

Workforce Development & Tourism Subcommittee

Wednesday, September 18, 2019
3:00 PM – 5:00 PM
12 HOB

Meeting Packet

Jose Oliva
Speaker

Rene Plasencia
Chair

The Florida House of Representatives

Commerce Committee

Workforce Development & Tourism Subcommittee

Jose R. Oliva
Speaker

Rene Plasencia
Chair

Meeting Agenda

Wednesday, September 18, 2019
3:00 pm – 5:00 pm
Webster Hall (212 Knott)

I. Call to Order

II. Roll Call

III. Welcome and Opening Remarks

IV. Presentation by the Southern Regional Education Board (SREB) relating to workforce development issues in Florida

V. Closing Remarks

VI. Adjournment

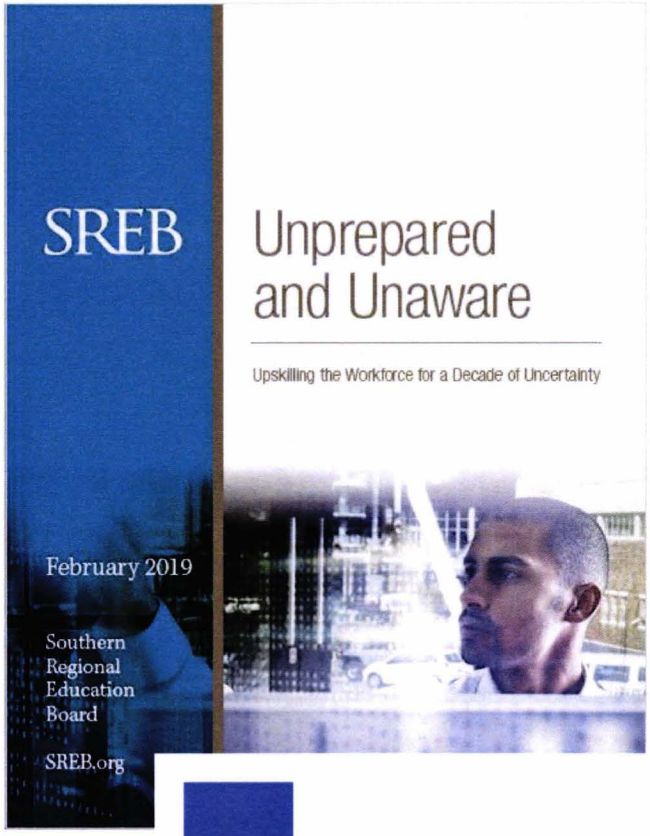
317 House Office Building, 402 South Monroe Street, Tallahassee, FL 32399-1300
(850) 717-4870

SREB

Education, Automation and the Workforce

Florida State Impact

Meagan Crowe, Policy Analyst

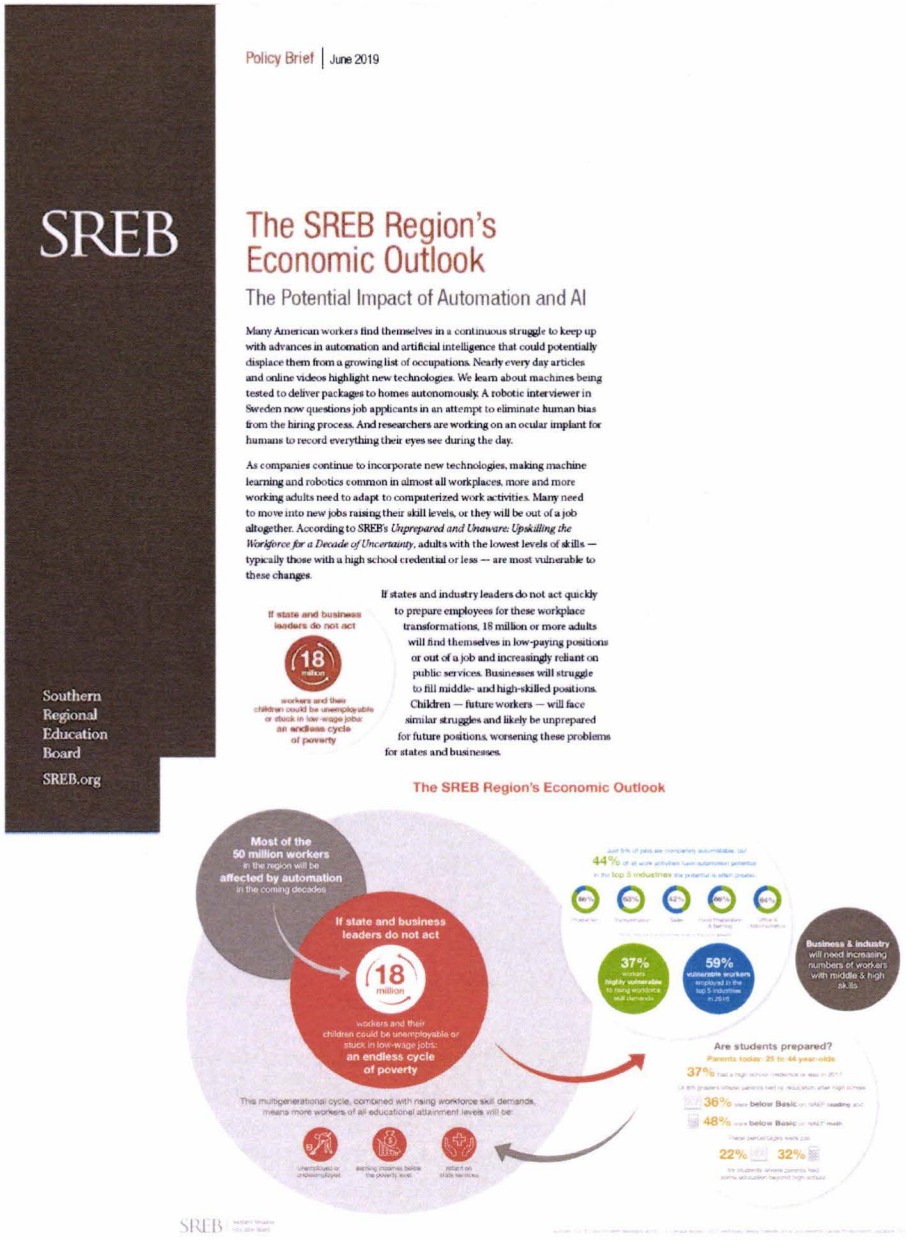


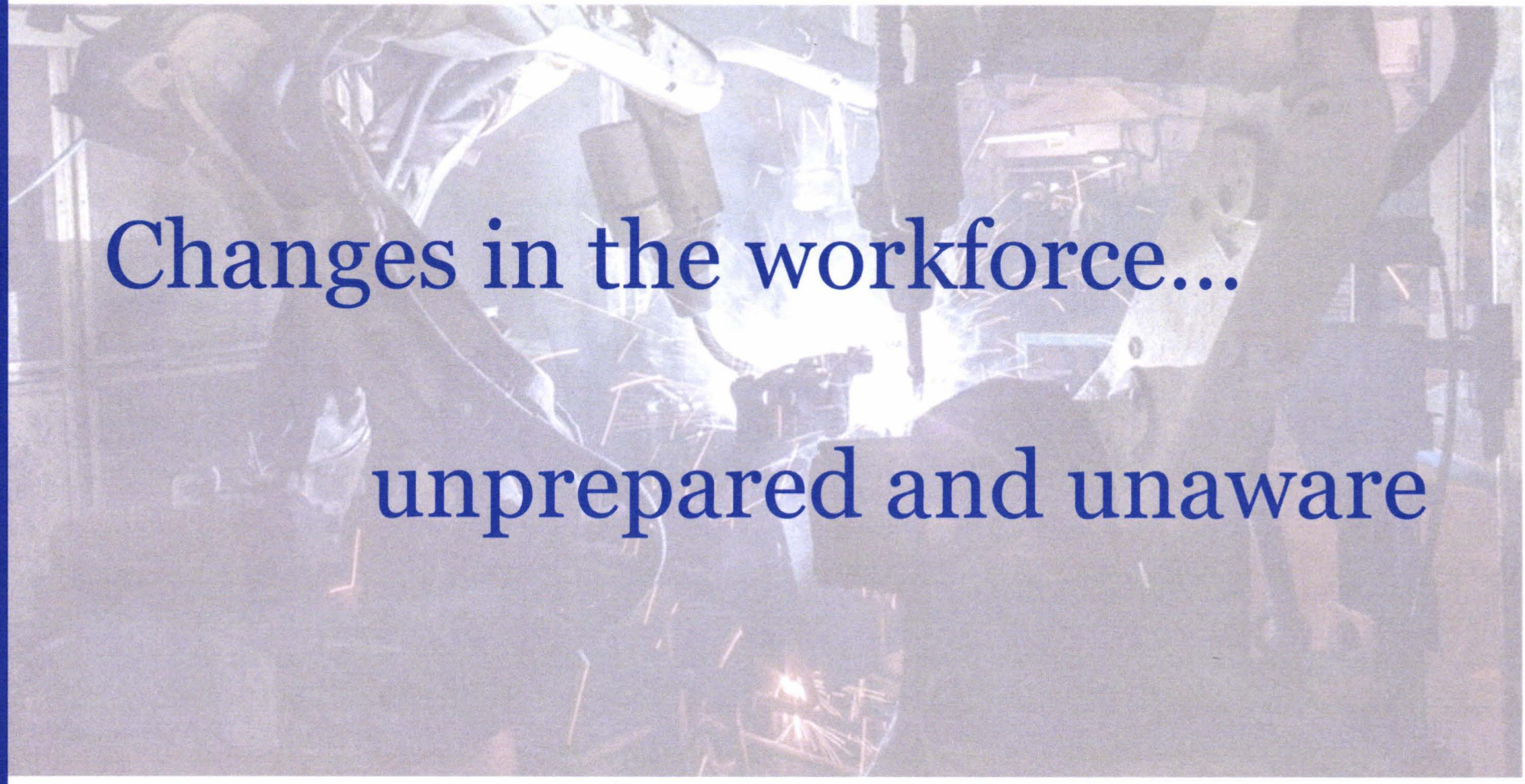
SREB

Preparing the Workforce for a Decade of Uncertainty

Joan Lord, Vice President
Meagan Crowe, CNP, Policy Analyst

SREB





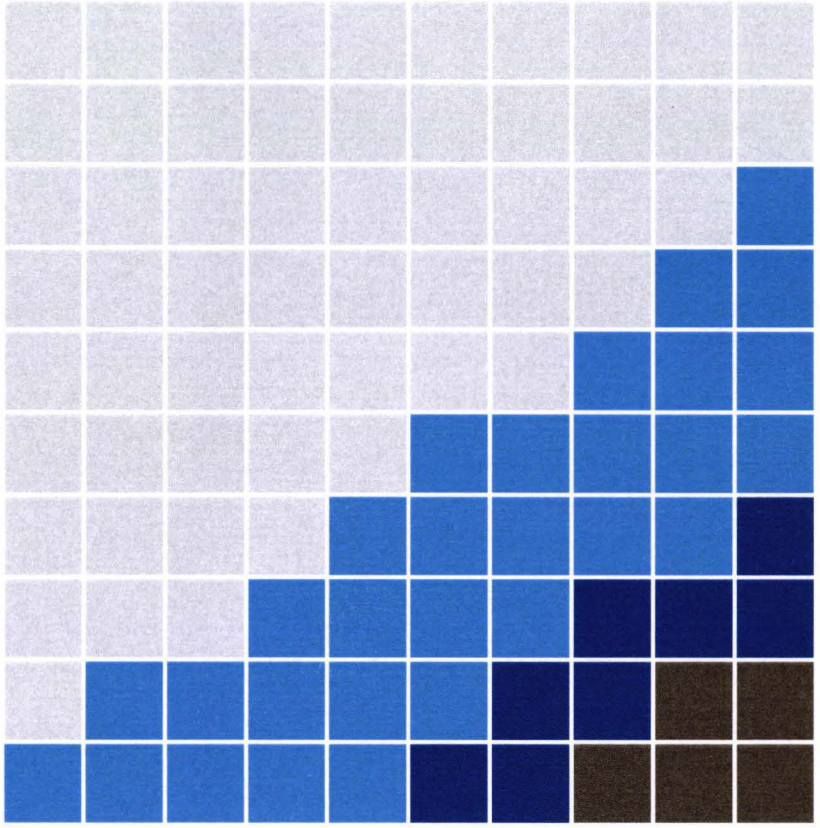
Changes in the workforce...

unprepared and unaware

Push toward middle-skill jobs

- More than a high school diploma, less than a bachelor's degree
- Pay mid-level incomes: $35 - $75,000
- Job growth is 51% from 2015 and 2023
- 46% gap between available jobs and skilled workers in 2015

By 2017, 42% of Florida adults had no education beyond high school.

