



State Opportunity Index

Strengthening the Link
Between Education
and Opportunity



EDUCATION
FOUNDATION

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STRATEGIC ADVISORY GROUP

Rob Anderson, President

State Higher Education
Executive Officers Association

Tom Brock, Director

Community College Research Center

Earl Buford, President

Council for Adult & Experiential Learning

Michael Collins, Vice President

Jobs for the Future

Ryan Craig, Co-Founder

Apprenticeships for America

Wil Del Pilar, Senior Vice President

The Education Trust

Emily Dickens, Chief of Staff

Society for Human Resource Management

Paul Fain, Founder

Work Shift

Kysha Wright Frazier, President and CEO

Corporation for a Skilled Workforce

Ted Mitchell, President

American Council on Education

Cheryl Oldham, Senior Vice President

U.S. Chamber of Commerce Foundation

Scott Waller

President and CEO, Mississippi Economic Council

Workforce Taskforce Lead, National Association of State Chambers



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TECHNICAL ADVISORY GROUP

Sandy Baum, Senior Fellow
Urban Institute

Angela Bell, Vice Chancellor
University of Georgia System

Eric Bettinger, Professor
Stanford University

Isabel Cardenas-Navia, Senior Director
WorkCred

Pascale Charlot, Managing Director
Aspen Institute

Matthew Hora, Associate Professor
Center for College Workforce Transitions, University of Wisconsin

Heather McKay, Executive Director
Virginia Office of Education Economics

Tim Renick, Executive Director
National Institute for Student Success, Georgia State University

Matt Sigelman, President
Burning Glass Institute

Nicole Smith, Research Professor and Chief Economist
Georgetown Center on Education and the Workforce

Scott Solberg, Professor
Boston University

David Troutman, Deputy Commissioner
Texas Higher Ed Coordinating Board

Mamie Voight, President and CEO
Institute for Higher Education Policy

Christina Whitfield, Senior Vice President and Chief of Staff
State Higher Education Executive Officers Association

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Foreword

FROM EDUCATION TO OPPORTUNITY

One of the great aspirations of the United States has long been the idea of equitable pathways to opportunity for all. While individuals pursue an education for many different reasons, their motivations and expectations are premised on a common belief that completing an education will make their lives better. For decades, many Americans faced limited prospects after high school, and a concerted effort among policymakers, institutions, and many other stakeholders has resulted in greater access and higher completion rates. Today, more Americans than ever before have an education after high school.

But a changing education landscape and constantly evolving job market has raised the stakes for individuals pursuing an education after high school. Despite a growing array of post-high school education programs—including degrees, certificates, and other credentials—education to career pathways are often difficult and harder to navigate, especially for individuals without the resources and support they need to make informed decisions and overcome obstacles. Too many talented individuals are left to decide, *“Is an investment in education after high school really worth it?”*

Employers also are facing their own set of challenges. Even with millions of Americans completing some form of post-high school education, employers are still struggling to fill many high-wage, high-skilled jobs.

The good news is that there are steps we can take that will enable more equitable pathways to opportunity for individuals and strengthen workforce competitiveness for employers.

The State Opportunity Index was developed to give states a quantifiable set of indicators that support a stronger connection between education and opportunity. While there are still gaps in available data, this inaugural effort establishes a baseline for how states are doing in five priority areas: Clear Outcomes, Quality Coaching, Affordability, Work-Based Learning, and Employer Alignment. Taken together, these five priorities provide a research-driven framework for improving the policies and practices to support educators, students, and employers.

Over time, additions and improvements will be made to the indicators so the Index captures a wider spectrum of experiences after high school. Making that happen will require committed stakeholders from across the education and employment sectors to work together to define and achieve common goals. We hope education leaders, policymakers, and employers across the nation join our efforts to build a better system for providing equitable pathways to opportunity.

Introduction



For most people, an investment in an education after high school represents a decision fueled by hope and expectations. The time and resources needed to complete that education are significant, and individuals, understandably, expect that their education will improve their life both financially and personally. In many cases, their hopes for good jobs and career opportunities are realized; post-high school education is one of the best tools available for achieving economic mobility.

Yet what is true on average does not always translate to individual outcomes. For many, an investment in education does not lead to the kind of meaningful work and economic security they had hoped for. Employers, too, are struggling to match talent with jobs. The current labor market desperately needs more students to have access to education programs that lead to high-demand, high-wage jobs.

The State Opportunity Index was developed to help states build a stronger connection between education after high school and equitable pathways to opportunity so students realize the full value of their education and employers have the workforce they need to fill high-demand, high-wage jobs. The Index helps states assess how well they are leveraging post-high school education—including degrees, certificates, and other credentials—to strengthen workforce competitiveness and pathways to opportunity.

This first annual report establishes a baseline for how states are doing in five priority areas: **Clear Outcomes, Quality Coaching, Affordability, Work-Based Learning, and Employer Alignment.**

Taken together, these priorities provide a framework for improving the policies and practices to support educators, students, and employers. By focusing on improvements at both the student and the system levels, the State Opportunity Index takes a holistic view of the path from post-high school education to opportunity.



Leading

State is at the forefront and has made the most progress toward creating equitable pathways to opportunity.



Advanced

State has made substantial progress toward creating more equitable pathways to opportunity.



Developing

State is in the early stages of creating more equitable pathways to opportunity.



Foundational

State is just beginning to create more equitable pathways to opportunity.

For each of the five priority areas, the Index categorizes state progress as **Leading**, **Advanced**, **Developing**, or **Foundational**.

The report also provides specific analyses of findings by race, gender, and first-generation status to spotlight obstacles and underscore the importance of providing equitable pathways to opportunity where possible (see appendices). Future updates to the Index will refine these metrics and integrate new data sources as they become available.

In addition to the five priority areas, the Index also includes a **return on investment (ROI)** calculation for each state. ROI is determined by calculating the percentage of the graduates who would likely experience a positive return on their investment based on the income distribution for recent college graduates in the state. A positive ROI value indicates that graduates in that state earn wages higher than the wages earned by those who do not have an education beyond high school, and that the earnings premium they experience over a 10-year period is greater than their total investment in education after high school.

While a positive return on investment is not, in itself, a measure of the total value of an education after high school, it can help explain how, and for whom, education unlocks economic opportunity.

The goal is that as states make targeted improvements in the five priority areas, more graduates experience a positive return on their investment in education after high school and that pathways to opportunity become more equitable.

At a time when public and private discourse is overwhelmed with questions about whether an education after high school is worth the cost and effort, the State Opportunity Index gives states, education leaders, and employers answers. The report includes national and state-specific findings for all 50 states and Washington, D.C. The report also offers questions and action steps for all states to consider.

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PRIORITY AREAS FOR PROGRESS

Clear Outcomes



When individuals choose to pursue education after high school, what can they expect their journey to look like? What jobs could it lead them to? What level of income might they expect? We envision a future in which everyone can access accurate information on employment outcomes that can help them make informed decisions about an education after high school. **The states that are currently leading the way in terms of their education-to-employment data infrastructure include Arkansas, Colorado, Connecticut, Georgia, Kentucky, Maryland, Minnesota, Rhode Island, and Virginia.**

Quality Coaching



No one should have to map a career path and navigate challenges alone. We envision a future in which everyone has access to education-to-career coaching that helps them reflect on their talents and interests, choose a career goal, map pathways through education, and navigate challenges along the way. **Nationally, less than a quarter of graduates receive coaching and guidance about how to connect their education to a career. Those who do receive that support are more likely to find a first job that requires their degree and to be satisfied with those jobs and their career progress.**

Affordability



For many individuals, the cost of an education after high school is a significant barrier, limiting their access to further education and the opportunity it can generate. We envision a future in which quality post-high school education programs are within everyone's financial reach, allowing for equitable opportunity for success. **When looking at the burden of costs relative to local wages, the most affordable states for education after high school are California and Washington.**

Work-Based Learning



Learning through work is a vital ingredient to success after completing a degree or other credential. Work-based learning experiences help students make the connection between their education and their career aspirations. **Nationally, only about a quarter of students at four-year institutions and 10 percent of students at two-year institutions participate in a paid internship. Those who do participate in a paid internship are more likely to find jobs that require their degree and be satisfied with those jobs and their career progress.**

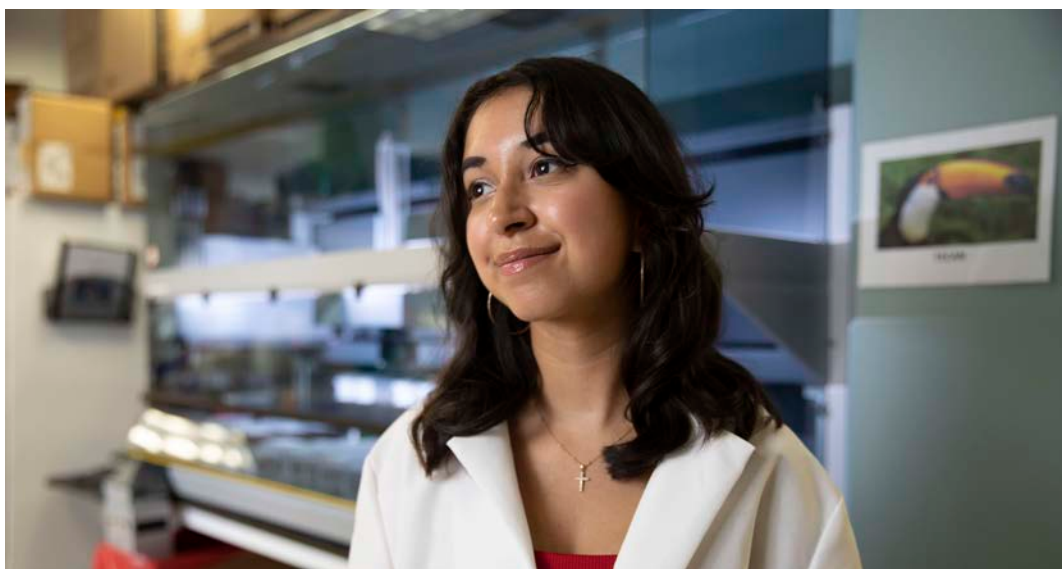
Employer Alignment



An education after high school has multiple important purposes. Preparation for a career is just one of them—but for many people it is the most important one. We envision a future in which students can readily access programs that lead to quality jobs and mobility, and employers assess and advance individuals based on skills and experiences, not just degrees. **Currently, Rhode Island and Utah are leading the way in preparation relative to demand in their states, but even in leading states, some programs that consistently lead to strong employment outcomes are not keeping up with labor market demands.**



Positive Return on Investment by State



A CLOSER LOOK

The State Opportunity Index was developed to inspire and guide leaders in their efforts to make the kind of broad systemic improvements needed to strengthen the connection between education and opportunity. In order to do that, the social, economic, and professional benefits of an education after high school must be understood within the context of the resources that students and their families put toward pursuing and completing post-high school education. When graduates experience a positive return on their investment in education after high school, they earn wages that are higher than wages earned by those who do not have a post-high school degree, and after 10 years the cumulative earnings premium is greater than their total investment in their post-high school education.¹

The share of public college graduates achieving a positive ROI is assessed at the state level. Each state's positive ROI value (or positive ROI success rate) incorporates both bachelor's and associate degree holders, with their respective costs and earnings premiums.

