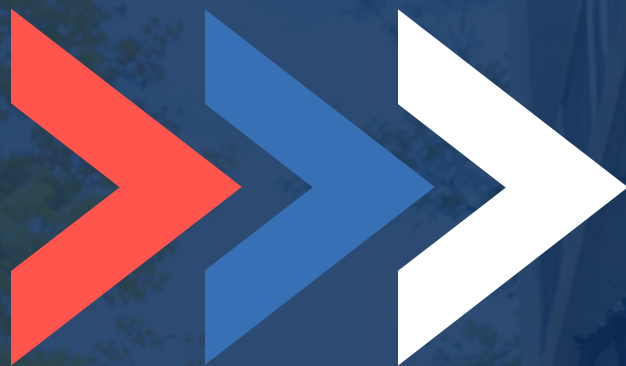
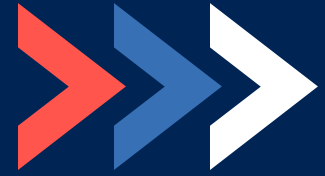


FORGING FUTURES

THE NEXT GENERATION OF PATHWAYS



EXECUTIVE SUMMARY



For generations, a high school diploma has been a ticket to a good job with a family-sustaining wage. But in today's economy, most well-paying jobs require at least some postsecondary education and training.¹

Meanwhile, careers that have long been a stable route to a middle class lifestyle are increasingly exposed to the impact of automation and artificial intelligence, forcing us to re-examine what type of high-value opportunities will persist in the years to come. To prepare today's students for the world of the future, we must systematically rethink the role secondary schools play in building future readiness. Secondary schools, and high schools in particular, must be accelerators on the path to a meaningful career rather than the end of the road.

Over the last decade, states and districts have worked to build and scale quality pathways to prepare students for this future. In 2014, Education Strategy Group (ESG) partnered with the Council of Chief State School Officers (CCSSO) to design and lead a taskforce to respond to an urgent question:

How can our education systems bring career readiness out of the shadows and make it a much bigger driver of student learning and success?

The taskforce brought together leading thinkers from K-12 and higher education, philanthropy, business, and industry to create a policy agenda to make career preparation a much higher priority for secondary schools. The culminating report, [*Opportunities and Options: Making Career Preparation Work for Students*](#), spurred large-scale efforts by national philanthropies,

states, and districts to reexamine and transform traditional career preparation systems.

In the 10 years since the release of the taskforce report, state and local leaders have made significant progress in building the infrastructure and setting conditions for secondary students to access high-quality career pathways. Forty-one states and the District of Columbia now include career readiness indicators in their accountability and reporting systems²; 28 states provide financial incentives for work-based learning³; 47 states and the District of Columbia have requirements for schools and districts to provide middle school career exploration activities⁴; 48 states and the District of Columbia have statewide dual enrollment policies⁵; and 35 states provide funding through state or federal dollars to incentivize credential attainment.⁶

Meanwhile, dozens of localities across the country have integrated career preparation into the secondary school experience. As a result of these efforts, many more students today can access and succeed in quality career pathways.

Yet, despite these efforts, the promise of pathways is still out of reach for many students. Too few students actually do access the full constellation of interconnected pathways experiences—including work-based learning, early college credits, and credentials of value—that prepare them for the range of opportunities



awaiting them after high school. Too many students are graduating underprepared, with a diploma in hand but without the real future-forward career momentum built from career-focused courses and experiences that a high-quality pathway delivers.

There are several significant reasons for this ongoing challenge, including:

- Outdated mindsets, systems, and policies—such as master schedules and graduation requirements—are not designed to prioritize pathway experiences, impeding leaders' ability to scale career-focused learning opportunities;
- Despite slight shifts in the metrics used to hold high schools accountable, career readiness is still not incentivized in meaningful ways; and
- Perhaps most critically, career pathways experiences still compete far too often with college prep programs, implying a false either/or choice for students rather than both/and.

As a result, rather than having the wind at their

back, students who pursue and persist within pathways often do so through their own determination and grit.

Ten years into this movement, we need a renewed commitment and modernized approach to pathways. Given the rapid transformation of the economy and the shifting skill requirements for young people to be successful in living wage careers, school systems can no longer treat career preparation as just for a sub-set of students. Nor can states or the federal government. We can no longer accept a bifurcated education system that separates college and career. **All students belong on an intentional pathway. College pathways are career pathways; career pathways are college pathways.**

States and localities have spent the last decade building the necessary infrastructure to *enable* pathways experiences; the next decade must *deliver* a coherent, interconnected set of experiences for all students. This report, published a decade after *Opportunities and Options*, outlines our vision for the next 10 years of pathways work:

THE VISION

Every student finds and follows a pathway to opportunity, gaining the knowledge, skills, and experiences needed to access a personally fulfilling, financially rewarding future.

In this vision, career-focused learning is a strong driver of every student's secondary education experience, and all high school students graduate with forward momentum gained from earning college credits, participating in workplace experiences, and attaining credentials of value. This momentum will propel substantially more students to seamlessly continue into postsecondary education and training to earn the credentials and degrees that open the door to well-paying jobs in the fields of their interest. And these

experiences should begin in middle school; waiting for high school is too late.

Getting there will require a more ambitious state policy agenda, merging college and career preparation and making them central features of secondary education, from funding to graduation requirements to school accountability metrics. At the local level, school districts will need to embrace a vision that puts every student on a pathway, starting in high school and extending to and through



postsecondary education and training.

Partnerships between secondary schools, colleges, and employers should become the norm, not the exception, and intermediaries that help to forge those alliances should be incubated

and scaled. Achieving this vision demands coordinated philanthropic and public sector commitment to reshape educational priorities, policies, practices, and ways in which we measure student success.

The next generation of pathways must build upon the foundation of quality developed over the last decade. They must:

- **POSITION AND EMPOWER EVERY STUDENT TO GRADUATE HIGH SCHOOL ON A PATHWAY TO SUCCESS**, having completed a culminating work-based learning experience, earned college credit, and attained a credential of value aligned to their pathway. Setting new expectations for the modern era will allow every student to move forward with confidence and postsecondary momentum.
- **CARRY FORWARD STUDENTS' CREDENTIALS AND SKILLS** from secondary through postsecondary and into the workforce, accelerating students' paths to valuable careers. All pathways should give students the opportunity to earn and stack credentials, enabling them to advance in their career no matter their starting point. Progress should be facilitated by improved systems that equip students to build, codify, and convey skills no matter where learning occurs.
- **BUILD STUDENT AGENCY AND ABILITY** to navigate career options, develop future-resilient skills, and leverage social capital to pursue a life of opportunity. Schools should equip students with the skills, mindsets, and confidence to develop professional relationships and provide opportunities to connect with experts in their career field of interest. And all students should have the opportunity to develop AI literacy and hone professional skills that will be resilient to advances in technology.
- **RECALIBRATE THE ROLE OF EMPLOYERS** to strategically harness their market intelligence and industry insights and enable them to more easily provide students with career-exposure and work-based learning experiences. There is a need to right size the role of employers in a way that is impactful and scalable. That includes tapping into employers' unique vantage point to validate labor market trends, identify the skills and credentials that drive hiring decisions, and fortify pathways against future risks. It also means working with employers to significantly expand access to high-quality work-based learning.
- **REDESIGN MEASURES OF HIGH SCHOOL SUCCESS** to focus more directly on postsecondary preparation and success after high school. There is a mismatch between states' goals for student readiness and what they measure in their accountability and reporting systems. States should set a higher bar for rigor and drive schools toward metrics that reinforce future readiness. They should also extend the horizon and devise the next generation of measures that value learning through experiences to drive long-term outcomes.

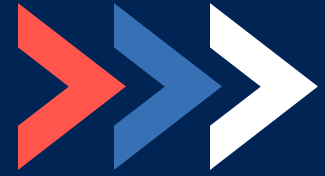


This report provides a tactical blueprint for delivering on the promise of pathways, outlining recommendations and actions for state leaders, local leaders, and intermediaries to build on the

momentum of the past decade to expand and connect meaningful student experiences and fulfill the potential bounty that pathways offer.



INTRODUCTION



Education has been called the “great equalizer.” By equipping young learners with academic knowledge, a desire to learn, and relevant, real-world skills, education can open the door to a productive, meaningful, and fulfilling life.

For centuries, schools have stayed true to that mission. But over time, the knowledge and experiences required for success after high school have changed. In the 1970s, a high school graduate could expect to earn a family-sustaining wage, buy a home, and access a middle class lifestyle.⁷ But fewer and fewer good jobs today are accessible with a high school diploma alone. According to research from the Georgetown Center for Education and the Workforce, by 2031, 85 percent of good jobs will require at least some education or training after high school.⁸ Graduation is no longer the destination but rather a stepping stone on the pathway to a good life.

Meanwhile, automation and artificial intelligence threaten to disrupt careers that have long been a safe bet. By one estimate, up to one-third of the U.S. workforce is highly exposed to emerging technologies, primarily in high-skill, high-wage occupations.⁹ There is a growing imperative for secondary schools to equip students with the skills and experiences they need to navigate their futures with resilience and ease.

The building blocks to prepare young learners for the world of work are established but siloed. Working together, the secondary, postsecondary, and workforce sectors can break down these silos to design and connect high-

quality pathways. Yet different policies around funding, governance, and program design keep these systems from working together in a truly coordinated way.

GROUNDBREAKING EARLY MOMENTUM

Recognizing the need to tear down silos and expand meaningful pathways to economic opportunity, Education Strategy Group (ESG) partnered with the Council of Chief State School Officers (CCSSO) in 2014 to design and lead a taskforce comprised of leading thinkers from K-12, higher education, philanthropy, and industry to respond to an urgent question:

How can our education systems bring career readiness out of the shadows and make it a much bigger driver of student learning and success?