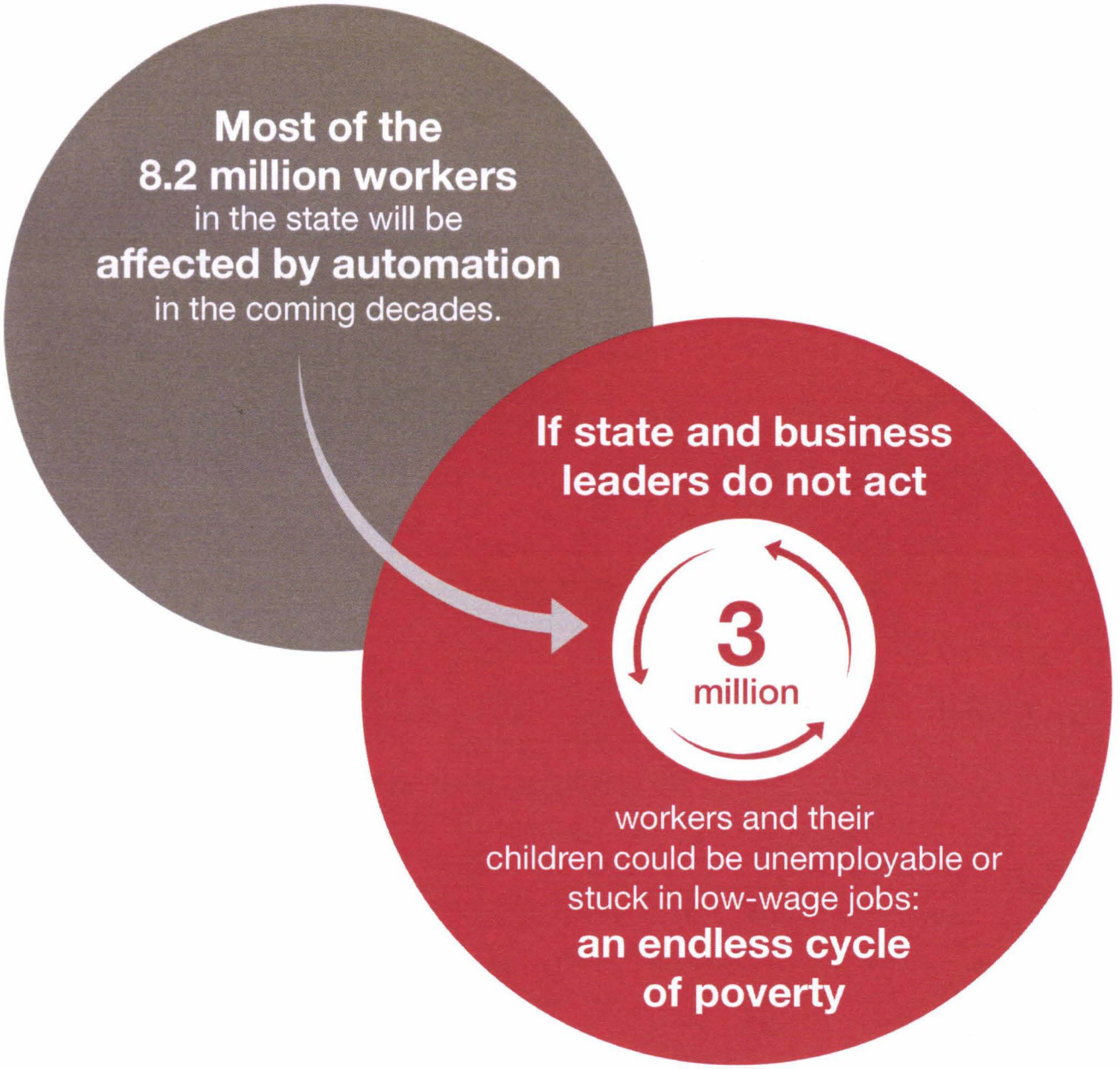


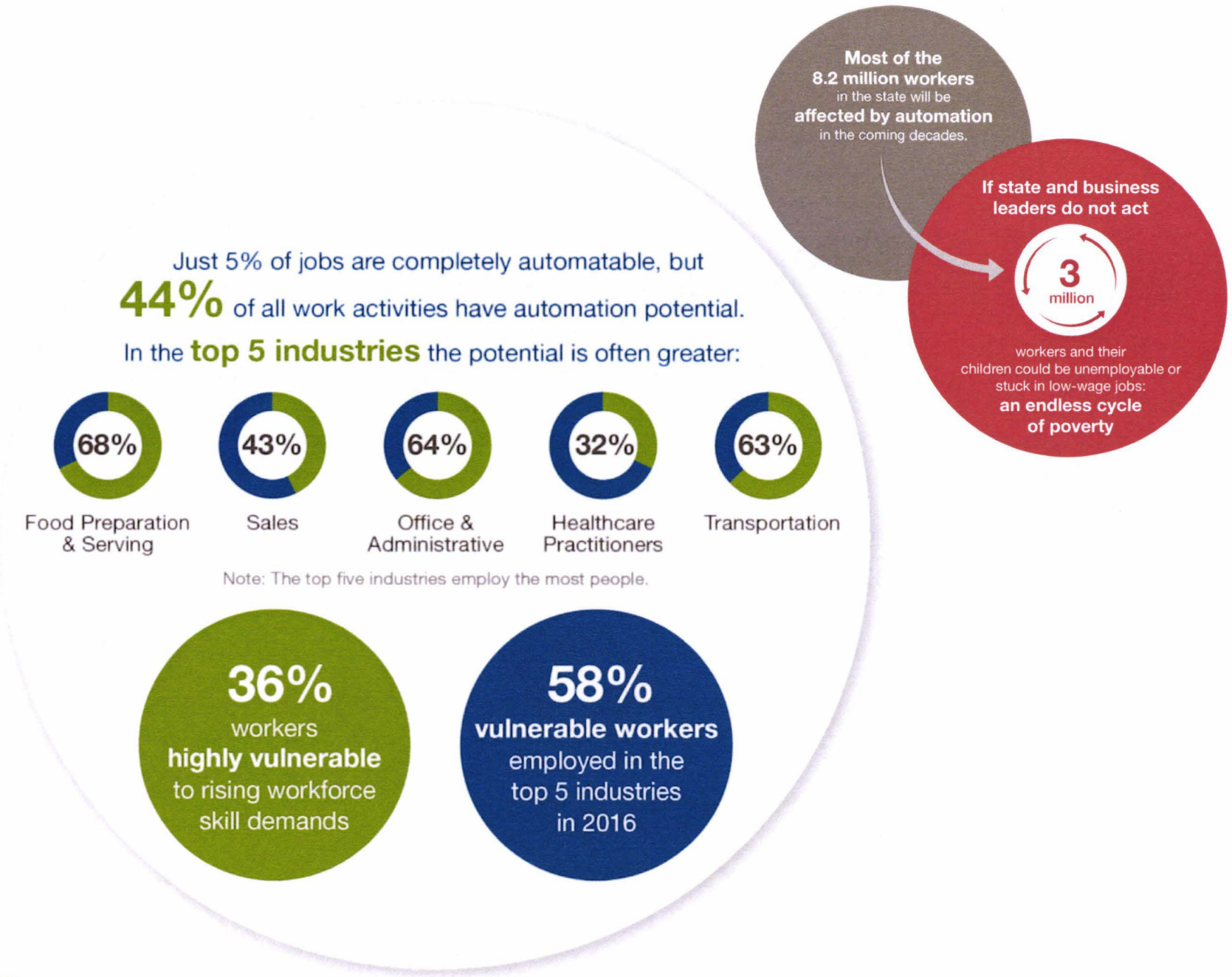
Almost 1.6 million had a high school credential and no more

420 thousand had some high school, but no credential

240 thousand had less than a 9th grade education

SREB


Most of the
8.2 million workers
in the state will be
affected by automation
in the coming decades.
If state and business
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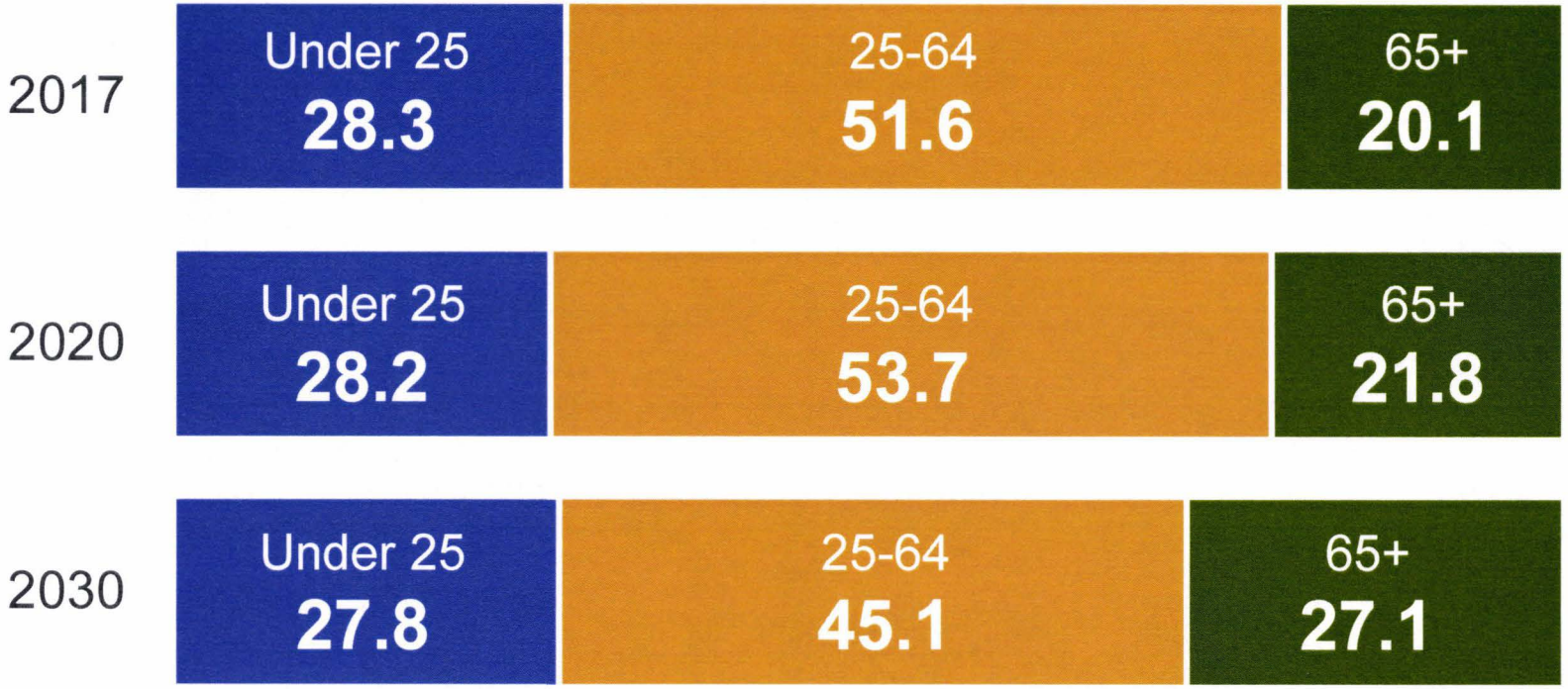

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Just 5% of jobs are completely automatable, but
44% of all work activities have automation potential.
In the top 5 industries the potential is often greater:
68%
Food Preparation
& Serving
43%
Sales
64%
Office &
Administrative
32%
Healthcare
Practitioners
63%
Transportation
Note: The top five industries employ the most people.
36%
workers
highly vulnerable
to rising workforce
skill demands
58%
vulnerable workers
employed in the
top 5 industries
in 2016

If state and industry leaders do not act now, more adults will be:

- underemployed or unemployable
- earning incomes below the poverty level
- dependent on social welfare services
- unable to launch the next generation

A More Dependent Population

By 2030, for every 55 dependent people in Florida there will be just 45 working-age adults to provide for them.



Are students prepared?