Our approach to calculating the percentage of grads with a positive ROI is distinct from most existing research in two ways. First, we analyze individual earnings, rather than median earnings, which produces a more granular analysis of how many graduates actually achieve a positive ROI instead of whether the median student does. Second, while most existing analyses have focused at the institution level, we look at state-level performance, as increasing ROI is not a task that can be accomplished by institutional leaders alone.

The percentage of recent college graduates, including both associate and bachelor's degrees, who can expect to clear the positive ROI threshold within 10 years varies from a low of 54 percent in Idaho to a high of 78 percent in California and New York.²

The range and results for bachelor's degree graduates are similar to the overall results for most states.

Bachelor's degree graduates in New York are the most likely to experience a positive ROI (82 percent), while graduates in Idaho are the least likely, at 53 percent.³



Figure 2 shows the percentage of recent bachelor's degree graduates with no further education who would be expected to experience positive ROI.

Our methodology estimates the total cost of obtaining a bachelor's degree, with student loans paid off within 10 years, ranges from about \$42,000 in Wyoming to about \$115,000 in Pennsylvania. Additionally, median income for state residents with only a high school diploma varies by state from about \$30,000 to \$42,000 per year.

Both of these factors—cost of obtaining a degree and median high school income—play a role in the likelihood of a positive return on investment within 10 years. But the most important factor, and where there is the most variation, is in earnings among degree holders.

That is why a student earning a bachelor's degree from a public institution in Wyoming and residing there after graduation is actually less likely to see a positive return on their investment compared to a student in Pennsylvania. The \$60,000 difference in the total investment in their education is more than made up for by the higher post-completion wages in Pennsylvania.

In many states, the proportion of grads with a positive ROI is lower for those who have earned an associate degree. Although these institutions cost less—between \$13,000 and \$47,000 for the net price of a two-year degree—graduates also see a smaller earnings boost compared to those with only a high school education. Figure 3 shows the percentage of associate degree graduates likely to experience positive ROI if they remain in state. New Mexico, Vermont, and Wyoming are notable exceptions, where ROI for associate degrees is stronger than ROI for bachelor's degrees.

Overall, post-completion earnings play the biggest role in determining positive ROI. **Students who are making at least \$50,000 per year are likely to experience positive ROI in even the most expensive state. On the other hand, students earning less than \$30,000 per year will not experience positive ROI no matter how inexpensive their education is, as their earnings would not exceed those of a high school graduate.** Affordability is important for ensuring students can get their foot in the door, but strategies that increase students' post-completion success are critical to ensuring they realize a positive ROI.

The next sections of this report outline the five priorities for improving the value of education after high school, the current state of progress on each priority, and key questions to help guide further progress.

Figure 1:

Percentage of graduates with positive 10-year ROI by state - all degrees

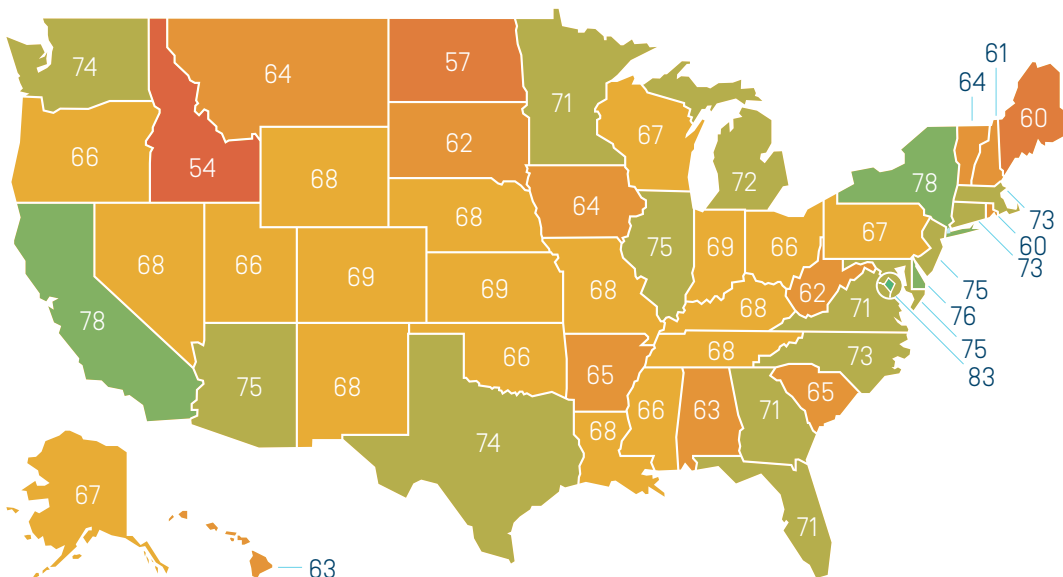


Figure 2:

Percentage of graduates with positive 10-year ROI by state - bachelor's degrees

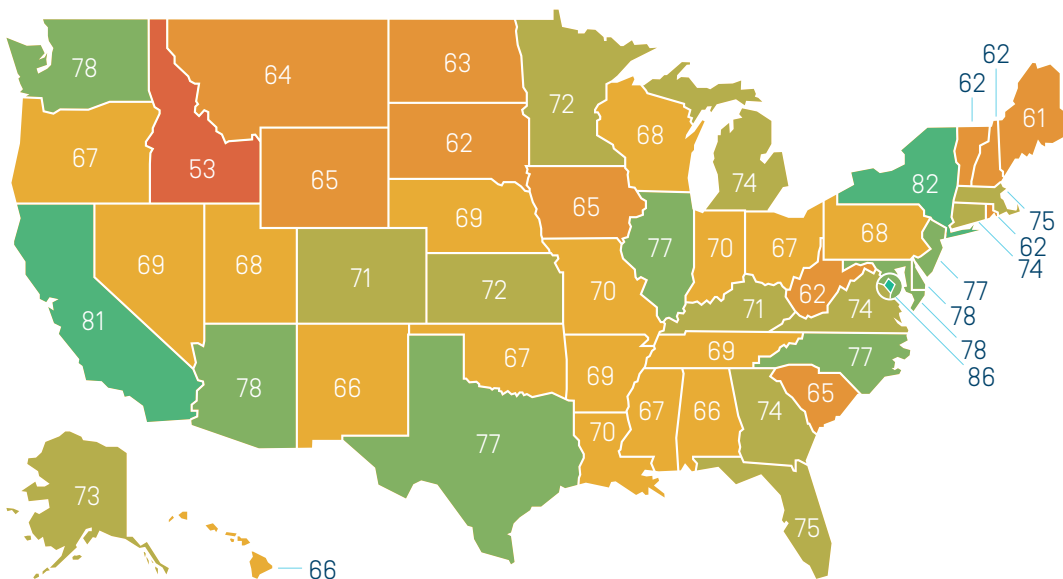
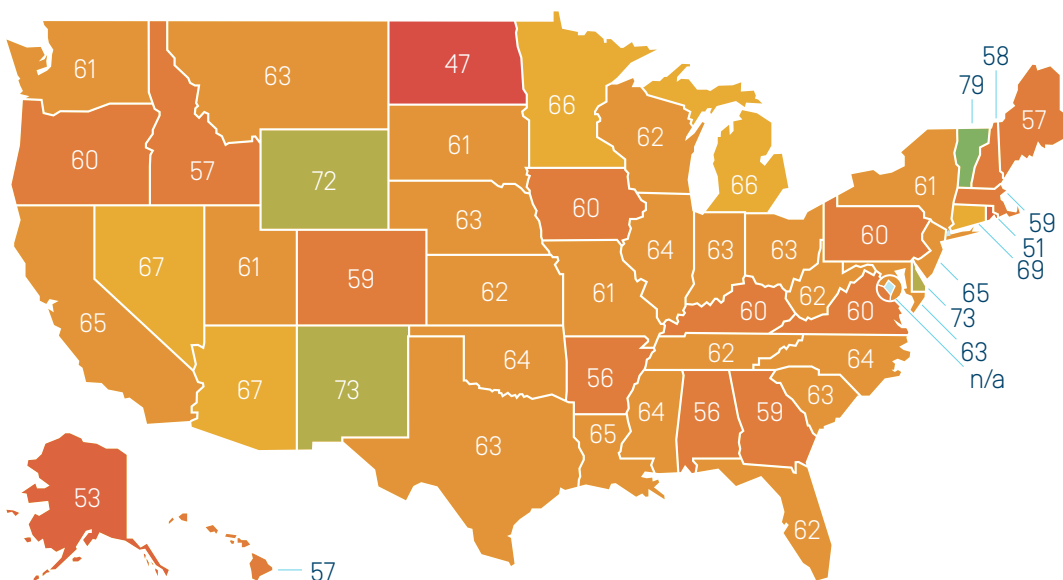
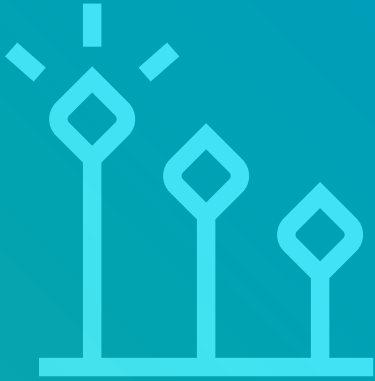


Figure 3:

Percentage of graduates with positive 10-year ROI by state - associate degrees





Clear Outcomes

Collecting and providing
the education-to-employment
data needed to make
informed decisions

Enrolling in an education program without information on where it might lead is like planning a journey knowing little about the destination. Even if one carefully maps and follows a route, they may not be ready for the demands and opportunities waiting upon arrival. In the absence of outcomes data for specific educational programs and institutions, this is the situation most learners find themselves in.

Access to robust, accurate, and timely information benefits all stakeholders in the education-to-employment system. A lack of information on education and employment outcomes—including earnings and career trajectories of alumni—can hinder a student's ability to make critical decisions about their education and career goals. Choosing a program or institution and identifying a major are decisions that come with very real consequences. As such, they should be informed by reliable data that can help them make informed decisions about post-high school education.

