



Building Connections to Grow Capacity:
Breaking Down Regional Barriers in the STEM Workforce Pipeline
Fairmont State ARC POWER Grant PW-21904-IM, 10/2024-9/2027

Over 25 years experience working in
Information Technology in:

- Healthcare
- Education
- Law Enforcement
- Business

Serial Entrepreneur, have started or acquired
businesses in:

- Internet Service Provider
- Retail (historic hardware store)
- Real Estate
- Residential and Commercial Construction

Associate Professor, Information Systems
Management, eight years



Clifton Jackson

Director of Economic and Workforce Development
Professor of Information Systems Management
MBA, BS Electronics Engineering Technology
Fairmont State University
Clifton.Jackson@fairmontstate.edu
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**This presentation
should bring you
some happiness...
at least maybe when
it's over**

Questions we hope to answer today:

- What is this project about?
- What are the problems it is trying to solve?
- What are some of the Workforce Challenges and Opportunities in West Virginia?
- How is the project going to attack these?
- How can I get involved?

The
What

The
So What

The
Now What

If you hear something today that you are interested in, or have something to add to the conversation, we want to connect.

Project Mission Statement

“To develop the Science, Technology, Engineering, and Math (STEM) workforce in the service region of Fairmont State University and Glenville State University by connecting industry, academics and educators, students and other jobseekers, and workforce entities through a Regional Career Services and Workforce Development Collaborative.”

Objective #1:

Bring industry representatives and regional schools and colleges together with jobseekers to build strategic relationships and collaboratively carry out activities to improve the STEM pipeline.

Objective #2:

Improve awareness of and preparedness for STEM careers in middle and high school students, college students, and individuals who have been laid off or are looking for work.

WV Career Collaborative: ***Building Connections, Building Workforce***

Project Management Structure:

- Core Planning Team
- Core Executive Team (CET)
- High School Work-Based Learning (WBL) Coordinators
- Local EDA Coordinators
- Power Up Interns: students and other jobseekers
- Project Management Board (PMB)
- Workforce Advisory Board (WAB)

Who is involved in this project?

Core Planning Team:

- Dr Robert Niichel, Lead PI
- Dr Erica Harvey
- Brooke Fincham
- Dr Sara Sawyer
- Dr Shalika Silva
- Clifton Jackson

Core Executive Team:

- Lloyd Ford
- Logan Harrison
- Maggie Sorensen
- Clifton Jackson

Project Management Board:

- Fairmont State University
- Barbour County Economic Development Authority
- Braxton County Schools
- Calhoun-Gilmer Career Center
- Glenville State University
- High Rocks Educational Corporation
- Little Kanawha Development Authority
- Mtn Craft
- Preston County Economic Development Authority
- Upshur County Schools

Meet the Core Executive Team (CET):

Lloyd Ford, Fairmont State Work-Based Learning Coordinator

- B.S. – Chemical Engineering
- M.A. – Secondary Education
- 15 years of corporate/employer relations, career advising, and co-op management
- Academic research and teaching



G. Logan Harrison, Glenville State Career Counselor

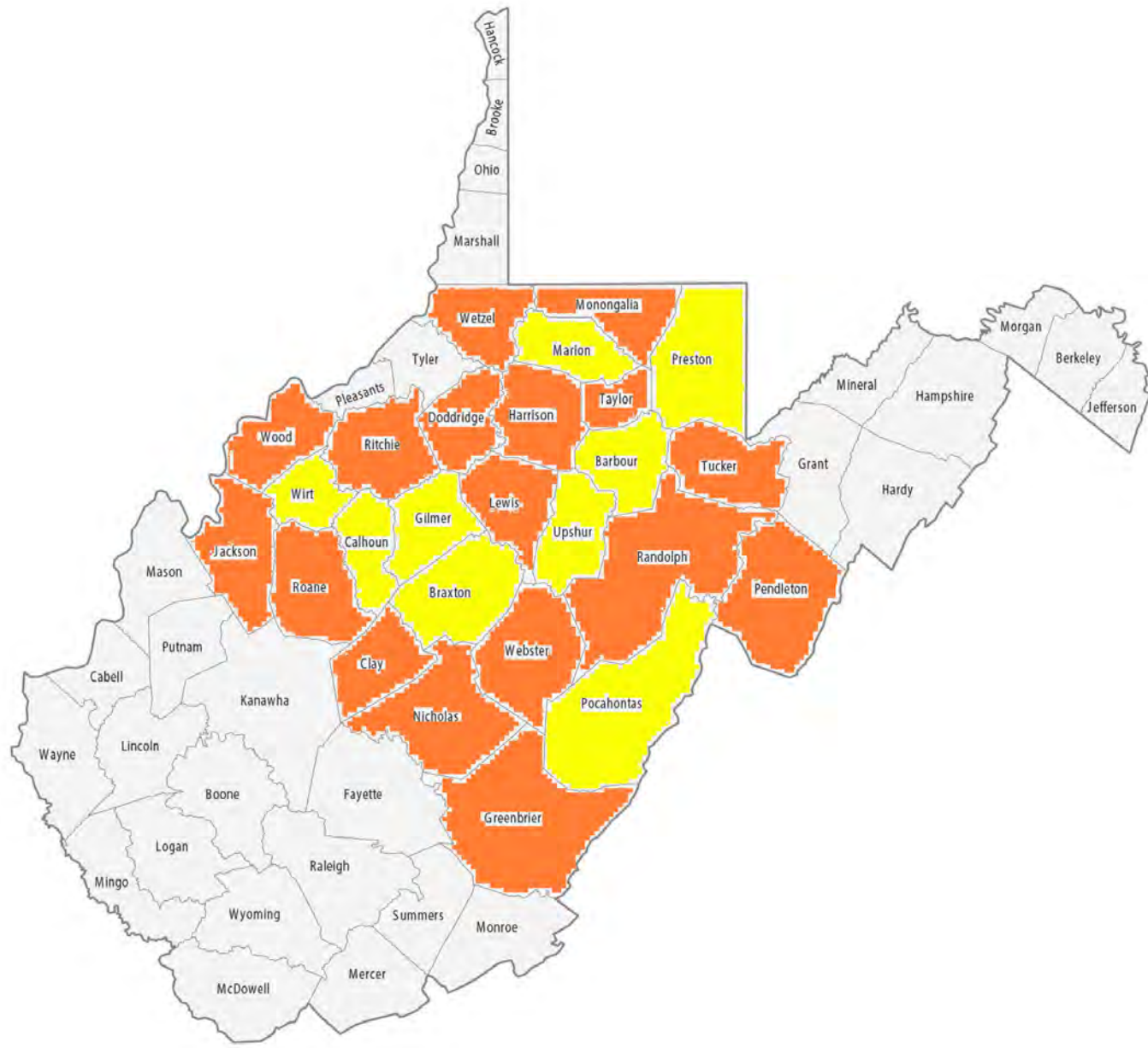
- B.S. - History & Political Science
- MBA - Management
- Over 10 years in Higher Ed (Admissions, Athletics, Student Life - Student Activities, Outdoor Recreation, Esports, Mascot)