Parents today: 25 to 44 year-olds

40% had a high school credential or less in 2017

Of 8th graders whose parents had no education after high school



36% were **below Basic** on NAEP **reading** and



44% were **below Basic** on NAEP **math**

These percentages were just

22%  **34%** 

for students whose parents had
some education beyond high school

Prepare for today *and tomorrow*

Ensure that business and industry have the workers they need now

Ensure workers are prepared for jobs that will be available in the future

Systemic Approach:

- at all education levels
- align federal ESSA, Perkins V and WIOA efforts and use funding wisely
- with agencies working together to develop seamless pathways that lead to meaningful credentials and degrees

SREB

Southern
Regional
Education
Board

www.sreb.org

Meagan Crowe, CNP, Policy Analyst

Meagan.Crowe@SREB.org

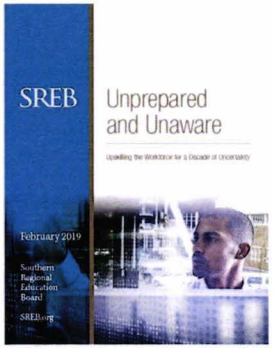
(404) 879-5587

SREB Twitter: @SREBeducation

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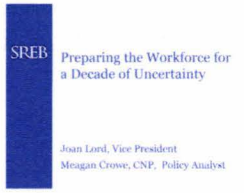
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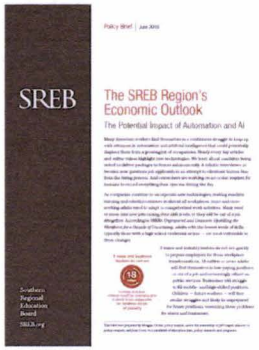
Report: Unprepared and Unaware

https://www.sreb.org/publication/unprepared-and-unaware



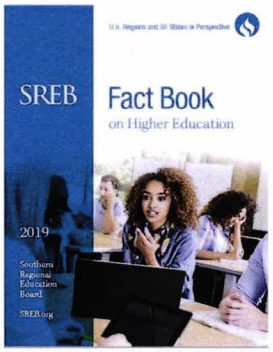
Webinars: Preparing the Workforce for a Decade of Uncertainty

https://www.sreb.org/webinars



Brief: The SREB Region's Economic Outlook & Infographics

https://www.sreb.org/publication/sreb-regions-economic-outlook



Fact Book on Higher Education

https://www.sreb.org/fact-book-higher-education-0

SREB

Unprepared and Unaware

Upskilling the Workforce for a Decade of Uncertainty



February 2019

Southern Regional Education Board

SREB.org

This report was prepared by Meagan Crowe, policy analyst, under the direction of Jeff Gagne, director of policy analysis, and Joan Lord, vice president of education data, policy research and programs.

Unprepared and Unaware

Upskilling the Workforce for a Decade of Uncertainty

Executive Summary

America is currently experiencing a dynamic shift in employment for many working-age adults. As companies automate basic retail and manufacturing jobs, they eliminate many of the low-skill jobs available to adults with low levels of education. But technological advancements also create new positions, many requiring education after high school. These *middle-skill jobs*, demanding more than a high school credential but less than a college degree, will continue to emerge at the same time low-skill jobs go away. Adult workers who raise their education levels to qualify for these jobs will be better prepared to benefit from the new labor market. Adults who do not raise their skills may not.

States hoping to strengthen the chances of vulnerable workers getting and retaining good jobs — or qualifying for jobs that businesses need to fill — will have to provide effective adult education programs.

The question for state leaders isn't whether there will be sufficient jobs in the future but whether there will be enough skilled workers to fill them. States will need to invest as always in helping low-skilled adults earn diplomas, but also in helping them keep up with technological advancements in the job market. Otherwise, they will become increasingly vulnerable to job loss, low pay and poor health outcomes. And their children will likely become low-skilled as well, creating a costly, multi-generational challenge for states and businesses.

A shortage of sufficiently trained workers makes it difficult for businesses to fill important jobs, so they will have to make greater investments in training their employees. Low-skilled adults are costly for states too, as they earn less and pay less in taxes. They are less likely to vote or volunteer for civic projects. States hoping to strengthen the chances for vulnerable workers to get and retain good jobs — or qualify for jobs that businesses need to fill — will have to provide effective adult education programs. Their efforts will require creativity and resourcefulness.

The 2014 reauthorization of the federal Workforce Innovation and Opportunity Act provides state leaders a clear roadmap for preparing undereducated adults for a better future. WIOA strengthens accountability standards and requires states to coordinate statewide and local efforts to address regional workforce needs. The legislation calls for a stronger focus on workers' needs and challenges states to implement best instructional practices in adult education. It also requires that states adopt Integrated Education and Training programs, often led by separate instructors to help adults improve basic skills and earn a high school diploma while they prepare for specific occupations and work toward industry credentials.

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The legislation stipulates that states incorporate six core programs — and allows them to incorporate up to 11 partner programs — into their state WIOA plans. One of these is Perkins V, or the Strengthening Career and Technical Education for the 21st Century Act. CTE programs prepare adults for middle-skill jobs by providing the advanced, industry-specific technical skills needed to fill such positions.

In improving adult education programs, states are also faced with decreased funding and enrollments. Funding for these programs fell sharply during the recession and has not fully recovered. States will need to bolster program funding and provide support services if they hope to enroll more adults in education programs. Industry investment could also help states enroll more adults and ensure that they earn credentials that can lead to employment.

The efforts that states make to help adults train for stable employment will improve outcomes for their children as well, leading to a healthier economy both now and in the long term. What can states do to help more adults — and their children — reach a middle-skills level?

1. Adopt the College and Career Readiness Standards for Adult Education to establish consistent learning expectations and foster partnerships with other education providers.
2. Use instructional practices and materials and implementation methods known to be successful.
3. Provide teachers adequate training and professional development opportunities.
4. Align CTE and integrative training education course offerings with specific workforce needs, focusing on skills, not tasks.
5. Require adult education performance measures that are both quantitative and qualitative.

SREB states need to be innovative and bold in preparing the current and future generation for ever-changing workforce demands. SREB is committed to supporting these efforts with data and policy analysis, to help states make informed decisions to improve adult education programs and ensure the livelihoods of their most vulnerable adults and *their* children.

How is technology affecting the workforce?

America is experiencing a dynamic shift in employment for many working-age adults. Since the peak of manufacturing in 1979, the United States has lost more than 7 million factory jobs to automation and other technological advancements. The ones most likely to be automated today require physical and repetitive labor such as assembly line, customer service and clerical positions, jobs available to adults with a high school education or less. Restaurants, for instance, are replacing their cashiers and servers with self-ordering and self-paying kiosks. Chatbots now answer incoming sales calls. Computers are the new data entry clerks. Robots are assembling cars. There's even a company developing a program to automate legal services — much as online tax services have automated the income tax business.

> Too often changes in technology occur more quickly than adults can prepare for them, and many will lose their jobs.

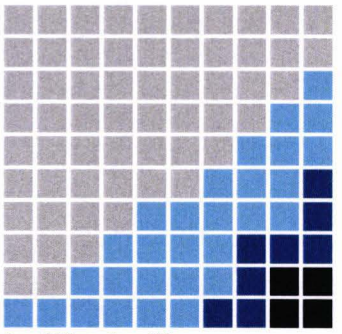
As technology continues to advance in the workplace, the employment gap between those with postsecondary education or credentials and those without is expected to grow. The McKinsey Global Institute estimates that by 2030 between 3 and 14 percent of the global workforce will need to be able to perform a completely different job function than the one they did in 2016. McKinsey estimates that *all* workers will need to adapt in some way to working more closely with machines and that if jobs are automated at a rapid pace the outcome could be dramatic: up to 44 percent of current work activities in the United States could be automated by 2030.

As companies automate their basic retail and manufacturing jobs, increasing their production rates and earnings, they are pushing low-skilled positions out of the labor market. As these low-skill jobs disappear, highly specialized jobs emerge in which people must operate and maintain the machines that are taking their places. These new *middle-skill jobs* require more than a high school credential but less than a college degree, and these too will become increasingly sophisticated as technology advances. So, adult workers who improve their education levels will find opportunities in the new labor market. **For business owners and policymakers, the question isn't whether there will be jobs. The question is whether there will be enough skilled workers to fill them.**

Where do SREB states stand?

In SREB states in 2017, more than 12 percent of adults ages 18 to 64 — over 9 million — had less than a high school education, and 28 percent — some 21 million — had a high school credential and no more. These adults will need significant training and education to obtain the skills they need to keep up with technological advancements in today's job market. States will need to invest not only in helping adults earn diplomas, but also in ensuring that they boost their skills significantly. (See page 9 for equivalency options for the high school diploma.)

Of the 75 million adults, ages 18 to 64 in SREB states



21 million had a high school credential and no college work,

6 million had some high school but no credential, and

3 million had less than a 9th grade education.

Source: U.S. Census Bureau, 2017

Even a relatively small proportion of low-skilled workers in the workforce is detrimental to the overall economy. It hurts not only the poorly educated individuals but also their families, the businesses that need to hire them and can't, their states, and the nation.

States have made too little progress in helping these adults boost their academic and workplace skills. By 2017, the region still had nearly 3 million 18- to 64-year-old adults with less than a 9th grade education — an improvement of only 300,000 in nine years. In that same year, 6.3 million adults had reached high school but not graduated, compared with 7.1 million nine years earlier. Over half of these adults were between the ages of 25 and 44.

SREB reported that states were working to improve adult learning outcomes in its 2010 report, *A Smart Move in Tough Times*. But even then, enrollment growth in adult education programs was not keeping pace with workforce demands.

SREB's 2015 commission report on career and technical education, *Credentials for All*, detailed the challenges facing young adults who do not earn postsecondary credentials. "For many young adults, the 20s are a lost decade," the report found. "After years of underemployment or unemployment, many return to school when they are nearly 30." As technology advances, this is — or will become — the reality for many more adults in SREB states than just those in their late 20s and early 30s. Four in 10 SREB adults will need to improve their skill levels if they hope to keep their jobs and earn good salaries.

These reports offered sound advice for SREB states to increase their residents' educational attainment levels and meet workforce needs:

- Ensure that adult learning efforts are coordinated statewide
- Set statewide goals for adult learning
- Be wise and creative stewards of limited resources
- Create relevant pathways that align secondary, postsecondary and workplace learning
- Ensure that adults earn industry-recognized credentials or postsecondary certificates and degrees at the associate degree level or higher

Fulfilling these recommendations is vital for SREB states, now more than ever.

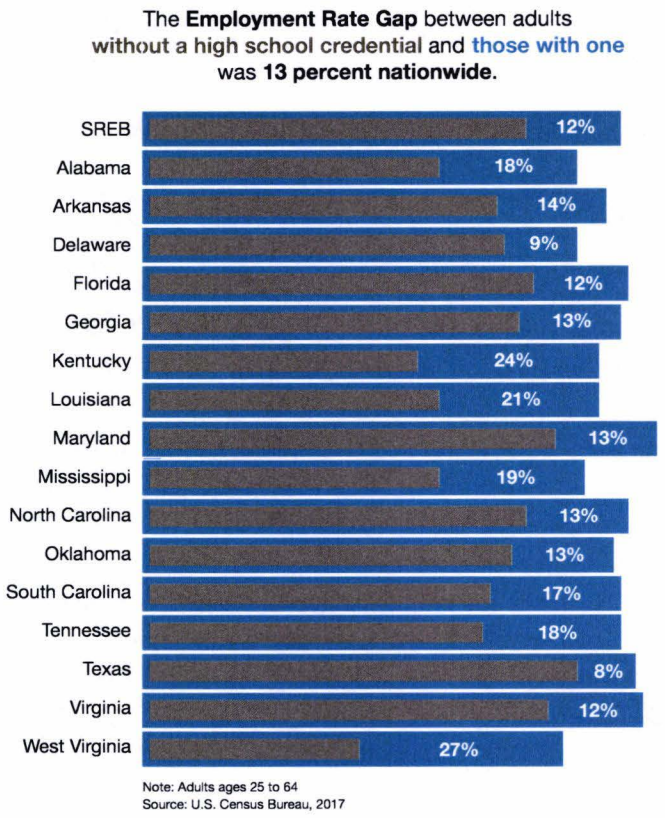
What's the basic educational problem for SREB states?

According to the U.S. Census Bureau in 2017, the employment rate in SREB states for working-age adults without a high school credential was 12 percentage points lower than for adults with one — whose rate was in turn eight points lower than for adults with some college credits or an associate degree, and 17 points lower than for adults with a bachelor's degree or more.

In 2016, Georgetown University's Center for Workforce and Education reported that adults with high school diplomas or less are increasingly vulnerable in the job market. During the 2007-10 recession, workers with a high school diploma lost 5.6 million jobs, recovering only 80,000 of them by 2016. Workers with an associate degree or some college lost 1.8 million jobs in the recession, but that sector regained 3.1 million positions by 2016 — nearly double. And adults with a bachelor's degree or more actually *gained* 187,000 jobs during the 2007-10 recession, with a total gain of 8.6 million by 2016.