The same is true for institutions, employers, and policymakers. Data gaps limit their ability to design, improve, or invest in the programs that best support education and career success.

State longitudinal data systems have enormous potential for strengthening the connection between education and opportunity. States already collect an array of data on education after high school and employment outcomes through their regulatory oversight, program administration, and funding responsibilities. Unfortunately, most states lack a central hub for collecting and distributing education-to-employment (E2E) data and/or lack dedicated staff capacity to produce actionable insights based on that data. By establishing robust state E2E data systems and state-level capacity to produce actionable insights based on that data, states will position policymakers, institution leaders, researchers, learners, and the public to understand the connections between post-high school education programs and labor market opportunities and demands. Even if such a hub exists, insights from the data are too infrequently provided to key stakeholders. By establishing comprehensive state systems that integrate and provide education, employment, and workforce data, states can create an invaluable resource that makes reliable and actionable data available to leaders, researchers, and the public.

Measurement

Working closely with state data agency leaders and state higher education executives, we identified 10 critical elements that contribute to the capacity of state data systems to strengthen the connection between education and opportunity. The 10 elements are organized in a framework highlighting four functions that all state data systems should address: **Collect**, **Integrate**, **Provide**, and **Impact**. Within this framework, states can take stock of their current data systems and develop plans for building capacity. Taken together, the elements provide a roadmap for states as they make continued investments in data systems and partner with stakeholders to ensure their effectiveness.

States' progress in developing education-to-employment data systems is based on a combination of self-reported survey responses by state agency staff and extensive review of publicly available information. While no one state has completely developed their data systems across all of the elements of this framework, there are leaders in each element and most states are making progress.

Figure 4: Ten key elements of state education-to-employment data systems

STATE DATA SYSTEM ELEMENTS

Across the elements, data should be collected, integrated, and provided to allow disaggregation by institution, program, race/ethnicity, family income, and gender.

Collect education and employment outcomes data that includes detailed student- and program-level data for all postsecondary programs, including noncredit and nondegree programs.

1. Includes learner-level and program characteristic data for nondegree and noncredit post-high school education and training programs.
2. Examines earnings by occupation, pay rate, and work location.

Integrate education and employment data and establish data-sharing partnerships to track graduate outcomes.

3. Integrates and delivers information on learners' earnings and employment after post-high school education and training completion, and over time.
4. Integrates and delivers information on learners' earnings and employment after high school completion, and over time.
5. Partners with national and multi-state initiatives to assess education-to-opportunity outcomes for graduates and non-graduates of post-high school education and training programs who relocate or work outside the state.

Provide students, families, and other stakeholders with accessible education and employment data that can inform decision making and assure quality and value.

6. Provides comprehensive and timely open data files containing anonymized education-to-opportunity statistics that anyone can access, download, and otherwise use.
7. Publishes robust, timely, and easily understandable interactive resources informing education-to-opportunity decision making by learners, families, and institutions.
8. Gives researchers access to individual-level matched education-to-opportunity datasets.

State-level data systems can drive **impact** by sharing data-driven insights with policymakers, institutions, and employers seeking a comprehensive view into how best to fill talent shortages, develop in-demand programs, and prepare students for success.

9. Enables learners and earners to access and use their own verified data, unlocking opportunities for college and career advancement.
10. Designates a unit with responsibility and dedicated full-time capacity for generating education-to-employment insights and informing state policymaking and resource allocation decisions.

State-by-state information for each of the 10 elements can be found in the [technical appendix](#) of this report.

States' current progress on each element is measured as:

- **Leading:** The state demonstrates all expectations for the element through existing systems.
- **Advanced:** The state demonstrates some, but not all, of the expectations for the element, or has in place some systems for implementation while others are being developed.
- **Developing:** The state has policies, plans, or legislation in place to implement the element, but does not yet have any of the expectations in place.
- **Foundational:** The state does not appear to have the element in place or policies, plans, or legislation for implementation.

Findings

- States are farthest along in terms of partnerships to collect data across state lines—more than 9 in 10 states had at least some system in place in this regard.
- Only a few states have enhanced their wage records to produce insights on occupational outcomes of post-high school education programs.
- The ability to track outcomes from high school to employment or to provide open data files were relatively less common. Fewer than half of states were Leading or Advanced in these areas.
- Least common are the impact elements of enabling students to access their own data or having a unit dedicated to generating education to employment insights.

Based on an overall index score calculated by averaging the scores across the 10 elements, states are assigned to one of four groups:

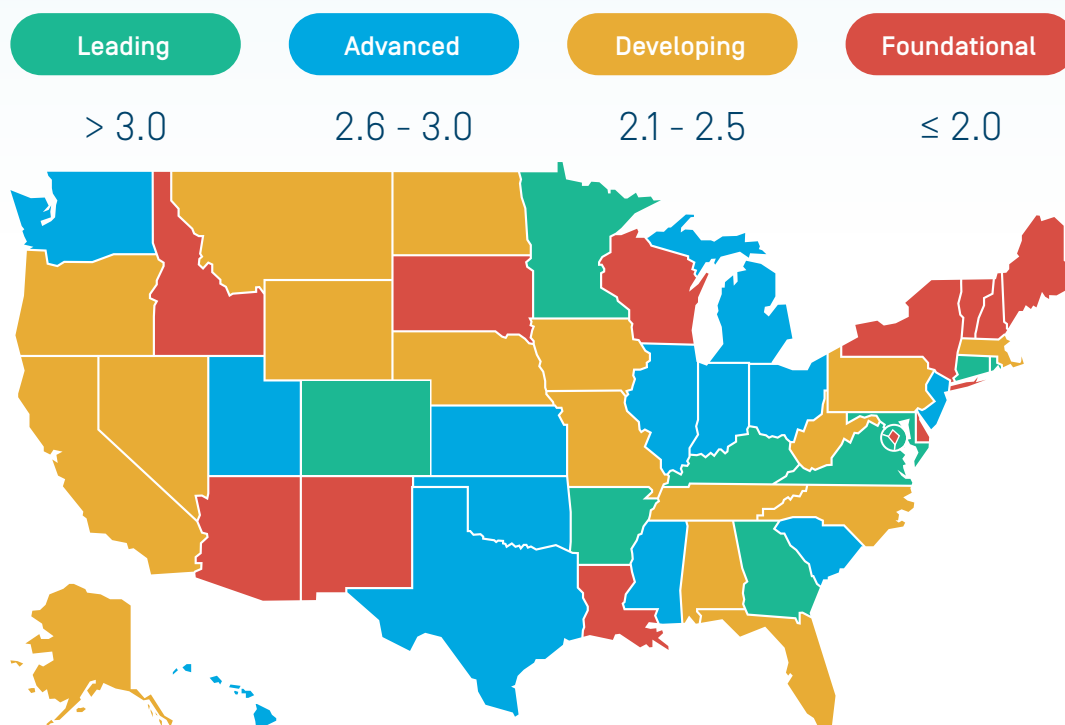


Figure 5:
Categorization
of education-to-
employment data
systems

Questions for Action

As states continue to develop and improve the accuracy and availability of education and employment data, they can reflect on these essential questions:

- Does your state earnings and employment data system connect to all of your post-high school education and training programs with enough detail for you to evaluate the outcomes for programs and subgroups of individuals? If not, what opportunities exist for strengthening those connections?
- Does your education-to-employment data system capture relevant outcomes information such as occupations and compensation so that you can understand education-to-employment pathways and earnings? If not, what are the barriers to gathering that information?
- Does your state have functional and robust data-sharing partnerships across agencies and states so you can track student outcomes over time? What can be done to strengthen and expand those partnerships?
- Do the relevant stakeholders have timely access to actionable data on education-to-employment outcomes? What can be done to improve that access?
- Are state resources dedicated to building capacity for generating education-to-employment insights and informing policymaking?





Quality Coaching

Providing guidance and support to help students map a career path and navigate challenges

Individuals face a series of high-stakes decisions as they begin to explore education-to-career pathways. From identifying a post-high school program and course of study to envisioning a future occupation, every choice shapes future possibilities. Navigating the landscape of available degree and credential programs involves both internal reflection on interests, strengths, and individual circumstances as well as information on options, opportunities, and potential outcomes.

Quality education-to-career coaching helps individuals achieve their education goals while positioning them for career success. Incorporating career planning within and throughout education programs supports both academic progress and career advancement—and makes this support more equitable and accessible.⁴ Coaching is available in many forms and ideally should be adapted to different stages of the education-to-career journey. While education-to-career coaching can be provided separately from academic advising and career services, it draws on practices from each and can be provided by staff in these roles. For example, students enrolled in post-high school degree programs may find this support in institution-provided advising, career services, or student success programs. At the same time, adults seeking to enter (or reenter) education after high school might receive coaching through job centers or community organizations.⁵ Across these and many other channels and contexts, quality coaching strengthens the path from education to opportunity.

When grounded in effective practices including proactive outreach and holistic support, coaching is associated with improved persistence and completion outcomes.⁶ With guidance and support for the transition to education after high school, students are better able to both identify and achieve their goals. Guidance that incorporates career exploration, mentorship, and support with the job search is also tied to stronger earnings and employment outcomes.⁷ The Organization for Economic Cooperation and Development, in its work on coaching in secondary education, found career coaching and other career readiness activities associated with better employment outcomes in adulthood.⁸

Measurement

We measure progress in this area by examining what percentage of recent graduates had access to education-to-career coaching and guidance while pursuing a degree that provided timely information and support to help them connect their education to a career. Our findings come from a national survey of individuals who graduated from public two- and four-year institutions between 2020 and 2023, as well as graduates of public four-year institutions from the four largest states: California, Florida, New York, and Texas. The survey questions were designed to capture an expansive landscape of how students experience coaching and guidance.

The definition of coaching measured in this report includes three dimensions: **1) self-reported experiences of coaching and guidance; 2) timely information about career and earnings possibilities; and 3) support for setting goals and overcoming obstacles.** Further detail about access to quality coaching among different populations can be found in the [appendix](#).