Maggie Sorensen, Glenville State Industry Partnership Manager

- 20 years of leadership and program development in the educational sector
- 12 years advancing youth engagement in STEM through robotics education
- conflict resolution/problem solving expert

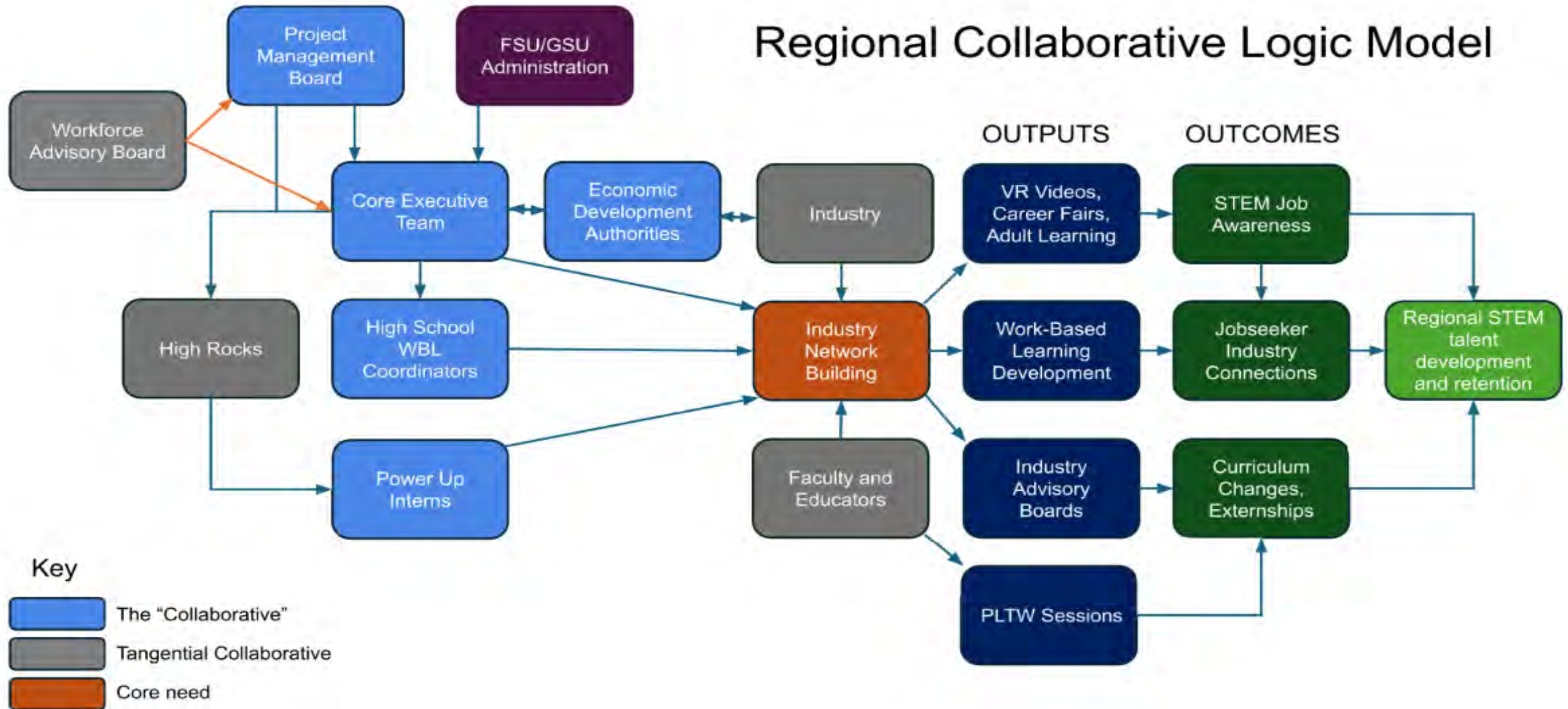




Partner Counties:

- Barbour
- Braxton
- Calhoun
- Gilmer
- Marion
- Pocahontas
- Preston
- Upshur
- Wirt

Regional Collaborative Logic Model



Regional Challenges

The
So What

- Industry Issue of Attracting and Retaining job-ready employees
- Inadequate Communication and Collaboration
- Misperceptions among students and jobseekers concerning the diverse career opportunities available in WV
- Alignment of Higher Ed with Industry needs

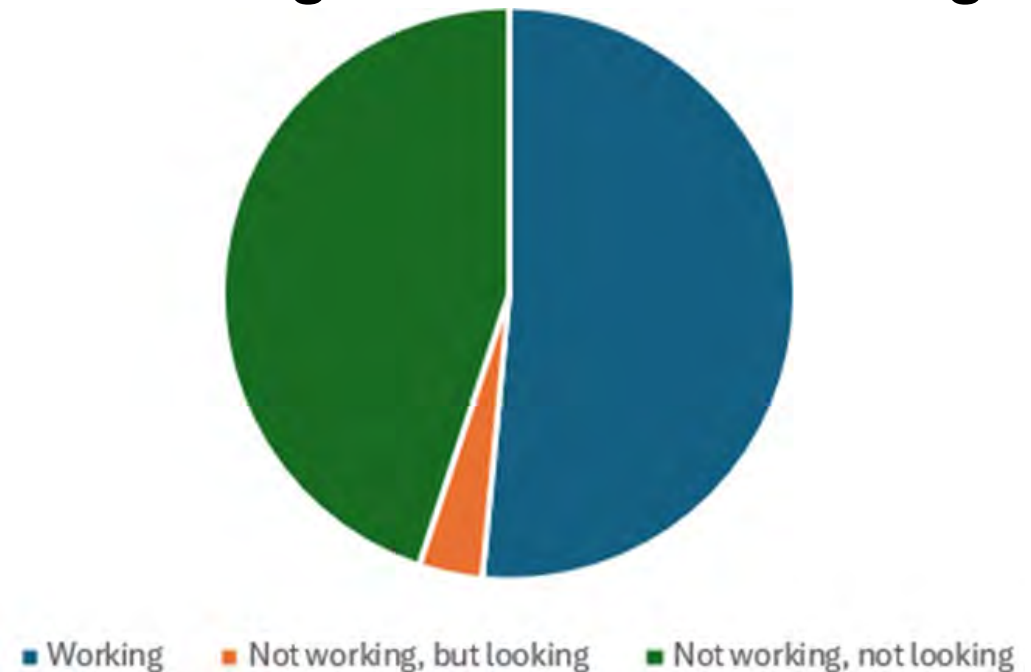
These are not just STEM-specific issues

Workforce Participation in West Virginia

The **unemployment rate** is the proportion of the labor force that is not employed but could be and is looking for work. ***West Virginia had 3.6% in Nov. 2024***

The **workforce participation rate** is the percentage of the population that is either working or actively looking for work. ***West Virginia had 55.1% in Aug. 2024***

44.9% are not participating in the workforce. But Why?