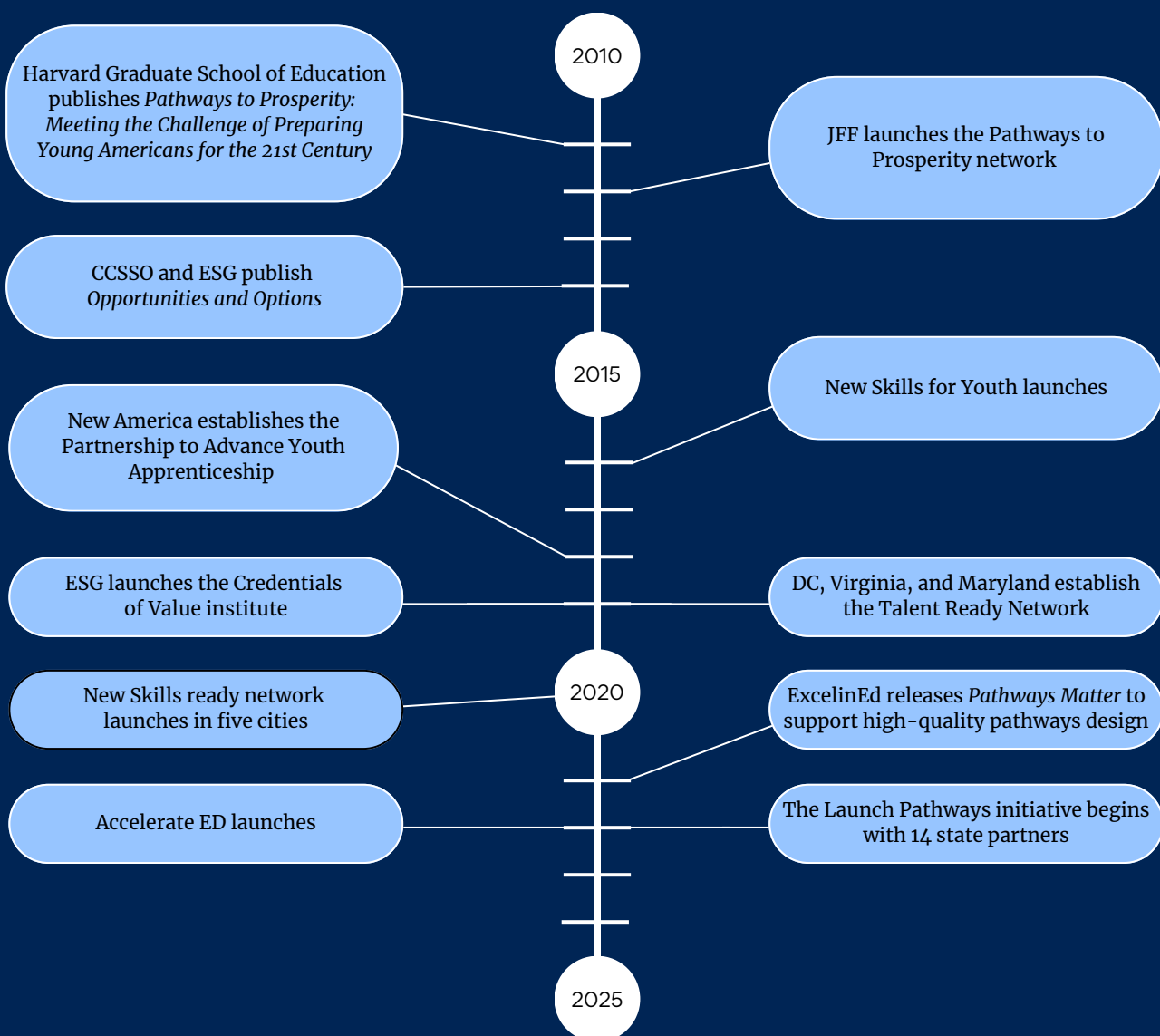
That taskforce published [*Opportunities and Options: Making Career Preparation Work for Students*](#), which outlined recommendations for states to strengthen and scale high-quality career pathways by engaging employers as lead partners, defining and setting a high bar for quality, and incorporating career readiness metrics into state reporting and accountability systems. These recommendations articulated a vision for the broader field and catalyzed momentum around a clear set of priorities.



In the decade since the publication of *Opportunities and Options*, state and local leaders have made significant progress building the infrastructure and setting conditions for high school students to access high-quality career pathways. Investments in work-based learning, career exploration and advising, early college credit, and credentials of value have paved the way for high school students to build the skills and access experiences they need for their futures. Philanthropy has played a significant

role in this work. State networks such as [New Skills for Youth](#), [Launch](#), [Pathways to Prosperity](#), [Career Readiness Collaborative](#), and the [Credentials of Value Institute](#) have brought together groups of leading states to build national communities of practice. State policy action has spurred local implementation, with initiatives such as the [New Skills ready network](#) and [Accelerate ED](#) bringing together local leaders to deepen work in schools and communities.

TIMELINE OF MAJOR PATHWAYS INITIATIVES



The impact of these efforts cannot be overstated. Today, many more high school students, especially those with the least access to quality opportunities within our systems, can access high-quality, industry-aligned pathways than they could 10 years ago.

HOW STATES HAVE BUILT THE FOUNDATION FOR PATHWAYS	
41 STATES PLUS DC	include career readiness indicators in their accountability and reporting systems ¹⁰
28 STATES	provide financial incentives for work-based learning ¹¹
47 STATES PLUS DC	have requirements for schools and districts to provide middle school career exploration activities ¹²
48 STATES PLUS DC	have statewide dual enrollment policies ¹³
35 STATES	provide funding through state or federal dollars to incentivize credential attainment ¹⁴

Yet, despite these efforts, the promise of pathways is still out of reach for many students. Too few students actually do access the full constellation of connected pathways experiences—including work-based learning, early college credit, and credentials of value—that prepare them for the range of opportunities awaiting them after high school. Too many students are graduating underprepared, with a diploma in hand but without the real future-forward career momentum built from career-focused courses and experiences that a high-quality pathway delivers.

This disconnect is partially due to misalignment between vision, policy, and practice. Even as states and localities have invested heavily in pathway experiences such as work-based learning, early college credit, and credentials,

these initiatives are often disconnected and discrete, implemented as separate programs with singular goals. Despite the criticality of work-based learning to high-quality pathways, states and districts struggle to deliver meaningful experiences like internships and apprenticeships at scale. Entrenched silos between secondary, postsecondary, and workforce put the burden of learning and navigating different systems on students. And despite growing support for career preparation, outdated systems and policies such as master schedules and graduation requirements impede students’ ability to fit pathway experiences into the school schedule.

Additionally, despite slight shifts in the metrics used to hold high schools accountable, career readiness is still not incentivized in meaningful ways and, in the worst cases, can have a dampening effect on pathway quality. State accountability systems cast too wide a net in what they count toward college and career readiness, leading schools to push students toward experiences that are easy to check off but do not translate to value in the labor market. As a result, students often miss out on the full set of connected pathway experiences that together are greater than the sum of their parts.

Further, school systems that were designed around a binary vision of readiness—college OR career— have struggled to let go of the outdated view that college and career pathways are mutually exclusive. Secondary schools continue to drive students explicitly toward college, often with little understanding of how college fits into their future goals. Students who do pursue career-focused learning in high school often find themselves locked into a singular pathway without opportunities to adjust or pivot as their interests evolve and mature. Students are asked to choose between college or career, but such a choice defies reason. A career is the destination; college is one way to get there.





We can no longer accept a bifurcated education system that separates college and career. All students belong on an intentional pathway. College pathways *are* career pathways; career pathways *are* college pathways.

All this means that, rather than having the wind at their backs, students who pursue and complete the full battery of pathways experiences often do so through their own determination and persistence, overcoming multiple hurdles to chart their own path. For the vast majority of students, the pathway experience ends with one or two elective credits,

an unaligned work-based learning experience, or a low-level certification that barely registers on a resume. System leaders at the state and local level must work to bring these disparate pieces together and build coherence across pathway design, policy, funding, and school supports to make a more seamless journey for the student.

WHAT IS A HIGH-QUALITY PATHWAY? ¹⁵

CAREER AWARENESS AND EXPLORATION

Students are given opportunities, starting in middle school, to explore their skills and interests in different career fields to help identify their professional aspirations.

ADVISING SUPPORT

Students receive ongoing advising to help them select pathway-aligned courses and learning experiences and stay on track for a successful career.

ALIGNMENT WITH IN-DEMAND, WELL- PAYING JOBS

Pathways build knowledge and skills aligned to current and emerging opportunities in high-wage, in-demand careers.

AN ENGAGING SERIES OF COURSES

Rigorous, market-driven academic and technical coursework builds upon prior knowledge to prepare students for the demands of college and the workforce.

EARLY COLLEGE OPPORTUNITIES

Students have clear, embedded opportunities to earn a minimum of 9-12 pathway-aligned college credits through experiences like dual enrollment, dual credit, Advanced Placement, International Baccalaureate, or a combination thereof.

WORK-BASED LEARNING EXPERIENCES

Students complete authentic and intensive pathway-aligned work-based learning through employer-designed challenges, internships, and youth apprenticeships with ongoing mentorship from industry professionals.

CREDENTIALS OF VALUE

Opportunities are embedded in pathways for students to earn certifications, certificates, and other credentials of value connected to their pathway that are valued by hiring managers and/or articulate for college credit.

SOCIAL CAPITAL

Students are given opportunities and support to make connections and build networks that open doors to employment.

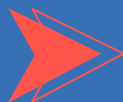


A NEW VISION FOR PATHWAYS

Ten years into this movement, we need a renewed commitment and modernized approach to pathways. Given the rapid transformation of the economy and the shifting skill requirements for young people to be successful in careers, school systems can no longer treat career preparation as just for a sub-set of students.

To prepare today's students for whatever the future holds, we must systematically and urgently transform the educational experience and ensure that high-quality pathways are accessible to all students, not just the few. Our vision for the next generation of this work is to deliver high-quality pathways for *every* student.

THE VISION



Every student finds and follows a pathway to opportunity, gaining the knowledge, skills, and experiences needed to access a personally fulfilling, financially rewarding future.

Realizing this vision will mean transformative shifts in how education is viewed, delivered, and experienced.

NOW...

“THOSE” STUDENTS

Pathways are often associated with particular programs like Career Technical Education (CTE) and considered options for students who are not college-bound, which reinforces an outdated “either-or” mentality about postsecondary options.

NARROWLY DESIGNED REQUIREMENTS

Too few students explore careers, earn early college credits, complete a work-based learning experience, or obtain a credential of value; and those who do are usually engaging in one-off opportunities that are disincentivized by policy levers like graduation requirements.

DEAD ENDS

Siloed systems make it difficult for secondary students to carry forward their credentials, credits, and skills, resulting in a loss of momentum toward postsecondary and career aspirations.

MINIMAL STUDENT EMPOWERMENT

The opportunity to understand and navigate educational options, leverage networks, and make informed decisions about their future is often limited to those with the resources and advantages to do so.

UNEVEN EMPLOYER ENGAGEMENT

Employers' engagement to inform and shape pathways is uneven, and requests from the education system often exceed their capacity.

LIMITED RECOGNITION OF ACHIEVEMENT

The full spectrum of knowledge, skills, and experiences students gain receives little recognition in how we define and measure student success through accountability and reporting systems.