Findings

- Nationally, about a quarter of graduates from two-year institutions and a fifth of graduates from four-year institutions experienced personalized coaching that included key information and support (see Figure 6).
- A higher percentage of students experienced at least some of these dimensions—coaching or guidance, early information on education-to-career pathways, and support to develop a plan and overcome barriers:
 - Support in setting education and career goals and developing plans and overcoming barriers to success is the most frequently experienced dimension of quality coaching. About two-thirds of recent graduates (67 percent of four-year graduates and 65 percent of two-year graduates) experience this support.
 - About half of recent graduates of public two-year (54 percent) and four-year (53 percent) institutions report receiving personalized coaching or guidance.
 - Fewer than half of recent graduates received information on at least three of four education-to-career dimensions before the end of their first year in their program. Recent graduates of two-year (42 percent) and four-year (39 percent) institutions report similar experiences.
- Recent bachelor’s degree graduates who report receiving all three of the dimensions of quality coaching are more likely to have a first job that requires a degree and also are significantly more likely to be satisfied with their jobs and with the progress they are making toward their long-term career goals (see Figure 7).

The categories for quality coaching are divided as follows:



Based on these thresholds, the nation as a whole, both the two-year and four-year sectors, and the four-year sectors in the four states surveyed, are characterized as Foundational, indicating significant improvement is needed to provide the coaching that students need to be successful on their education-to-career pathway. While significant progress is needed to ensure all students have access to these forms of support during post-high school education, the outcomes for those who do have it provide strong indications that quality coaching will be valuable in many ways.

Figure 6:
Percentage of recent graduates who experienced quality coaching

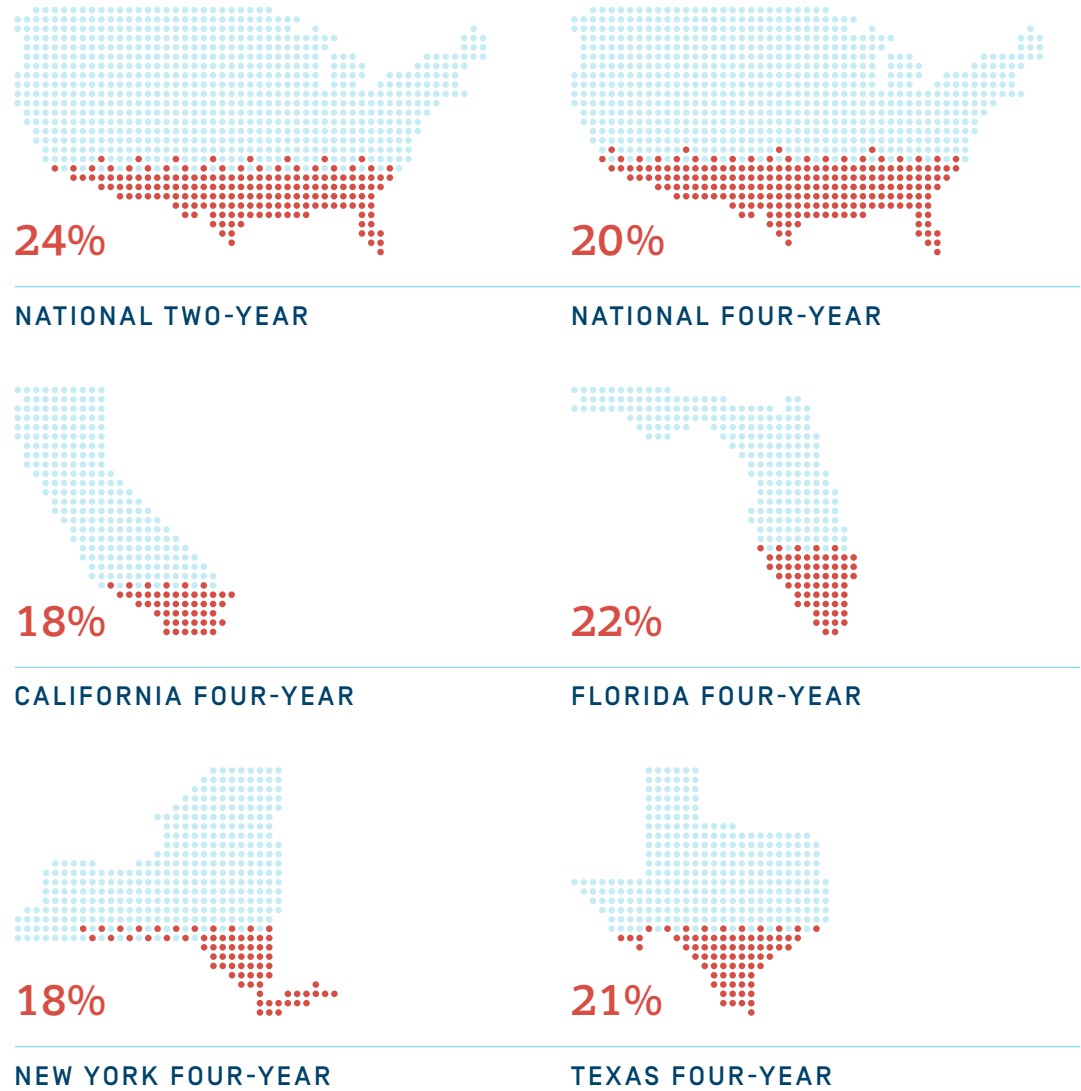
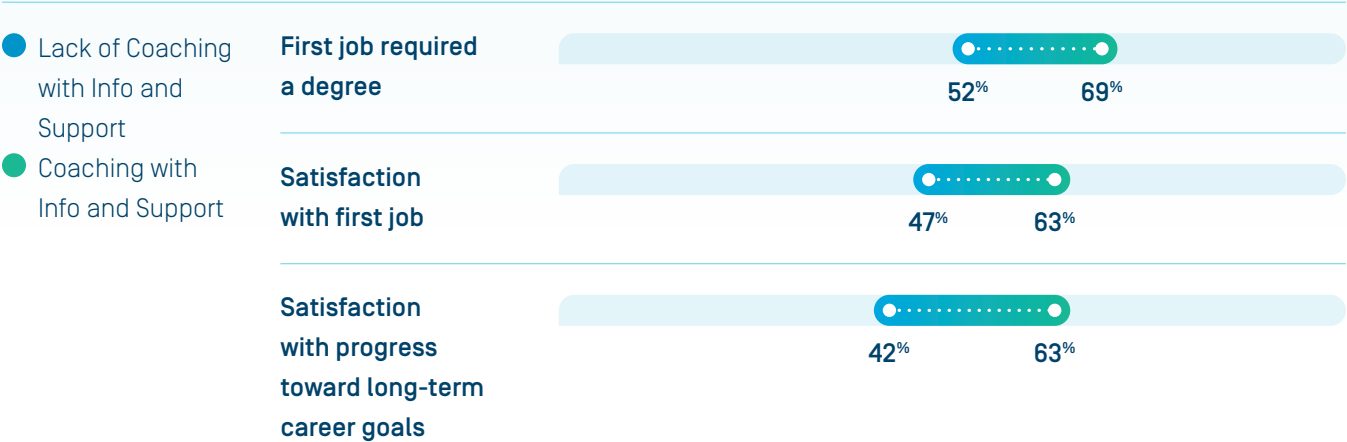


Figure 7: Quality coaching and bachelor's degree holders' post-completion outcomes



Questions for Action

As states develop a more robust infrastructure to provide guidance and support to students navigating career choices, they can reflect on these essential questions:

- What can be done to ensure that every prospective and current student receives guidance to understand the education-to-employment paths that fit their interests and aptitudes, and to support them while they choose a path and make a plan for success? Do they have the information at the appropriate time to make their choices and from a trusted and reliable source?
- What actions will offer current and prospective students, families, educators, and employers access to the employment outcomes and earnings of individuals by institution and program of study? Similarly, what can be done to ensure that they have information on job opportunities and potential earnings associated with their field of study or institution?
- What steps can be taken to provide every student with support to overcome obstacles they encounter in pursuing their education-to-career path?





Affordability

Removing cost as a barrier to
post-high school education

The cost of education after high school continues to be a dominant concern for prospective students and their households.⁹ Spiraling costs, coupled with differences in wealth and income levels, can dramatically impact a household's ability to pay for post-high school education.

Keeping the cost of education within the reach of all students, especially those most at risk for financial hardship, requires a shared commitment on the part of state and federal policymakers, institutions, and business leaders. Despite aid from institutional scholarships and tuition discounts, employer tuition assistance programs, and federal and state sources of support, most students still need some form of financial assistance. Eighty-five percent of degree-seeking undergraduate students receive some combination of grants, scholarships, or loans.¹⁰ The expenses that aren't covered by these sources of aid often remain a barrier between students and their education and career aspirations.

Measurement

We examine affordability for each state based upon the number of hours a student would need to work annually earning their state's median wage for college students to cover the net price of their education.¹¹ Specifically, we capture the net price of attending an in-state, public institution, as reported to the Integrated Postsecondary Education Data System, a database built and maintained by the U.S. Department of Education.¹² IPEDS calculates net price as the total cost of attending an institution for one year—including tuition, fees, books, supplies, and living expenses—minus all grants and scholarship awards the student receives.¹³

Findings

- Based on this measure, California and Washington are the most affordable states to attend college. A student paying the average net price in these states would be able to cover the costs of tuition, fees, and living expenses by working fewer than 10 hours per week during the school year and full time during the summer.
- The least affordable states are Alabama, Georgia, Louisiana, Montana, New Hampshire, North Dakota, Ohio, Pennsylvania, and South Dakota. In these states, even a student working more than 30 hours per week during the school year and full time during the summer could not cover their expenses.
- Some states, such as Mississippi and Wyoming, have a relatively low average net price but are not considered among the most affordable because wages in those states are relatively low. Others, such as Rhode Island, have a higher average net price but also higher wages, making education after high school relatively more affordable.
- More detail on average net price, median student wage, and enrollment by sector can be found in the [appendix](#).

Overall, two states are Leading, 15 states are Advanced, 25 states are Developing, and nine states are Foundational [see Figure 8].

When separating affordability by sector, it becomes clear that four-year institutions are less likely to be affordable compared with two-year institutions [see Figures 9 and 10]. No states are Leading on affordability for four-year institutions, while 24 states achieve this mark for their two-year sector. Moreover, 28 states are at the Foundational stage for four-year institutions. Only one state is at this stage for the two-year sector.

The categories for affordability are divided as follows:

Leading	Advanced	Developing	Foundational
Fewer than 10 hours of work per week during the school year, full time during the summer. ¹⁴	10-20 hours of work per week during the school year, full time during the summer.	20-30 hours of work per week during the school year, full time during the summer.	More than 30 hours of work per week during the school year, full time during the summer.