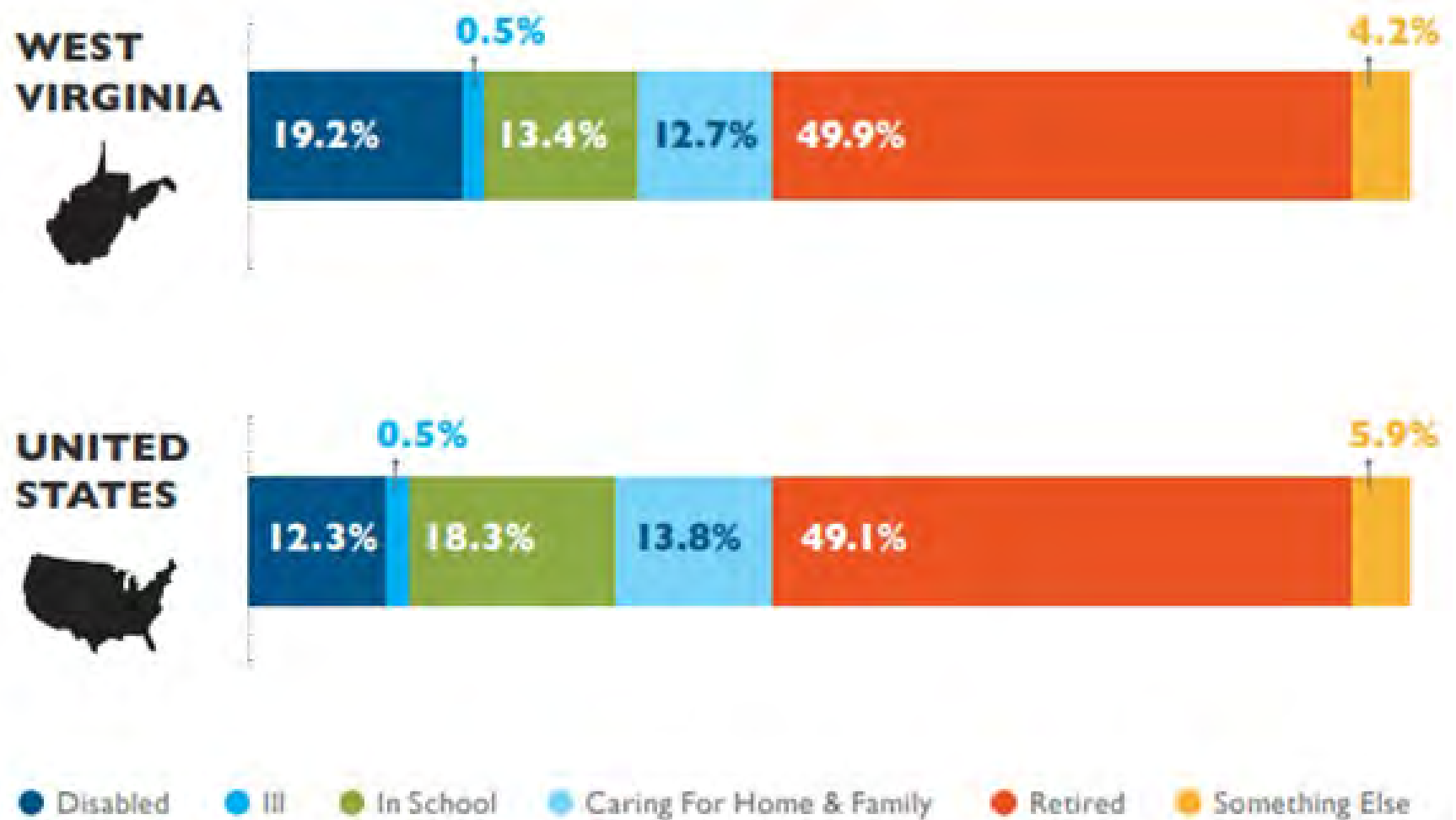


The 2023 State of Working WV Report found:

96% of those not in the labor force are retired, disabled, in school, or caring for home of family. Only 4.2 percent are not in the labor force for another reason.



WEST VIRGINIA CENTER ON
BUDGET & POLICY



Key Findings from the State of Working WV Report

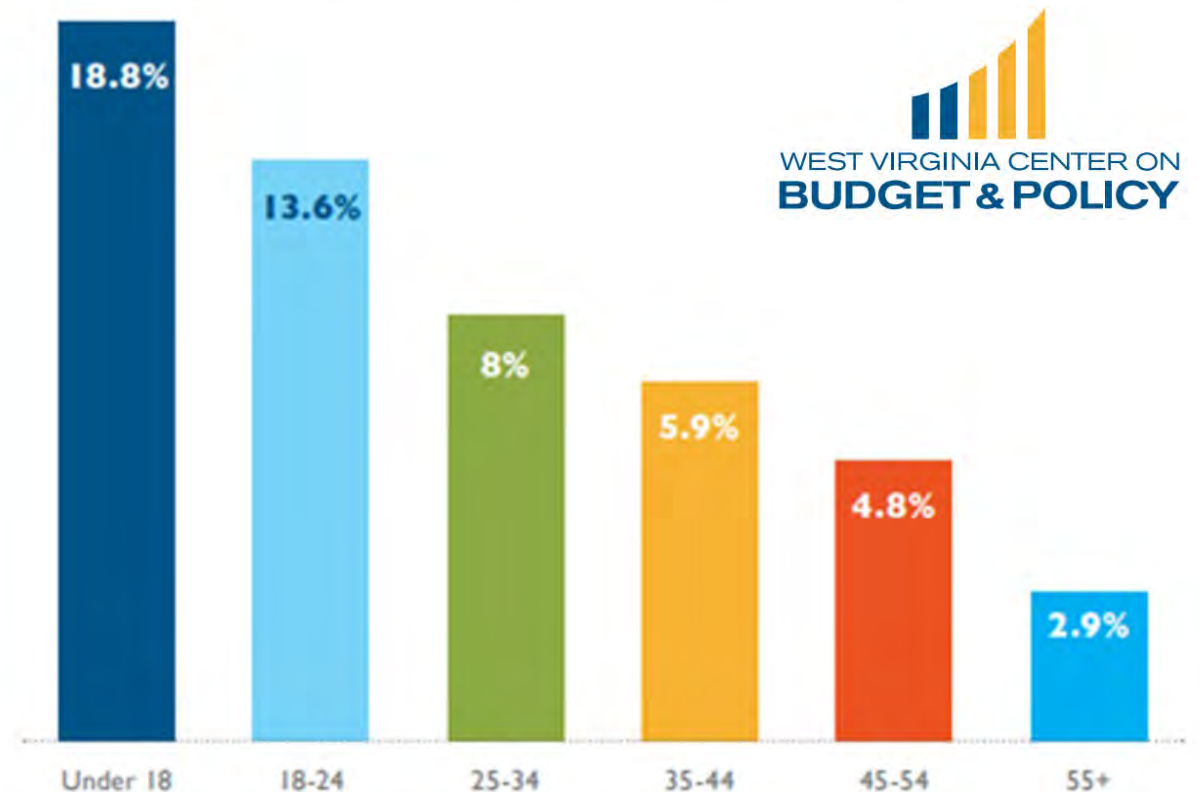
The 2023 Report from the WV Center on Budget & Policy found:

- Over half of unemployed West Virginians are either laid off or new entrants to the workforce
- Unemployed workers are more likely to be men than women.
- West Virginians of two or more races face the highest unemployment rates.
- Those who are unemployed have significantly less income than those who are employed. The unemployed in West Virginia have an average personal income of just over \$14,000, compared to nearly \$51,000 for the employed
- The average age of an unemployed worker in West Virginia is 35, with over 50 percent of unemployed workers falling between the ages of 18 to 34

UNEMPLOYMENT DECREASES WITH AGE

UNEMPLOYMENT RATES BY AGE GROUP, WEST VIRGINIA, 2021

Source: WVCBP analysis of 2017-2021 five-year American Community Survey microdata



Key Findings from the State of Working WV Report

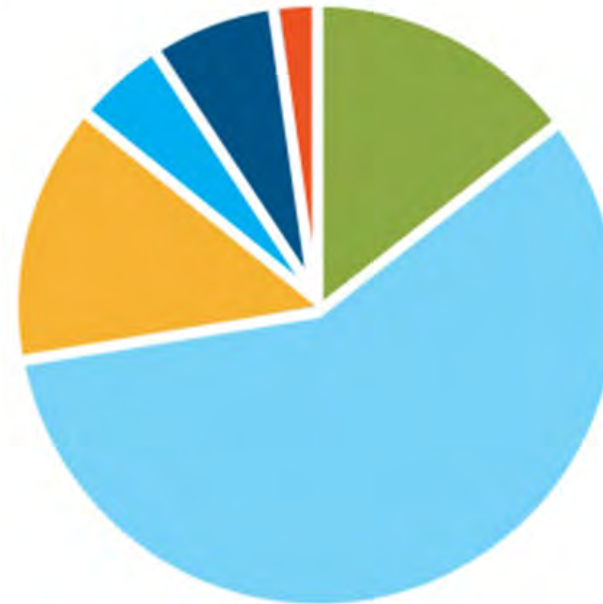
The 2023 Report from the WV Center on Budget & Policy found:

- On average, unemployed workers are younger and less educated than employed workers.
- Educational attainment is a major determinant of employment status. Only 23 percent of the state's population over the age of 25 has at least a four-year college degree
- The share of those unemployed is dominated by those without any college education. **Those with a high school degree or less make up 71.6 percent of the unemployed in the state.** Those with at least 1 year of college make up 28.4 percent, with those with 4 or more years making up just 9.0 percent of the unemployed in the state

NEARLY 3 OUT OF 4 UNEMPLOYED WORKERS LACK COLLEGE EDUCATION

SHARE OF UNEMPLOYED WORKERS BY HIGHEST LEVEL OF EDUCATIONAL ATTAINMENT, WEST VIRGINIA, 2021

Source: WVCBP analysis of 2017-2021 five-year American Community Survey microdata



LESS THAN H.S. 14.7%
HIGH SCHOOL 56.8%
1 YEAR OF COLLEGE 14.1%
2 YEARS OF COLLEGE 5.3%
4 YEARS OF COLLEGE 5.3%
5+ YEARS OF COLLEGE 2.2%



WEST VIRGINIA CENTER ON
BUDGET & POLICY

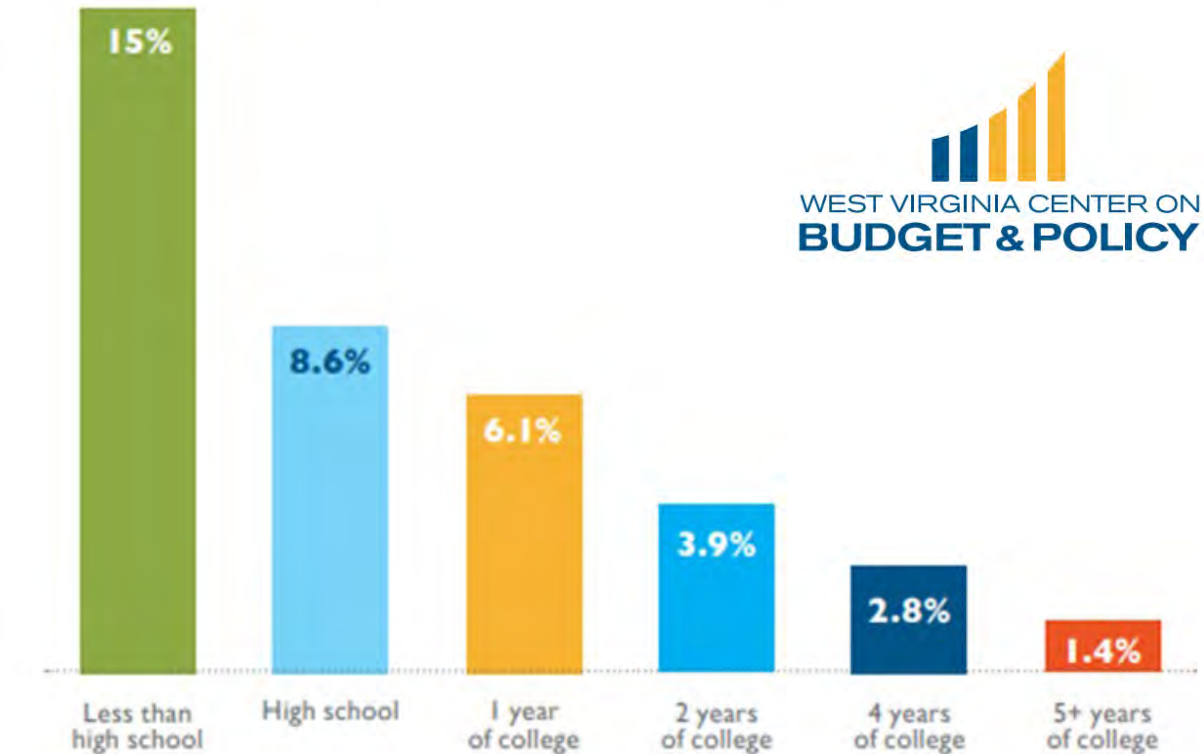
Key Findings from the State of Working WV Report

The 2023 Report from the WV Center on Budget & Policy found:

- Those without a high school degree have an unemployment rate nearly double the rate of those whose highest level of educational attainment is high school.
- College graduates and those with advanced degrees have the lowest unemployment rates in the state, with an unemployment rate of just 1.4 percent for those who have 5 or more years of college

EDUCATIONAL ATTAINMENT A MAJOR DETERMINANT OF UNEMPLOYMENT RATE UNEMPLOYMENT RATES BY HIGHEST LEVEL OF EDUCATIONAL ATTAINMENT, WEST VIRGINIA, 2021

Source: WVCBP analysis of 2017-2021 five-year American Community Survey microdata