Georgetown found that of the 11.6 million jobs the economy regained following the recession, nearly three-quarters went to workers with a bachelor's degree or more. This indicates that workers with a high school diploma may, in difficult times, be replaced by more highly-skilled adults even in positions they are qualified to fill.

Technological advancement in the workplace often creates more jobs than it eliminates. But the new positions often require higher skills, which is why retraining adults with low education levels is crucial if states are to ensure they can fill new positions as old ones disappear. Yet it is difficult to train an adult with low proficiency in basic skills — one who can't read well, for instance — if the task is to write computer code or troubleshoot an assembly line robot.



Because employment rates are directly related to a person's educational attainment, the Bureau of Labor Statistics uses attainment levels to track the employability of adults. BLS assigns occupations to one of eight categories using *entry-level education requirements*, from no formal educational credential to doctoral or professional degree.

From 2007 to 2016, BLS found that employment opportunities in the United States *increased* across all levels by 6 million, with 4 million requiring a bachelor's or master's degree. This shift in job requirements is expected to continue throughout the coming decade. Jobs requiring only a high school diploma are projected to grow at a rate of 5.1 percent between 2016 and 2026 — more slowly than the overall national projected rate of 7.4 percent.

Automation will accelerate in the coming years. Conservative estimates from researchers at McKinsey Global Institute show 23 percent of work activities in the United States being automated by 2030. If this estimate is accurate, 39 percent of jobs available in 2016 will be lost, with just as many new jobs created. Between 2016 and 2030, workers with a high school education or less will see more jobs lost than gained, while many more jobs will be created for workers with a bachelor's degree or more.

The technological expansion throughout the U.S. job market means that working-age adults with lower levels of educational attainment will be increasingly likely to be unemployed. Fewer jobs requiring a high school diploma or less will be available, and those left will be lower paid and offer fewer chances for promotion. More adults with low proficiency levels will be stuck in jobs increasingly likely to be automated, and they may end up out of work altogether if they cannot increase their skills.

The High Cost of Undereducated Adults

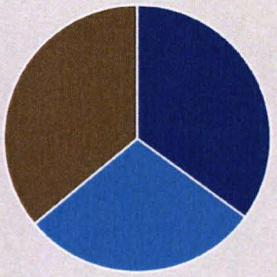
The consequences of an undereducated population compound at state and national levels. Adults with lower educational attainment are more likely to experience unemployment and poverty. By 2017, 66 percent of all working-age adults who had a high school credential were employed, compared with just 54 percent who did not. In that same year, 9.6 million adults in the SREB region earned incomes below the poverty level. Of these, two-thirds had a high school education or less. **More than 26 percent of adults without a high school credential earned wages below the poverty level.** That percentage drops to 15 for those *with* a high school credential.

Adults with less than a high school education also earn less and pay less in taxes. The Organisation for Economic Co-operation and Development estimates that 13 percent of the average variation in wages can be attributed to educational attainment. In 2017, the median income earned by working adults 25 and older who graduated from high school was $6,372 more than for those who did not have a high school diploma. Researchers at the College Board determined that adults with a high school credential pay $2,400 more in taxes than adults without one. So, **adults who do not currently have a high school credential would likely contribute $122 billion more to the SREB region** in state and federal taxes every year if they were able to earn a diploma.

In 2017, SREB states also ranked low on measures of both health and wellness, occupying the 10 lowest spots in the nation's overall health rankings. As in earlier reports, adults with less than a high school credential are more likely than their more educated peers to have diabetes, heart disease, heart attacks and high blood pressure. Even now, working-age adults who have less than a high school credential are less likely to have private health insurance — if they have any at all. And public insurance is costly. **In 2017, the SREB region spent almost $62 billion state-dollars on Medicaid alone.**

Adults without a high school education are also less likely to vote and to volunteer for civic and service projects. Voter participation generally rises and falls with educational attainment. And adults with less than a high school credential volunteer half as often as those with one. With an estimated service value of $3,200 per volunteer, **the value of these unrealized volunteer contributions across the SREB region was $4.7 billion in 2015.**

For every **100** adults who earned wages **below the poverty level,**



35 had only a high school credential

and

29 had less than a high school diploma.

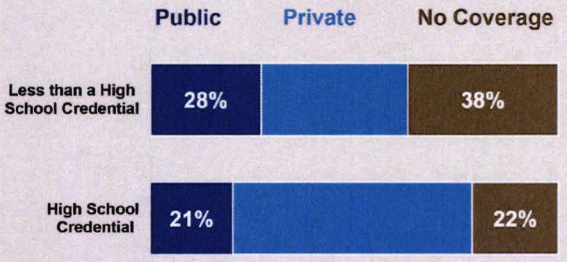
Note: Adults 25 and older
Source: U.S. Census Bureau, 2017



Adults with **less than a high school education** earned **76 cents for every dollar** earned by adults with only a high school credential.

Source: U.S. Census Bureau, 2017

Educational Attainment and Health Insurance
Coverage Status for Adults, Ages 26 to 64



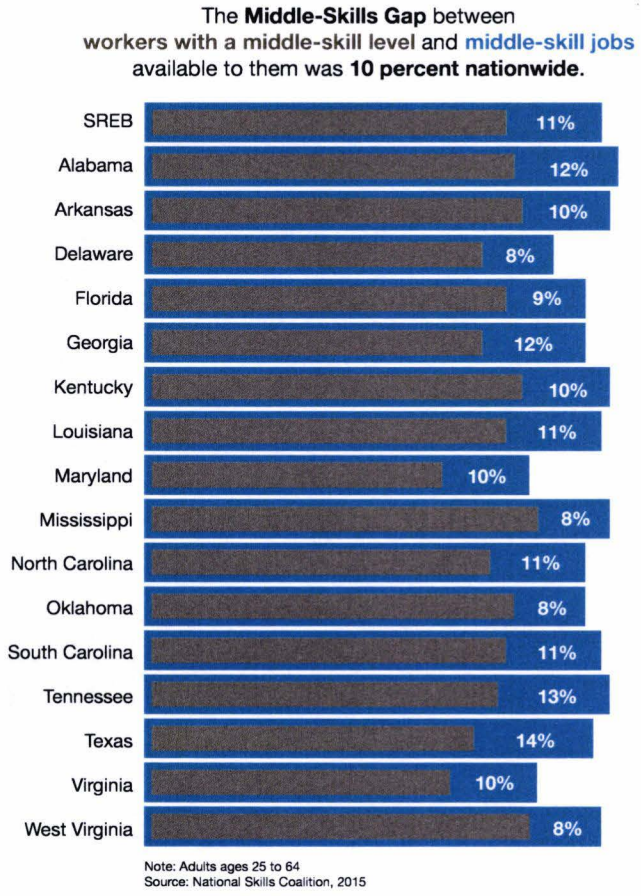
Source: U.S. Census Bureau, 2017

What are middle-skill jobs?

Middle-skill jobs, which are typically defined by a person's level of education, require more than a high school education but less than a bachelor's degree. People with middle-skill jobs often have associate degrees, postsecondary vocational certificates, or significant on-the-job training. They earn mid-level incomes — usually between $35,000 and $75,000. Between 2014 and 2024, projected job growth for middle-skill jobs in the SREB region is 52 percent. The increasing number of middle-skill jobs and the declining number of low-skill jobs means fewer positions will be available for adults with low levels of attainment and skills, but more will be available for workers with middle skills.

In 2018, Georgetown University's Center for Workforce and Education highlighted a shift among middle-skill jobs — away from more traditional blue-collar positions and toward more skilled technical jobs. By 2016, blue-collar occupations, such as manufacturing and construction jobs, made up 21 percent of employment in the U.S. workforce — down 7 percentage points from 1991. During that same time, middle-skill service jobs, such as healthcare, information technology and white-collar business services added 2.7 million positions — accounting for 77 percent of middle-skill job growth.

According to the National Skills Coalition, vacancies in middle-skill jobs will be the greatest threat to state economies in the South. Every high-skill job generally requires a team of middle-skilled supporters. Doctors, lawyers and scientists need teams of qualified, technically-trained workers to support their work, such as licensed nurses and paralegals. Manufacturing plants likewise need highly-skilled workers to support their technical equipment. In 2016, middle-skill jobs accounted for 54 percent of the U.S. labor market. But just 44 percent of working-age adults nationwide were trained to a middle-skill level.



How serious is the skills gap and why does it matter?

In 2007, the United States dropped off the list of nations with the highest percentage of adults ages 25 to 34 who hold a high school diploma, according to the Organisation for Economic Co-Operation and Development. Ten years later, the United States moved back into the ninth spot on the list. Still, by 2017, **almost 8 million of the 64 million working-age adults in SREB states — one in eight — had not earned a high school credential**. And while working-age adults in the region make up 37 percent of all U.S. working-age adults, 41 percent of those without a high school credential reside in SREB states.

Researchers at the OECD found that *educational attainment* — the highest level of education that an individual has completed — is the variable most strongly associated with skills proficiency. This remains true even after controlling for factors such as age, gender and family background. In the United States, however, more variation in proficiency exists at each level than for similarly educated adults in other countries. Quality differences among education systems nationwide are one of the major causes of this variation. In 2016, of the 34 participating countries and economies, the United States had the second largest proficiency rate gap at each educational attainment level — 26 points higher than the average. That's even after accounting for additional sociodemographic characteristics.

The Proficiency Continuum

OECD literacy and numeracy proficiency scales consist of five levels on a continuum. Proficiencies can fall between levels depending on how many tasks at each level an individual can and cannot perform.

Compared with other OECD countries, the proportion of U.S. adults who have earned a high school credential or less is relatively small. However, these adults have *weaker* basic skills than their similarly educated peers across the globe. More adults in the United States than in other countries who earned a high school credential or less have low skills — scoring below Level 2 on the OECD literacy and numeracy scales. But even adults with higher levels of education can be low-skilled. A substantial proportion — 16 percent — of U.S. adults scored at or below Level 1 in *both* literacy and numeracy. An additional 42 percent of *all* U.S. adults scored at or below Level 1 in numeracy alone, while another 5 percent scored at or below Level 1 in literacy alone.

Of the one in five adults with low literacy, just 56 percent are employed. Adults with low literacy are less likely to be employed than adults with higher literacy rates and are more likely to have left the workforce, costing the United States as much as $463 billion each year in lost productivity, crime, healthcare and tax revenues. SREB states are home to approximately 37 percent of adults nationwide. It follows then that **the SREB region's portion of this loss is roughly $171 billion annually — an amount it could potentially save every year if it improved its adult literacy levels**.

Since an individual's skill proficiency is strongly related to the educational attainment of his or her parent(s), an investment in one generation is also a boost for the next one. Of adults whose parents did not earn high school credentials, 30 percent scored at or below the lowest level on the OECD literacy assessment in 2016. **Children whose parents have low literacy proficiency have skills far less developed than their peers and, on average, will have heard 30 million fewer words by the time they reach kindergarten**. For children whose parents are unable to support their literacy development, the reading skill gap often becomes insurmountable. The results affect learning in all school subjects.

If states don't help these adults develop middle skills now and earn credentials that lead to employability, states will have to make an even greater investment in the future to provide for these adults when they are underemployed or unemployed and to help their children catch up to their more advantaged peers. Many of these children will never catch up, perpetuating the cycle. The compounding impact of low educational attainment — from parents to children — makes investing in today's adults a promise of gains for future generations.

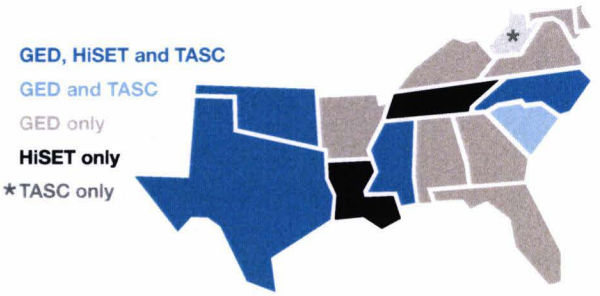
Unfortunately, too many workers, students and parents are unaware of the career opportunities that middle-skill jobs provide.

- Parents and community members need to know about the new types of middle-skill jobs that are available, and states need to communicate the advantages these jobs will provide as technology evolves. States — and their biggest employers — need to be open about the incomes adults who hold middle-skill positions can expect to earn. Too many people still believe these jobs do not pay well, yet many of them do.
- States need to develop career pathway systems with stackable, industry-recognized credentials to help people qualify for these jobs. They need to provide incentives for adults to pursue professional growth. Earning a four-year degree is daunting for many people, but earning a series of related certificates may seem much more achievable.

