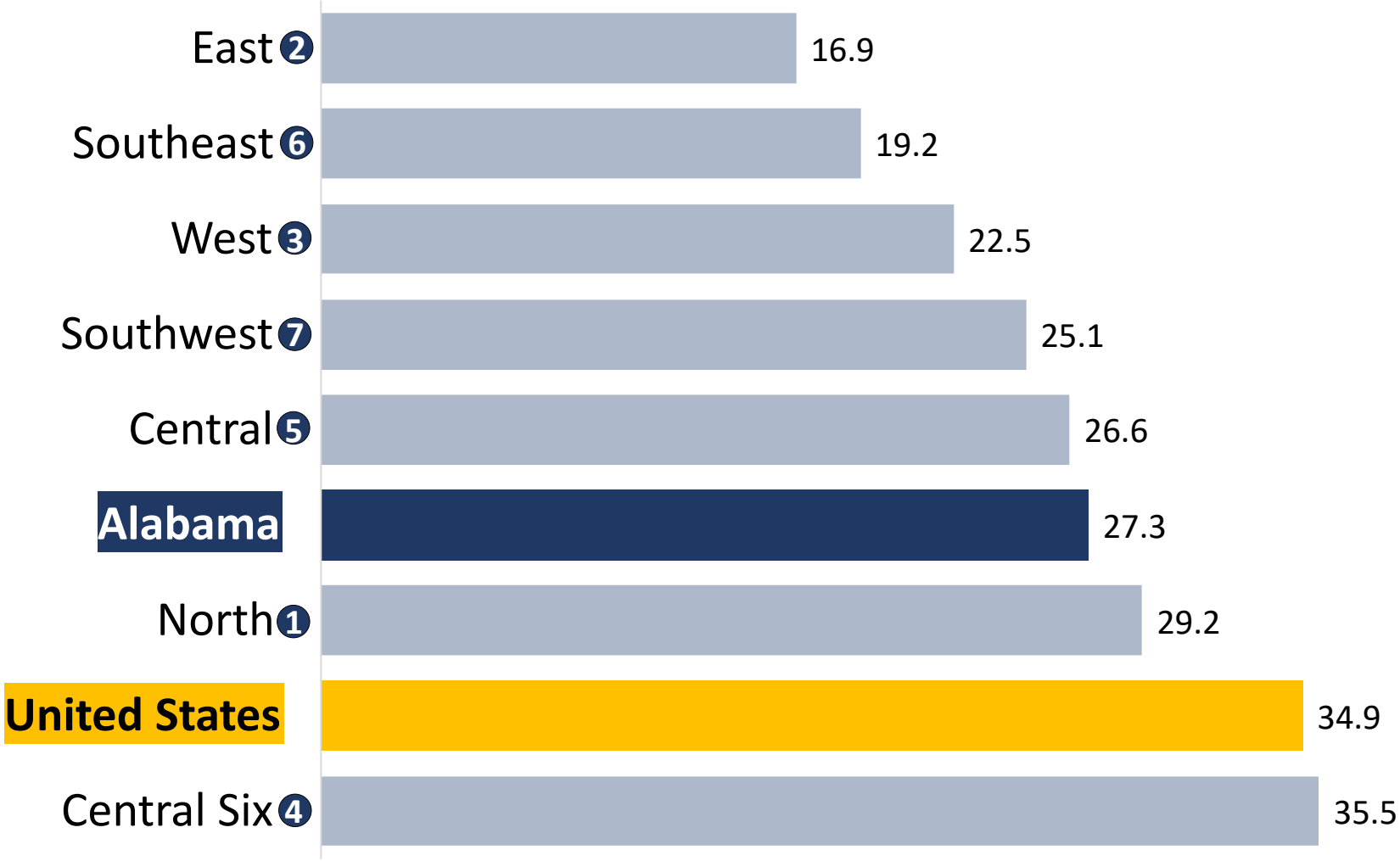


Alabama
Workforce Regions

Percentage of Adults 25 to 64 Years Old with a Bachelor's Degree or Higher (2021)

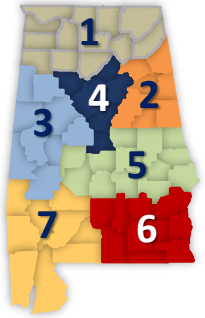


Highest

Need or Challenge

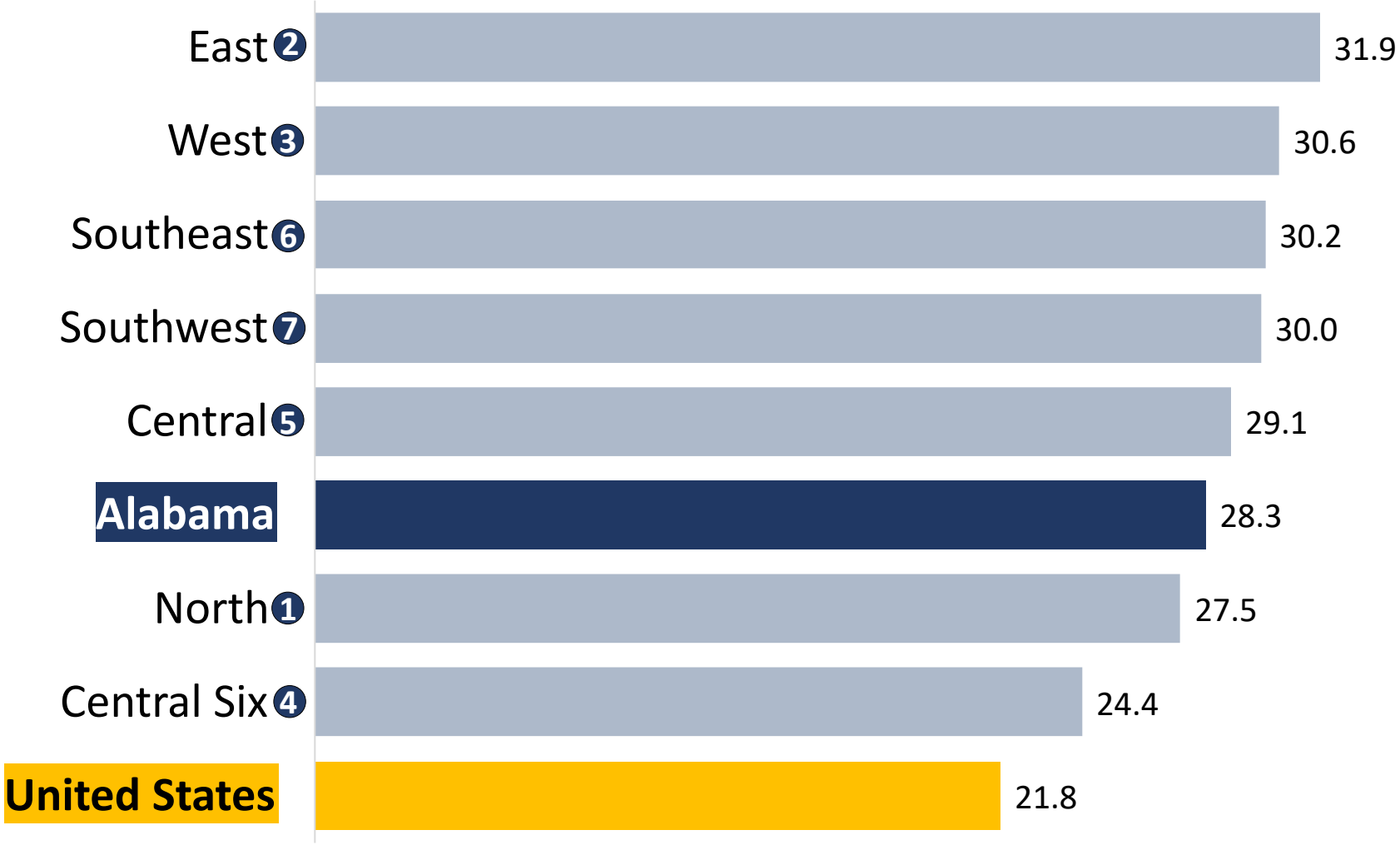
Lowest

Source: United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]



Alabama
Workforce Regions

Percent of Adults Ages 25 to 64 Years Old Not Participating in the Labor Force (2021)