Figure 8:

Affordability of
post-high school
public education
by state

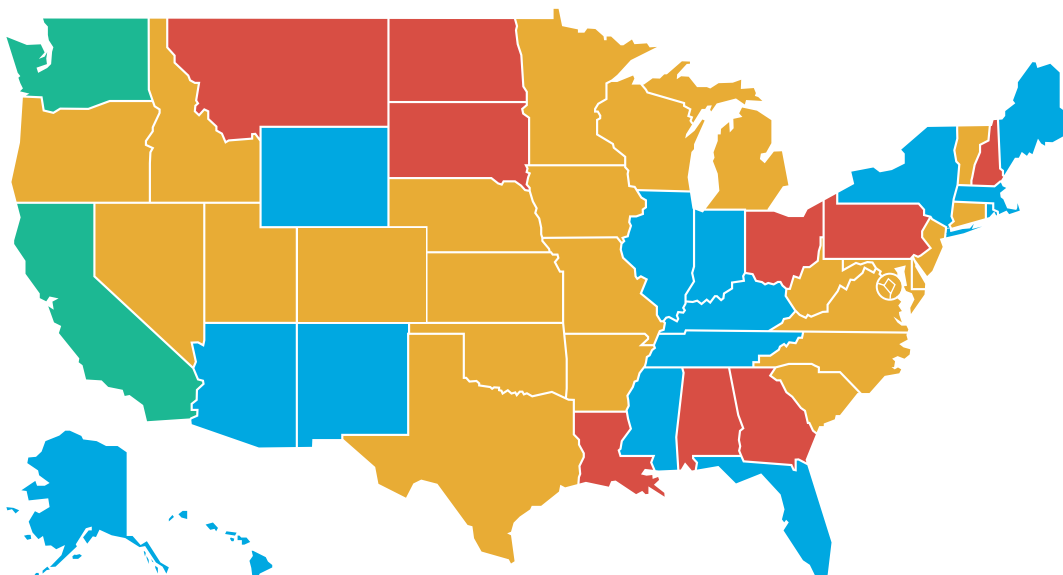


Figure 9:

Affordability of
public four-year
institutions
by state

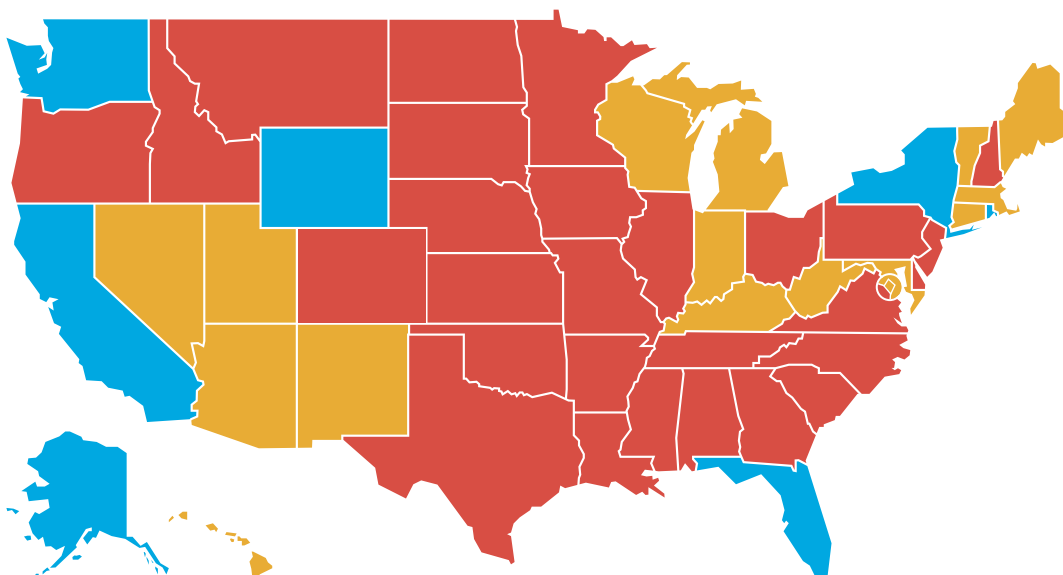
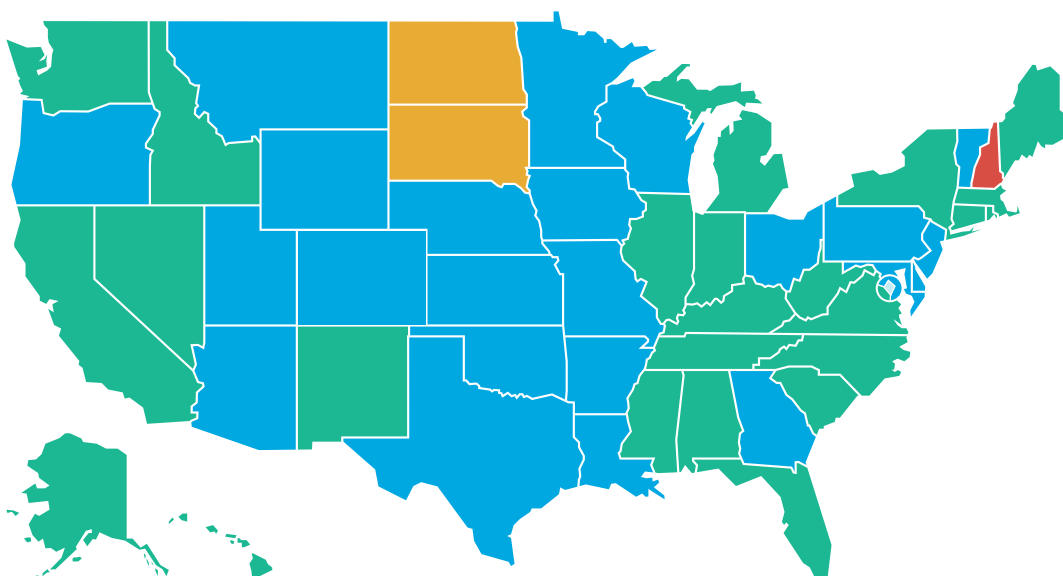


Figure 10:

Affordability of
public two-year
institutions
by state



Questions for Action

As states continue to make improvements in removing costs as a barrier to an education after high school, they can consider these essential questions:

- Which populations in your state are encountering the greatest barriers to accessing and completing an education after high school? What is being done to address those barriers, both at the state and institutional levels? To what extent are financial aid resources being targeted to students with the greatest need?
- How well do your state's programs support students who start their college education in one place and finish in another? Are students able to earn college credit in high school or reliably transfer credits from community colleges to four-year institutions?
- What is being done to reduce time-to-credential as a means of making programs more affordable, such as dual enrollment programs and accelerated degree programs?
- Are there clear and reliable mechanisms for individuals to get academic credit for knowledge and expertise they have developed through their work experiences?
- What is being done to improve student access to aid programs, including increasing completion of the Free Application for Federal Student Aid?





Work-Based Learning

Creating more opportunities
for applied learning and
career exploration

Work-based learning, such as internships, co-ops, clinical rotations, practicums, and apprenticeships, allow students to engage in structured work experiences in which they apply what they're learning through their coursework to professional contexts. In addition to reinforcing and expanding students' skill sets, work-based learning provides direct exposure to professional settings that can help them clarify both general and specific career interests. These opportunities also enable students to expand their horizons, networks, and social capital in ways that support their long-term career trajectories.

Among the many approaches to work-based learning, internships and apprenticeships currently have the strongest evidence base for improving student outcomes.¹⁵ Yet information on how many individuals experience internships and apprenticeships in any given year—aside from the subset of apprenticeships that are registered with the federal government—is not available to states. Given these data limitations about apprenticeships and other work-based learning models, and knowing that there is an evidence base that demonstrates the impact of paid internships on access and opportunity, we use participation in paid internships as the metric for quality work-based learning.

Paying students during internships is recognized as a best practice that makes quality work-based learning experiences more accessible.¹⁶ Having a paid internship also may play a role in increasing the number of job offers a student receives.¹⁷ For students who participate in paid internships—compared with unpaid internships or other work-based learning experiences—the advantages also include greater confidence and knowledge regarding career opportunities.¹⁸ Additionally, paid internships contribute to economic mobility through a demonstrated post-graduation earnings boost in the first year after graduation, even after controlling for field of study and student demographics.¹⁹

Measurement

While the benefits of paid internships are clear, access to these experiences is uneven. To measure progress toward broadening access to paid internships, we conducted a nationally representative survey of individuals who completed their college education (public two- and four-year institutions) between 2020 and 2023. Additionally, we surveyed graduates of four-year public institutions in four states: California, Florida, New York, and Texas. The survey asked these recent graduates whether they participated in an internship during the course of their education, and if so, whether they were paid.

Findings

- Slightly more than a quarter of recent bachelor’s degree graduates and 10 percent of recent associate degree completers held a paid internship while enrolled (see Figure 11). Disaggregated data on paid internship participation can be found in the [appendix](#).
- Nationally, just under half of recent graduates from four-year colleges and universities and a quarter of recent two-year college graduates completed an internship (both paid and unpaid).
- Graduates who completed a paid internship are much more likely to have a first job that requires their degree (73 percent) compared to those who did not complete an internship (44 percent). They are also more likely to be satisfied with their first job and with the progress they are making toward their long-term career goals compared to students who had an unpaid internship or no internship at all (see Figure 12).



Students' education to career pathways take different shapes, and there may be students for whom a paid internship is not necessary or desired.²⁰ For this reason, we set the targets somewhat lower than those for quality coaching, and use the following thresholds:

Leading	Advanced	Developing	Foundational
61 – 100%	41 – 60%	21 – 40%	0 – 20%

Based on these cutoffs, the nation as a whole, the national four-year sector, and the four-year sector in each of the four states would be considered Developing, while the national two-year sector is Foundational.