How can adults who don't have a high school diploma catch up?

All SREB states provide adult education programs for adults who did not complete high school. Federal funding allocated through the American Education and Family Literacy Act helps states boost their residents' basic literacy and math skills through Adult Basic Education programs. AEFLA funds also help adults improve their English language proficiency and help secondary education programs prepare adults for high school equivalency credentialing.

By 2017, **five SREB states** offered students more than one high school equivalency exam option.



Source: SREB analysis of state documents

Adult secondary education programs, such as adult high schools and nontraditional diploma programs, are good options for adults who have at least some high school credits and wish to complete a regular high school diploma. These programs are generally available to people not currently enrolled in high school who are at least 16 or 17 years old, and who either dropped out before graduation or had difficulty passing a course or a high school exit exam. Many of these programs are run through state community and technical colleges. Adult high school programs require that enrollees have at least some — typically 10 — high school credits. Many of these programs award regular high school diplomas upon completion; others prepare students to take a high school equivalency exam.

In 2017, all SREB states offered one or more of three standard *high school equivalency assessments*: the High School Equivalency Test, the Test Assessing Secondary Completion and the GED. Some states offered more than one of these exams. The HiSET and TASC provide more testing formats than the GED and have lower testing fees.

Adults who do not have any high school credits or who have very low literacy levels must enroll in Adult Basic Education programs before they can work toward a high school credential. They may enter other secondary education programs if their literacy levels are at the high school level, but this linear method of acquiring basic skills and *then* working toward a credential is often very discouraging for adult learners. That's where a new approach to basic adult education, introduced nationwide through the federal Workforce Innovation and Opportunity Act, comes in.

How has WIOA improved adult education?

The 2014 reauthorization of the Workforce Innovation and Opportunity Act provides a clear roadmap to help states prepare their undereducated adults for a better future. WIOA calls for states to break with older models that require basic skills courses before employment-related instruction. And it calls for more technology-integrated basic-skills course offerings. WIOA strengthens accountability standards and requires states to coordinate statewide and local plans to address regional workforce needs. These new unified — or combined — state plans comprehensively address the needs of adult learners.

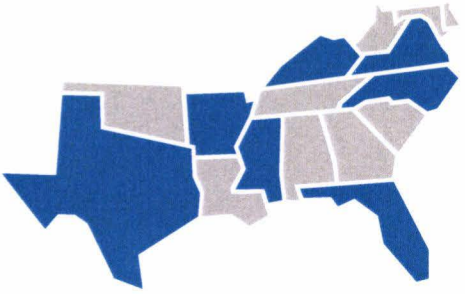
Integrated Education and Training Programs

WIOA introduced requirements for states to offer *Integrated Education and Training programs.* These programs are creative, research-supported models for programming and instruction. Courses are often led using a team-teaching approach with dual instructors — one teaching basic skills and one with expertise in the program's target industry or occupation.

Integrated programs are more efficient and more attractive for adults with the lowest levels of education. **IET programs offer them the opportunity to improve their basic literacy, math or spoken language skills *while* earning a high school credential *and* being trained for a specific occupation, industry, or postsecondary credential**. The approach is intended to meet both individual and labor market needs much more quickly.

Research conducted using data from the Washington State Board of Community and Technical Colleges found that just 30 percent of Adult Basic Education students, and 13 percent of English language learners, were able to earn any college credits within five years of attending traditional linear programs. On average, adult learners spend less than 100 hours a year in adult education programs, so program planners must make better use of instructional time in their course designs. IET programs are a break from traditional sequential instruction models, which require students to attend to non-credit basic skills first before they can enroll in courses related to their career interest. The simultaneous basic skills instruction and career training of IET programs enables participants to work toward completing two goals at the same time, resulting in greater engagement for students, quicker completion times for workers and a more robust labor force for states.

By 2016, **seven SREB states** had established Integrated Education and Training policies.



Source: National Skills Coalition

State-level policies can encourage state implementation of IET programs in several ways. In 2016, the National Skills Coalition published a report reviewing IET state policies — specifically reporting actions the states had taken by that time. States can designate funds for IET programs, authorize such programs in their workforce strategies, or go so far as to require these programs. Some SREB states had IET initiatives in place prior to the reauthorization of WIOA, whereas others have addressed the federal requirement for these programs in their WIOA plan but have not acted to provide integrated opportunities for adult learners.

Integrated English Literacy and Civics Education

The Workforce Innovation and Opportunity Act did not just introduce requirements for Integrated Education and Training course offerings. It expanded requirements for English language and civics courses, including requiring states to use a large portion of grant funds from the Adult Education and Family Literacy Act for *Integrated English Literacy and Civics Education.* In 2016, English language learners made up more than 40 percent of all AEFLA participants.

Two States Making A Difference

North Carolina's Basic Skills Plus

The North Carolina General Assembly introduced Basic Skills Plus in 2010 to help adults improve their basic skills while earning postsecondary credit and/or industry credentials. This concurrent enrollment program became law in 2015 as part of the North Carolina Community Colleges programs. Providers may use up to 20 percent of their adult literacy funding for instruction and training. They are encouraged to provide non-academic support such as transportation and daycare. BSKP students are co-enrolled in basic literacy and employability skills and occupational training courses. Enrollees earn an Adult High School diploma (or high school equivalency diploma) while receiving training in a high-demand industry that leads to a recognized credential or local industry certification. Eligible students may receive tuition and/or registration fee waivers from the State Board of Community Colleges.

The Basic Skills Plus program offers courses on career pathways that align with proven local and regional workforce needs. Approved courses include basic reading, writing, math, English, computer skills, and college-credit bearing courses only. The program does not include postsecondary remedial courses. For this reason, adult learners must take the National Reporting System-approved assessment and score at the Intermediate-High level (6.0 and above) in reading or math for entrance. Certain incarcerated individuals, English language learners, and students with disabilities who are pursuing a high school credential may also be eligible for the BSKP program.

Texas' Community Action, Inc.

Community Action, Inc. serves about 1,000 ESOL/IELCE students in Austin, Texas and the surrounding area through its Career Pathways Program. This program offers several pathways that meet the needs of the adult learning community and the local workforce and has blossomed under WIOA. Offerings include Truck Driving, Plumbing, and Telecommunications. Recognizing that immigrants start a large majority of new businesses nationwide — and that owning a family business is an immigrant tradition — Community Action, Inc. began offering a career pathway in Entrepreneurship.

The Entrepreneurship pathway includes a nine-week business basics class, the training portion, and IELCE classes. The business basics class covers finances, budgeting, business plans, banking and marketing. IELCE classes incorporate basic English language and digital literacy instruction. The combination of occupational and basic literacy courses provides students the opportunity to strengthen many of the skills they need to run a business. They are given a Chromebook in their second class, which they can keep, provided they meet the terms of an attendance contract and complete all course requirements.

The Entrepreneurship pathway has been wildly popular and shows promise in advancing participants' skills. Though it was designed for high-intermediate English language learners, Adult Basic Education students have requested permission to participate. Of the 86 students who completed the business basics class between the spring of 2016 and spring 2017, 75 percent advanced one or more levels on the Texas-approved ESL oral and/or literacy assessments. The course has been so popular that instructors are working to develop a second-level business basics class that will focus on building websites, social media marketing, and using accounting software.

The program attributes part of its success to the involvement of business and agency partnerships. For example, during the business planning portion of the classes, staff from the Legal Aid Services of Austin instruct students on formalized business structures such as Sole Proprietorships and Limited Liability Companies. Staff from the personal and business banking teams at the Randolph Brooks Federal Credit Union speak with students about banking and loan options and managing their personal finances. Staff from the Chamber of Commerce share their experiences in starting their own businesses. Students have the opportunity to learn from industry experts and anchor their training in the real world.

The Entrepreneurship pathway is funded completely by the IELCE portion of Texas' WIOA Title II Adult Education grant and is overseen by the Texas Workforce Commission. For accountability, TWC looks closely at pre- and post-test measures of student abilities and at performance targets such as the number of completers, as required by WIOA. The pathway is operating as a WIOA-approved demonstration pilot but needs to be linked to an industry credential in the future. It currently awards students a Certificate of Completion. Program coordinators are working to link the pathway to a postsecondary credential or may find a partner to sponsor one.

What have states alread

Adult Educatio

	Coordinating Efforts Statewide		
State	Agency or Department Submitting WIOA Plan	Unified or Combined State Plan	Number of optional partner programs included in combined state plans (out of 11) *
Alabama	Alabama Community College System, Workforce Division, Office of Adult Education	Combined	4
Arkansas	Arkansas Department of Career Education, Division of Adult Education	Combined	5
Delaware	Delaware State Department of Education, Office of Adult and Prison Education	Combined	3
Florida	Florida Department of Education, Office of Career and Adult Education	Unified	
Georgia	Technical College System of Georgia, Office of Adult Education	Unified	
Kentucky	Kentucky Council on Postsecondary Education, Kentucky Adult Education	Combined	2
Louisiana	Louisiana Community and Technical College, WorkReady U	Combined	5
Maryland	Maryland Department of Labor, Licensing and Regulation, Division of Workforce Development and Adult Learning	Combined	4
Mississippi	Mississippi Community College Board, Office of Adult Education	Combined	5
North Carolina	North Carolina Community College System, Division of Programs and Student Services, College and Career Readiness	Unified	
Oklahoma	Oklahoma Department of Career and Technical Education, Division of Adult Basic Education	Unified	
South Carolina	South Carolina Department of Education, Office of Adult Education	Unified	
Tennessee	Tennessee Department of Labor and Workforce Development, Division of Adult Education	Combined	5
Texas	Texas Workforce Commission	Combined	1
Virginia	Virginia Department of Education, Office of Adult Education and Literacy	Combined	6
West Virginia	West Virginia Department of Education, Office of Adult Education	Unified	

* Unified plans include each of the six core programs and combined plans include these as well as any of 11 partner programs.

** States must establish a state workforce development board to preside over WIOA activities and oversee any local area boards that coordinate local efforts.

Sources: National Skills Coalition & State WIOA Plans, 2016; The Council of State Governments, 2017

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ı in SREB States

	Statewide Policies and Initiatives		
Number of local areas with workforce development boards**	State-Adopted College- and Career-Readiness Standards	Statewide Integrated Education and Training Policies	IET Initiatives
6 to 9	College and Career Readiness Standards for Adult Education		Ready to Work initiative
10	College and Career Readiness Standards for Adult Education	✓	Accelerating Opportunity and Regional Workforce Grants
1	Delaware state-approved standards		
24	Florida Standards (ELA and Math)	✓	Florida's Integrated Career and Academic Preparation System
19	College and Career Readiness Standards for Adult Education		Georgia has established a number of individual IET programs
10	College and Career Readiness Standards for Adult Education	✓	Accelerating Opportunity Kentucky
16	College and Career Readiness Standards for Adult Education		Louisiana Integrated Career Pathways
12	College and Career Readiness Standards for Adult Education		Accelerating Connections to Employment & MI-BEST
4	College and Career Readiness Standards for Adult Education	✓	MI-BEST
23	North Carolina Adult Education Content Standards	✓	Basic Skills Plus
8	Oklahoma state-approved standards		
12	College and Career Readiness Standards for Adult Education		
13	College and Career Readiness Standards for Adult Education		
28	Texas Adult Education Content Standards and Benchmarks	✓	Accelerate Texas initiative
15	College and Career Readiness Standards for Adult Education	✓	PluggedInVA initiative
7	College and Career Readiness Standards for Adult Education		

IELCE courses differ from English as a Second Language courses in that they must not only help learners achieve competency in reading, writing, speaking, and English language comprehension, but must also lead to a high school credential *and* a transition to either employment or postsecondary education and training. The U.S. Department of Education requires that these courses help learners acquire the skills needed to be effective parents, workers and U.S. citizens. As with IET program participants, English language learners can simultaneously work to improve their language skills and earn a high school or an industry credential.

How else is WIOA changing adult education?

In addition to expanding program offerings that better meet individual and workforce needs, WIOA added several requirements paralleling SREB's previous suggestions for adult educational programs:

1) **Improve performance accountability**: WIOA created a common set of performance measures. These include unsubsidized employment, receipt of secondary or recognized postsecondary credentials, and measurable skill gains for adult education participants. It also introduced a performance system that made all programs responsible for the same core metrics.

2) **Enhance consistency between state and local programs**: States are now required to submit a single, unified or combined state plan describing common strategies used by all core programs to meet individual and workforce needs. Unified plans include each of the six core programs, and combined plans include these as well as any of 11 partner programs. All local plans must align with the unified or combined state plan and address how local programs will meet regional labor market needs. States must also establish a workforce development board to preside over WIOA activities and oversee any local boards that coordinate local efforts.