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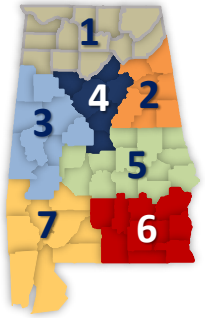
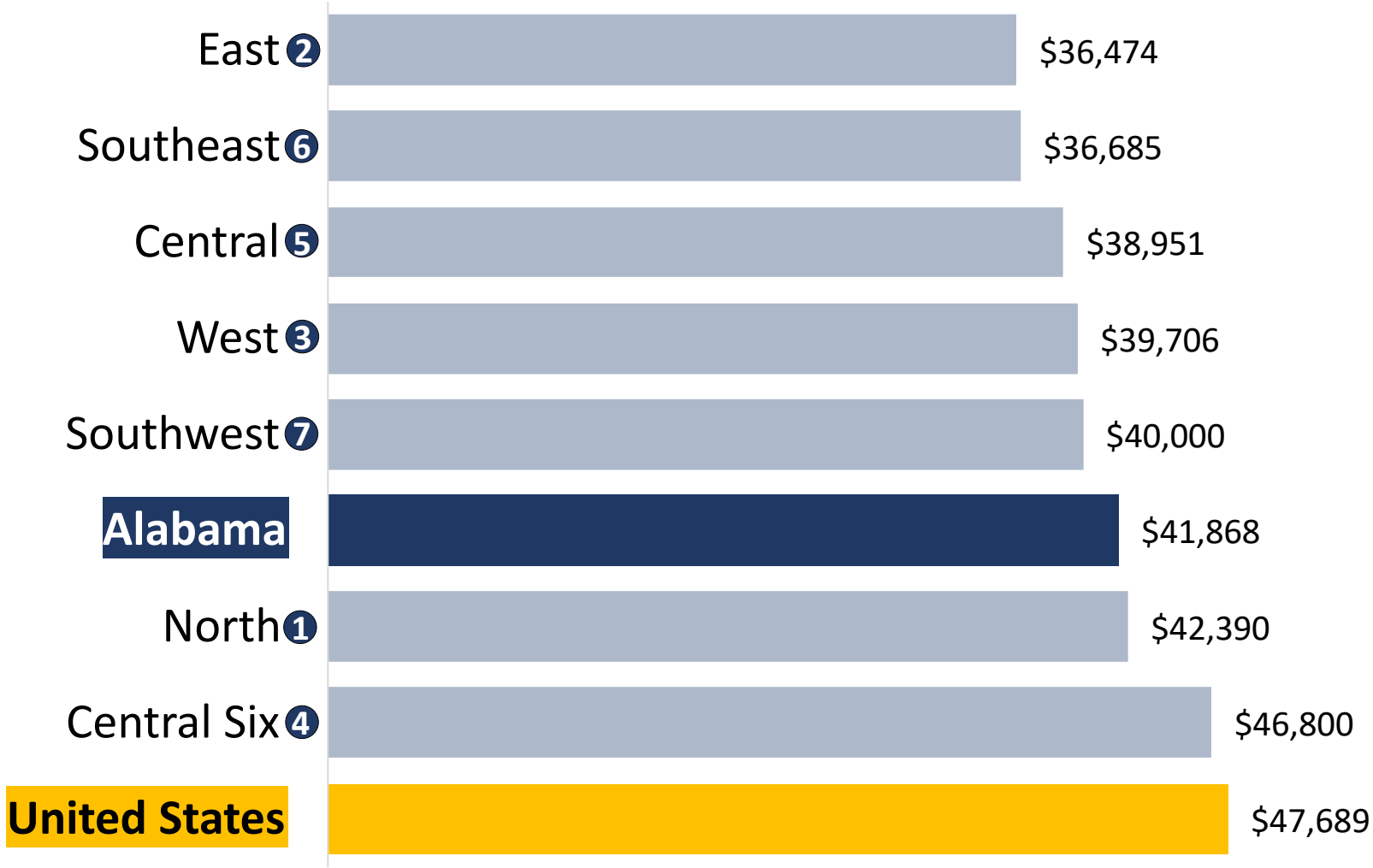


Alabama
Workforce Regions

Median Annual Wage Earnings of Full-Time Workers* (2021)



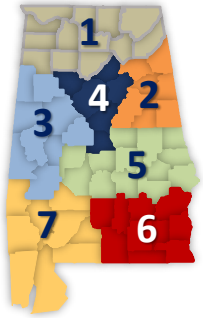
Highest

Need or Challenge

Lowest

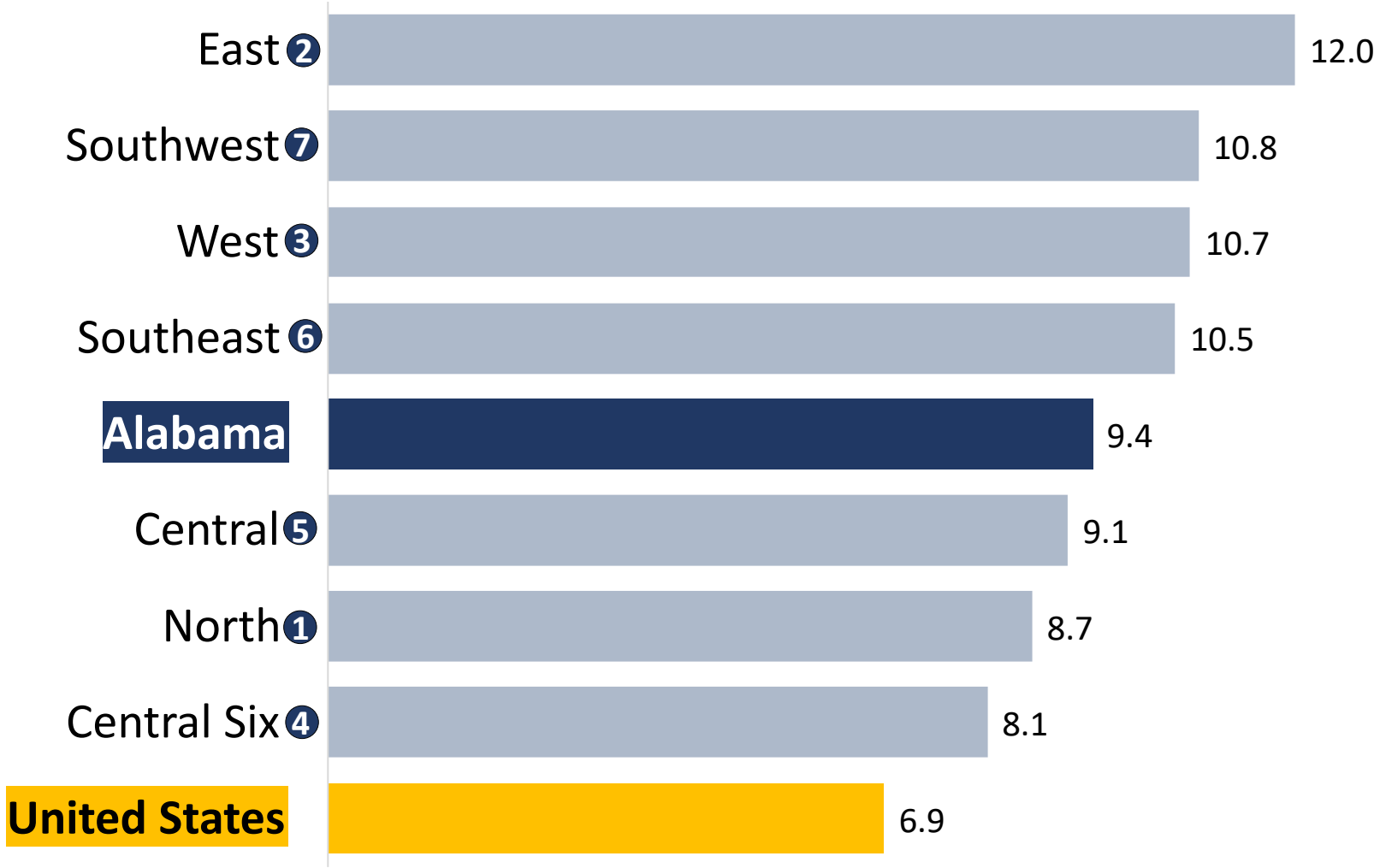
* Working 30 or more hours per week

Source: United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]