Figure 11:
Percentage of recent graduates who experienced paid internships

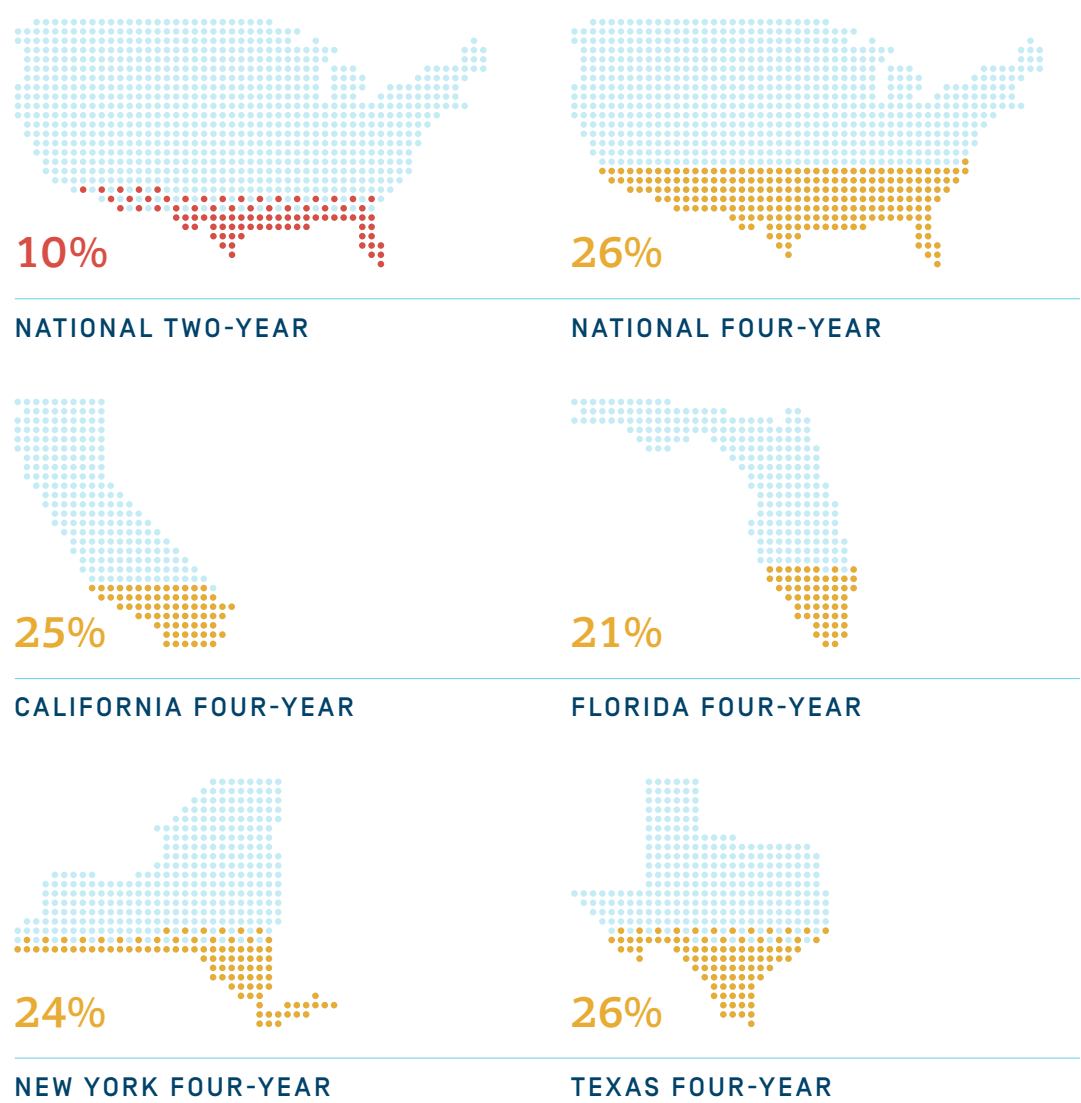
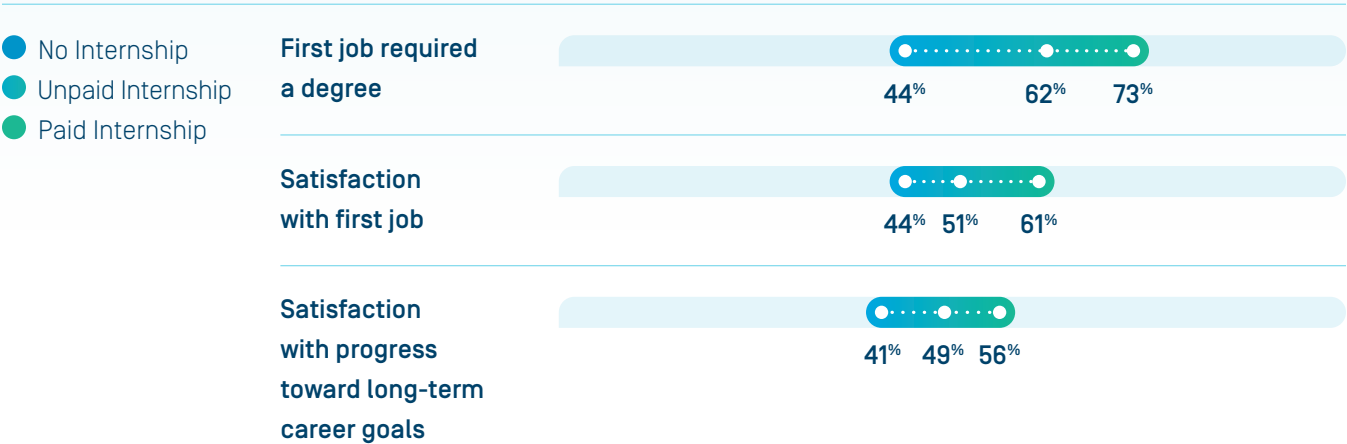


Figure 12: Paid internships and bachelor's degree holders' post-completion outcomes



Questions for Action

As states continue to create more opportunities for applied learning and career exploration, they can consider these essential questions:

- Are employers—particularly small and medium-sized businesses—incentivized and supported to provide quality internship experiences to students? How active are public sector employers in providing internships? What can be done to provide stronger incentives?
- What are colleges and universities doing to facilitate access to paid internship experiences? What incentives can be offered (or disincentives removed) to increase institutional activity in this area?
- To what extent are preparatory work-based learning experiences embedded in curriculum and course design so that every student has access?
- What systems and structures are in place to track work-based learning experiences and evaluate the associated academic, skill-development, employment, and personal benefits of different experiences, timing, and participant groups?





Employer Alignment

Positioning students for
career success

On the path from education to opportunity, individuals' talents and aspirations intersect with both their educational choices and the labor market they seek to enter. When post-high school institutions and programs are aligned with the talent employers seek, graduates thrive in work that uses what they have learned. In order to support these successes, education providers need regional labor market data about the availability of opportunity jobs—well-paying and under-supplied entry-level positions with potential for upward mobility—and the resources to open preparatory education programs for these jobs to more students. A multi-dimensional view of talent supply and demand allows policymakers and education and industry leaders to identify and invest with confidence in the programs that fill talent gaps and put more students on the path to economic mobility.²¹

Restriction on access to high-demand programs—and a lack of will to remove them—are a signal that education after high school is not fully aligned with opportunities in the labor market. Institutions may limit the number of students accepted into these programs because of insufficient funding for faculty and other resources needed, but these kinds of restrictions have a disproportionate impact on the students that would benefit most from these programs.²²

Beyond talent supply and demand for opportunity jobs (see Figure 13), the career outcomes of graduates more broadly indicate the degree of alignment between post-high school education programs and the labor market. One important signal of misaligned education and employment opportunities is the frequency with which college graduates work in jobs that do not require a degree. This misalignment represents a missed opportunity for these individuals and for the labor market more broadly.



Measurement

The employer alignment metric for each state, and the nation, is an average score made up of the supply/demand ratio for a variety of high-demand, high-wage jobs (opportunity jobs) in each state and the estimated percentage of bachelor’s degree holders ages 26-30 employed in college-level jobs.²³

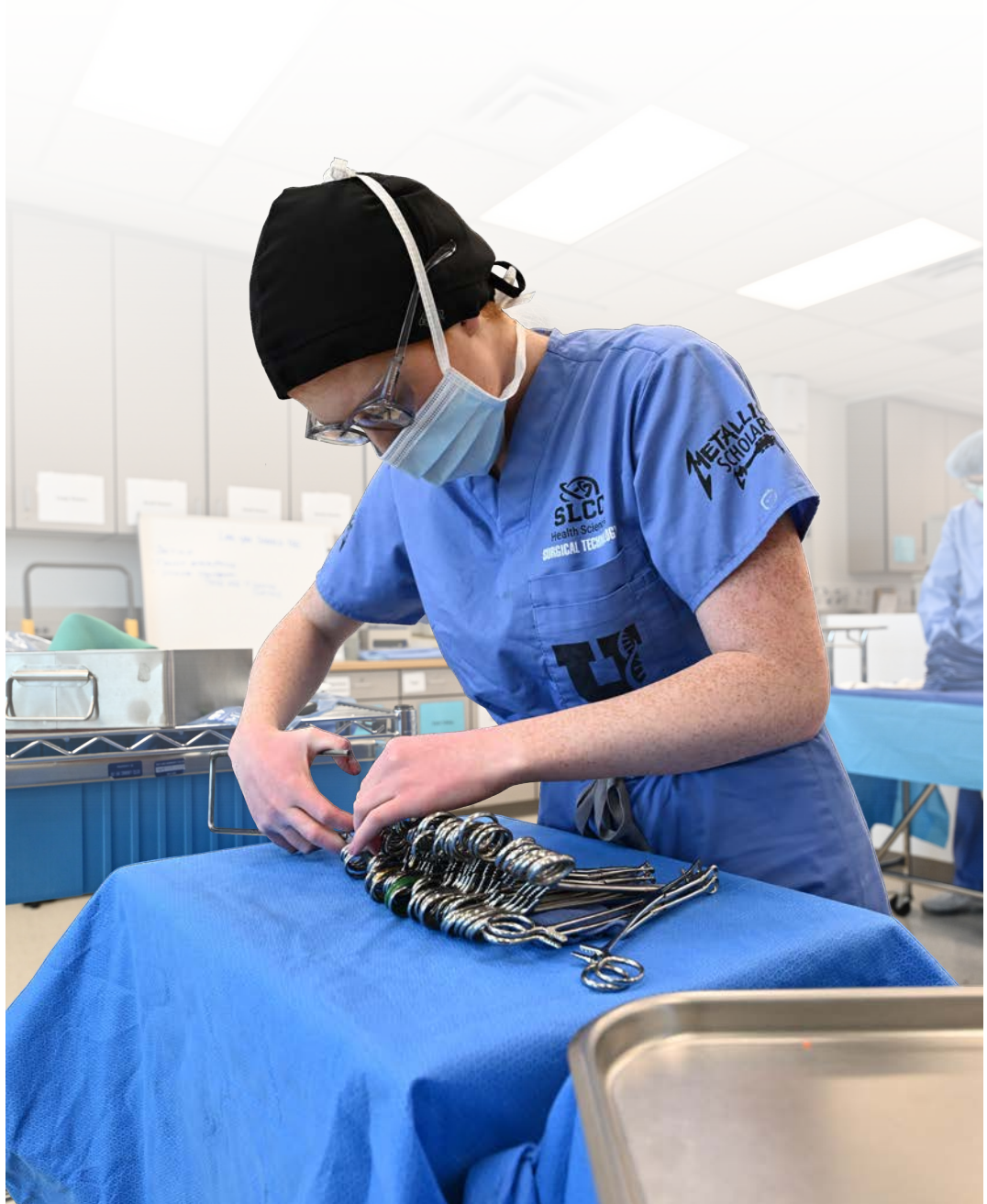
The occupations included in this analysis (see Figure 13) include both those that require a bachelor’s degree and those that require an associate degree. Recognizing there are many other meaningful career pathways, this list prioritizes jobs with the most consistent promise of strong earnings and continued economic advancement.²⁴ Together, these nine occupational areas cover about one-third of total labor market demand nationally, as measured by job postings.