...THE FUTURE

ALL STUDENTS

Pathways are the lens through which every student – regardless of their career goals or next steps after high school – views and shapes their educational experience to access the professional path of their choice.

MODERNIZED EXPECTATIONS

Every student graduates from high school on a purposeful path, having completed a high-quality work-based learning experience, earned college credits, and acquired a credential of value – giving them real momentum toward the future of their choosing.

ACCELERATED OPPORTUNITIES

Students' credentials, credits, and skills move seamlessly through the system along with them, ensuring that all learning counts and reducing time to postsecondary attainment.

MAXIMUM STUDENT AGENCY

All students are empowered with clear and comprehensive options, targeted support, and valuable connections that equip them to confidently steer toward their futures; these supports are built into the expectations of what school systems deliver.

OPTIMIZED EMPLOYER PARTNERSHIPS

Employers are strategically leveraged to convey skill demands, supply work-based learning experiences, and help fortify pathways against shifts in the economy.

FUTURE-ORIENTED MEASURES OF SUCCESS

State data and accountability systems are centered on the knowledge, skills, and experiences that matter most for long-term student success.



High-quality pathways recognize that the destination is not college nor a career but rather a fulfilling and financially-secure life, and education and workforce systems should reorient around that goal.

These opportunities are program- and funding- agnostic. CTE, youth apprenticeship, early college high schools, Pathways in Technology Early College High School (P-TECH) programs, International Baccalaureate (IB), wall-to-wall career academies, and other such programs can each provide high-quality pathways that play a key role in helping students build forward momentum toward their futures.

Rather than creating something new, let's double down on what we know works and bring the disparate pieces into closer alignment. In the




U.S. today, 7.8 million high school students participate in CTE¹⁶, more than 12,000 schools offer early college high school or P-TECH programs¹⁷, 785,000 students are enrolled in IB¹⁸, and 390,000 youth between the ages of 16 and 24 are enrolled in apprenticeships.¹⁹ These students already get part of the pathway experience. System actors must work together to create an ecosystem that recognizes the knowledge and skills students develop wherever they learn, expand opportunities to round out these experiences, and drastically and urgently scale up opportunities to reach every student. To realize this vision, secondary and postsecondary leaders need to rethink the way student learning and experiences are connected in and out of the classroom. To that end, pathways must build upon the foundation of quality developed over the last decade. They must:

- **POSITION AND EMPOWER EVERY STUDENT TO GRADUATE HIGH SCHOOL ON A PATHWAY TO SUCCESS**, having completed a culminating work-based learning experience, earned college credit, and attained a credential of value aligned to their pathway.
- **CARRY FORWARD STUDENTS' CREDENTIALS AND SKILLS** from secondary through postsecondary and into the workforce, accelerating students' paths to valuable careers.
- **BUILD STUDENT AGENCY AND ABILITY** to navigate career options, develop future-resilient skills, and leverage social capital to pursue a life of opportunity.
- **RECALIBRATE THE ROLE OF EMPLOYERS** to strategically harness their market intelligence and industry insights and enable them to more easily provide students with career-exposure and work-based learning experiences.
- **REDESIGN MEASURES OF HIGH SCHOOL SUCCESS** to focus more directly on postsecondary preparation and success after high school.

These five priorities are essential and interconnected; they reinforce and build upon one another. States and districts that are leaders in one area should evaluate whether they are delivering on the others. By driving toward coherence and connection, system leaders can build a seamless pathway system that centers pathway completion as the norm. This report, drawing upon Education Strategy Group’s deep knowledge and expertise working with national,

state, and local leaders over the last decade to expand high-quality pathways, provides a tactical blueprint for delivering on the promise of pathways, outlining recommendations and actions for state leaders, local leaders, and intermediaries to build on the momentum of the past decade to expand meaningful student experiences and fulfill the potential bounty that pathways offer.



PRINCIPAL ACTORS	
This resource highlights critical actions different actors can take to facilitate this vision for the next generation of pathways, including:	
 STATE LEADERS	Governors, legislators, chief state school officers, state higher education executive officers, state boards of education, and other key decision makers.
 LOCAL LEADERS	District superintendents, school board members, principals, deans, college presidents, and others with influence over secondary and postsecondary partnerships, budgets, policy, and programs.
 INTERMEDIARIES	Non-profit organizations, business associations, workforce boards, chambers of commerce, and other entities with deep relationships with business and industry and the capacity to connect with education.



RECOMMENDATION 1

Position and empower every student to graduate high school on a pathway to success, having completed a culminating work-based learning experience, earned college credit, and attained a credential of value aligned to their pathway.

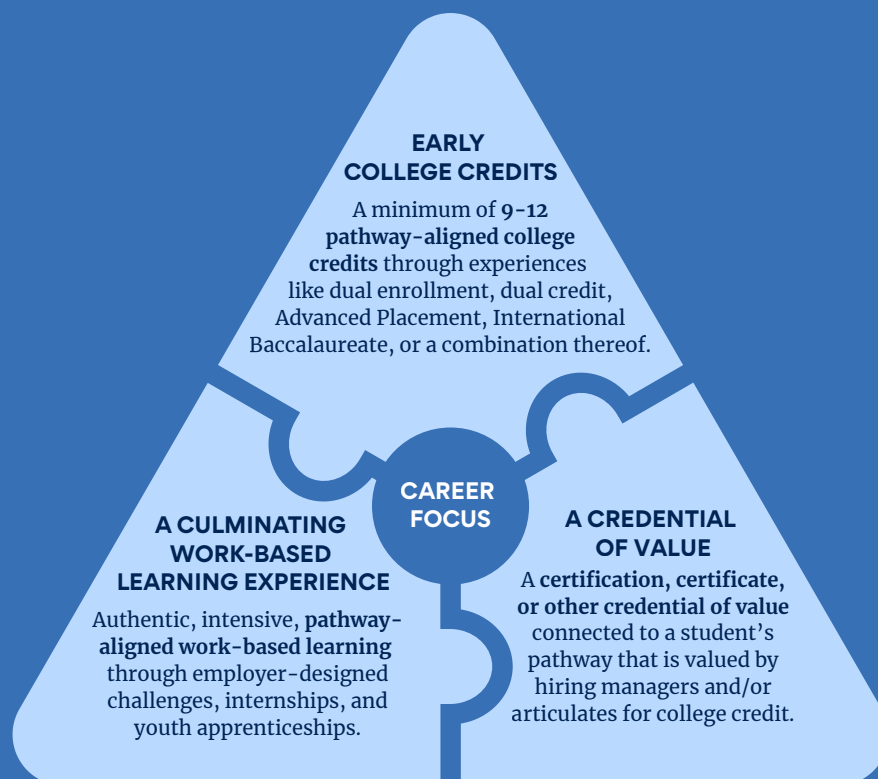


Even as our nation sheds the historical stigma around low-quality vocational education programs and demand for market-driven opportunities continues to rise, career-focused learning largely remains on the sidelines. Schools continue to drive students explicitly toward college, often with little understanding of how college fits into their future goals. Students who do pursue career-focused learning in high school often find themselves locked into a singular pathway without opportunities to adjust or pivot as their interests evolve and mature.

A dramatic paradigm shift is in order. Career preparation should be a foundational experience for every secondary student. It should provide the lens through which students are able to identify and select the learning experiences that will best prepare them for the type of work and quality of life they want — before they invest their time and money. All students should have opportunities to access and complete work-based learning, early college credit, and industry credentials, which accelerate progress along their pathway.

THE CORE THREE

We envision a future in which *every* student—regardless of their future aspirations—graduates from high school on an intentional path armed with real momentum toward their goals. That means that with appropriate career advising, navigational support, learning, and network development, they will complete and earn:



KEY STRATEGY 1A

Expand early career exploration starting in middle school, and rebuild advising in high school, to integrate career preparation and planning for postsecondary education and training.

Every student—starting in middle school or even younger—should engage in foundational learning experiences, such as career exploration and advising, that serve as the bedrock of a high-quality pathway. **While young students are interested in learning about different careers at an early age, their schools often do not provide enough meaningful opportunities to do so.**²⁰

Personalized advising is what makes high-quality pathways accessible and relevant to students. This is why the Departments of Labor, Commerce, and Education recently called for meaningful career exploration activities to begin in fifth grade.²¹ Each and every student should receive scaffolded advising that continues through and beyond high school graduation. Students should have an opportunity to evaluate their own aptitudes and interests in an authentic way and build a deep understanding of how those align with various career opportunities. They should come to understand and select the educational experiences throughout middle school, high school, and beyond graduation that align to their evolving interests and enable them to explore and better understand their options. And they should be able to engage with professionals in their careers of interest through career fairs, field trips, guest speakers, and other early career exploration activities.

Early pathways advising should center the learner, not the program, and help students recognize and understand the myriad options in their future and how they can connect and build toward a career. A student interested in nursing, for example, might choose a pathway that

includes a combination of Advanced Placement, CTE, and dual enrollment courses building toward a Registered Nursing credential. Starting early with career aspirations, personalizing an education plan to the student's goals, and building routines to regularly revisit and update a concrete pathway plan can provide the ongoing guidance needed to help students realize their goals.

A major barrier to universalizing access to advising is capacity. A range of trusted and well-trained adults can serve as advisors—including career coaches embedded in districts, community-based organizations, or postsecondary institutions—but too few schools have the staffing and capacity to provide students with the personalized support they need. New AI-powered career guidance tools promise to provide customized navigational support at scale. These tools can democratize student access to broad information and also provide resources and recommendations that are tailored to each student's aptitudes and interests, allowing them to explore potential pathways and develop a concrete plan. However, schools should be cautious to take a human-centered approach and not to delegate too much advising support to technology. Equipped with AI-driven technology, advisors can offer exploration opportunities and detailed information on career opportunities to every student while freeing up time for personalized support through direct, empathy-based coaching around students' individual career aspirations.





STATE ACTIONS

1A

- Define and set a vision for high-quality career exploration and advising, starting in middle school, that includes setting goals for both postsecondary education and training and career attainment.
- Build the data infrastructure needed to monitor the growth and scale of quality implementation.
- Set policy that requires each student to complete authentic career exploration activities and receive pathways advising, starting in middle school and continuing through high school, that helps them test and refine their career aspirations.
- Provide professional development to help school advisors understand how different learning experiences can connect and build toward a students' desired career.
- Incentivize career exploration through funding and accountability.
- Provide funded options for schools to adopt and pilot AI-enabled career navigational tools to provide career guidance and navigation information at scale, and supplement that with differentiated in-person advising.