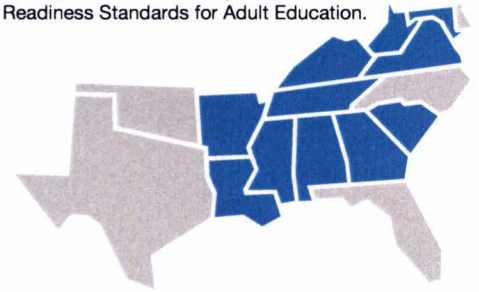
3) **Focus on worker needs and best practices**: WIOA encouraged states to combine core and intensive services into career services models and to adopt or expand best practices, including career pathways for adult learners as well as industry and sector partnerships. WIOA also recognized the high demand for technical skills in the U.S. labor market and added digital literacy to its definition of workplace preparation.

4) **Align federal education policies**: The U.S. Department of Education required WIOA, the Every Student Succeeds Act and Perkins V legislation to use the same terminology. Using similar terms in these education policies helps states align their adult education, K-12 and career technical and education policies to serve students better.

Are adult education standards up-to-date?

As adult education program models adapt to better meet individual and workforce needs, the standards governing these programs need to be updated. In 2013, the Office of Career, Technical, and Adult Education, formerly known as the Office for Vocational and Adult Education, published the *College and Career Readiness Standards for Adult Education.* The standards were carefully selected from then-existing K-12 rigorous state standards. Only the most relevant standards were included so that adult education instruction would align with the demands of K-12, postsecondary education and the workforce.

By 2016, **11 SREB states** had adopted the new College and Career Readiness Standards for Adult Education.



Source: Office of Vocational and Adult Education

Adopting these standards benefits adult education programs by:

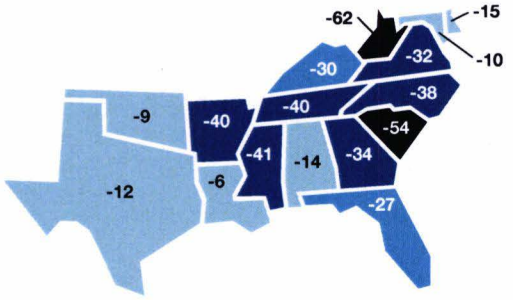
- developing common expectations for adult education that are consistent across states and with both K-12 and postsecondary education;
- encouraging partnerships between states and other adult education providers and facilitating the sharing of financial and informational resources; and
- ensuring that adult education programs better prepare students to perform well on assessments, including high school equivalency and postsecondary placement exams.

The standards are arranged in two large groupings: English language arts and literacy standards, and mathematics standards. Each group is organized into five grade-level bundles. The ELA and literacy standards were developed around four specific strands: reading, writing, speaking and listening, and language. These include standards that apply to history and social studies, science, and technological studies with a heavy focus on reading. The standards for math are broken down into skills required for using math in practice and for understanding math in different contexts.

What's affecting enrollment in adult education programs?

Policymakers might have guessed that enrollments would increase along with recent improvements in adult education programs. But the opposite is true. Between 2010 and 2016, program enrollments for adults in the SREB region decreased by 28 percentage points. Higher graduation rates have recently reduced the percentage of students who may need GED prep courses. Yet, 15 percent of adults younger than 25 do not have a high school credential and their presence in the workforce will be increasingly problematic as more-educated older adults retire. So, while a smaller number of young adults may need to enroll in these programs, a greater proportion of the workforce may be undereducated in the future when fewer low-skill jobs will be available.

Enrollment in the SREB region's adult education programs **decreased** by more than **28 percentage points** between 2010 and 2016.



Note: Percentages are percentage point change from 2010 to 2016.
Source: Office of Vocational and Adult Education

States today are facing two big issues that were not so prevalent 10 years ago: *the changing occupational landscape and decreased funding for adult educational programs.* Today, machines — many with artificial intelligence — are replacing workers at an unprecedented rate, a trend that increases the need to train adults in adult education programs. State leaders also need to find funding for these programs and for supporting the adults who need to participate in them.

Federal funding for adult education has had a slow recovery from the recession. From 2010 to 2011, federal funding for adult education programs dropped by over $24 million in the SREB region and has remained stagnant for most of the years since. In 2016, it was just $790,000 more than it was in 2011 but still $23 million less than in 2010.

The federal reductions for adult education also led to a decrease in state funding. The U.S. Office of Career, Technical and Adult Education provides states with grant funding for adult education programs based on the number of adults over age 16 who are not enrolled in and have not completed high school. In turn, states must provide a 25 percent match for the federal funding they receive and satisfy a "maintenance of effort" provision, requiring that they spend at least 90 percent of what they spent in the prior year on adult education programs. Many states only contribute what the federal government requires, so as federal dollars drop, so do state matches, compounding the effect on enrollments.

In 2017, Congress appropriated $582 million nationwide for adult education programs. SREB states received approximately $227 million, or 39 percent of the funds. Between 2017 and 2019, the federal government proposed to cut AEFLA and Integrated English Literacy and Civics Education funding by more than 21 percent — potentially increasing the need for states to step up with additional funding for adult education. However, the most recent release of 2018 funding estimates saw *increases* of almost 7 percent from 2017 across the SREB region. States should take federally proposed budget cuts into consideration as they work on their 2018-2020 state plans and hope to see the estimated increases. They will need to make up for any federal funding reductions to prevent program enrollments from dropping even further.

Differences in employer investment in adult education and employee training programs account for part of the variance in adult education participation rates. According to the U.S. DOE Office of Career, Technical, and Adult Education, 40 percent of the low-skilled, employed adults who participated in employer-funded learning opportunities in 2016 reported that their employer paid for non-formal education — learning that is organized, structured, and has specific learning objectives, but does not lead to a formal, nationally- or industry-recognized credential. Another 12 percent reported that their employers paid for formal education, which culminates in a formal diploma, degree or credential. Partnering with employers who are already supporting adult learning could help states enroll more adults in education programs and ensure that these adults earn secondary, postsecondary and industry-recognized credentials. And taking into account the type of learning that employers typically fund could help states design programs in which employers will be more likely to invest.

Enrollment for Adults, Ages 25 to 59 in SREB States, 2016

	Adult Basic Education (ABE)		Adult Secondary Education (ASE)		English as a Second Language (ESL)		Integrated English Literacy and Civics Education (ELC)	
	ABE	IET	ASE	IET	ESL	IET	ELC	IET
SREB states	143,096	2,305	23,810	589	156,248	384	14,879	2,101
Alabama	6,807	177	2,111	116	1,168	1	334	5
Arkansas	4,983	0	1,476	0	2,877	0	0	0
Delaware	1,204	1	241	4	1,032	0	20	0
Florida	27,780	0	2,631	0	70,270	0	0	0
Georgia	13,411	0	1,074	0	3,819	0	4,167	0
Kentucky	9,517	50	3,173	7	2,090	0	910	0
Louisiana	7,788	0	828	0	1,382	0	1,431	0
Maryland	6,251	3	1,130	1	8,972	0	2,114	0
Mississippi	3,909	102	406	23	223	0	4	0
North Carolina	17,175	430	4,525	215	14,570	103	1,922	236
Oklahoma	4,847	9	589	1	2,581	1	1,069	0
South Carolina	7,388	1	2,284	2	2,999	0	0	0
Tennessee	7,033	4	907	0	732	3	717	0
Texas	19,695	1,528	1,244	220	35,073	276	2,141	1,810
Virginia	3,952	0	763	0	8,344	0	0	0
West Virginia	1,356	0	428	0	116	0	50	50

Note: IET stands for integrated education and training.
Source: U.S. Office of Career, Technical, and Adult Education, 2016

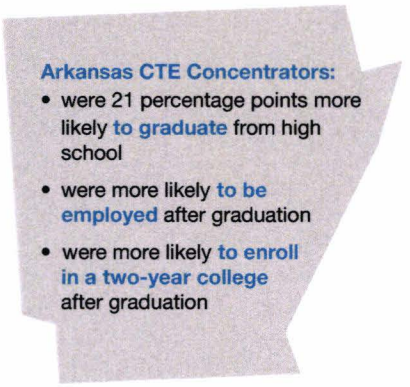
State adult education programs will become even more important as today's 30- to 40-year-old undereducated workers face declining job prospects — either because their jobs will disappear or because they will be unprepared to evolve in their current one. It is likely their current jobs will expire by the time they are in their mid-forties to mid-fifties. Their chances of finding another job to sustain their livelihood, fund their retirement and contribute to their children's postsecondary aspirations will clearly fade in the years ahead unless they develop new job skills. New funding can help states bolster their efforts to attract adults to bold, innovative programs while there is still time.

Perkins V Funding: Career and Technical Education

To meet funding requirements for adult education programs, states must incorporate six core programs — and can incorporate up to 11 partner programs — into their state plans. One of these programs is Perkins V, or the Strengthening Career and Technical Education for the 21st Century Act, formerly known as the Carl D. Perkins Career and Technical Education Act, a primary source of funding for state career and technical education programs. In 2018, the federal government authorized almost $1.2 billion in grant funding under Perkins. Allocations for adult education are based on state populations, and states determine how funds are split between secondary and postsecondary programs. Using data from the Perkins Collaborative Resource Network, an SREB analysis found that across the region, nearly 70 percent of Perkins funding was allocated to secondary programs, ranging from 51 to 85 percent across states in 2018.

While the $1.2 billion allocation seems ample, in inflation-adjusted dollars it represents a dramatic decrease in spending power for CTE programs. Between 2004 and 2017, Perkins funding declined by over $116 million dollars, a 28 percent decrease that, adjusted for inflation, equates to a $427 million loss in spending power.

CTE programs have been proven to help prepare adults for middle-skill jobs by helping learners acquire the advanced, industry-specific technical skills needed to fill such positions. While more research is needed, specifically in adult education, research from Advance CTE indicates that career and technical education programs have positive outcomes for secondary students. Some studies have found that CTE programs significantly reduce high school dropout rates and improve the likelihood that a high school graduate will either be employed or pursue postsecondary education. CTE participants also tend to earn more than their peers. Given the success of the WIOA program, further integration of adult education with career and technical education may be warranted.



Source: Thomas B. Fordham Institute, 2016

What can states do?

Enabling adults to become engaged in education while they are working — especially in low-wage jobs — is difficult. For states, though, standing by and doing nothing is no longer an option, considering the significant transformation that is well under way.

States have limited resources available to them to improve the prospects for vulnerable working adults. Using their resources wisely, aligning them well to achieve economies of scale, is vitally important. Planning is key. And working together with partners is smart: learning from one another what works, sharing best practices and good ideas. Because parents directly influence their children's development, **the efforts states make today to increase parents' educational and employment opportunities will improve prospects for tomorrow's adults**, leading to a healthier economy and workforce both now and in the future.

States can begin by bolstering enrollment rates and improving the quality of their adult education programs. Using the opportunities that WIOA provides to build and implement a strong state plan, increasing funding allotments, and incorporating practices that have already improved such programs across the nation are good places to start.

The following ideas are just the beginning. States will need to continue to expand their thinking in developing creative solutions that are right for their economies and that help more adults — and their children — reach at least a middle-skills level.

- Incentivize adult education programs that use integrated education and training models.

  Integrated Education and Training models combine basic skills instruction with workforce training. The IET model enables adults to complete programs more quickly and be better prepared to enter the workforce, saving states both time and resources. States have the challenge of drawing adults to these programs. Research conducted using data from the Washington State Board of Community and Technical Colleges shows that, even after five years in traditional adult education programs, most adult learners do not earn any college credit, let alone a postsecondary degree or credential.

- Provide support services for adults to help them be successful in adult education programs.

  Programs will be most effective if they offer adequate support for adult learners. Often, adults enrolling in these programs have limited resources, competing time constraints and varied responsibilities. By considering these limitations, and providing services like childcare, flexible schedule options and financial support, states can ensure that more adults are able to complete programs.

- Use best practices, materials, and implementation methods that have already proven successful in other states' programs.

  - *College and Career Readiness Standards for Adult Education*

    Good programs depend on high quality standards to guide instruction, materials selection and teacher professional development. Adult education standards were adapted by the Office of Career, Technical, and Adult Education from K-12. They focus on the basic reading, writing, math and computer skills adults need to be successful in the workforce. Using a common set of standards also lets states share information more easily, use resources more efficiently and get better results.

  - *Formative and summative assessments*

    As states change their adult learning programs to meet WIOA requirements, it is important that they measure *student progress* during courses and *subject mastery* upon course completion. Measuring student progress over time helps to uncover instructional and design issues that might otherwise go unnoticed. Evaluating students for both progress and mastery unmasks important details about the learning obstacles that students face.