Figure 13:
Opportunity jobs



Within each state, supply is calculated through the number of credentials awarded in education programs (public and private) associated with opportunity jobs,²⁵ while demand measures the number of job openings requiring the credential and fewer than three years of experience.²⁶

This percentage of demand that is met for opportunity jobs is then averaged with overall college-level employment among recent bachelor's degree graduates to create an overall score of the alignment between the state's education system and its labor market.



Findings

- No states meet overall employer alignment criteria for Leading at this time. As seen in Figure 14, 13 states are Advanced, led by Rhode Island and Utah, 28 states are Developing, and 10 states are Foundational.
- Top states for meeting the demand for talent in opportunity jobs include Alabama, Rhode Island, Utah, and West Virginia. States most under-producing talent in these occupations relative to demand are Alaska, Montana, and New Hampshire [see Figure 15].
- The range of young people with bachelor's degrees who are employed in college-level occupations is tighter across states than the range of supply/demand ratios. Figure 16 shows that top states for college-level employment are Maryland, Massachusetts, Utah, and Washington, D.C.

The thresholds for categorization are as follows:



More detail on the two components of the score, talent supply and demand and college-level employment, can be found below.

Figure 14:
Categorization of
employer alignment
by state

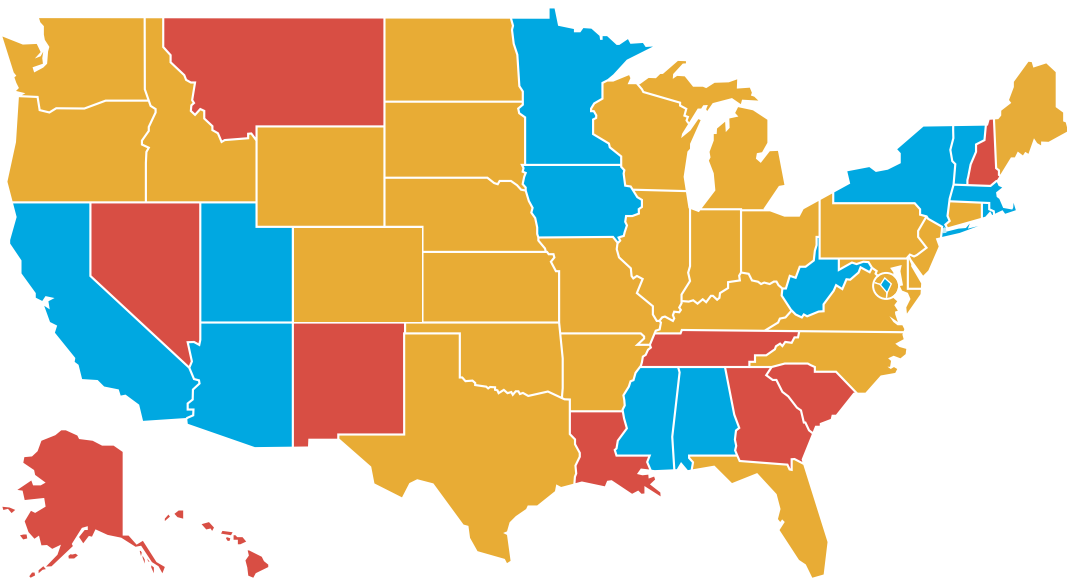


Figure 15 shows the supply/demand ratios for opportunity jobs, by state. More detail on supply/demand ratios by occupation can be found in the [appendix](#).

This measure of alignment is related to, but distinct from, economic opportunity within the state. Some states with strong ratios of credentials to jobs actually may have few opportunity jobs available. West Virginia, for instance, does not have an undersupply of talent for opportunity jobs due to the relatively low numbers of those job openings in the state. Other states will be more undersupplied despite awarding a higher volume of aligned credentials, due to relatively greater demand for graduates with these credentials. Noting that some states are net importers of talent and others are net exporters, this analysis does not track migration across state boundaries.

Figure 15:

Supply/demand ratio for opportunity jobs by state

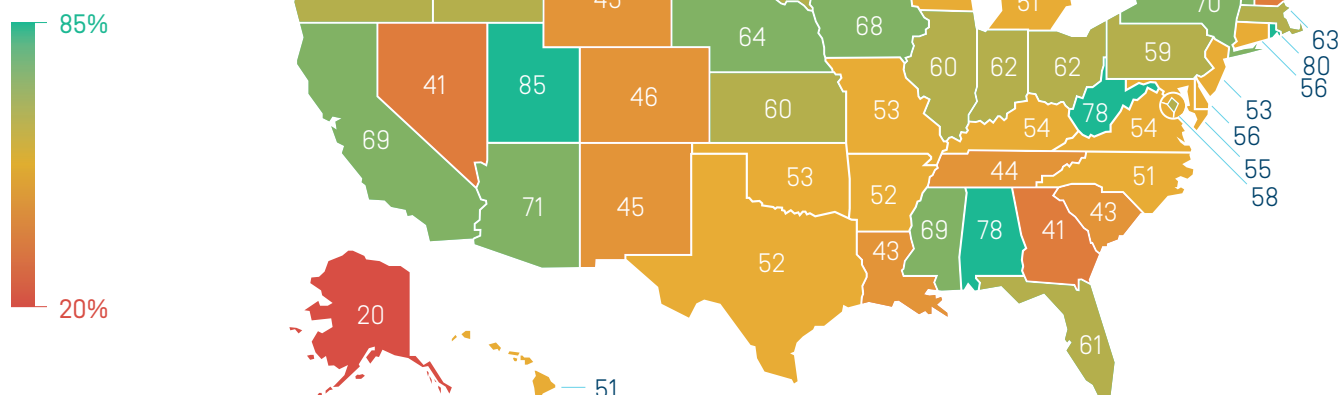
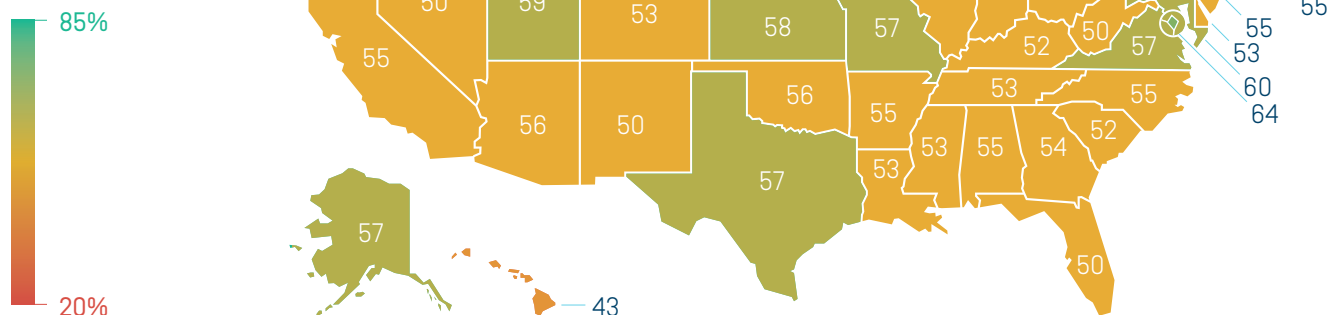


Figure 16:

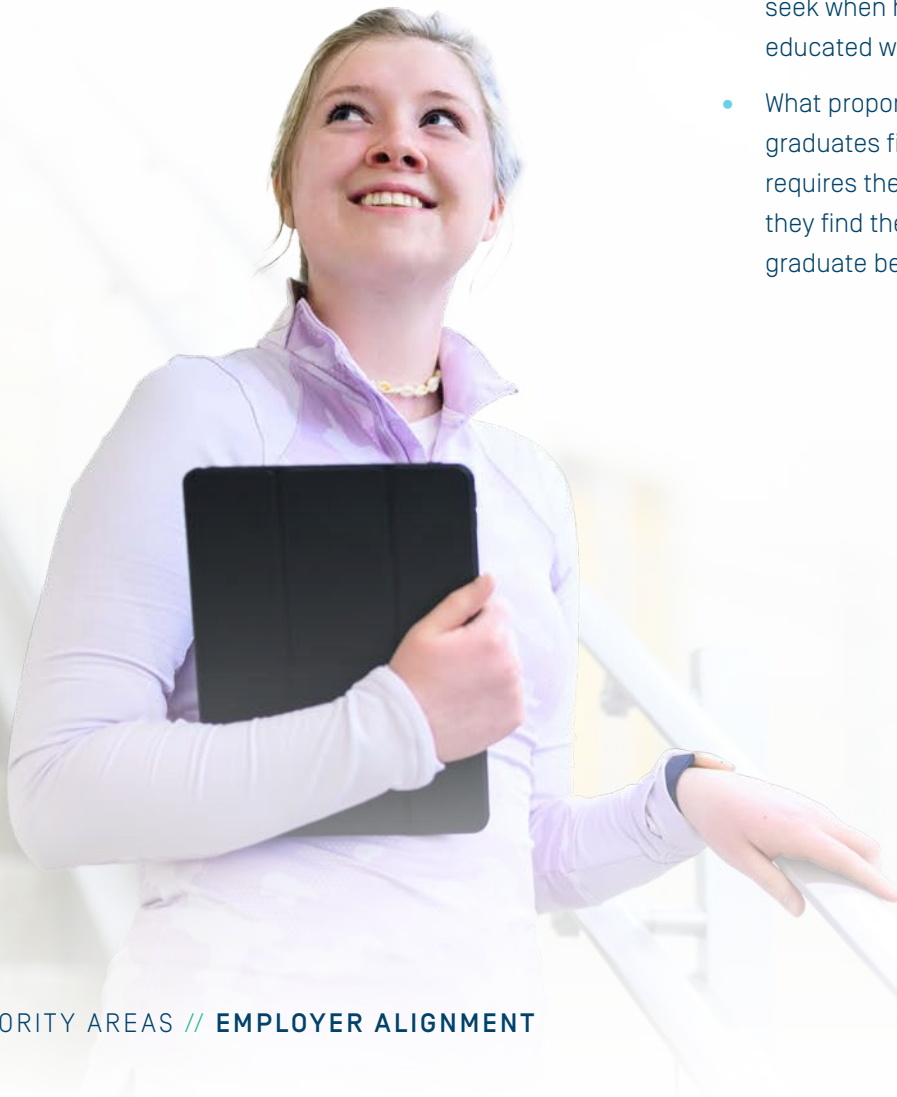
Percentage of recent bachelor's degree completers with college-level jobs by state



Questions for Action

Increasing alignment between education and the labor market helps students readily access programs that lead to opportunity jobs and mobility. As states continue to structure programs so they provide pathways to career success, they can consider these essential questions:

- What is your state's trusted source for identifying post-high school programs that consistently prepare graduates for good jobs and identifying employer talent needs that are not currently being met by occupation, program, and region?
- Where and to what extent are there supply/demand gaps between the post-high school system and labor market in your state?
- Are there financial and other barriers that impede interested students from pursuing education and training paths to good jobs?
- Has your state explored ways to enhance the preparation of students for good jobs in programs of study that may have a less direct connection to an occupation?
- To what extent do your state policies and education-employer partnerships incentivize and support opportunities for students to prepare for high-quality, in-demand jobs? If these programs are more expensive to offer, what are the investments made to sustain and expand access to them?
- How could your state strengthen communication and connection between employers and educators about the skills and preparation they seek when hiring entry-level college-educated workers?
- What proportion of your state's college graduates find a job in your state that requires their degree? How quickly do they find these jobs and how can every graduate be prepared to secure one?