Key Findings from the State of Working WV Report

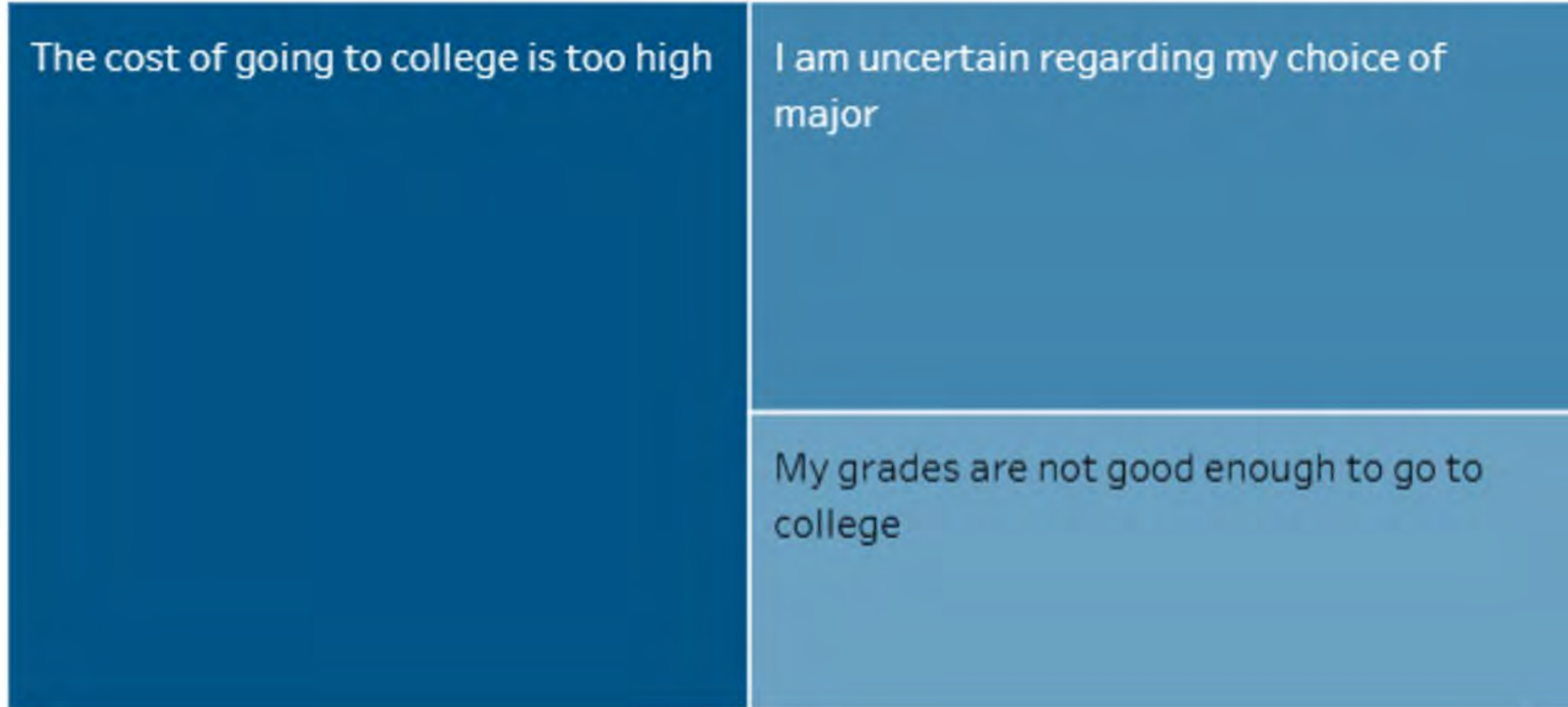
“Expand Access to Higher Education”

“Participation in the labor force and unemployment rates are largely determined by educational attainment, with West Virginia having one of the lowest levels of educational attainment in the country.

Therefore, it is imperative that the state moves toward increasing the share of people in the state who complete high school and go on to two- or four-year colleges. This could include boosting support to the state’s two- and four-year colleges which has been reduced in recent years, and expanding the Promise Scholarship so it serves more people with lower incomes.”

The
So What

Perception: The WV HEPC asked non-college bound students: **What are the top 3 factors in your decision not to attend college?**



Reality:

- A four-year degree adds an average of \$1.8 M to the lifetime earning capacity of the graduate.
- The average student debt of an FSU graduate is less than \$5k.
- The “Access Scholarship” makes tuition free for students from WV households making less than \$70k per year.

Workforce Challenges

- Overcoming generational issues: breaking the cycle of dependency
- Job opportunities
- Education and Skill Gaps
- Geography
- Aging population
- Access to Childcare
- Addiction and other Health Issues

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So What

There are jobs available

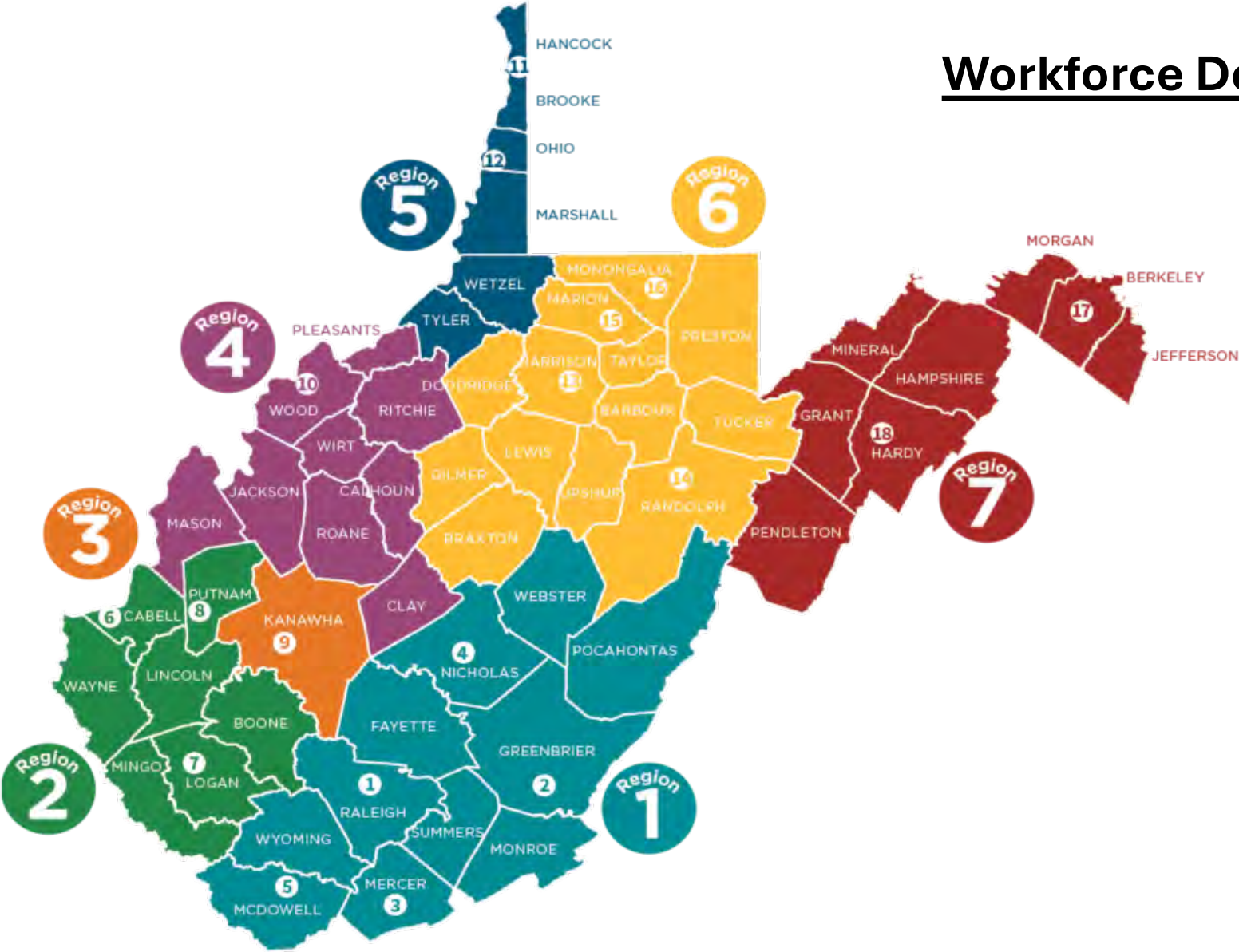
- There are jobs available. For every unemployed person in West Virginia there are about one and a half jobs available.
- The number of unemployed state residents stands at 33,100 according to the most recent figures.
- There are currently around 48,000 job openings in the state. As of 8/28/2024.

