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Education & Workforce: Capacity Building

Preparing for a New Workforce

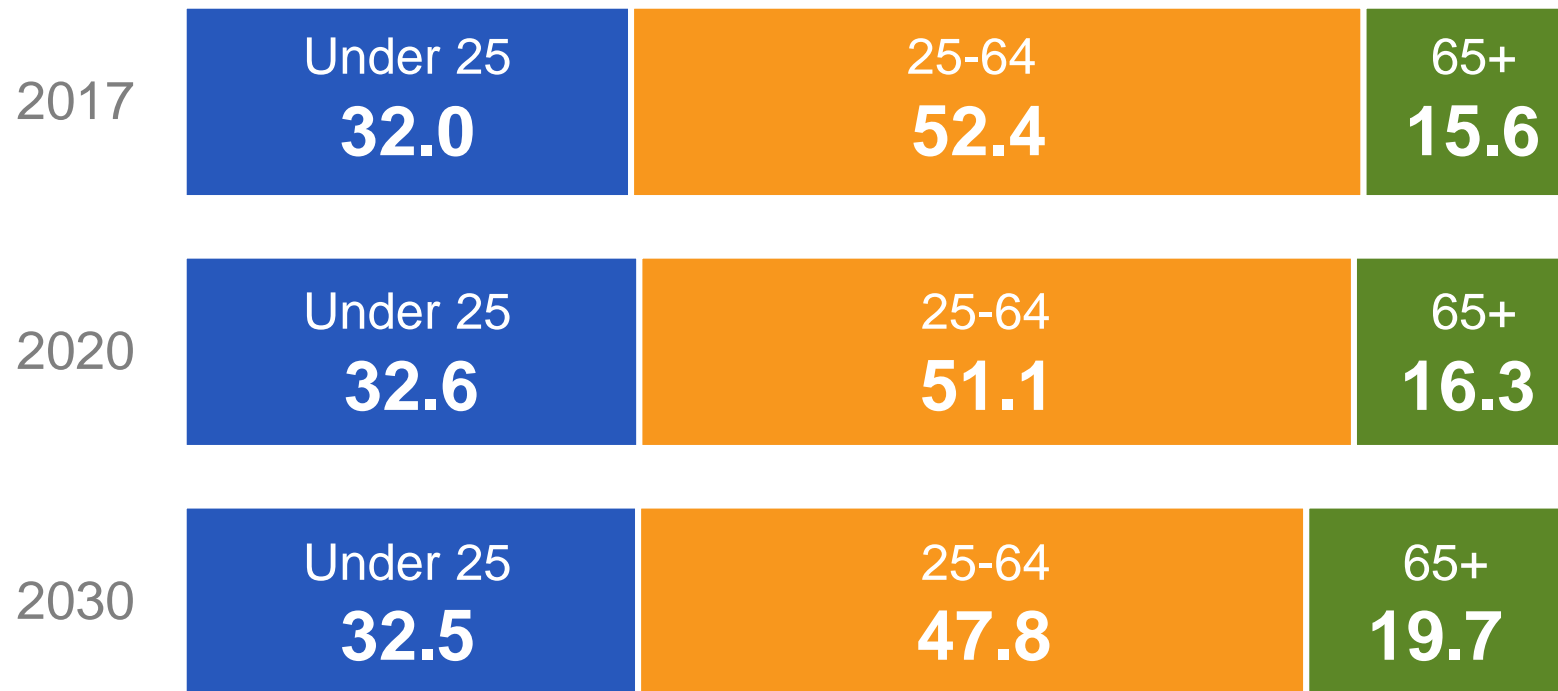
Stephen L. Pruitt, Ph.D.