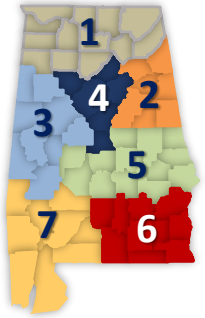


Alabama
Workforce Regions

Percentage of Adults Receiving Welfare or Disability Payments (2021)

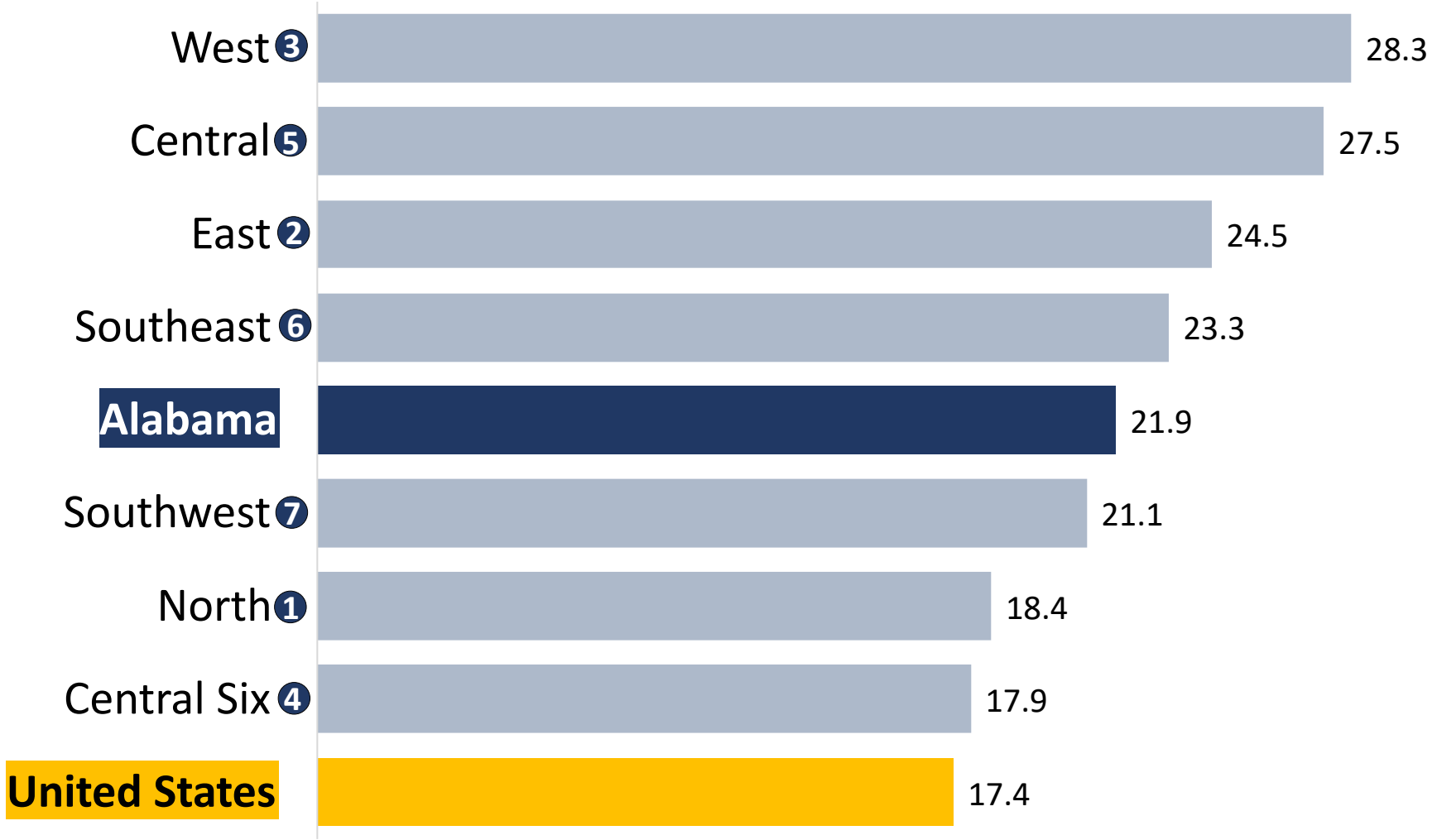


Source: United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]



Alabama
Workforce Regions

Percentage of the Population Living in Poverty (2021)



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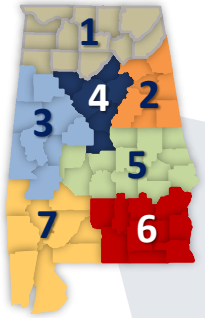
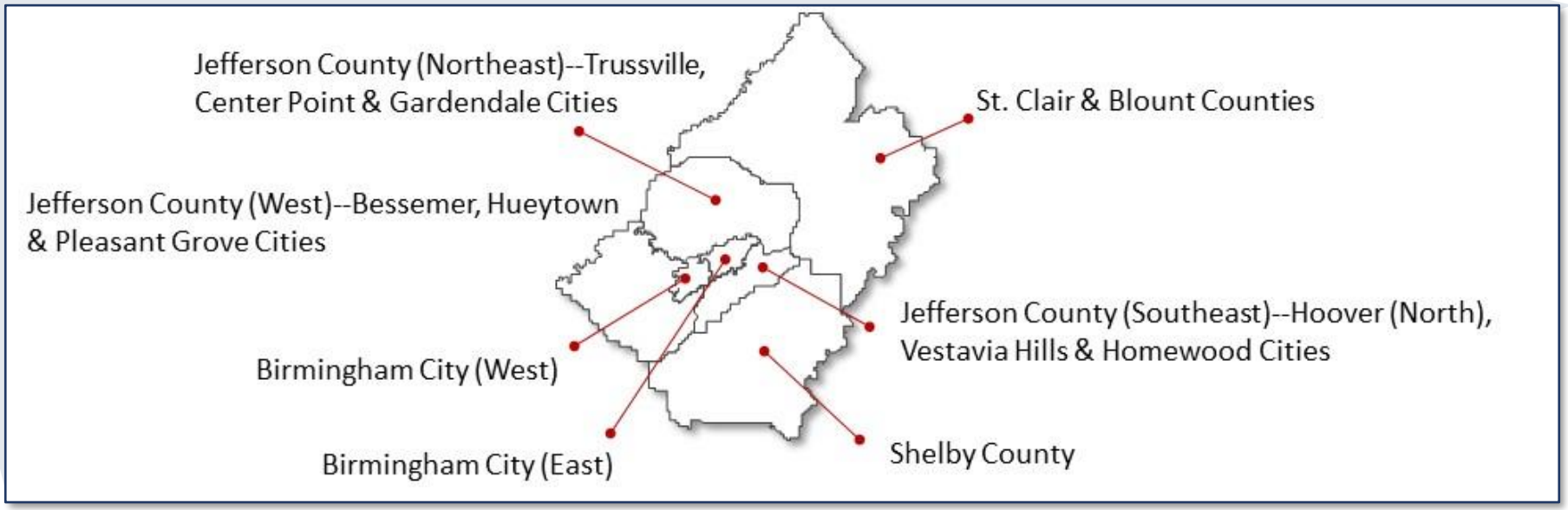
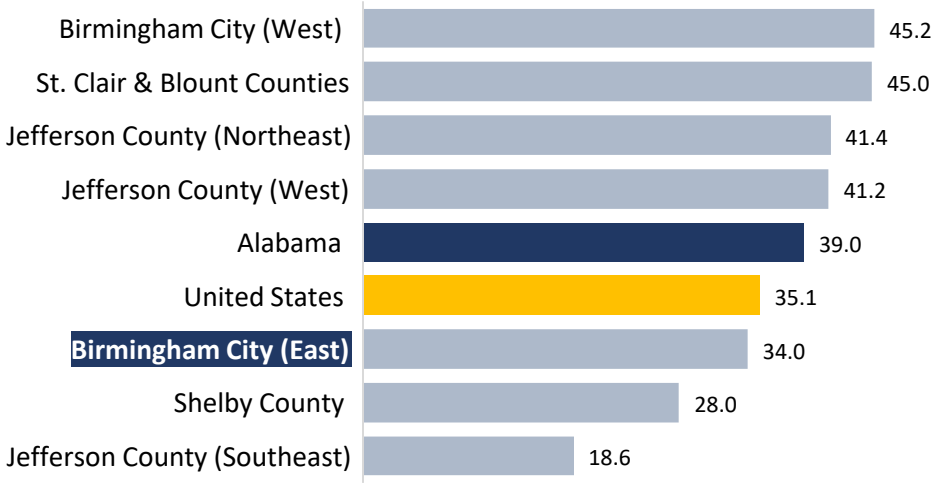