LOCAL ACTIONS

1A

- Embed your state's vision and expectations for quality career exploration into your district or school strategic plan, goals, and school improvement work.
- Provide training and resources for advisors, career coaches, teachers, and others to facilitate, strengthen, and routinize career exploration activities, including using digital tools.
- Pilot and scale AI-enabled career navigational tools.
- Build partnerships with local and regional intermediaries that can facilitate connections to employers to develop engaging hands-on exploration experiences for students.



INTERMEDIARY ACTIONS

1A

- Build partnerships with local employers and school districts to help them plan and offer authentic, hands-on career exploration experiences for secondary students.
- Sponsor, plan, and facilitate career exploration activities such as career fairs or job shadowing field trips.
- Stand up advising partnerships with other organizations, postsecondary education, and workforce partners.

KEY STRATEGY 1B

Deploy powerful policy levers, especially high school graduation requirements, to center pathway experiences and accommodate student pivots as their interests mature and evolve.

Even as state leaders promote the power of pathways, policies like outdated graduation requirements can limit student opportunity. Even today, many states have different high school diplomas for “career-ready” and “college-ready” students, leading schools to segment students at an early age and hold different expectations for each. Overly rigid requirements allow for students to pursue elective credits but provide little room for them to switch pathways, demonstrate academic competency through career-focused coursework, and earn credit for learning outside of the classroom.

The truth is, most students meander, sampling courses and experiences as they build their awareness and understanding of the opportunities and experiences that bring them fulfillment. A student who enrolls in a healthcare program in 9th grade might spark an interest in information technology by 10th. Overly rigid graduation requirements can unfairly penalize students who stop out or pivot, stranding their learning and credits and leaving them a limited

runway to shift into a new pathway. As a result, many students sample career-focused coursework but don’t graduate with real pathway momentum or after completing interconnected culminating pathway experiences.

States should use powerful policy levers like high school graduation requirements to redesign the high school experience around pathways and provide more opportunities for students to build momentum. In [Indiana](#), new state diploma requirements double down on foundational expectations and experiences but provide students the opportunity to earn one of three seals that indicate their readiness for (postsecondary) enrollment, employment, and/or enlistment & service.²² The requirements for each are permeable, allowing students to change their mind, update their graduation plan, and pivot without penalty. The requirements also provide students with 12 elective credits, encouraging sampling and exploration throughout their high school experience.



STATE ACTIONS

1B

- Revise high school graduation requirements to enable multiple opportunities for students to earn and accumulate credit toward graduation requirements, including through experiences outside of the classroom.
- Offer students multiple modalities to demonstrate mastery of knowledge and skills at flexible moments in time.
- Design state-model pathways with common introductory courses in related career areas to maximize opportunity for student pivots.



LOCAL ACTIONS

1B

- Provide guidance for students to understand how to leverage flexibility to meet graduation requirements while pursuing a pathway of their choice.
- Double down on foundational building blocks that are broadly transferable across career fields, Career Clusters, and meta-majors.



INTERMEDIARY ACTIONS

1B

- Broker partnerships and facilitate conversations between districts and employers to collaboratively design flexible pathways.

KEY STRATEGY 1C

Intentionally connect and rapidly scale pathway-aligned culminating experiences—including work-based learning, early college credit, and credentials of value—to ensure access for all students.

The power of a pathway is in the opportunity to build authentic, real-world skills and knowledge through hands-on learning and rigorous coursework — and then certify that learning through college credits and credentials.

Pathway-aligned culminating opportunities such as intensive work-based learning, early postsecondary coursework, and credentials of value build upon prior learning throughout their pathway and bring classroom learning to life. They are the experiences through which *skills can be developed, not just taught*. All students stand to benefit from these experiences, **yet too few** **Complete a pathway having participated in any —much less all—of these critical culminating experiences.**

To ensure every student can complete each of these interconnected high-quality experiences as they persist on their pathway, education and workforce leaders must take a student-centered approach to expand opportunity and minimize barriers. This means strengthening career advising and pathway planning support and spotlighting opportunities for internships,

apprenticeships, and early college coursework early on so students know what experiences are available to them and how they can take advantage of them.

This also means understanding and designing around student needs. Work-based learning experiences should be paid so students who support their families can earn and learn at the same time. Graduation requirements should enable students to sample courses and explore opportunities outside of the classroom — and get credit for doing so. Master schedules should provide flexibility for students to take college courses or complete an internship during the school day. And students should be supported to meet enrollment qualifications such as minimum GPA requirements for early college coursework.

We also need to crack the code on expanding access. Nowhere is this more challenging than with scaling high-quality work-based learning experiences. Too many students chase too few internship and apprenticeship opportunities,



leaving many stranded without a fallback. Access to work-based learning shouldn't be all or nothing. Yes, intermediaries should work closely with education and industry to expand the number of high-quality internship and apprenticeship opportunities available; but they should also find creative alternatives such as employer-designed challenges that offer the learning, industry connection, and direct application of an internship in a more scalable way.

In **New York City**, all pathways in the FutureReadyNYC program are supported by five critical pillars: career-connected instruction, personalized advising, early college credits and credentials, work-based learning, and financial literacy.²³ Completion of each interconnected pillar is essential to the pathway experience.

New York City Public Schools (NYCPS) is working to identify and address barriers to ensure all

students can access and complete culminating pathways experiences. Every pathway builds toward an intensive, paid work-based learning experience by 12th grade. Along the way, pathways also embed opportunities called workplace challenges, through which small groups of students tackle real-world problems designed, overseen, and evaluated by employers.²⁴ Students receive a stipend for their participation. This approach provides authentic, paid work-based learning opportunities in a more scalable and accessible way.

Additionally, the City University of New York and NYCPS negotiated agreements for high school students to enroll in pathway-aligned college courses and earn college credit by completing culminating experiences in their pathway sequence. These agreements help remove barriers to access and make it easier for FutureReadyNYC students to graduate having completed all five critical pillars.



STATE ACTIONS

1C

- Redesign high school graduation requirements to enable and incentivize completion of pathway culminating experiences.
- Set standards for culminating work-based learning experiences, refine and continually assess lists of market-driven industry credentials, and fund industry certification exams for students.
- Negotiate statewide agreements for dual enrollment and early college credit that align with career pathways and automate credit transfer toward a postsecondary credential and/or degree program.



LOCAL ACTIONS

1C

- Ensure culminating pathway experiences are embedded in each pathway and program of study.
- Provide comprehensive advising to ensure all students are aware of the options available to them and can select, pursue, and engage in culminating experiences that are directly aligned to their pathway.
- Ensure alignment between student learning objectives for pathway courses and culminating work-based learning experiences so that students have a clear opportunity to apply classroom learning to real-world work experiences.
- Provide prerequisite courses and academic support where needed to ensure students can succeed in college-level coursework.
- Remove requirements that keep students from accessing early college coursework.
- Implement systems to monitor the extent to which students are accessing and succeeding in these opportunities.



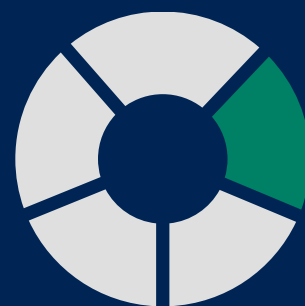
INTERMEDIARY ACTIONS

1C

- Bring together education and industry to negotiate and co-design a menu of high-quality engagement opportunities across a range of commitment levels, including employer-designed challenges, internships, and youth apprenticeships.
- Recruit, train, and support employers in planning and developing high-quality work-based learning experiences.
- Create consortia of employers, colleges, and districts that collaborate to offer a shared set of capstone experiences to ease development and implementation requirements.
- Establish master contracts with employers for work-based learning placements, negotiate group rates for industry certification exams, and help create streamlined dual enrollment agreements that work across multiple districts.
- Monitor work-based learning sites for safety and educational value and ensure certification programs meet industry standards.

RECOMMENDATION 2

Carry forward students' credentials and skills from secondary through postsecondary and into the workforce, accelerating students' paths to valuable careers.



When a student is unable to transfer credits from early college coursework and credentials toward a postsecondary degree, it creates unnecessary friction that can slow their progress and stop them short of their ultimate destination. Pathways should be designed to facilitate a seamless student experience.

There are lessons to draw from the world of commerce. Big name brands have found a way to create a seamless online shopping experience, summoning credit card information with a single click and shipping packages to remote locations in a matter of days. Could the same efficiencies be applied to the world of education?

What if a student toured a college campus only to find out they had already been accepted with a full semester's worth of credits? What if a student could easily document their credits, skills, and credentials and transfer them seamlessly from one institution to another? What if students could access multiple credit-bearing course opportunities at their high

school, community college, or through a virtual school?

Getting this right is all the more necessary with the recent expansion of federal Pell grants to cover short-term credentials — a bipartisan policy known as Workforce Pell that has been championed by both parties and leaders in the Departments of Labor, Commerce, and Education.²⁵ Workforce Pell aims to help students from low-income backgrounds unlock careers in high-wage, in-demand fields by subsidizing the cost of their credential. Education leaders can seize on this opportunity by aligning short-term credential opportunities with two-year and four-year degree offerings or creating new credentials that fully articulate toward a degree, allowing students to gain pathway momentum, exit to good jobs, and return when ready.

By working closely together to share resources, coordinate activities, and plan intentionally, regional leaders in the pathways ecosystem can create a more seamless and efficient glide path for students.

KEY STRATEGY 2A

Design accelerated, stackable pathways that build toward advanced credentials and degrees to lift the ceiling on opportunity.

The data are clear: a bachelor's degree remains the surest path to good jobs and high wages.²⁶ But the cost of a four-year degree, in both time and money, makes it inaccessible to many recent high school graduates. As a result, many of today's students are rethinking their college plans.²⁷ While short-term credentials can provide

a more affordable and accessible entry into the workforce, too many non-degree pathways are terminal, landing students in a job with limited opportunity for advancement without moving backwards or switching careers. No matter the chosen pathway, all education and training experiences should build toward a four-year



degree to provide every individual the opportunity and choice to further their education and advance within their career.

Vertically-aligned, stackable credentials can enable students to step in and out of their education as they steadily work toward and earn higher-value credentials that unlock greater wages and better jobs. Research shows that individuals from low-income backgrounds who earn stackable credentials experience higher economic returns, narrowing the earnings gap.²⁸ Yet opportunities to stack credentials are limited by institution and industry, and many institutions of higher education are hesitant to award college credit for noncredit credentials and certifications. Too many pathways end with a closed door. It is time to do away with terminal credentials and expand stackable pathways that accelerate progress toward advanced credentials and degrees.