  - *Instructional materials already aligned with the College and Career Readiness Standards for Adult Education*

    Using instructional materials already aligned with their state-adopted set of standards will ease sharing of textbooks, online- and technology-based resources and assessment tools between states. States can save funds by sharing course materials, which can help increase the availability of online repositories — a great benefit for teachers.

- Provide teachers adequate training and professional development opportunities.

  Provide teacher training opportunities aligned with the College and Career Readiness Standards for Adult Education to help teachers become confident and effective. States could provide teacher training courses at community colleges or online. Create time for teachers to work with each other, sharing experiences and instructional methods and materials across different courses, programs, institutions and states.

- Align CTE and integrative training education course offerings with the specific workforce needs in each state, but focus on skills, not specific tasks, as the jobs we train for today may not be the same tomorrow.

  Aligning course offerings with state workforce needs will help adult education graduates find good-paying jobs and create opportunities for local industries to partner with adult learning programs. Programs aligned with state workforce needs are more likely to be effective as the resources and expertise needed for occupational training are more readily available.

- Encourage partnerships between public education and training systems and private sector industries.

  Partnerships between adult education programs and private sector industries benefit both parties. Adult education programs gain access to industry resources such as training facilities and equipment. Businesses gain access to qualified employees and may conserve resources by identifying potential job candidates within partner training programs. And partner programs can be very attractive to adults looking to enter the workforce quickly.

- Incentivize business partners to increase access to on-the-job training opportunities for adult learners.

  Businesses that provide learning opportunities incentivize their employees to improve skills and grow in their positions. Businesses need to be flexible with workers' schedules and allow adult learners to share time between work and training. Businesses that help their employees learn in their jobs will produce more highly skilled workers, increasing productivity and profitability.

- Design policies that require adult education performance measures to be both quantitative and qualitative.

  Adult education programs should measure both *how many* adults have access to, enroll in, and successfully complete education and training courses and the *quality* of their skill and knowledge gains. States need to hold programs accountable for the college and career readiness of their adult learners just as they do their high school graduates — and they need to get a greater number of adults to complete these programs. Adult education programs need to work toward preparing many more low-skill adults for middle-skill positions. To ensure the greatest impact, adult education programs must be effective *and* accessible.

How Can SREB Help?

SREB is committed, now more than ever, to supporting states' efforts as they seek answers to the questions currently facing adult education programs:

- How do we get more adults to enroll and be successful in adult education programs — to both increase their educational attainment and raise their skills?
- How can states find and maximize new resources to create solutions and implement them widely?
- How can states help foster relationships within the education community and with business and industry leaders to ensure that low-skilled adults get the support they need to become strong contributors in the workforce?

These and other questions will need to be answered if SREB states hope to ensure the livelihoods of their most vulnerable, low-skilled adults and their children. SREB stands ready to support states in improving adult learning outcomes, ensuring that more adults are prepared for current and impending technological advancements in the workplace. SREB consultants can provide the data, policy support and historical knowledge states need to make informed decisions as they address these issues. States need to be innovative and bold if they hope to prepare this and future generations for the ever-changing technological landscape.

In the next 10 years, SREB will support states in serving the region's adults and children to meet developing workforce needs. This report, our work-based learning commission, and strengthened strategic partnerships are just the beginning. SREB will produce additional, related reports and work alongside states as they seek solutions to present and future questions. In the next few months, SREB will report on the potential economic impacts if states do not address the adult educational attainment issue, and the imperative alignment of state WIOA, ESSA, and Perkins V plans.

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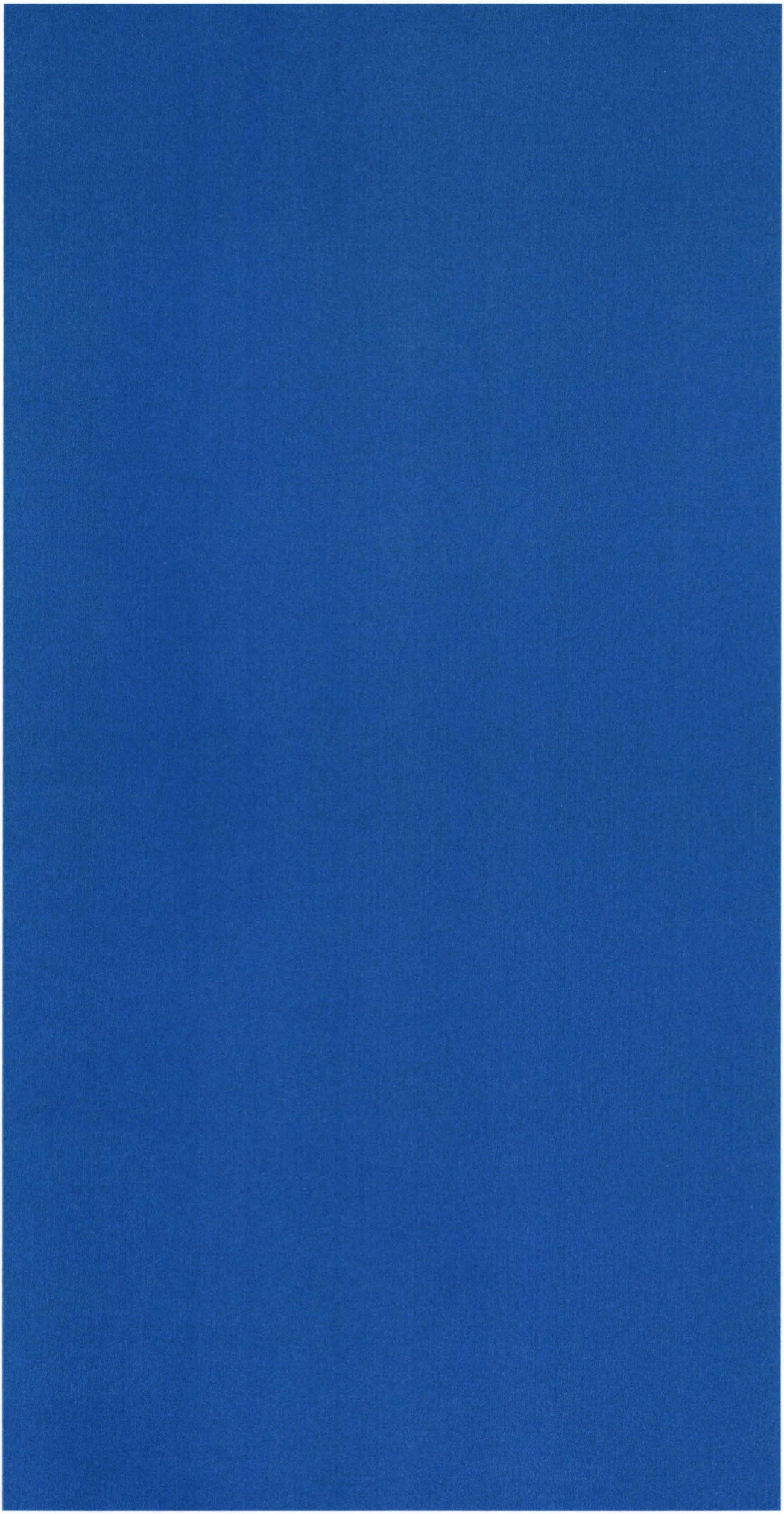
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SREB

Southern Regional Education Board
592 10th St., N.W.
Atlanta, GA 30318-5776
(404) 875-9211

SREB.org

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Policy Brief | June 2019

The SREB Region's Economic Outlook

The Potential Impact of Automation and AI

Many American workers find themselves in a continuous struggle to keep up with advances in automation and artificial intelligence that could potentially displace them from a growing list of occupations. Nearly every day articles and online videos highlight new technologies. We learn about machines being tested to deliver packages to homes autonomously. A robotic interviewer in Sweden now questions job applicants in an attempt to eliminate human bias from the hiring process. And researchers are working on an ocular implant for humans to record everything their eyes see during the day.

As companies continue to incorporate new technologies, making machine learning and robotics common in almost all workplaces, more and more working adults need to adapt to computerized work activities. Many need to move into new jobs raising their skill levels, or they will be out of a job altogether. According to SREB's *Unprepared and Unaware: Upskilling the Workforce for a Decade of Uncertainty*, adults with the lowest levels of skills — typically those with a high school credential or less — are most vulnerable to these changes.



If states and industry leaders do not act quickly to prepare employees for these workplace transformations, 18 million or more adults will find themselves in low-paying positions or out of a job and increasingly reliant on public services. Businesses will struggle to fill middle- and high-skilled positions. Children — future workers — will face similar struggles and likely be unprepared for future positions, worsening these problems for states and businesses.

This brief was prepared by Meagan Crowe, policy analyst, under the leadership of Jeff Gagné, director of policy analysis, and Joan Lord, vice president of education data, policy research and programs.

Low-skill positions in the workforce, especially those requiring repetitive manual labor, are being eliminated by automation. But many are also being transformed to middle-skill positions — those available to adults with more than a high school diploma but less than a 4-year degree. As these jobs change, the employees holding them will need to change, too, either by increasing their skill level or by moving to a new job altogether. This leaves many in education and industry asking not "Will there be enough jobs?" but "Will there be enough skilled workers to fill the jobs that are available?" And without significant investment from states and businesses, there will be even fewer skilled workers in the future.

Low-skilled workers are costly for states and businesses. They earn less and thus pay less in taxes. They are more likely to live in poverty and to depend on costly social welfare programs. Businesses have trouble filling important jobs and experience decreased productivity while they invest more to train employees.

States will need to help low-skilled adults earn diplomas and postsecondary degrees and certificates if they hope to supply the expanding middle-skill job market. And states will need to do so at a rate that keeps up with technological advancements.

Many in education and industry are asking not "Will there be enough jobs?" but "Will there be enough skilled workers to fill the jobs that are available?"

The SREB region is additionally challenged to catch up with other states in the nation — states that already have more workers with higher skills and more businesses that rely on those skills to flourish. The region is already behind. States will need to make a large and concerted effort if they are to prepare the workforce for the uncertain future that technology is already delivering. SREB states' efforts will need to be greater than the rest of the country if they hope to become competitive. And those efforts need to begin now. What could the future hold if they do not step up to these challenges? Let's take a look.

Automation Potential

In 2017, researchers at the McKinsey Global Institute analyzed more than 2,000 work activities across 800 occupations to determine what portion could be automated using currently demonstrated technologies. This *technical automation potential* will manifest differently across occupations and geographic areas over time, depending on five key factors: technical feasibility, the cost of automating, labor market dynamics, economic benefits, and regulatory and social acceptance. McKinsey researchers found that **at least 30 percent of work activities in about 60 percent of occupations have the potential to be automated**. Five percent of occupations were *completely* automatable.

Just 5%
of jobs are completely automatable, but
44%
of all work activities have automation potential

Jobs are much more likely to change than be eliminated. Each occupation consists of various work activities — some that can be automated with currently demonstrated technologies, and some that cannot. So, potential automation is reported as percentages of work activity, not numbers of jobs. Almost all employees will be increasingly likely to work alongside machines or to see their daily tasks change in some capacity as technology infiltrates the work place. Most workers — at all skill levels — will be affected by these technological changes, but those with the lowest skill levels are more likely to be negatively affected. McKinsey estimates that across the United States, total automation potential of all work activities is 46 percent. In the SREB region, 44 percent of all work activities are potentially automatable.

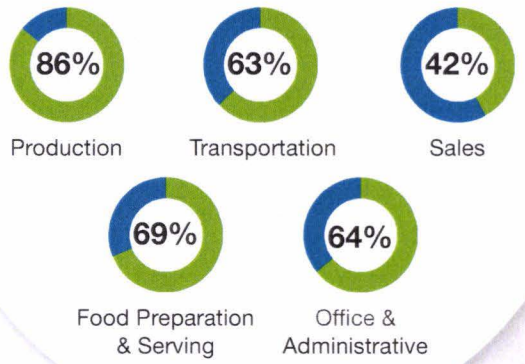
The Bureau of Labor Statistics sorts more than 800 occupations into 22 industry categories, each of which McKinsey assigns a different automation potential. Nationwide, automation potential of work activities varies across these categories from just 15.7 percent for business and financial operations to 86.3 percent for production occupations.

SREB analyzed the automation potential in the *top 5 industry categories*, defined as those industries that employ the most people in each state. Across the region, among the 22 categories identified by BLS, just eight account for the top 5 in every state. These eight are listed as top industry categories in the table below. It is notable that McKinsey found that **four of the top five in the SREB region also rank highest for potential for automation**, with more than 62 percent of work activities in each category potentially automatable.