Region 4: Central Six

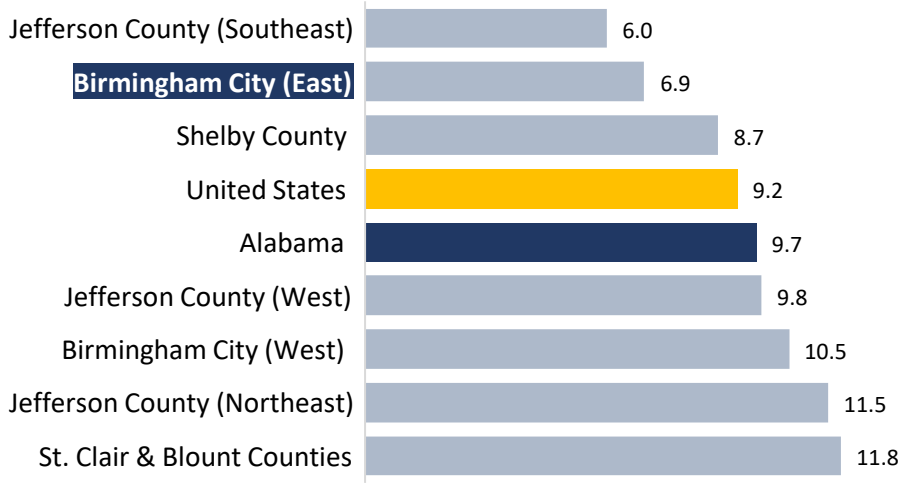
Selected Charts



Percentage of Adults 18 to 64 Years Old with a High School Diploma Only (2021)



Percentage of Adults Ages 25 to 64 with an Associates Degree (2021)

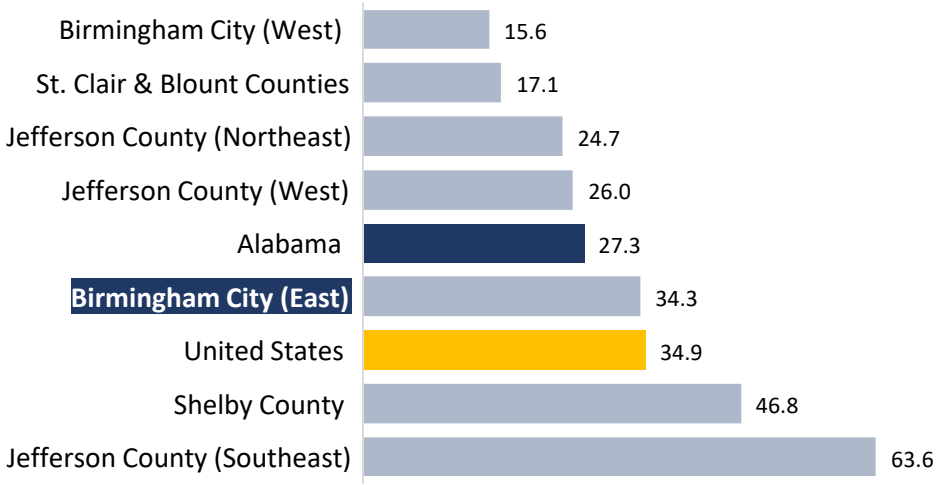


Highest

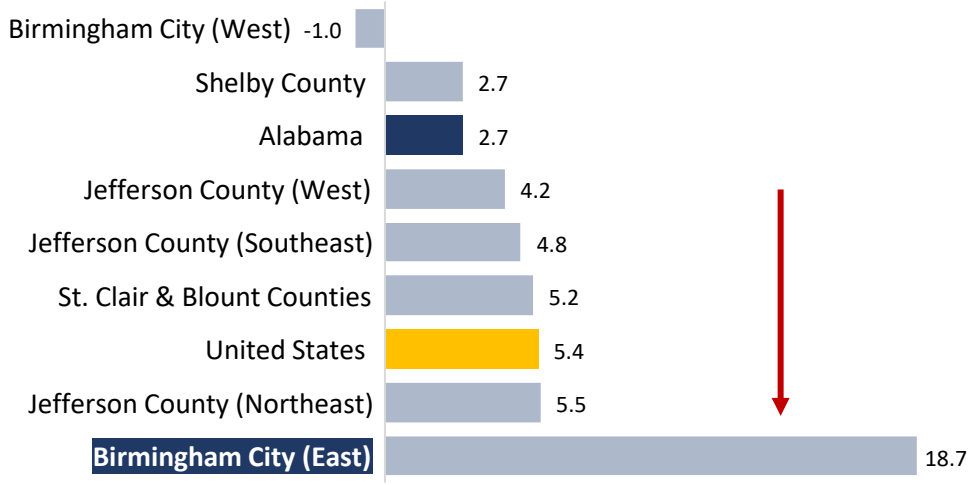
Need or Challenge

Lowest

Percentage of Adults Ages 25 to 64 with a Bachelor's Degree or Higher (2021)



Difference in College Attainment between Younger and Older Adults* (2021)



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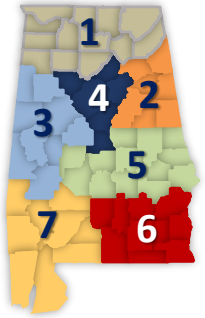
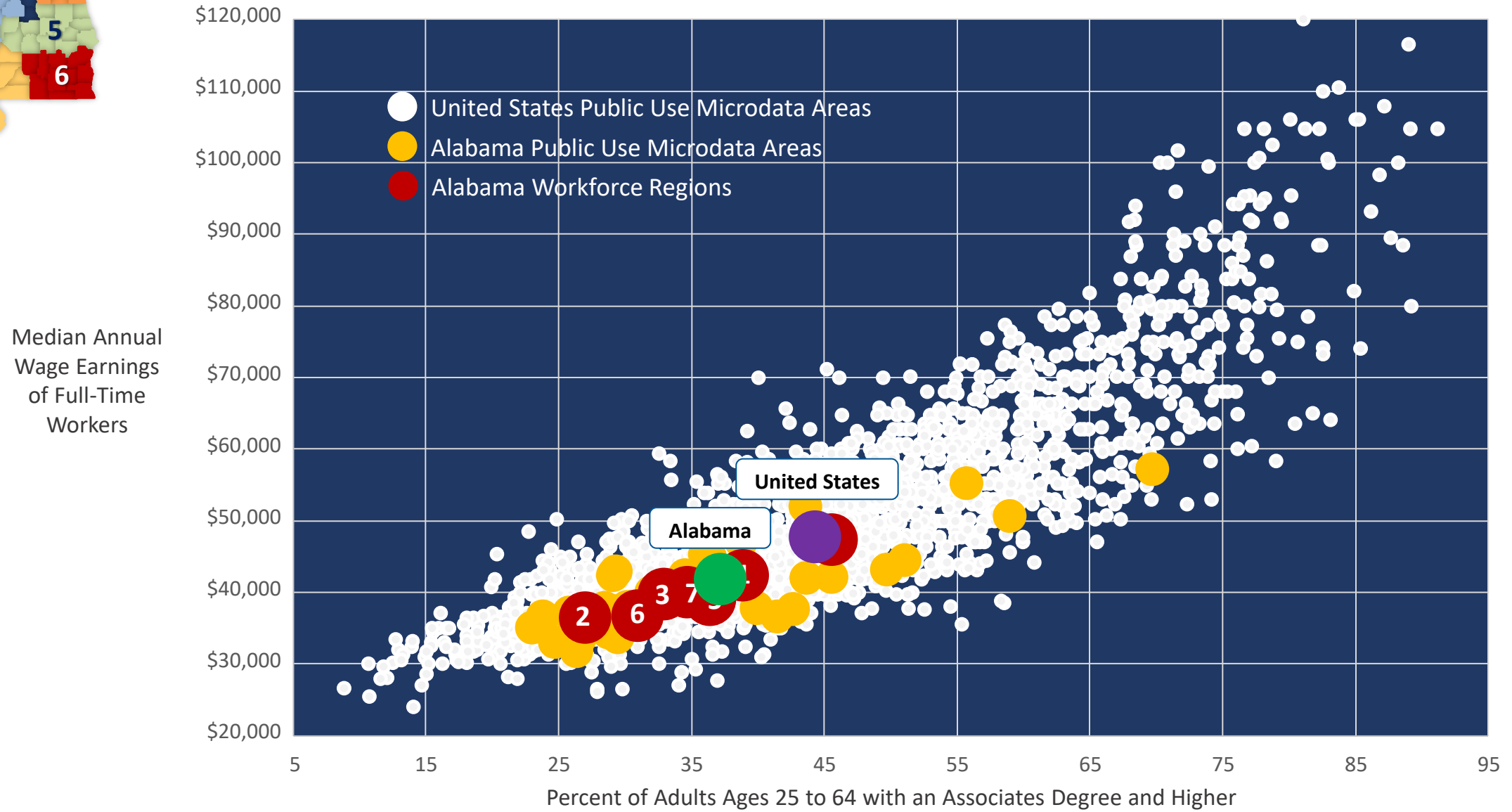