To better understand how well regional pathways set students up for success, **Nashville State Community College** (NSCC) conducted a comprehensive pathways mapping audit. The audit reviewed programs by career area and

identified gaps across secondary and postsecondary institutions in the area. While most pathways were well aligned to regional labor market needs, the audit found that some NSCC degrees did not directly lead to high-wage jobs and did not seamlessly connect to a four-year degree. To address these issues, NSCC planned to update unaligned programs, add two-year degree programs aligned to immediate high-wage career opportunities, and strengthen credit articulation to four-year programs. NSCC also planned to add dual enrollment opportunities to ensure more seamless connection between secondary and postsecondary pathway courses.

In 2022, the **Colorado** legislature launched the Stackable Credentials Pathways Initiative to build stackable pathways across statewide priority industries,²⁹ spurring a cross-agency effort to engage diverse stakeholders across the state and identify stackable credentials within high-wage, in-demand industries. To date, the initiative has built out 10 stackable pathways in behavioral health, cybersecurity, education, healthcare, and software development.



STATE ACTIONS

2A

- Negotiate comprehensive transfer agreements between district, community colleges, and four-year universities that guarantee stackable credentials count toward bachelor's degrees, ensuring seamless credit transfer across institutions.
- Design pathway maps that clearly identify how credentials “stack” across a full pathway experience as well as credential-facilitated exit points that lead to good jobs.
- Work with colleges and universities to amend for-credit degree programs so they incorporate industry credentials as degree requirements rather than separate tracks, making it easier to count credentials earned over time toward a two-year and four-year degree.



LOCAL ACTIONS

2A

- Partner with community colleges to map pathways from high school to four-year degrees with interim credentialing opportunities along the way.
- Offer clear blocks of pathway courses that will prepare students to earn a credential of value.
- Build partnerships between districts, local colleges, and universities to expand opportunities for credit transfer and align credential offerings.
- Help students create individualized academic plans showing exactly how their pathway courses, credentials, and dual enrollment credits will transfer to specific postsecondary credential and degree programs.
- Train counselors to understand stackable credential sequences and help students navigate the pathway from high school through postsecondary credential and/or degree completion.



INTERMEDIARY ACTIONS

2A

- Convene employers, community colleges, and universities to design integrated pathways where industry needs, associate degrees, and bachelor's programs all reinforce each other.
- Broker comprehensive transfer agreements that span high schools, community colleges, and four-year universities, ensuring seamless credential transfer and degree progression across the entire pathway.
- Create detailed roadmaps—and disseminate those to students and families—showing how students can progress from high school pathway courses through postsecondary certificates to bachelor's degrees, with clear timelines and requirements for each step.

KEY STRATEGY 2B

Build systems to codify and award credit for students' skills to place them at the most appropriate and advantageous point in their pathway.

From awarding credentials to making job offers, we have not yet cracked the code on recognizing skills in a systemic way. Students entering postsecondary education often have to repeat prior learning if their institution doesn't recognize their early college credits or value the skills and experiences they bring with them. This can slow students' progress toward a culminating credential and cause them to incur unnecessary cost. And while many employers applaud skills-based hiring, which aims to

recognize the broad range of skills and experiences candidates bring to a job, many still defer to the bachelor's degree as a default credential.

At issue is the lack of trusted assessments that evaluate skills and experience in a reliable and valid way. Traditional systems of assessment and evaluation are rooted in the historical model of learning, where students are tested after a certain number of seat hours before they can



progress to the next level of learning. This linear model works for some, but not all, and fails to recognize the learning that can take place outside of the classroom through work-based learning, military service, community service, short-term training programs, and on-the-job experience. Notably, the Skills for the Future Initiative, launched through a partnership between Educational Testing Service (ETS) and the Carnegie Foundation, aims to usher in innovative new skill- and competency-based assessments untethered from seat time requirements.³⁰ More of this is needed.

In addition to innovative assessments, which can evaluate and codify skills, we need better systems to convey and translate those skills to postsecondary institutions and employers. Learning and Employment Records (LER) can be a vehicle to capture and digitally store credentials, skills, and experiences that a

student accrues over time. At the same time, employers and postsecondary institutions need better training and support to understand how to translate an LER to a job description or set of related courses so individuals can be placed in the roles and courses that are appropriate given their knowledge and level of experience.

Bringing this vision into reality requires system leaders in secondary, postsecondary, and workforce to work collaboratively to ensure that credentials and skills are valued at each step of the pathway. **Florida's** gold standard articulation agreements, for example, provide guaranteed postsecondary credit for any students who graduate high school with a state-identified industry credential.³¹ In **Vermont**, the Flexible Pathways Initiative encourages students to pursue work-based learning, blended learning, dual enrollment, and early college programs for high school credit.³²



STATE ACTIONS

2B

- Ensure that statewide agreements for aligned early college credit and industry credentials earned by students in high school automatically transfer for credit toward a postsecondary credential and/or degree.
- Expand credit for prior learning policies to allow work experiences and/or professional training to count for credit toward a postsecondary credential and/or degree.
- Pilot new skills- and competency-based assessments that allow students to document what they know and can do in a systematic and recognized way.
- Expand access to LER systems to help students capture and convey skills and credentials.



LOCAL ACTIONS

2B

- Define career pathway points of entry and adopt assessments and portfolio reviews at the postsecondary level to recognize the prior knowledge students bring.
- Support students to build a portfolio of credentials and work experience that can demonstrate their knowledge and skills.
- Utilize statewide agreements to automatically award credit for early college courses and industry credentials.



INTERMEDIARY ACTIONS

2B

- Create tools that assess students' technical skills, work experience, and prior learning to determine appropriate pathway placement and credit awards.
- Encourage and demonstrate how employers can recognize the skills candidates bring rather than rely on their credentials alone.

KEY STRATEGY 2C

Foster regional cooperation to align and coordinate pathways and ensure seamless progression, especially in rural communities.

When education leaders coordinate programs and share resources regionally, they can establish common standards and frameworks that allow students' credentials and skills to transfer smoothly from high school through college and into careers without losing progress or having to repeat coursework. This is especially critical in rural and frontier communities where students may need to cross district or state lines for educational opportunities, or where a single institution may not offer the full range of programs needed for complete career pathways. By working together, pooling physical, fiscal, and human resources, and coordinating activities, regional partners can achieve efficiencies of scale and ensure each student can access a quality pathway of their choice.

The **Permian Basin Innovation Zone**, for example, is a collaborative of three school districts and three higher education institutions in west **Texas**, coordinated by the Education Partnership of the Permian Basin (EPPB), who have accomplished together what they could not do alone: offering students multiple high-quality career pathways options.³³ By coordinating resources and funding and sharing faculty, these districts can collectively offer a specific pathway to all students in the Innovation Zone. The partnership now offers

students the opportunity to participate in academies for education, nursing, and welding. Concurrently, EPPB has convened partners across west Texas and Southeast New Mexico with support from ESG to design a new regional pathway focused on energy, a bedrock industry in the region. The pathway provides students with opportunities for career exploration, rigorous coursework, and work-based learning, while also providing teachers in the region with a curriculum, professional development, and a shared network to support implementation. As of 2025, seven districts are implementing the curriculum, and more have expressed interest in joining.

The same principles apply in other locales.

Rhode Island's All Course Network ensures all students can tap into the rich learning opportunities available in their communities.³⁴ Students can engage in dual enrollment, Advanced Placement, work-based learning, and career preparation courses offered in any Rhode Island schools, colleges, community-based organizations, and Department of Labor and Training institutions. The program ensures that students are not limited to the offerings available at their school and can access a wide range of choices aligned to their pathway interests.





STATE ACTIONS

2C

- Establish regional education and workforce cooperatives to coordinate and align pathways.
- Modify funding formulas to incentivize cross-institutional collaboration.
- Support local intermediaries to serve as backbone convening organizations to bring K-12, higher education, and industry to the table.
- Set policy to enable and incentivize rural and frontier districts to share talent and programs.



LOCAL ACTIONS

2C

- Engage in cooperative partnership with neighboring districts and postsecondary institutions to coordinate and expand career pathway opportunities for students.
- Pool resources such as funding, materials and equipment, and staffing to achieve cost efficiencies.
- Provide transportation opportunities for students to enroll in classes at neighboring campuses.



INTERMEDIARY ACTIONS

2C

- Convene education and industry within a region to collaborate around career pathway design and delivery.

RECOMMENDATION 3

Build student agency and ability to navigate career options, develop future-resilient skills, and leverage social capital to pursue a life of opportunity.



For schools, the diploma or degree often marks the end of the road with their students. But for students, it is only the beginning of a new journey, one that will include further twists, turns, achievements, and setbacks. They must develop agency, self-awareness, and know-how to adapt to changing economic conditions, evaluate and pursue opportunities along their career path, and position themselves to build their own knowledge and skills.

That includes anticipating and proactively addressing emerging technologies that can take them off course. Automation and artificial intelligence are poised to create millions of new jobs — all while displacing or transforming millions of others.³⁵ Students will need future resilient skills to withstand the threat of emerging technology and the opportunity to build skills that open doors to new careers.

KEY STRATEGY 3A

Build students' capacity to develop, expand, and activate professional networks that open doors to professional opportunities.

Social capital, or who you know, is the connective tissue that makes career-focused learning experiences meaningful. While classroom instruction and experiential learning help students develop the knowledge and skills they need in their future careers, relationships will ultimately help land them the job. Too often, social capital advantages those with more professionally connected social circles. Schools and partner organizations can play a role in closing this gap, equipping students with the skills, mindsets, and confidence to develop new relationships and providing opportunities to connect with experts in their career field of interest.

While social capital is implicit in many aspects of the pathway experience, a growing number of states and districts are recognizing the need to make this an explicit priority by intentionally embedding opportunities for students to learn

about and develop social capital starting as early as middle school. Understanding how to identify, build, and leverage professional networks can strengthen students' confidence and skill to seek coaching, references, and support from their network when the time comes.

In **Arkansas**, state statute requires all students to develop a Student Success Plan that identifies their career and postsecondary interests and helps them build a plan to achieve their goals. The Division of Elementary and Secondary Education developed a Student Success Plan template to help schools support academic and career planning.³⁶ Along with activities to map academic and experiential learning opportunities, the template includes a section to help students identify the people in their lives who can support them to reach their academic and career goals. The plan is updated annually, which gives students the opportunity to build



their network and continually reflect on the ways the relationships in their lives can be powerful assets.