President

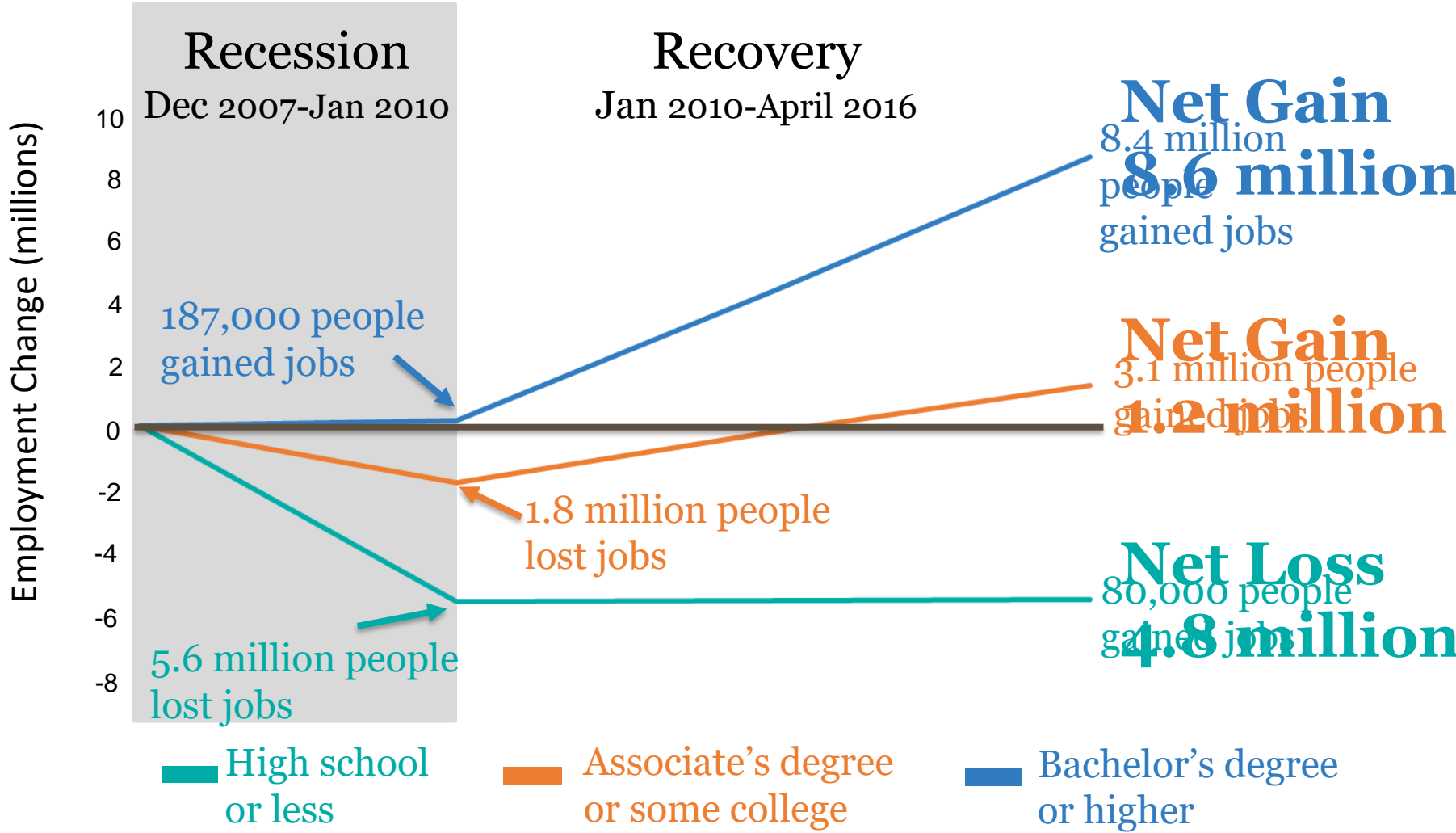
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A More Dependent Population

By 2030, for every 52 dependent people in the United States there will be just 48 working-age adults to provide for them.



Employment Losses and Gains by Education Level



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Unprepared and Unaware

Upskilling the Workforce for a Decade of Uncertainty

February 2019

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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.