Alabama Workforce Regions

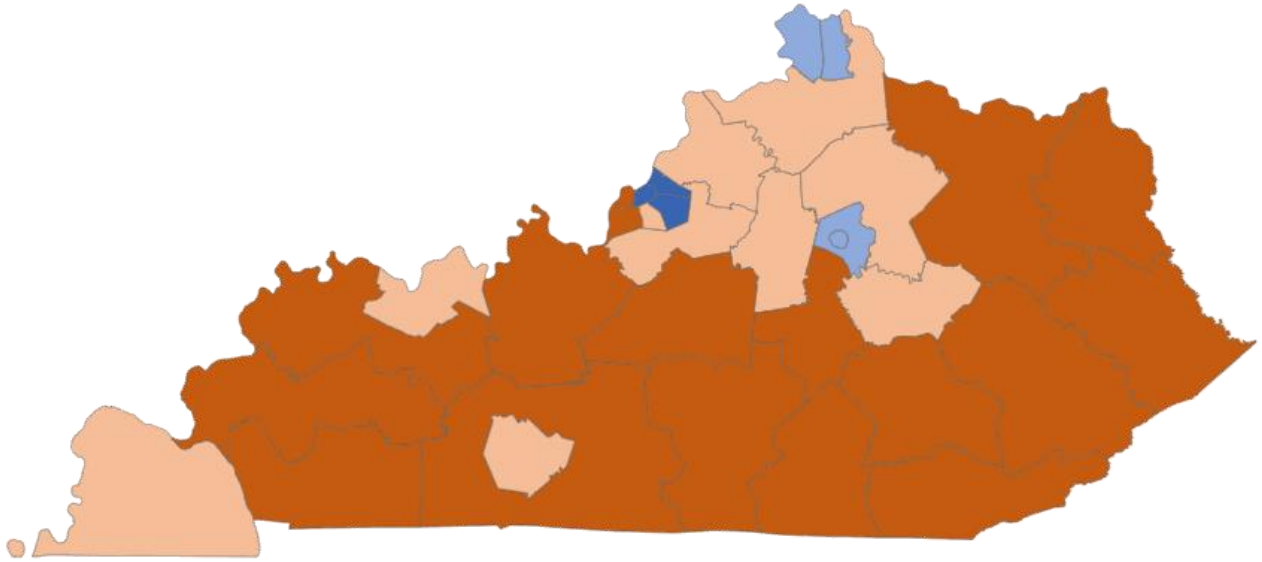
Relationship between College Attainment and Wages



Source: United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]