Meanwhile, **Tacoma Public Schools** in Tacoma, Washington has made social capital a priority within their innovative schools — Science and Math Institute, School of the Arts, and School of Industrial Design, Engineering, and Art — each of which has integrated social capital learning into multi-grade, interdisciplinary courses,

using a common set of lessons that are then tailored to the needs of their respective students. Additionally, internship coordinators at the three schools have embedded social capital lessons into their preparatory course for the Next Move Internship Program, which includes resume writing, practicing for interviews, and professional skill-building. These lessons strengthen students' understanding of how to build and activate networks in preparation for their field placements and beyond.



STATE ACTIONS

3A

- Formally include social capital as a key component of quality pathways to prepare students to access fulfilling jobs that pay living wages.
- Define expectations, provide guidance and resources, and offer professional learning to support local communities in embedding strategies into pathways to help students grow and mobilize social capital.
- Offer professional development and training for key staff (e.g. work-based learning coordinators, CTE directors) that builds adult capacity at the state level to monitor and strengthen local efforts.



LOCAL ACTIONS

3A

- Develop a scope and sequence for building all secondary students' social capital, such that students are routinely reflecting on, examining, and building the skill set to grow and leverage their social capital.
- Expand opportunities for students to make meaningful connections with industry leaders, mentors, and other well-positioned adults, including through internships, apprenticeships, and other experiences.



INTERMEDIARY ACTIONS

3A

- Facilitate authentic and meaningful connections between schools and employers to co-develop programming for students to learn about and cultivate social capital.
- Partner with educational systems to offer regular opportunities for students to practice their skills, increase their confidence, and expand their networks with industry professionals.
- Work with employers to build their capacity to coach and support young learners and serve as network brokers.

KEY STRATEGY 3B

Develop students' AI literacy and professional skills to build their resiliency and readiness for the future of work.

As Nvidia CEO Jensen Huang put it, “You won’t lose your job to AI; you’ll lose your job to somebody who uses AI.”³⁷ To prepare students for the future of work, schools should ensure all students graduate with a baseline level of AI literacy, including an understanding of how artificial intelligence works, its limitations, and how to appropriately use AI tools in education and work settings. Schools should embrace, rather than shy away from, AI; but they should also build appropriate guardrails and expectations to strengthen students’ capacity and skill to remain in the driver’s seat with AI as a tool.

As emerging technology displaces tasks such as research, writing, graphic design, coding, and data analysis, traditional professional skills will become even more valuable. What will often set candidates apart on a job application will not be their credentials or technical skills but rather their creativity, critical thinking, and emotional

intelligence — all skills that are difficult to program into a large language model.³⁸

These skills should remain the bedrock of pathways experiences. All students should have opportunities to develop AI literacy and hone professional skills through project-based learning, work-based learning, and other related experiences.

Nashville State Community College in Nashville, Tennessee is working to evaluate the impact of emerging technology on its local workforce, which is largely driven by the mechatronics industry, and bring postsecondary program offerings into closer alignment. The college plans to work with regional partners to map aligned pathway offerings and determine whether and how to both prepare students for the future of work and fortify pathway experiences against the risk of obsolescence.



STATE ACTIONS

3B

- Develop and embed AI literacy standards across K-12 subjects (rather than creating separate courses), incorporating AI applications contextually in mathematics, science, social studies, and language arts curricula.
- Enact policy to ensure AI literacy standards are anchored to industry expectations and practices and are routinely updated to stay current with advances in technology.
- Provide opportunities for students to strengthen professional skills through experiences like project-based and work-based learning.



LOCAL ACTIONS

3B

- Adopt curricula to teach AI literacy at all grade levels, drawing on grade-appropriate lessons and activities that help students understand how artificial intelligence works, its limitations, and how to appropriately use AI tools.
- Train teachers to develop AI literacy across disciplines and develop their own understanding and comfort with AI as a tool.
- Provide comprehensive professional development on AI fundamentals, ethical considerations, and practical classroom applications, ensuring educators can confidently teach AI concepts.



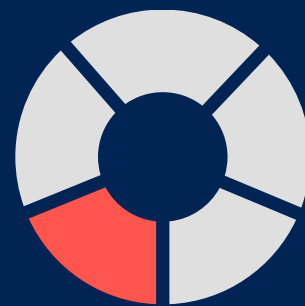
INTERMEDIARY ACTIONS

3B

- Work with employers to embed work-based learning programs with opportunities for students to understand and apply AI in a real-world, industry-relevant context.
- Connect districts and schools with AI companies and professionals to provide real-world learning experiences, guest speakers, and mentorship opportunities.

RECOMMENDATION 4

Recalibrate the role of employers to strategically harness their market intelligence and industry insights and enlist them to help scale career exposure and work-based learning experiences for students.



Employers play a critical role in guiding the design and implementation of career pathways, but they have limited bandwidth to take a lead role in sustainable and scalable ways. While there are pockets of excellence where industry and education are highly coordinated and engaged, these are the exceptions that prove the rule. Too often, industry and education speak right past each other. Schools don't understand how to engage employers in a meaningful and impactful way, and employers don't always see the payoff of engaging with high school students. Even the language they use doesn't translate.

There is a need to right-size the role of employers in a way that is impactful and scalable. Employers are busy; so are educators.

They should each lean into their unique advantages. Employers should validate and contextualize labor market data, validate credentials and skills of value, forecast future workforce trends, and engage students through work-based learning. Educators should do what they do best: design and sequence courses, write standards, select curricula, and teach.

Recalibrating the role of employers is even more important in the current economic climate. Education moves too slowly to keep pace with rapid advancements in automation and technology. Partnerships with employers can help education leaders get a line of sight into the ways workforce expectations and needs are changing and be responsive to them.

KEY STRATEGY 4A

Leverage employers' industry point of view to validate labor market needs and identify the credentials and skills that drive hiring decisions.

Labor market information provides a snapshot of workforce trends: which industries are growing, which companies are hiring, what skills and credentials are in demand? But labor market information has its limitations. A hiring manager might prefer a certain credential in the hiring process but leave it off the job posting to encourage a wider pool of applicants. Job openings also don't reflect how employers are thinking about retraining or upskilling incumbent workers.

This is where employers' unique advantage comes in. They can provide an expert perspective

to validate labor market needs, identify credentials of value, and shed light on the types of skills, attributes, and experiences that drive hiring decisions.

They can also help eliminate job-terminal pathways. Career pathways that prepare students solely for entry into a specific job with limited growth potential inhibit students' ability to pivot in their professional goals and fail to serve their long-term interests in and readiness for roles in today's economy. Employers can help identify the broad base of experiences and skills that are in demand across multiple in-



demand, living wage entry-level opportunities.

Success here depends on strong intermediary organizations. Depending on the local context, an intermediary might be a workforce board, chamber of commerce, community college, or non-profit organization. What matters most is the strength of their relationships and their ability to speak the language of education and industry. Well-positioned intermediaries can convene employers at the sector level to identify growing, high-wage occupations within their field, define the essential skills and credentials that drive hiring decisions for those occupations, and help educators in turn understand how to incorporate these skills into pathways, standards, and curriculum.

In 2022, Colorado Succeeds, a statewide intermediary organization in **Colorado**, convened a group of employers in the construction industry to collectively tackle a

deepening talent shortage. With support from more than 40 industry and education leaders, the group launched Project SCALE (Scaling Construction Access for Learners & Earners), a multi-year initiative to shore up future talent by ushering more students into the talent pipeline, designing stackable and coherent pathways leading to well-paying jobs in the construction industry, and building plans for long-term sustainability.³⁹ The collaborative's work centers around seamlessly connected pathways into the construction industry that apply high-school level coursework toward apprenticeship credit, apprenticeship completion toward a newly-designed construction associate degree, and associate degree completion toward a four-year Construction Project Management Bachelor's Degree.⁴⁰ Intermediaries like Colorado Succeeds are well positioned to convene diverse stakeholders at the sector level to collectively identify and address talent gaps and expand opportunities for future workers in their region.



STATE ACTIONS

4A

- Collaborate with employers to review statewide labor market information to identify high-wage, in-demand occupations and align policy and incentives to facilitate expansion of high-quality pathways.
- Convene K-12, higher ed, workforce, and industry leaders to identify and adopt a shared credentials of value list aligned with those high-quality pathways.
- Convene an industry advisory group with a clear charge to identify emerging technologies and other shifts that will impact workforce expectations and help state education and workforce leaders be responsive to them.



LOCAL ACTIONS

4A

- Drawing on insights from state-level industry advisory group, engage local employers to contextualize state workforce trends to the local region and align pathways accordingly.
- Build processes through which to collect information from employers regularly to share insights on automation impacts, new job roles, and evolving skill requirements to inform pathway design.
- Leverage labor market information and insight from industry experts to design pathways, courses, standards, and curriculum that build the relevant knowledge and skills students will need for employment in high-wage, in-demand occupations.
- Embed credentials of value from the state list into pathways and support students in earning them while phasing out those that employers do not value.



INTERMEDIARY ACTIONS

4A

- Broker connections between education and industry to ensure employers can review and inform pathway design at critical decision points.
- Understand the specific language education and industry use and serve as translator to make sure each is fully understood.
- Support education leaders to understand and translate insights from state industry advisory groups—including the skills, credentials, and knowledge demanded within industries—and apply them toward pathway design and implementation with fidelity.

KEY STRATEGY 4B

Use employers' labor market understanding to fortify pathways against the risks of automation and emerging technology and give students a competitive advantage in the future workforce.

In April 2025, Shopify CEO Tobias Lütke issued a memo outlining a new expectation that additional resources and staffing would only be approved if AI tools could not be used instead.⁴¹ This may soon be the norm. Researchers estimate that a wide majority—around 80 percent—of the U.S. workforce will have at least 10 percent of their job tasks impacted by AI.⁴² All this has happened in the few years since ChatGPT introduced large language models and generative artificial intelligence to the general public.

Education moves too slowly to keep pace with such rapid changes. Career pathways cannot be

designed for jobs 10 years down the road when those jobs may not exist in the future.

Employers can help fortify career pathways by coming together as a sector and, in coordination with an intermediary, identify the skills that are resilient to automation and technology and give learners a competitive advantage. As a sector, they can describe how industry is changing in response to technology and what foundational knowledge and skills will be necessary to augment automation and AI. This can give education a roadmap with which to evolve and strengthen existing pathways to set students up for success.



In **New York City**, the Jobs CEO Council, a coalition of chief executive officers from across the city, worked with the City University of New York to develop a non-credit Generative AI 101 workshop.⁴³ With its unique industry perspective, the Council built a curriculum centered around the essential knowledge students would need to prepare for and adapt to the future of work. The five-day workshop is designed for a broad audience and introduces students to the basics of AI, how it is being used across different

industries, and how to use it responsibly. The workshop also gives students opportunities to practice prompt engineering and develop their own creative products with AI.