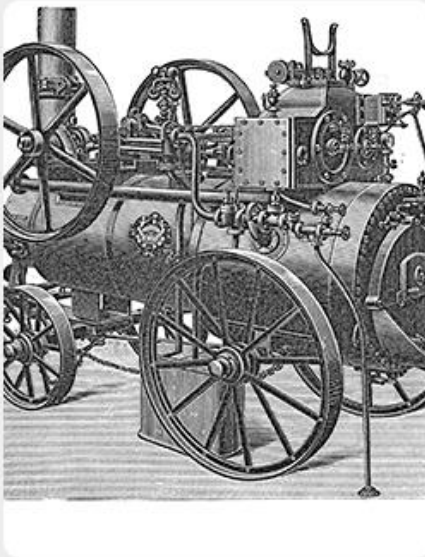
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4th Industrial Revolution

FIRST

Mechanical Production

steam, water



1784: First power loom

SECOND

Mass Production

electricity



1870: First assembly, line

THIRD

Digital

IT, Electronics



1969: First programmable
logic controller

FOURTH

Cyber physical systems

physical, digital, biological



Today: Robots learning
from humans

Most Fields Rely (or Will Rely) on STEM

Health Care



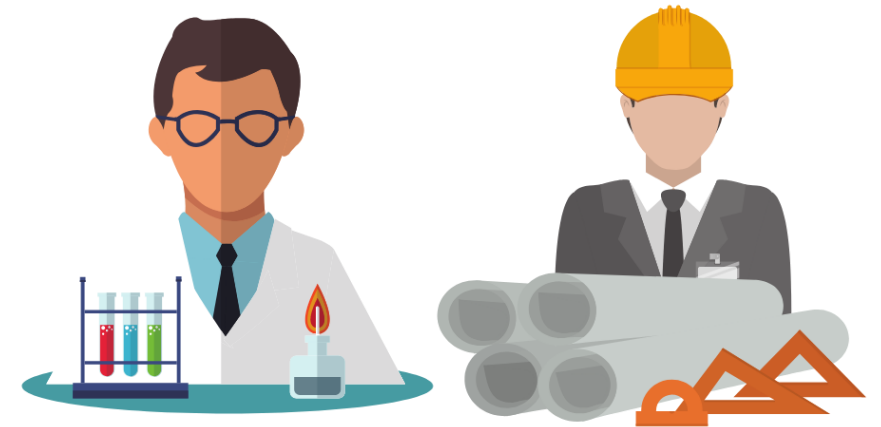
- Doctors
- Nurses
- Lab Techs
- Med Assts