Kentucky

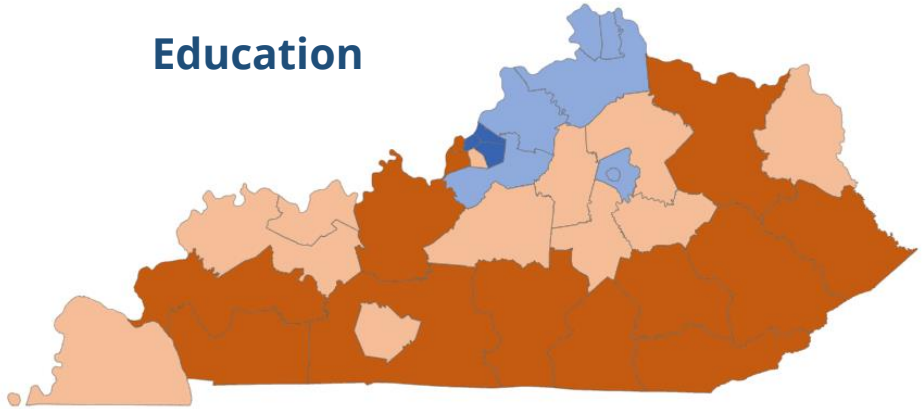
Overall Education and Workforce Need



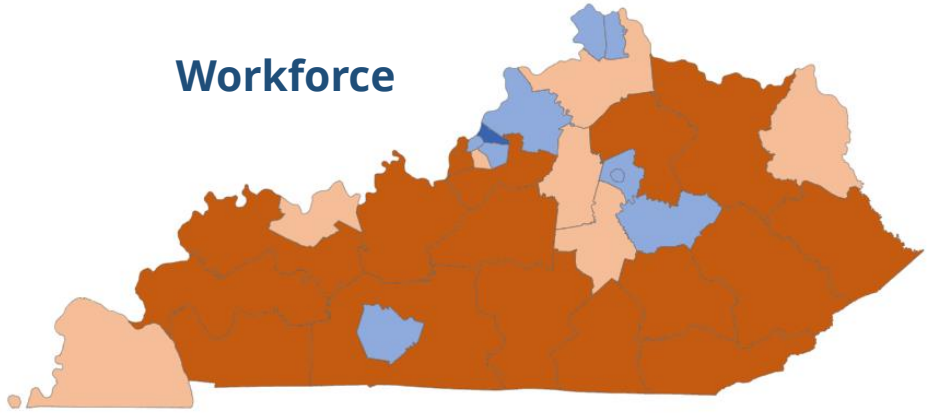
Level of Need

- Most Critical
- Critical
- Less Critical
- Least Critical

Education

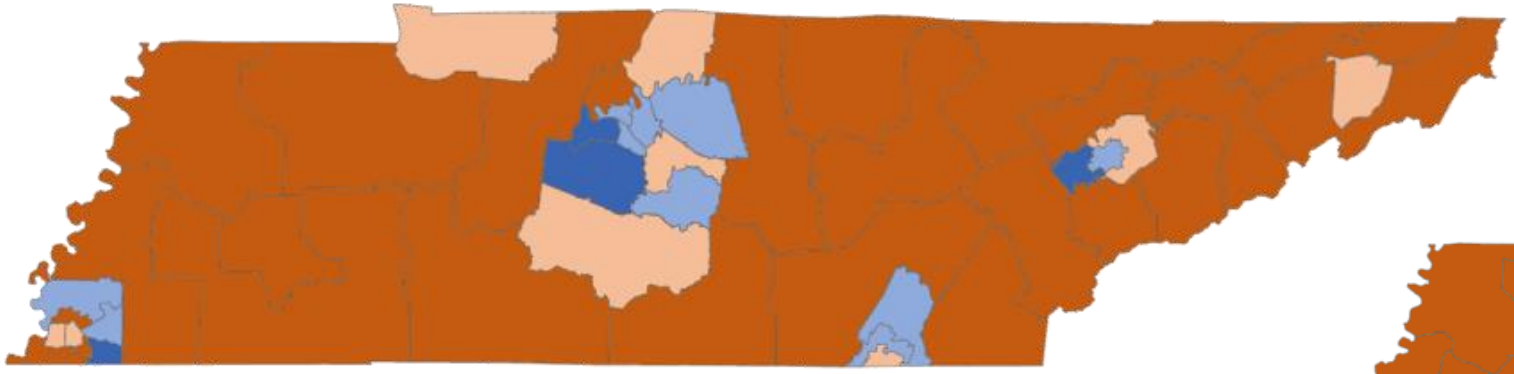


Workforce

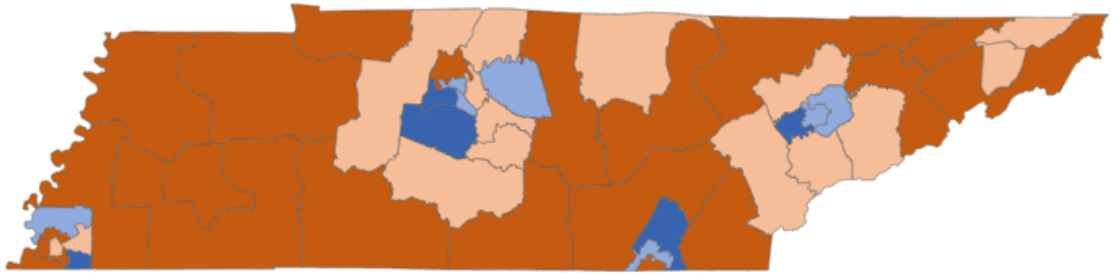


Tennessee

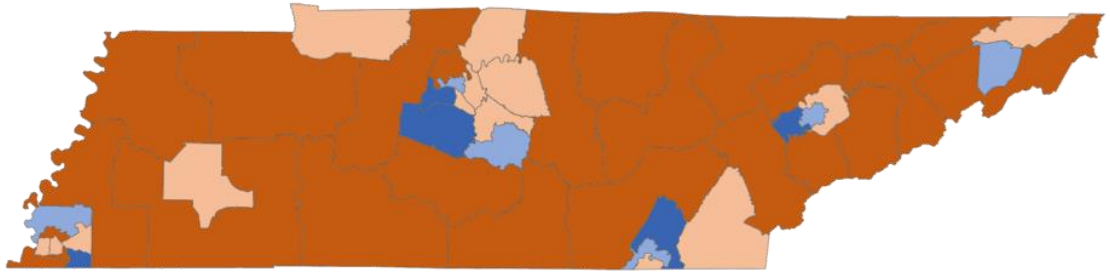
Overall Education and Workforce Need



Education



Workforce

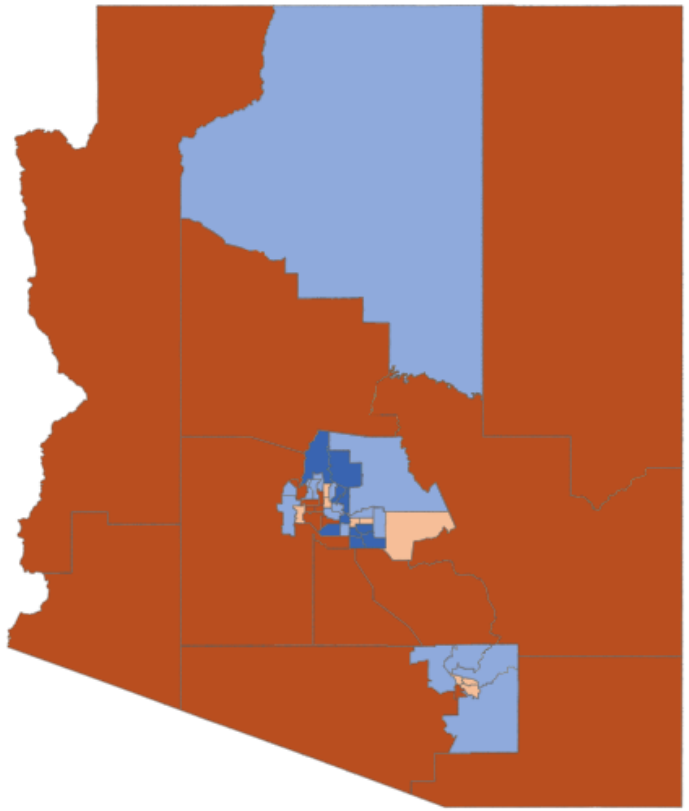


Level of Need

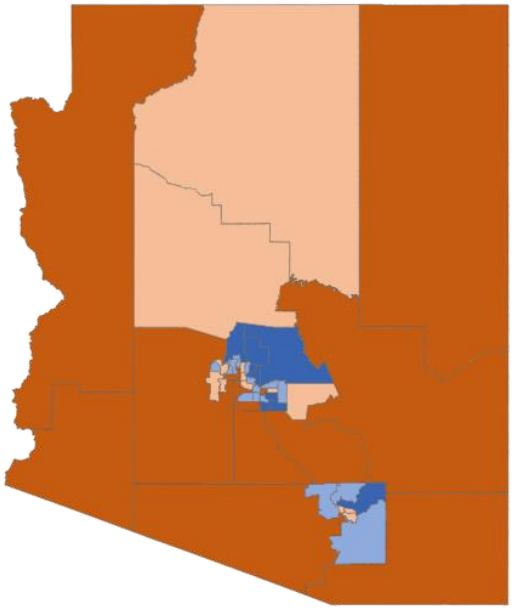
- Most Critical
- Critical
- Less Critical
- Least Critical

Arizona

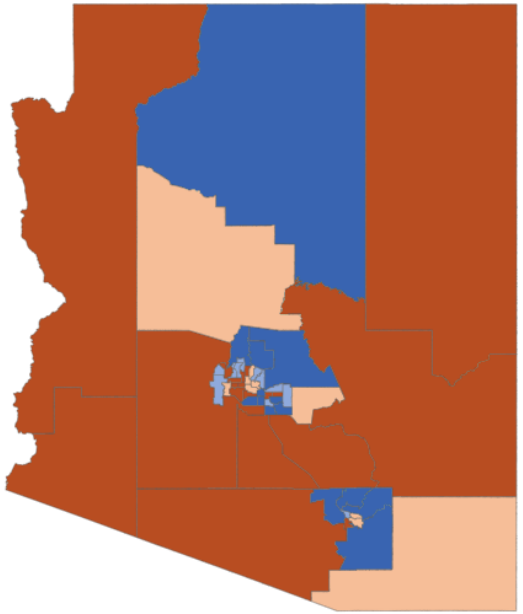
Overall Education and Workforce Need



Education

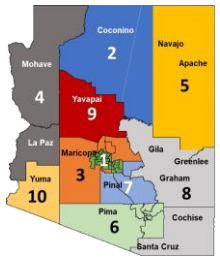


Workforce



Level of Need

- Most Critical
- Critical
- Less Critical
- Least Critical



1. City of Phoenix
2. Coconino
3. Maricopa
4. Mohave, La Paz
5. Northeast, Tribal Nations
6. Pima
7. Pinal
8. Southeastern, Santa Cruz
9. Yavapai
10. Yuma

Arizona | Regions | U.S. Quartiles

Need or Challenge

Lowest | U.S. Median | Highest

Overall Education and Workforce Need

Education Need

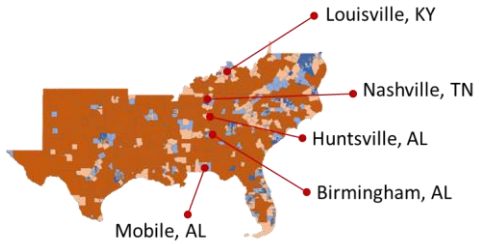
- High School Completion Only
- Associate Degree Completion
- Completion of a Bachelor's Degree or Higher
- College Attainment of Young vs Older Adults
- Enrollment of Young Adults without a College Degree

Workforce Need

- Labor Force Participation
- Unemployment
- Employment in Volatile Industries
- Median Annual Wage Earnings for Full-Time Workers
- Personal Income
- Working-Age Adults with SSI or Welfare Income

Trip Down I-65

The Education and Workforce Conditions from the Ohio River Valley to the Gulf of Mexico



Louisville Nashville Huntsville Birmingham Mobile U.S. Quartiles

Lowest U.S. Median Highest

Overall Education and Workforce Need

Education Need

- High School Completion Only
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- Labor Force Participation
- Unemployment
- Employment in Volatile Industries
- Median Annual Wage Earnings for Full-Time Workers
- Personal Income
- Working-Age Adults with SSI or Welfare Income

Engage in Community Outreach to Share Data

Focused Strategy, Implementation, and Practice Examples

- Increase college going directly out of high school (e.g., FAFSA completion, work-based learning, affordability, communication, etc.)
- Provide collegiate opportunities for nontraditional students with wrap-around services
- Incentivize the retention of residents with bachelor's degrees and higher
- Better align programs with local needs with a focus on underrepresented minorities
- Continue to support postsecondary education and workforce alignment
- Establish apprenticeships with meaningful links to local employment while pursuing credentials
- Apply retraining and retooling strategies to address the ever-changing industry needs
- Seek close engagement, strategy development, and practice among education and workforce agencies regarding the development of regional human capital

EDUCATION & WORKFORCE NEEDS INDEX

Sources, Data, Methods

EWNI EDUCATION & WORKFORCE NEEDS INDEX

Data provided by EWNI. Dashboard created by KYVA Analytics.