<https://blog.wvlegislature.gov/interim-report-2/2024/08/28/interim-report-workforce-development-and-labor-issues/>

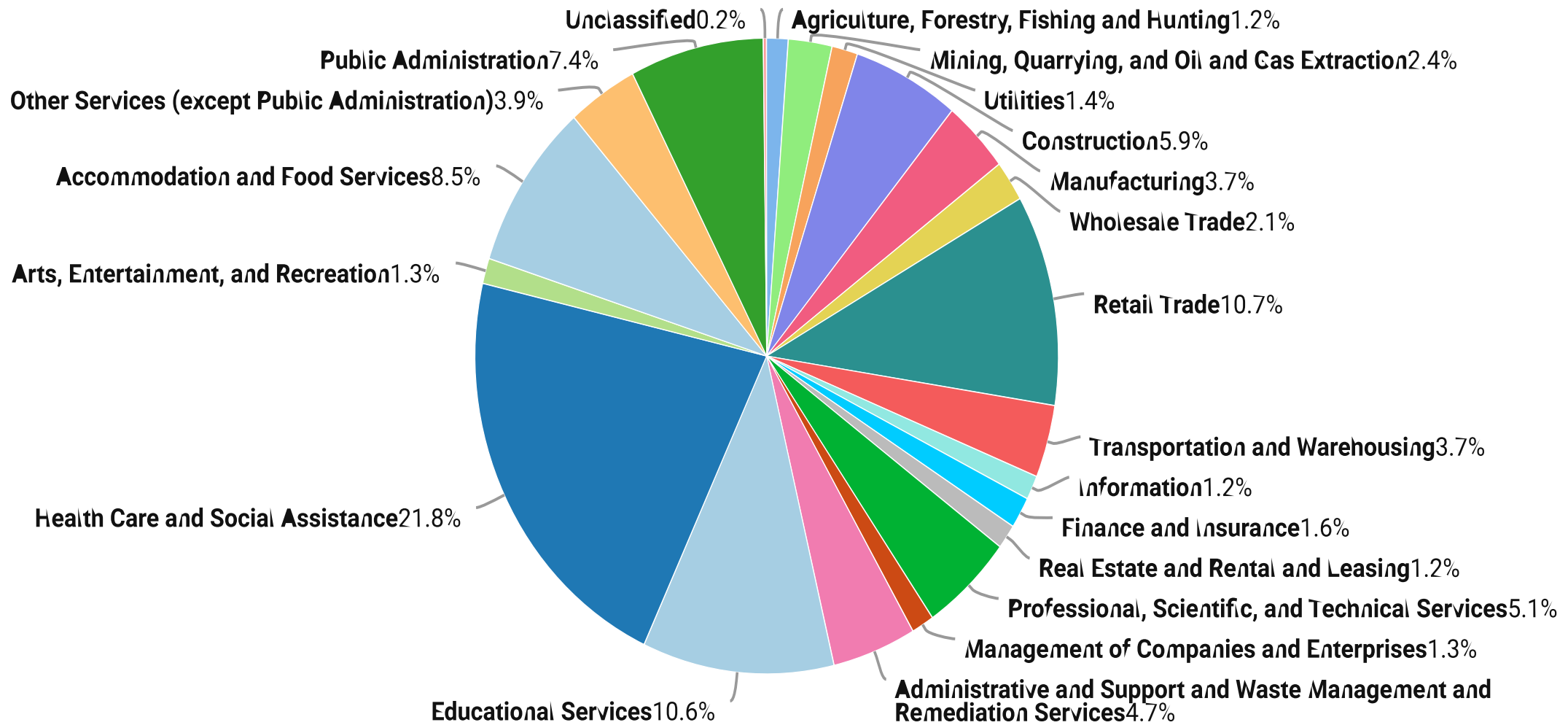
Where are the jobs?



Workforce Development Board Region VI



Total Workers for WV Region 6 by Industry



Source: JobsEQ®, Data as of 2023Q2

Source: WV State Plan 2024-2027

Workforce Development Region 6 Industry Employment Projections 2020-2030

Industry Title	Estimated 2020 Employment	Projected 2030 Employment	Numeric Change	Annual Growth Rate
Growing Industries				
Hospitals	15,564	17,446	1,882	1.1
Food Services and Drinking Places	13,087	14,612	1,525	1.1
Ambulatory Health Care Services	9,026	10,396	1,370	1.4
Administrative and Support Services	5,101	5,868	767	1.4
Social Assistance	4,156	4,855	699	1.6
Declining Industries				
Clothing and Clothing Accessories Stores	1106	924	-182	-1.8
Merchant Wholesalers, Durable Goods	1589	1441	-148	-1.0
Health and Personal Care Stores	1271	1137	-134	-1.1
Gasoline Stations	2281	2151	-130	-0.6
Mining (except Oil and Gas)	2634	2526	-108	-0.4

At least six of the top twenty in-demand jobs in Region VI are STEM related.

1	SOC Code	Title	Growth Rate
2	35-2014	Cooks, Restaurant	5.90
3	29-1171	Nurse Practitioners	4.49
4	35-3011	Bartenders	4.27
5	35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee	3.95
6	35-3031	Waiters and Waitresses	3.49
7	35-9021	Dishwashers	3.40
8	35-1012	First-Line Supervisors of Food Preparation and Serving	3.29
9	31-2021	Physical Therapist Assistants	3.19
10	15-1212	Information Security Analysts	3.07
11	35-3023	Fast Food and Counter Workers	3.04
12	2612155	Food Service Managers	2.93
13	29-1071	Physician Assistants	2.87
14	2634069	Medical and Health Services Managers	2.79
15	15-2041	Statisticians	2.78
16	13-1081	Logisticians	2.74
17	53-3031	Driver/Sales Workers	2.74
18	15-1221	Computer and Information Research Scientists	2.66
19	15-1256	Software Developers and Software Quality Assurance	2.61
20	15-2031	Operations Research Analysts	2.56
21	47-2221	Structural Iron and Steel Workers	2.36
22	39-3091	Amusement and Recreation Attendants	2.31