Skilled Trades



- Plumbers
- Electricians
- Carpenters
- Mechanics

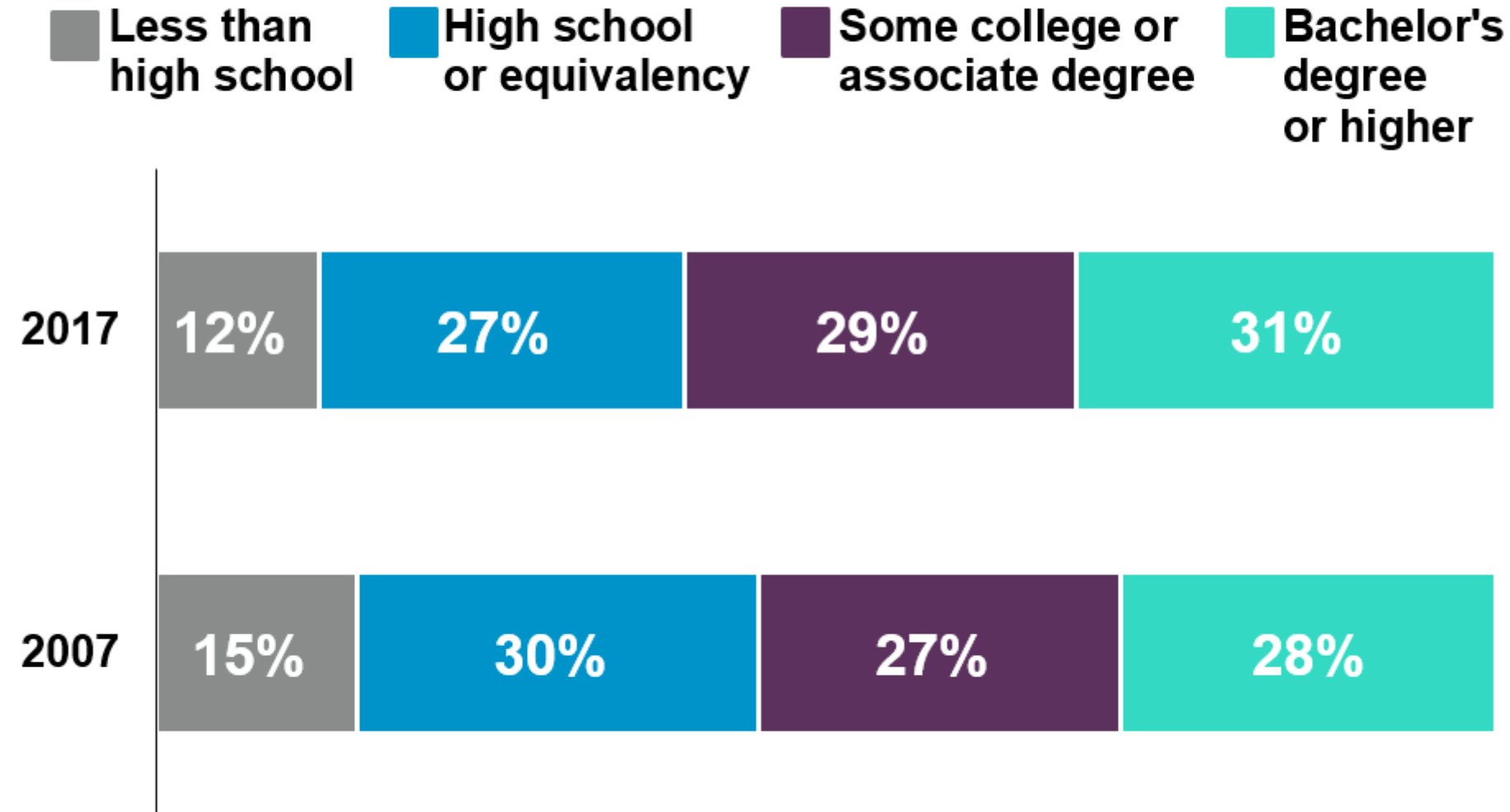
White Collar Professionals



- Scientists
- Architects
- Engineers
- Psychologists

Educational Attainment

Adults 25-64 in Georgia



Note: Percentages may not add to 100% due to rounding.

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

If state and business
leaders do not act

18
million

workers and their
children could be unemployable or
stuck in low-wage jobs:
an endless cycle
of poverty

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



unemployed or
underemployed

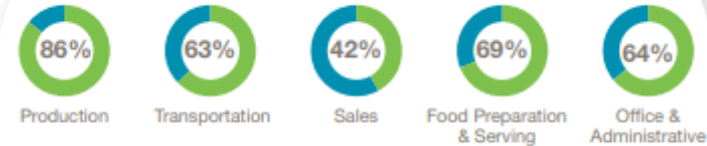


earning incomes below
the poverty level



reliant on
state services

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:



Note: The top five industries employ the most people.

37%
workers
highly vulnerable
to rising workforce
skill demands

59%
vulnerable workers
employed in the
top 5 industries
in 2016

Business & industry
will need increasing
numbers of workers
with middle & high
skills

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

Pre-Pandemic Total Automation Potential

Work activities in the Top 5 Employing Industries (2014-2030)

In the industries that employ the most people, automation potential is often greater:



46%

**Food Preparation
and Serving**



28%

**Sales and
Related**



58%

**Production
Occupations**



43%

**Office and
Administrative**



42%

**Transportation and
Material Moving**

The pandemic advanced
“consumer and business digital
adoption” by an estimated five
years in just eight weeks.

By 2025 – no longer 2030 – accelerated digital adoption due to the pandemic could eliminate the full-time equivalence of

- **389,000 positions** at the most conservative rate,
- **1,295,000 positions** at a midpoint rate, or
- **2,590,000 positions** at the fastest estimated rate.

Percentage of the Workers that are Vulnerable During the Pandemic in Each Top 5 Industry

The **percentage of vulnerable workers** varies by industry:

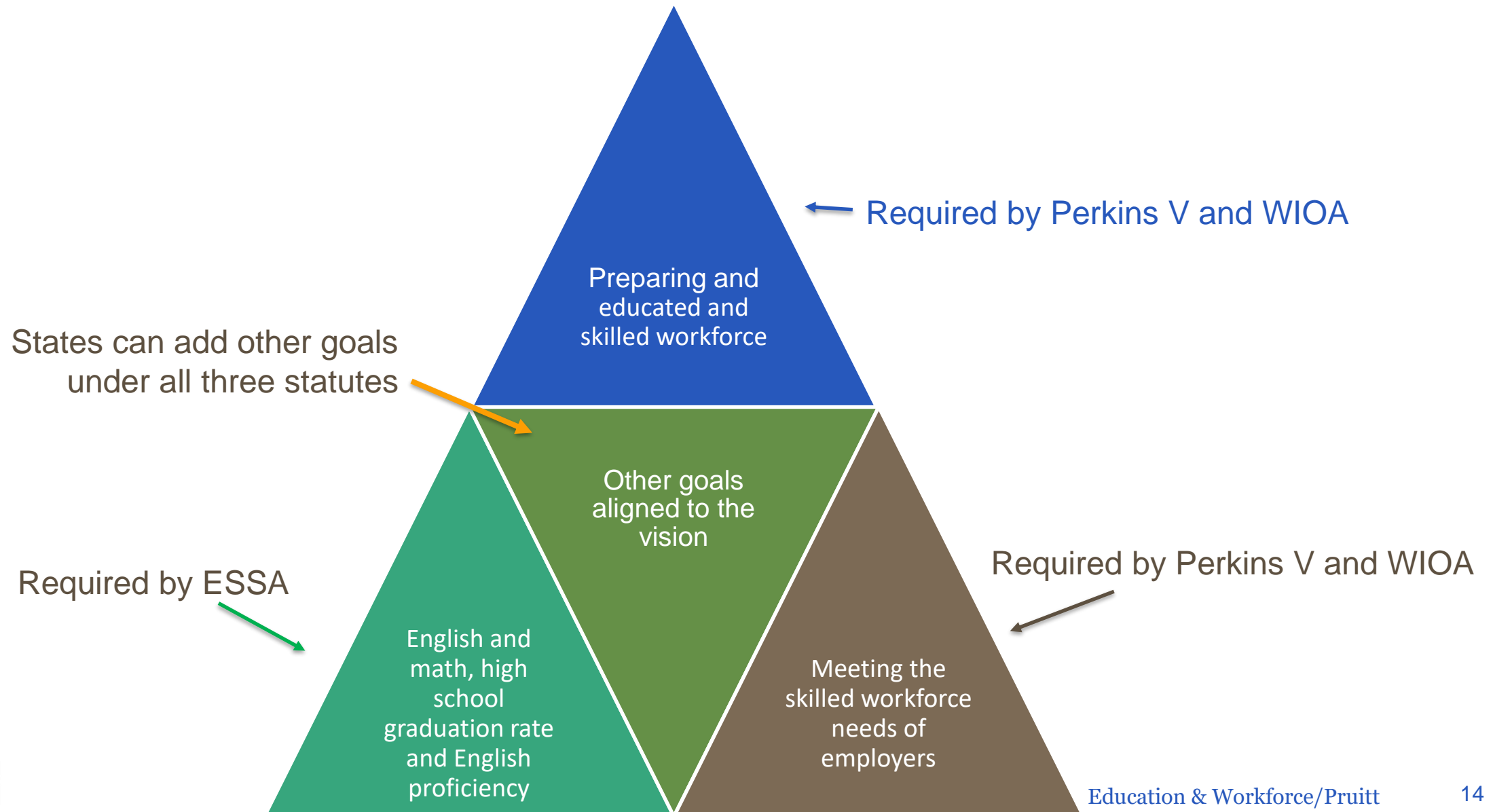


...together, they make up almost one-third of the total workforce in the SREB region.

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Working Toward a Unified Vision

Setting Workforce “North Star”



Ensure that your programs help everyone take part in achieving the vision

Career pathways

- Share labor market data
- Target the same set of in-demand industries
- Use a shared set of criteria and processes to develop high-quality pathways
- Get K-12 students involved earlier

Work-based learning

- Focus funds on WBL in the most in-demand fields
- Articulate what high-quality work-based learning looks like

Equity

- Collaborate on professional learning, plan together, share resources
- Coordinate support services
- Engage shareholders together

Some Final Thoughts

- Address Teacher Shortages
- Reconsider Assessment and Accountability
- Quality Pathways from K-12 through career
- Set robust goals and align programs to meet those goals
- Aligned data system from kindergarten through workforce
- Education is a marathon

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