EDWork STRATEGY

Select a State

(All)

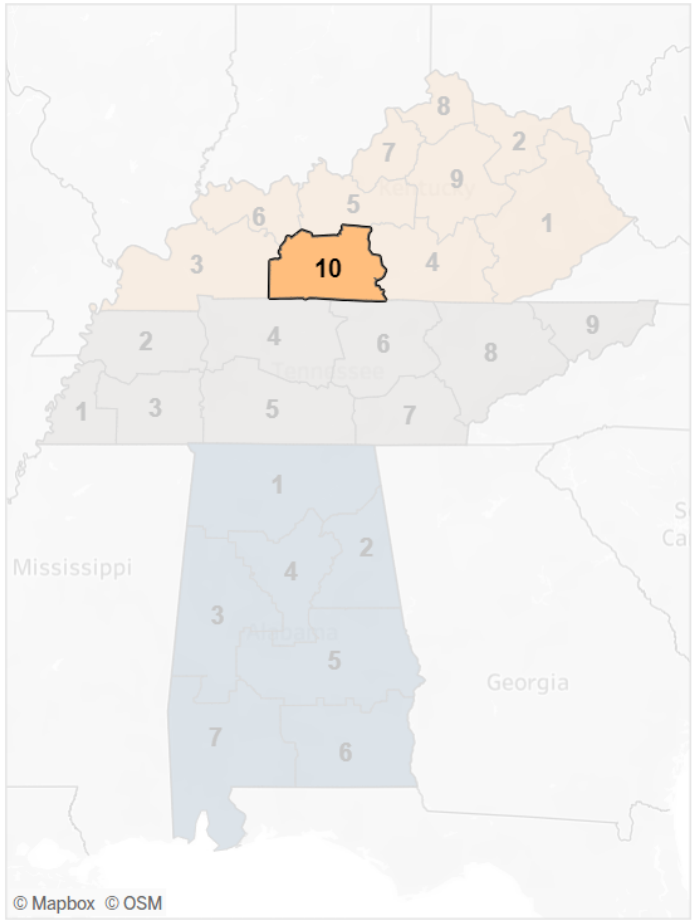
Select a Workforce Region

(All)

Highlight a Workforce Region or Click the Map to Filter the Dashboard

Highlight Region Name

Workforce Regions

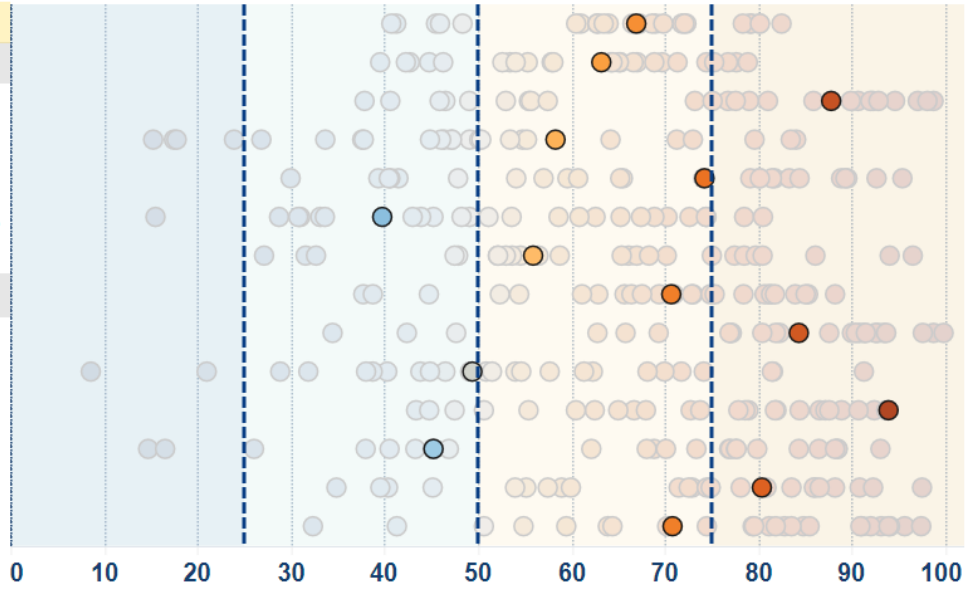


Education and Workforce Needs Index

◀ Low Need | 25th Percentile | US Median 50th Percentile | 75th Percentile | High Need ▶

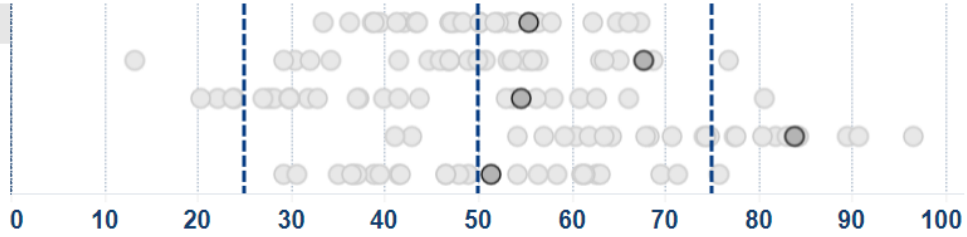
0 — 100

- Overall Need
- Education Need
  - Age 18 to 64 with a High School Diploma Only
  - Ages 25 to 64 with an Associates Degree
  - Ages 25 to 64 with a Bachelor's Degree
  - Difference in College Attainment between Young and Older Adults
  - Ages 18 to 29 with No college Degree, Not Enrolled
- Workforce Need
  - Working Age Population Not Participating in the Labor Force
  - Unemployment Rates
  - Employment in Volatile Industries
  - Median Wages for Full-Time Workers
  - Median Personal Income
  - Adults with SSI Disability or Welfare Income



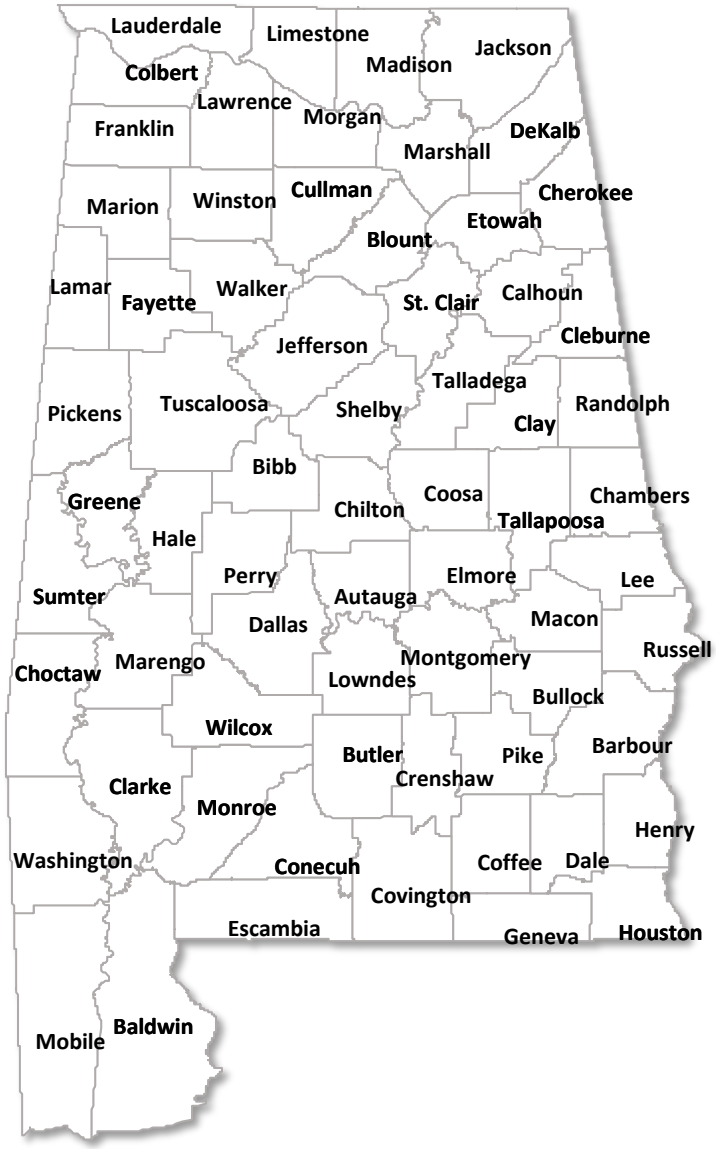
Population Characteristics

- Population Characteristics
  - Population Ages 0 to 19
  - Population Ages 20 to 44
  - Percent of Population in Poverty
  - Annual Change in Population Under 65