Region VI Demand Occupations – 10 Year Projections 2020-2030

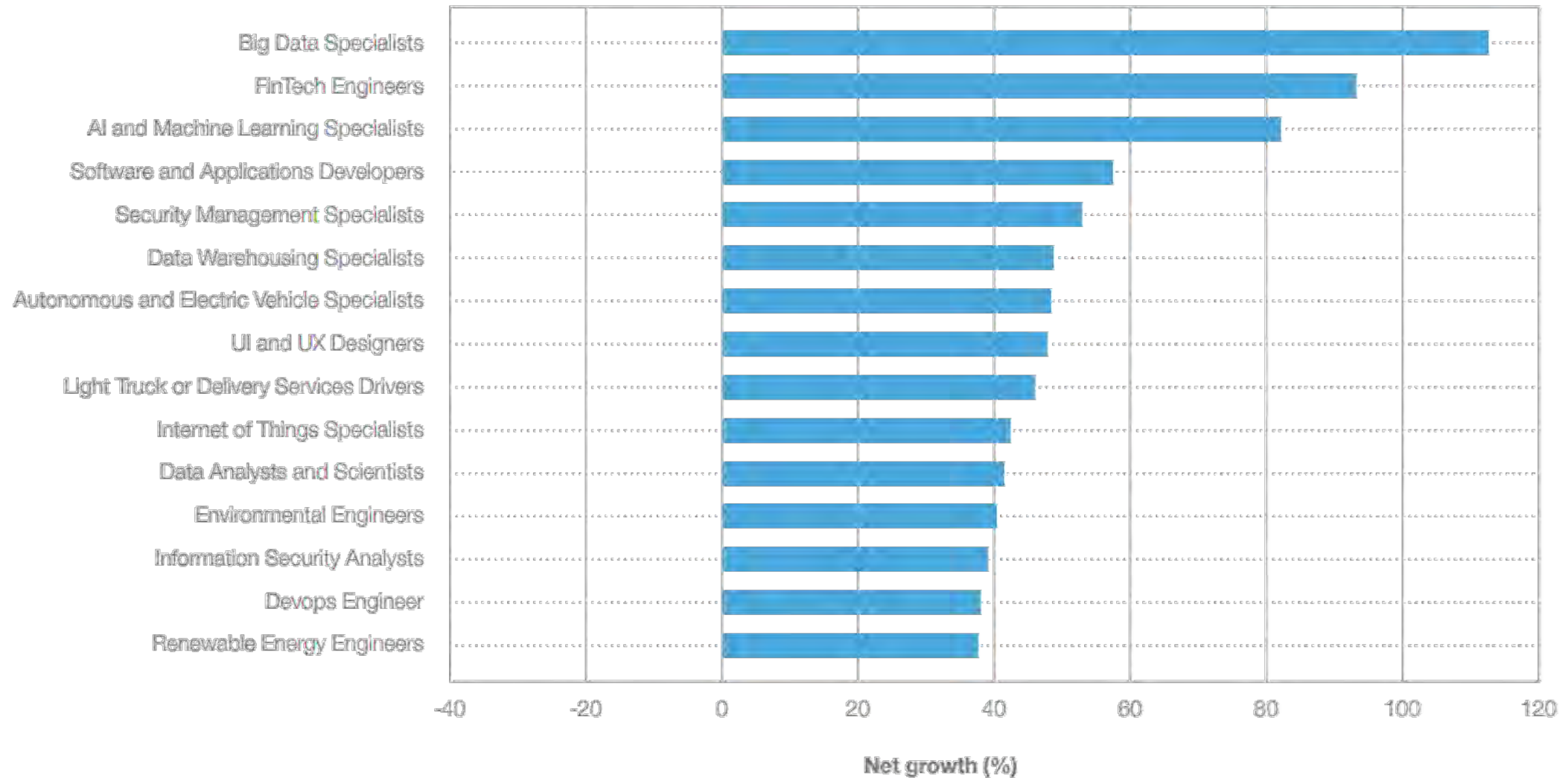
In addition to the growing industries listed in the table above, as identified by the state in the Unified State Plan, Region VI considers the following industries as emerging and growing within our local area:

1. Aircraft Repair and Maintenance
2. Advanced Manufacturing
3. Oil and Gas Extraction
4. Information Security Analysts

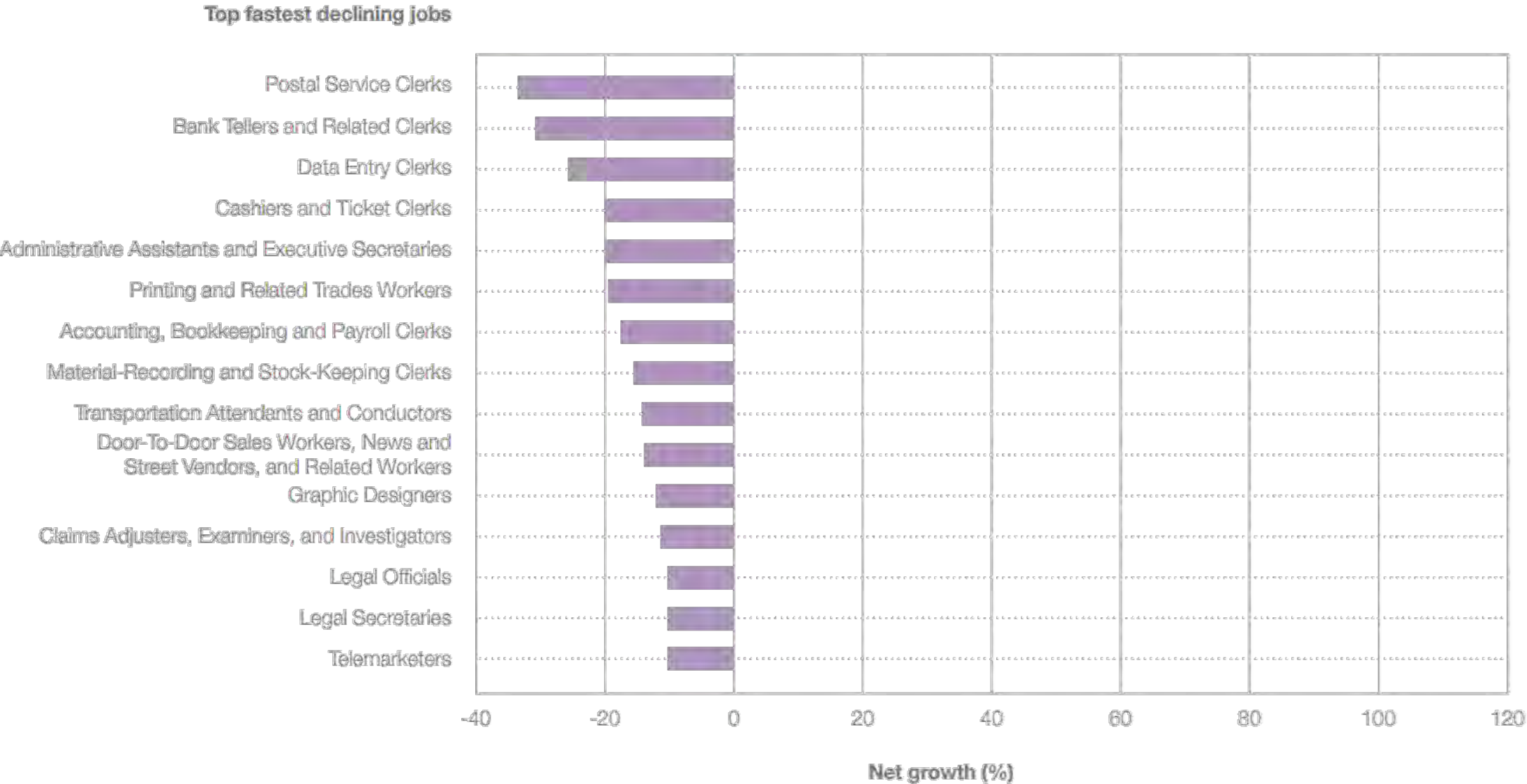
From RegionVI 4 Year Local Plan

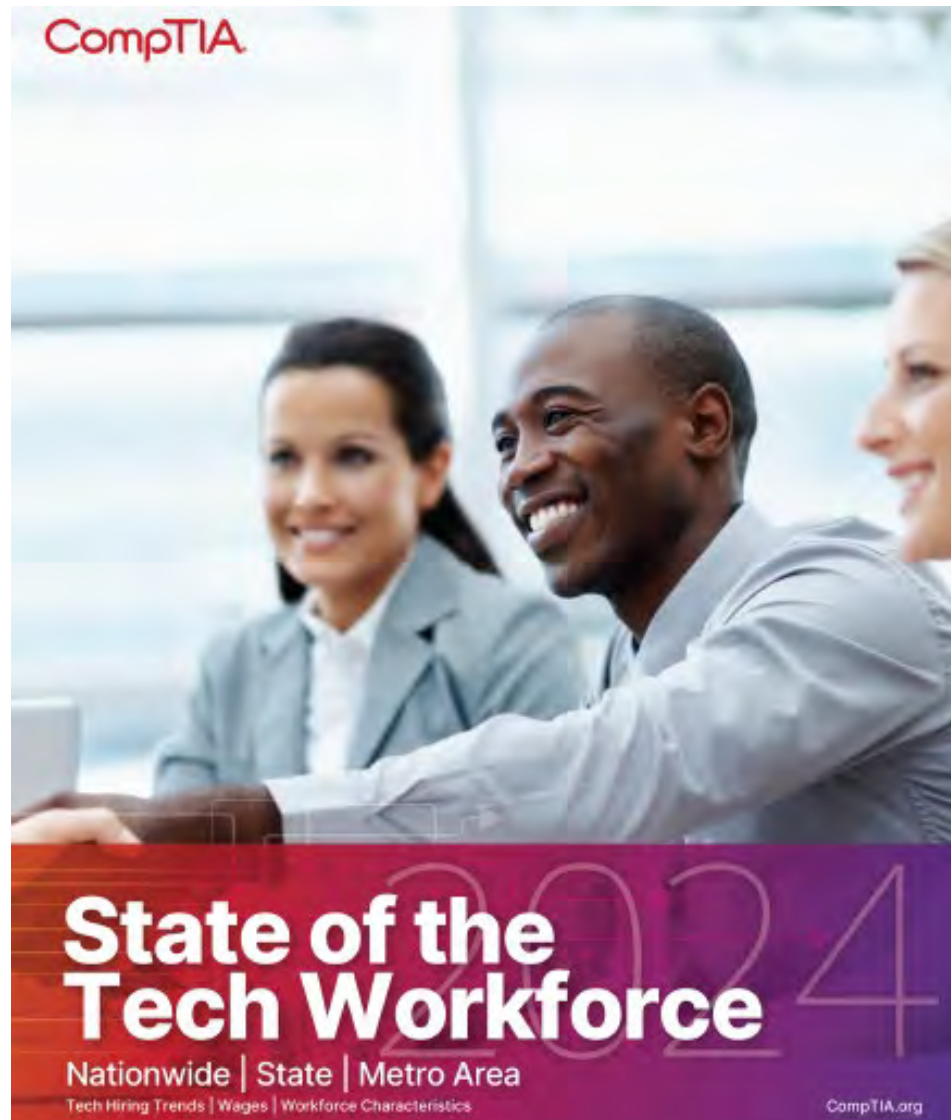
Global Trends – World Economic Forum: Future of Jobs Report 2025-2030

Top fastest growing jobs



Global Trends – World Economic Forum: Future of Jobs Report 2025-2030





TOP STATES BY PROJECTED % CHANGE IN TECH OCCUPATION GROWTH 2024-2034

1. Utah	33%
2. Wyoming	29%
3. Texas	28%
4. New York	26%
5. Nevada	25%
6. Idaho	25%
7. West Virginia	24%
8. Tennessee	24%
9. Mississippi	24%
10. South Carolina	22%

Grant Initiatives

Networking

Building Connections
Conference Attendance and Presentations

Industry

Work Based Learning Opportunity Development
Industry Advisory Boards
Curriculum Refinement
Educator Externships

Job Seekers

Videos - Virtual Reality Job Shadows
Videos - FSU and GSU STEM Promo Videos
Student/Job Seeker Preparation
PowerUp Interns: Power skills and leadership development
Adult Math Skill Refresh

K12

K12 Activities and Support
Career Bound - Awareness, Pathway Support
Work Based Learning Participation

Higher Ed

Career Planning Program
Work Based Learning Participation

Other

STEM Entrepreneurship Workshop
PLTW Classes

The
Now What

We Collaborate and Create Collective Impact

- Collective impact is a collaborative approach to addressing complex social issues. It involves:
 - Bringing people together in a structured way to achieve social change.
 - Commitment of a group of actors from different sectors to a common agenda.
 - Collaboration among different parts of the impact ecosystem.
- Five conditions:
 - a common agenda
 - continuous communication
 - mutually reinforcing activities
 - backbone support
 - shared measurement





The Now Now What

Everyone Can Help

- Share project opportunities and resources
- Reach out to share what you know or to join the collaboration
- Encourage people to look at STEM careers
- Become a Mentor

Educators Can Help

- Paid positions for faculty and educators to help us build a network that includes local industry
- Conduct Industry outreach
- Utilize field trips
- Become a Project Lead The Way certified educator
- Participate in STEM conferences
- Start a Robotics or Girls Who Code Club

Business and Industry Can Help

- Work with us to Create high-quality work-based learning opportunities
- Join an Industry Advisory Board
- Host a VR Job Shadow Video at your company
- Host Educators at your business
- Visit a local classroom and tell them about what you do

Students and Jobseekers Can Help

- Paid positions for PowerUp Interns to help with the project and learn Power Skills and Leadership
- Try out Excel Together curriculum
- Take the Entrepreneurship Course
- Help develop, test and participate in work-based learning opportunities
- Share your experiences – the good, bad and really ugly

Stay Informed

Please complete this survey to help us track grant participation:



<https://tinyurl.com/596ehmkr>

Access our grant project website to stay informed and sign up for our quarterly newsletter.



<https://tinyurl.com/42ddbdux>

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References:

- West Virginia Center on Budget & Policy, State of Working West Virginia 2023
- Region VI Workforce Development Board, <https://regionviwv.org/> Demand Occupations 2020-2030, Local Plan
- “Bob” generated at <https://openart.ai/>