Across the SREB region, 52 percent of all workers — nearly 26 million people — are in a top 5 industry category, ranging from under 47 to over 54 percent across states.

Most of the 50 million workers in the region will be **affected by automation** in the coming decades

Automation potential in the top 5 industry categories in the SREB region



Top Industry Categories by Number of Employees in Each SREB State

Industry Category	Number of SREB states having this category as one of the top 5	Number of SREB workers in a state's top 5 category
Food Preparation and Serving Related Occupations	16	4,873,020
Sales and Related Occupations	16	5,527,360
Office and Administrative Support Occupations	16	7,878,070
Transportation and Material Moving	14	3,359,020
Production Occupations	11	2,062,390
Healthcare Practitioners and Technical Occupations	4	679,570
Education, Training and Library Occupations	2	979,220
Business and Financial Operations	1	261,530

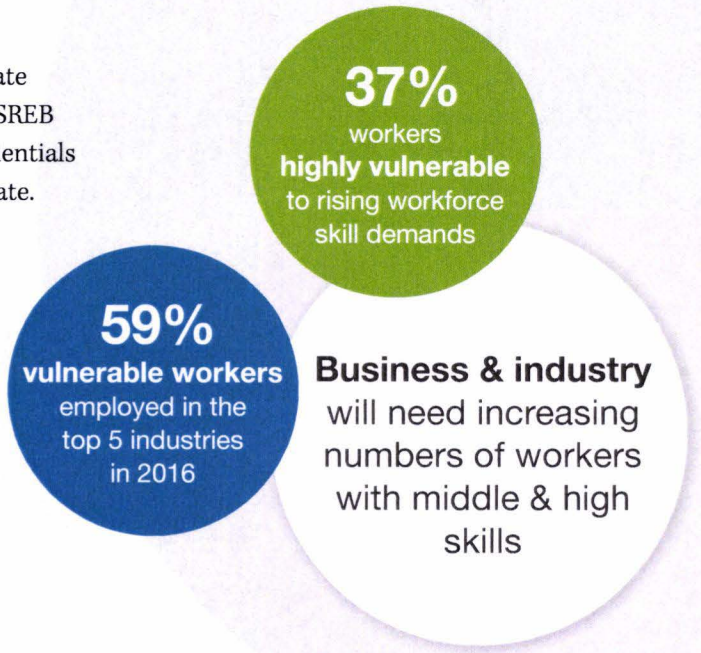
Source: U.S. Bureau of Labor Statistics, 2018

Examples of jobs in each of these industry categories:

1. Food Preparation and Serving Related Occupations
   Chefs, first-line supervisors, line cooks, bartenders, waiters and waitresses, dishwashers, and hosts and hostesses
2. Sales and Related Occupations
   Retail salespersons, advertising sales agents, insurance sales agents, travel agents, and telemarketers
3. Office and Administrative Support Occupations
   Bill and account collectors, payroll and timekeeping clerks, court clerks, financial clerks, and hotel desk clerks
4. Transportation and Material Moving
   Taxi drivers, ambulance drivers, ship engineers, parking lot attendants, industrial truck and tractor operators, and refuse and recyclable material collectors
5. Production Occupations
   Engine and machine assemblers, food and tobacco batch makers, welders, dry-cleaning workers, and water treatment plant and system operators
6. Healthcare Practitioners and Technical Occupations
   Pharmacy technicians, physician assistants, veterinarians, registered nurses, dental hygienists, and surgical technologists
7. Education, Training and Library Occupations
   Postsecondary teachers, special education teachers, adult basic and secondary education and literacy teachers and instructors, and librarians
8. Business and Financial Operations
   Insurance appraisers, fundraisers, training and development specialists, budget analysts, credit counselors, tax preparers, and meeting, convention, and event planners

As *Unprepared and Unaware* points out, the workers most vulnerable to technological advancements are those who have a high school credential or less. As businesses automate various activities, fewer low-skilled workers will be necessary in the workplace. But industries that require more high-skilled workers already struggle to fill positions, and this trend is likely to increase over time.

Using national educational attainment averages and state occupational data from the Bureau of Labor Statistics, SREB estimated the number of workers with high school credentials or less in 2016 in each occupational category in each state. Of the 50.4 million people employed in the SREB region, 18.4 million — 37 percent — had a high school credential or less. These adults are the region's *vulnerable workers* — those most likely to struggle to keep up with changes in the workforce and to need more education in the years ahead. And of all the vulnerable workers in the region, 59 percent were employed in a top 5 industry category.



Student Readiness

The National Assessment of Education Progress and other similar assessment measures have shown that children's educational attainment is correlated with that of their parents. NAEP asks students in the eighth and twelfth grades to report their parents' educational attainment as they take the assessments; their results are reported by the percentage of students who score at each proficiency level and by parental education levels: "did not finish high school," "graduated high school," "some education after high school," "graduated college" and "unknown."

Throughout the SREB region in both reading and math, a smaller percentage of students who reported lower levels of parent educational attainment performed at the Basic and Proficient levels than did students who reported higher levels of parent educational attainment.

8th Grade NAEP Performance in the SREB Region, 2017

Percentage of students by parental education level

	Reading		Math	
Parental education level	below Basic	at or above Proficient	below Basic	at or above Proficient
Did not finish high school	39	19	49	13
Graduated high school	36	21	48	15
Some education after high school	22	33	32	26
Graduated college	20	41	26	39
All students	27	31	34	29

Source: National Center for Education Statistics, 2017

The disappointing news is that from 2013 to 2017 the percentage of eighth grade students in the SREB region scoring at or above the Basic level in reading and math fell by 3 and 5 percentage points respectively. The percentage of students performing at or above the Proficient level on NAEP in reading and math fell as well — by 1 and 2 percentage points. Just 31 percent of eighth grade students scored at or above the Proficient level in reading in the SREB median state in 2017, while fewer — 28 percent — scored at this level in math that same year. These results indicate that too few SREB states have sufficiently raised reading and math achievement for most middle graders to ensure that overall they are ready for the rigors of high school.

SREB studied National Center for Education Statistics enrollment data to analyze student advancement trends — based on the percentage of students who move from middle school into high school through graduation and on to college completion. This student progression has remained relatively consistent in recent years. Applying these trends, approximately one in three eighth graders enrolled in 2017 will complete college within six years of their class's high school graduation date. The high school graduates are more likely to be those who scored at or above the Proficient level on NAEP. One in four will likely not complete any education beyond high school.

Educational Attainment

Across the SREB region, 41 percent of adults ages 18 to 64 had no education beyond high school in 2017. If student achievement trends continue, no more than one in four currently enrolled students will be educated beyond high school, and their children will likely face the same grim scenario as their parents — especially as automation continues to force low-skilled workers out of jobs. Many, like their parents and grandparents before them, will earn incomes below the poverty line and be reliant on state-funded social services.

Are students prepared?

Parents today: 25 to 44 year-olds

37% had a high school credential or less in 2017

Of 8th graders whose parents had no education after high school

36% were **below Basic** on NAEP **reading** and

48% were **below Basic** on NAEP **math**

These percentages were just

22% **32%**

for students whose parents had some education beyond high school

If state policymakers and business leaders don't act quickly to raise the educational attainment levels of both parents and students in the region, the region is going to fall further behind the rest of the nation. Currently, low unemployment rates mean states have a smaller pool from which to hire workers, which masks — particularly in the South — the low-skill level of many workers and the need to retrain and educate them now. Many areas in the SREB region are still able to employ low-skilled workers, but in the future many of the jobs available to adults with lower educational attainment will go away. Today's low-skilled employees will need additional training and education to keep up with future workforce changes. *Unprepared and Unaware* identifies these low-skilled adults as those most vulnerable in a recession or during automation-fueled workplace transitions. So, while many Southern workers may be employable now, they may not be so lucky in the future.

Considering the higher percentage of low-skilled workers in the South compared with elsewhere in the nation, SREB states already are less attractive than other states to employers looking to open businesses that traditionally require workers with higher levels of education. The SREB region is now more likely to attract businesses that do not need high-skilled workers. As these businesses automate work activities, they may lay off employees and increase the skill demands for new, higher-paying positions. They will likely look elsewhere for higher-skilled labor if it is not available.

To remain competitive with other states across the region and to ensure the livelihood of future generations, SREB states need to make a greater effort to increase the educational attainment of all residents and to attract businesses that demand higher skill levels. Not doing so will mean a further depressed economy — and worse prospects for all who live here.

This multigenerational cycle, combined with rising workforce skill demands, means more workers of all educational attainment levels will be:



unemployed or underemployed



earning incomes below the poverty level



reliant on state services

SREB states need to make a greater effort to increase the educational attainment of all residents and to attract businesses that demand higher skill levels.

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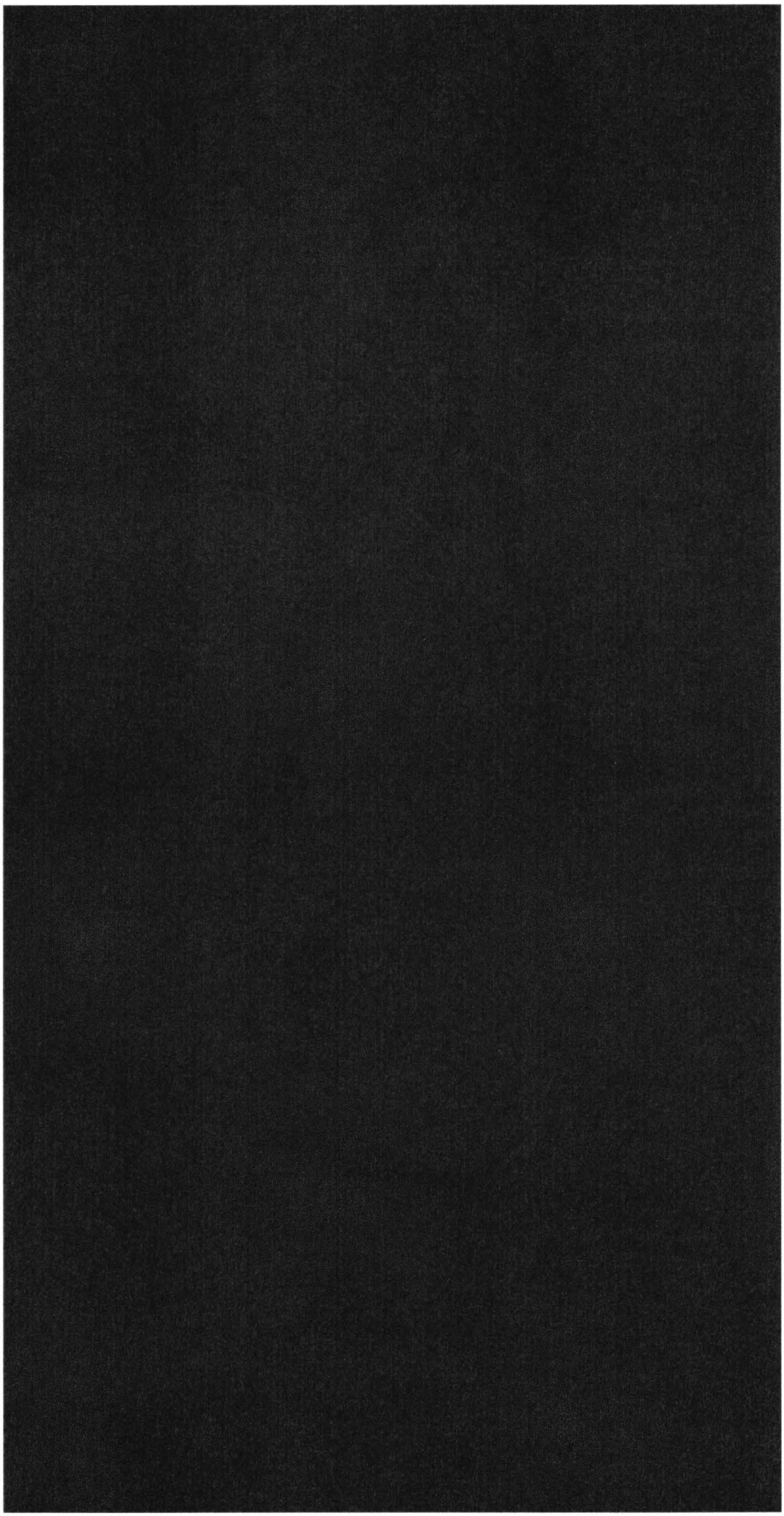
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SREB

Southern Regional Education Board
592 10th St., N.W.
Atlanta, GA 30318-5776
(404) 875-9211

SREB.org

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