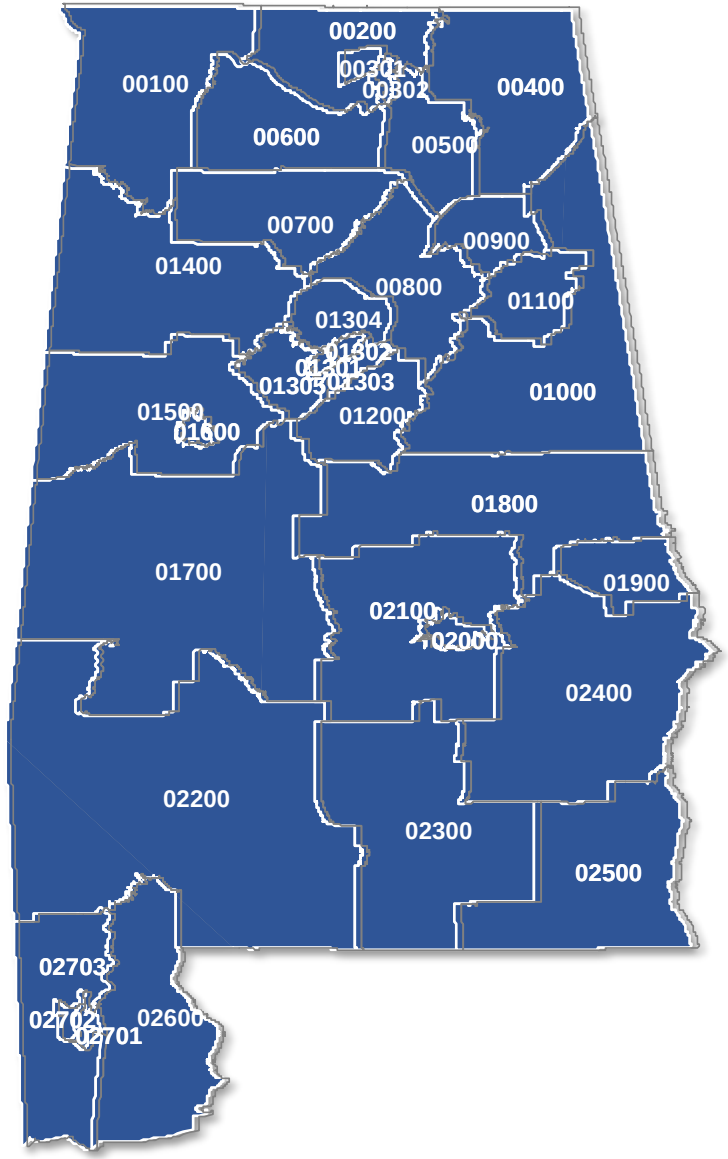


Alabama Public Use Microdata Areas – PUMAs

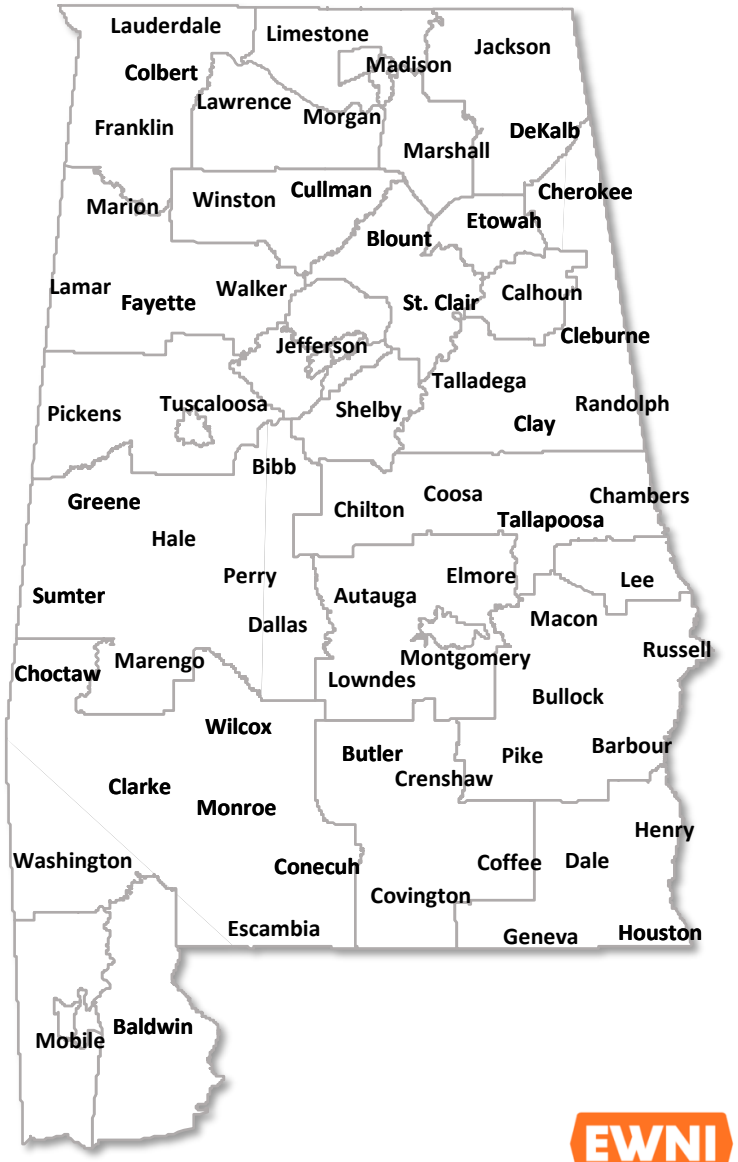
County Boundaries



PUMA Boundaries



PUMA Boundaries, County Locations



Source: American Community Survey
Public Use Microdata Samples

Sources

U.S. Census Bureau, 2021 American Community Survey 5-year PUMS (Public Use Microdata Sample).

United States Census Bureau, *Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek. IPUMS USA: Version 12.0 [dataset]. Minneapolis, MN: IPUMS, 2022. https://doi.org/10.18128/D010.V12.0.* [2021 ACS Five-Year Data, most recent available]

Determining Level of Need

There are 2,351 Public Use Microdata Areas (PUMAs) in the United States. They are the geographies within states that are surveyed in order to gain more representative samples of populations. The PUMAs and state workforce regions are simply displayed in rank order (in percentiles) relative to other PUMAs and regions across the U.S. on each factor in the EWNI. The education, workforce, and population factors of the index are the average of the percentile rankings across each of the measures in the factor. The "overall" need is the average of the education, workforce, and population factor scores.

What are Public Use Microdata Areas (PUMAs)?

- Non-overlapping, statistical geographic areas that partition each state or equivalent entity into geographic areas containing no fewer than 100,000 people.
- Cover entirety of United States, Puerto Rico, Guam, and the U.S. Virgin Islands.
- Defined every ten years for the tabulation and dissemination of the decennial census and American Community Survey (ACS) Public Use Microdata Sample (PUMS) data.
  - Also used in the publication of the ACS and Puerto Rico Community Survey period estimates.

2 2020CENSUS.GOV

Shape your future START HERE >

United States Census 2020

Advantages

- Available annually (detailed Public Use File)
- More accurately reflect demographic patterns by population density (urban and rural)
- Ability to more finely disaggregate (by age-group, race, gender, occupation, education level, labor force status, etc.)

Disadvantages

- Smaller sample size (1% American Community Survey vs. 5% Decennial Long Form)
- Ability to finely disaggregate (standard errors)
- Communication of geographic boundaries (counties vs. PUMAs)