THE ROAD AHEAD



The State Opportunity Index is a first step in helping policymakers, educators, and business leaders measure and improve the connections between education and opportunity in their state. Ideally, the findings and questions for action in this inaugural report will support decision makers and stakeholders as they work together to establish shared priorities and pursue mutually valued outcomes.

Taken together, the indicators for each of the five priorities in the Index support a comprehensive plan for improvement. Although individual states are improving their education-to-employment pathways in different ways, the goal is that all states will eventually make significant progress across all measures. For example, while many states have taken constructive steps to build and maintain strong education-to-employment data systems, there is still more that can be done to provide students and other stakeholders with the kind of information they need to make decisions and plan for the future.

Affordability is another area where more work needs to be done: While California and Washington are the most affordable states to attend college, in New Hampshire even a student working full time all year could not cover all their expenses. And despite research that shows the positive impact quality coaching has on student employment outcomes, only about a quarter of graduates from two-year institutions and a fifth of graduates from four-year institutions have this support.

Pursuing a holistic plan to put more students on a pathway to opportunity is no easy endeavor for any state, but the economic future of the country depends on keeping students engaged in education after high school. The State Opportunity Index gives every state a starting point for improvement that is research-based and focused on five priorities that support both systems and students. Although this ambitious agenda will require the will and commitment of many different stakeholder groups, the time has come to rebuild the public's confidence in education as the best and most reliable pathway to opportunity.



Institutions, employers, policymakers, and students need access to both education and employment data.

A lack of information on education and employment outcomes can hinder a student's ability to make critical decisions about the future and can limit the ability of institutions, employers, and policymakers to develop or invest in quality education programs.



Quality coaching is a game changer for students.

Quality coaching helps students identify their talents and interests, choose career goals, map education pathways, and navigate challenges along the way.



Affordable education options should be available to all students.

For too many individuals, the cost of education after high school is a significant barrier to opportunity. Quality post-high school education programs should be within everyone's financial reach.



Paid internships and apprenticeships can help students find more satisfying jobs with better earning potential.

Work-based learning experiences such as paid internships and apprenticeships help students make the connection between their education and career plans.



Education programs should better position students for career success.

Closer alignment between educators and employers will help promote education programs that are oriented toward opportunity and economic success.

When an individual's pathway from education to career is fully realized, it can set in motion a lifetime of choice, purpose, and security.

Endnotes

1. Net price is for in-state students at public institutions and includes the total cost of tuition, books, fees, and living expenses, minus any grants and scholarship awards. The total investment includes the net price of education after high school plus interest and fees accrued in repaying these costs over 10 years. The earnings premium is calculated as the difference between the wages for each individual degree holder between the ages of 25-34 and median wages for those within the same age range whose highest level of education is high school.
2. When Washington, D.C., is included, it has the highest overall likelihood of positive ROI at 83 percent. However, degree holders in Washington, D.C., more than any other state, tend to be overwhelmingly educated at institutions outside the district or at private institutions, making this estimate less relevant than those for the rest of the country.
3. When Washington, D.C., is included, it has the highest likelihood of positive ROI at 86 percent.
4. The Career Leadership Collective. "Integrating Career Advising for Equitable Student Success." (Washington, D.C.: American Association of State Colleges and Universities and National Association of Student Personnel Administrators, 2021).
5. Vickie Choitz, Louis Soares, and Rachel Pleasants. "A New National Approach to Career Navigation for Working Learners." (Washington, D.C.: Center for American Progress, 2010); Kenneth Fortson, et al. "Providing Public Workforce Services to Jobseekers: 30 Month Impact Findings on WIA Adult and Dislocated Worker Programs." Report prepared for the US Department of Labor. (Washington, D.C.: Mathematica Policy Research, 2017).
6. Amy Feygin, Trey Miller, Eric Bettinger, and Madison Dell. "Advising for College Success: A Systematic Review of the Evidence." Institute of Education Sciences and College Completion Network. (Arlington, VA: American Institutes for Research, 2022).
7. David Fein, Samuel Dastrup, and Kimberly Burnett. "Still Bridging the Opportunity Divide for Low-Income Youth: Year Up's Longer-Term Impacts." (Bethesda, MD: Abt and Associates, 2021); Colin Hill, Colleen Sommo, and Kayla Warner. "From Degrees To Dollars: Six-Year Findings from the ASAP Ohio Demonstration." (New York: MDRC, 2023).
8. "Career Readiness In The Pandemic: Insights From New International Research For Secondary Schools." Organization for Economic Co-operation and Development. (Paris: OECD Education Policy Perspectives, 2021).
9. Strada Education Survey 2022-2023. (Indianapolis: Strada Education Foundation, 2023).
10. Most students access some form of financial assistance: 85 percent of degree-seeking undergraduate students receive some combination of grants, scholarships, or loans, according to the National Center for Education Statistics. Table 331.20. March 2023.
11. The thresholds assume 10 weeks of full-time work during the summer and 30 weeks of full- or part-time work during the school year. Median wage for college students in each state is calculated from the American Community Survey 2017-2022 data for respondents with a high school diploma but no further degrees who are currently enrolled in school and are working part time.
12. "About IPEDS." (Washington, D.C.: National Center for Education Statistics, US Department of Education, Accessed September 2023). While it is a widely used and accepted measure, publicly reported net price data does come with limitations. Institutions vary in how they estimate the living expenses and costs other than tuition. In addition, aggregation of individuals into groups and income tiers precludes more detailed examinations of net price distributions across individuals. While the data is not yet available to examine differences by race and ethnicity, revisions to the FAFSA will make this possible in the coming years.

13. Net Price Calculator Center. [Washington, D.C.: US Department of Education, Accessed February 2024]. Average net price is a weighted average based on full-time enrollment by sector in each state. In states with a higher proportion of students enrolled in two-year institutions, the average is closer to the two-year net price than the four-year net price. In order to allow for more specific comparisons of four-year and two-year public institutions across states, we also provide their respective ratings and average net prices in each state.
14. We assume 10 weeks of summer in which students can work 40 hours per week, and 30 weeks during the school year in which students can work part or full time.
15. David Deming, et al. "Delivering on the Degree: The College-to-Jobs Playbook." [Cambridge, MA: Harvard Project on Workforce, 2023].
16. "Best Practices for Internship Programs." [Bethlehem, PA: NACE, Accessed September 2023]; Matthew T. Hora, Jared Colston, Zhidong Chen, and Alexandra Pasqualone. "National Survey of College Internships (NSCI) 2021: Report Insights into the prevalence, quality, and equitable access to internships in higher education." [Madison, WI: Center on Research for Workforce Transitions, University of Wisconsin-Madison, 2021].
17. Kevin Gray. "Paid Internships: Moving Toward Greater Equity, Setting Pay." [Bethlehem, PA: NACE, February 2022].
18. Nichole Torpey-Saboe, Elaine Leigh, and Dave Clayton. "The Power of Work-Based Learning." [Indianapolis: Strada Education Foundation, March 2022].
19. Nichole Torpey-Saboe, Elaine Leigh, and Dave Clayton. "The Power of Work-Based Learning." [Indianapolis: Strada Education Foundation, March 2022].
20. Data from the National Survey of Student Engagement indicates that about three-quarters of students at four-year institutions intend to participate in internships. <https://stradaeducation.org/report/from-college-to-career-students-internship-expectations-and-experiences/>
21. Monica Reid Kerrigan, et al. "Emerging Insights into the Use of Labor Market Information in Postsecondary Education." [Piscataway, NJ: Education & Employment Research Center at Rutgers School of Management and Labor Relations, May 2023].
22. Zachary Bleemer, Amelia Davidson, and Aashish Mehta. "Restricted access to lucrative college majors harms underrepresented students most." [Washington, D.C.: Brookings Institution, July 2023].
23. Because labor markets are not segregated for the graduates of public vs. private universities and colleges, this metric looks at all credentials awarded and all jobs available in each state and across the nation. This contrasts with the focus on public institutions in the other State Opportunity Index metrics. For this analysis, we look at bachelor's degree holders with no further education.
24. Examples of low-wage, high social value occupations requiring a postsecondary degree include teaching and social work. Sandy Baum and Lorelle Espinosa. "Exploring the Importance of Low Wage, High Social Value Careers." [Washington, D.C.: Postsecondary Value Commission, 2021].
25. Credentials are identified by examining education histories of individuals employed in these jobs.
26. Credentials awarded were taken from IPEDS for the academic year 2020-2021. To measure the extent to which credentials were aligned with these occupations, we looked at professional profiles of workers employed in these positions and created a map between occupations and the degree fields that led into them. This approach allows for a more nuanced and empirically derived relationship between credentials and occupations than that offered by the NCES CIP-SOC crosswalk. Job openings are measured as the average number of annual job postings between August 2021 and August 2023.



EDUCATION FOUNDATION

StradaEducation.org

STRADA HEADQUARTERS

10 W. Market St., Suite 1100
Indianapolis, IN 46204

[317] 806-1200

WASHINGTON DC OFFICE

2001 Pennsylvania Ave. NW, Suite 1100
Washington, DC 20006

[317] 806-1200