Such partnerships are mutually beneficial. They provide students and educators with a clearer understanding of where industry is going and what will be needed for future jobs and they strengthen the pipeline of qualified and skilled talent that industry can then hire.



STATE ACTIONS

4B

- Leverage the industry advisory council as a mechanism for employers to quickly flag when existing programs are becoming obsolete, enabling schools to pivot curriculum and training in real-time.
- Develop frameworks and standards for educational institutions to cultivate future ready skills.



LOCAL ACTIONS

4B

- Provide professional development to help educators understand and teach future ready skills using the state’s frameworks and standards.
- Design pathways, courses, and curricula that enable students to develop resilient, future ready skills.



INTERMEDIARY ACTIONS

4B

- Convene employers to understand and forecast the skills that are likely to be resilient to automation and emerging technology.

KEY STRATEGY 4C

Increase employer commitment to work-based learning by lowering barriers to entry and demonstrating business value.

Work-based learning is core to a high-quality pathway. Intensive work-based learning experiences such as internships and apprenticeships give students the opportunity to gain real-world skills, develop social capital, and get a front-row seat to see the world of work in

action. Research shows that completing a relationship-based work-based learning experience such as an internship, apprenticeship, cooperative education, or mentorship can have an impact on job quality as much as a decade later.⁴⁴



Yet work-based learning is incredibly challenging to scale in a high-quality and meaningful way. Strong relationships are core to an effective experience, but while an enthusiastic employer champion, a driven and connected intermediary partner, or a passionate school coordinator can make an experience truly exceptional at the local level, bringing such experiences to scale across a region or a state is challenging.

Employers cite barriers such as liability concerns, transportation access, student readiness for the workplace, and cost. In turn, states and districts have experimented with different policy solutions. At least 22 states provide tax credits for employers to offer work-based learning opportunities.⁴⁵ Regional intermediaries like **ElevateEdAZ**, operated by the Greater Phoenix Chamber Foundation, are working to address transportation barriers by connecting students with ride share services to help them get to their internships. Many districts serve as the employer of record to shield business partners from liability concerns. These solutions chip away at barriers to scale, but have yet to unleash the floodgates of meaningful, high-quality work-based learning experiences.⁴⁶

Career readiness for all means increasing available work-based learning opportunities by orders of magnitude. Two catalysts can help reach this goal. The first is increasing employer commitment by demonstrating the business value. Employers often view work-based learning as a social responsibility, a way to give back to their community. But when work-based

learning is done well, it provides value to the employer, too. Businesses can connect with future talent, develop skills of future potential workers, and further their goals. To increase employer commitment to work-based learning, education and intermediary organizations should make a clear business case. They should collect key metrics on work-based learning impact and help employers evaluate the return on their investment. They should also provide foundational training and support to students before they are placed in their work-based learning site to make sure they understand workplace expectations and can hit the ground running, providing immediate value to worksite hosts.

The second catalyst is minimizing barriers to entry for employers. Hosting interns on site can incur significant costs for employers, not just in wages but also in staff time to train, mentor, and review student work. This can be prohibitive for small companies especially. To address entry barriers, education and industry should work together to create employer-designed challenges that enable students to connect with industry professionals, develop relevant skills, and build social capital with minimal cost to the employer. Employer-designed challenges are real-world problems developed and assessed by industry experts that can be completed in the classroom under a teacher's supervision. They provide the rigor and relevance of an intensive work-based learning experience but are an easier ask for employers. Employer-designed challenges can also provide value to employers by helping them generate novel ideas, solve difficult problems, and advance their work.



STATE ACTIONS

4C

- Provide incentives like tax credits for employers to engage in work-based learning.
- Update state definitions, accountability systems, and budget items to count employer-designed challenges as intensive work-based learning experiences.
- Identify and remove barriers such as liability concerns that may inhibit employer participation in work-based learning.



LOCAL ACTIONS

4C

- Provide low-cost or no-cost transportation options for students by subsidizing ride share services, partnering with the local transportation authority, and exploring other solutions.
- Ensure students receive pre-placement training and ongoing support to develop professional skills and understand workplace etiquette and work expectations.
- Serve as the employer of record to facilitate easier placement into work-based learning experiences.
- Work with intermediaries and employers to deliver employer-designed challenges in the classroom.
- Revise master schedules as necessary to enable student participation in work-based learning during the school day.



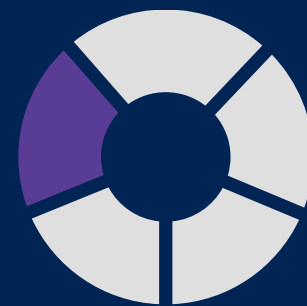
INTERMEDIARY ACTIONS

4C

- Establish systems to collect data on work-based learning outcomes and measure return on investment.
- Collect stories and develop communications assets to demonstrate the business value of work-based learning to prospective employers.
- Bring together employers and educators to co-design authentic employer-designed challenges.

RECOMMENDATION 5

Redesign measures of high school success to focus more directly on postsecondary preparation and success after high school.



Over the last decade, states have narrowed on a core set of high school success measures and incorporated those into accountability and reporting systems. While these measures have increased in sophistication and innovation over time, there remains a mismatch between states' goals for student success after high school and what they measure. Most states have incorporated some measures of post-high school success into their accountability systems, but these college and career readiness measures often carry low weights relative to other measures and do not offer sufficient incentives to drive behavior and decision making at the school level.

In an effort to be inclusive of diverse pathways, state accountability systems also cast too wide a net in what they count toward college and career readiness, leading schools to push students toward lower-level credentials, pathways, and

work-based learning experiences that are easy to check off but do not translate to value in the labor market.

The time is ripe to rethink high school accountability. Federal policymakers have encouraged states to leverage flexibility and seek waivers to Elementary and Secondary Education Act requirements, including those for assessment and accountability, opening the door for states to more intentionally align high school success measures with state goals.⁴⁷ And as New York and Massachusetts become the latest states to drop high school exit exams, many are exploring new ways to define, measure, and recognize readiness.⁴⁸ Redesigning high school measures of success to more meaningfully define and value rigorous, high-quality experience can bring state measures into alignment with their goals and catalyze exceptional outcomes.

KEY STRATEGY 5A

Retool state accountability and reporting to include work-based learning, early college credit, and credentials of value as measures of high school success.

Accountability drives action. Over the last decade, states have signaled the value of post-high school readiness by adopting and refining new college and career readiness indicators in their high school accountability systems. In 2014, 17 states included college and career-readiness indicators in their accountability systems;⁴⁹ today, 41 states and the District of Columbia do.⁵⁰

This progress is considerable, yet most state measures of post-high school success carry little weight relative to other high school accountability measures. Often, college and career readiness is valued at 10 percent or less of the total high school score.⁵¹ If post-high school readiness remains a side dish instead of the main course, what incentive do schools have to drive students toward meaningful pathway experiences?



What’s more, states often use meta-indicators of college and career readiness that provide a menu of options for students to demonstrate readiness. Such indicators can mask relevant information that can be used to hold schools accountable and provide transparency to students, families, and communities.

Meta-indicators also dilute the impact of pathway experiences by signaling that passing the ASVAB, earning an industry certification, completing an internship, or any other experience in isolation sets students up for success. In truth, these experiences compound and build upon one another. High school accountability systems should drive students to complete the full constellation of pathway experiences, including work-based learning, early college credit, and a credential of value.

High school success measures should be redesigned to achieve that outcome.

Reporting and sharing disaggregated data through public reports and dashboards empowers students and families to make informed decisions about their career pathways and equips policymakers and decision makers to make improvements to program design.

Kentucky’s CTE Feedback Report, for example, is a publicly-accessible tool that enables users to project employment and wage outcomes for high school graduates one year, three years, and five years out from graduation. The report shows how outcomes vary for graduates with and without work-based learning and industry certifications.⁵² Although the report is simple in design, it is the result of years of interagency collaboration and coordination led by the Kentucky Center for Statistics.



STATE ACTIONS

5A

- Increase the weighted value of college and career readiness measures in state accountability systems.
- Refine high school accountability measures to value students who complete the full constellation of pathway experiences, not individual experiences in isolation.
- Disaggregate readiness meta-indicators and report data on students who complete the full constellation of pathway experiences.



LOCAL ACTIONS

5A

- Ensure families and members of the community know where to access and how to make sense of pathways data.
- Train school leaders to accurately collect, report, and leverage data to understand how many and which students complete the full constellation of pathway experiences

KEY STRATEGY 5B

Devise the next generation of measures to better capture attainment of skills and incentivize the most valuable student experiences.

Even as state accountability systems undervalue college and career readiness at the high school level, the measures they do use often do not measure valuable experiences. States should set a higher bar for rigor and drive schools toward metrics that reinforce future readiness.

Nowhere is this truer than with industry-recognized credentials. State credential lists have gotten too long, filled with a wide mix of credentials, including those that employers do not value in the hiring process. We do students a disservice when we award them a low-level industry certification and call them career ready. To incentivize only credentials with true labor market value, states should leave the work of identifying credentials of value to the workforce system and draw those lists down to the secondary level instead of duplicating effort and creating conflicting and confusing lists. They should also ensure that credentials are weighted to incentivize attainment of the rigorous, time-intensive credentials that translate to true value in the labor market over short-term credentials that do not.

Likewise, state accountability systems that value work-based learning without regard for rigor or quality may inadvertently encourage

experiences that are unaligned to a students' pathway and do not result in meaningful learning or professional connections. There is limited sophistication in the way states define, measure, and report work-based learning. Not all experiences are created equal. States should refine their work-based learning metrics to better track and disaggregate by type, setting up clear definitions, measures, and data collections for employer-designed challenges, youth apprenticeships, and internships. And they should define these experiences to emphasize the components that matter most — building skills and competencies, aligning experiences to students' individual goals, and strengthening social capital.

States that value advanced coursework should also refine these measures to prioritize not just participation but completion of courses that result in early college credit or a credential of value. Currently, state accountability systems provide a wide window and a low bar to satisfy readiness measures. These measures must be updated to better define and signal which experiences meet the state's expectations for rigor, to strengthen measurement and reporting of student skill attainment, and to incentivize rigorous experiences for students.



STATE ACTIONS

5B

- Ensure accountability systems incentivize culminating experiences that are rigorous and high quality.
- Narrow state credential lists and lean on state workforce systems to prioritize credentials with true labor market value.
- Define, measure, and disaggregate work-based learning completion by type, including employer-designed challenges, youth apprenticeships, and internships.
- Update accountability measures to prioritize advanced coursework that results in college credit or a credential of value.
- Strengthen data and reporting systems to pressure test accountability measures by evaluating post-high school outcomes for students who meet the state's threshold for college and career readiness.

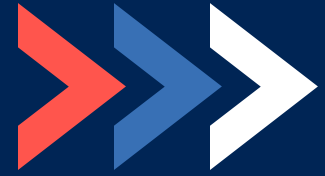


LOCAL ACTIONS

5B

- Strengthen and refine data collection to better measure skill attainment through credentials of value, work-based learning, and early college credit.
- Identify and track additional measures, such as momentum metrics, that evaluate student progress toward post-high school success.

CONCLUSION



Looking back on the 10 years since the release of *Opportunities and Options*, states and communities have made considerable progress designing and expanding access to high-quality, industry-aligned pathways; but the work is just getting started. To ensure students can benefit from the full collection of pathway experiences, we must push for greater coherence, connection, and opportunity across the system. We envision a future where every student—not just a subset of career-designated students—is on a pathway to a fulfilling career.

In this future, every student will receive early and ongoing career advising and can access a pathway anchored by an advanced credential or college degree with multiple entry and exit points along the way. Every student will graduate high school with real forward momentum, having completed a pathway-aligned work-based learning experience, earned early college credits, and attained a credential with currency in the labor market.

System actors will come together to design frictionless pathways that enable students to carry forward their credentials, credits, and skills as they progress through their pathway, accelerating their time to a credential of value.

Students will develop valuable connections and future-resilient skills that will equip them to confidently steer toward their futures. As emerging technologies and artificial intelligence transform the workforce, students will build the foundational AI literacy and professional skills to deftly navigate this change.

Through deep partnerships with education and industry and support from regional intermediary organizations, pathways will be fortified against economic and labor market disruptions and will evolve to align with what industry needs. Every student will be able to access a high-quality, pathway-aligned work-based learning experience.

Underlying all of this will be an accountability and reporting system that elevates and repositions career preparation as an essential part of the high school experience and incentivizes the experiences that are most aligned with impactful student outcomes.

This vision is within reach. States and communities have an opportunity to build upon the critical infrastructure they have laid over the last 10 years to eliminate dead end pathways and bring each disparate component of the system into better alignment. To deliver on the promise of this work, we must provide each and every student an opportunity to access and succeed in a high-quality pathway.



ENDNOTES

- 1 Strohl, J., Gulish, A., and Morris, C. (2024). *The Future of Good Jobs: Projections through 2031*. Georgetown Center on Education and the Workforce. <https://cew.georgetown.edu/wp-content/uploads/cew-the-future-of-good-jobs-fr.pdf>
- 2 Education Strategy Group. (2024). *Measurement for Mobility: How U.S. States Can Use Data to Incentivize Postsecondary and Workforce Success in Public Education*. <https://edstrategy.org/resource/measurement-for-mobility/>
- 3 Education Commission of the States. (2023). *50-State Comparison: Work-Based Learning*. <https://www.ecs.org/50-state-comparison-work-based-learning/>
- 4 ASA and Education Strategy Group. (2024). *Extending the Runway: A National Analysis of Middle School Career Exploration*. <https://edstrategy.org/wp-content/uploads/2024/03/Extending-the-Runway.pdf>
- 5 Education Commission of the States. (2022). *50-State Comparison: Dual/Concurrent Enrollment Policies*. <https://www.ecs.org/50-state-comparison-dual-concurrent-enrollment-policies/>
- 6 Advance CTE. (2025). *The State of Career Technical Education: Credentials of Value*. https://careertech.org/wp-content/uploads/2025/05/StateofCTE_2025_FullReport-1.pdf
- 7 Carnevale, A.P., Smith, N., Van Der Werf, M., and Quinn, M.C. (2023). *After Everything: Projections of Jobs, Education, and Training Requirements through 2031*. Georgetown Center on Education and the Workforce. <https://cew.georgetown.edu/wp-content/uploads/Projections2031-National-Report.pdf>
- 8 Strohl, J., Gulish, A., and Morris, C. (2024). *The Future of Good Jobs: Projections through 2031*. Georgetown Center on Education and the Workforce. <https://cew.georgetown.edu/wp-content/uploads/cew-the-future-of-good-jobs-fr.pdf>
- 9 Colombo, E., Mercurio, F., Mezzanzanica, M., and Serino, A. (2025). *Towards the Terminator Economy: Assessing Job Exposure to AI through LLMs*. arXiv. <https://arxiv.org/pdf/24.07.19204>
- 10 Education Strategy Group. (2024). *Measurement for Mobility: How U.S. States Can Use Data to Incentivize Postsecondary and Workforce Success in Public Education*. <https://edstrategy.org/resource/measurement-for-mobility/>
- 11 Education Commission of the States. (2023). *50-State Comparison: Work-Based Learning*. <https://www.ecs.org/50-state-comparison-work-based-learning/>
- 12 ASA and Education Strategy Group. (2024). *Extending the Runway: A National Analysis of Middle School Career Exploration*. <https://edstrategy.org/wp-content/uploads/2024/03/Extending-the-Runway.pdf>
- 13 Education Commission of the States. (2022). *50-State Comparison: Dual/Concurrent Enrollment Policies*. <https://www.ecs.org/50-state-comparison-dual-concurrent-enrollment-policies/>
- 14 Advance CTE. (2025). *The State of Career Technical Education: Credentials of Value*. https://careertech.org/wp-content/uploads/2025/05/StateofCTE_2025_FullReport-1.pdf
- 15 Education Strategy Group. (2025). *What Does A Successful High School Pathway Look Like?* <https://whatisapathway.org/>
- 16 Includes Perkins V CTE participant data for the 2022-23 program year. U.S. Department of Education Office of Career, Technical, and Adult Education. *Perkins V Enrollment Data*. <https://cte.ed.gov/pcrn/explorer/enrollment/perkins-v>
- 17 American Institute for Research. *Mapping Early College Programs Across the U.S.* <https://www.air.org/project/evaluating-impact-early-college-high-schools/mapping-early-colleges-across-us>
- 18 Stuart, J., VanderKamp, E., Sawtell, E., and Halic, O. (2024). *The International Baccalaureate in the United States: Growth, Access, and Outcomes*. International Baccalaureate Organization. <https://ibo.org/globalassets/new-structure/research/pdfs/us-growth-access-and-outcomes-final-report.pdf>
- 19 ApprenticeshipUSA. (2025). *Explore Apprenticeship for Youth and Young Adults*. https://www.apprenticeship.gov/sites/default/files/DOL_IndustryFactsheet_Youth_v2.pdf
- 20 ASA and Education Strategy Group. (2024). *Extending the Runway: A National Analysis of Middle School Career Exploration*. <https://www.asa.org/wp-content/uploads/2024/02/ASA-Extending-the-Runway-022924.pdf>
- 21 U.S. Department of Labor, U.S. Department of Commerce, & U.S. Department of Education. (2025). *America's Talent Strategy: Building the Workforce for the Golden Age*. <https://www.dol.gov/sites/dolgov/files/OPA/newsreleases/2025/08/Americas-Talent-Strategy-Building-the-Workforce-for-the-Golden-Age.pdf>
- 22 Indiana State Board of Education. (2024). *The Future of the Indiana Diploma: Final Diploma Rule*. <https://www.in.gov/sboe/files/12.11.24-SBOE-Diploma-Progress-Update.pdf>
- 23 New York City Public Schools. *FutureReadyNYC*. <https://www.schools.nyc.gov/learning/student-journey/futurereadynyc>
- 24 New York City Public Schools. *Workplace Challenge Fact Sheet*. <https://wbltoolkit.cte.nyc.gov/workplace-challenges/>
- 25 U.S. Department of Labor, U.S. Department of Commerce, & U.S. Department of Education. (2025). *America's Talent Strategy: Building the Workforce for the Golden Age*. <https://www.dol.gov/sites/dolgov/files/OPA/newsreleases/2025/08/Americas-Talent-Strategy-Building-the-Workforce-for-the-Golden-Age.pdf>
- 26 Carnevale, A. P., Cheah, B., and Wenzinger, E. (2021). *The College Payoff: More Education Doesn't Always Mean More Earnings*. Georgetown Center for Education and the Workforce. <https://cew.georgetown.edu/wp-content/uploads/cew-college-payoff-2021-fr.pdf>



- 27 ASA. (2025). *Next Steps: An Analysis of Teens' Post-High School Plans*. <https://www.asa.org/research/teens-next-steps-report-2025/>
- 28 Daugherty, L., et. al. (2023). *Stackable Credential Pipelines and Equity for Low-Income Individuals*. RAND. https://www.rand.org/pubs/research_reports/RR2484-1.html
- 29 Colorado Department of Higher Education. *Stackable Credential Pathways Initiative*. <https://cdhe.colorado.gov/stackable-credential-pathways-initiative>
- 30 Carnegie Foundation for the Advancement of Teaching. *Skills for the Future Initiative*. <https://www.carnegiefoundation.org/our-work/high-school-transformation/skills-for-the-future-initiative/>
- 31 Florida Department of Education. *Gold Standard Career Pathways Articulation Agreements*. <https://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml>
- 32 Vermont General Assembly. 16 V.S.A. § 941. <https://legislature.vermont.gov/statutes/section/16/023/00941>
- 33 Permian Basin Innovation Zone. <https://pbiz.org/>
- 34 Rhode Island Department of Education. *All Course Network*. <https://ride.ri.gov/students-families/education-programs/all-course-network>
- 35 World Economic Forum. (2025). *Future of Jobs Report 2025*. https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf
- 36 Arkansas Department of Education. *Student Success Plan template*. https://docs.google.com/spreadsheets/d/1zRtn4g7G7kReoPFwP4_FRAZo6osZ9j3TInKP2bFS4fs/copy
- 37 Jackson, A. (2025). *Nvidia CEO: You won't lose your job to AI—you'll 'lose your job to somebody who uses AI'*. CNBC. <https://www.cnbc.com/2025/05/28/nvidia-ceo-jensen-huang-youll-lose-your-job-to-somebody-who-uses-ai.html>
- 38 The Burning Glass Institute and The Society for Human Resource Management. (2025). *Generative Artificial Intelligence and the Workforce*. https://shrm-res.cloudinary.com/image/upload/v1706729099/AI/CPR-230956_Research_Gen-AI-Workplace_FINAL_1.pdf
- 39 Colorado Succeeds. *Project SCALE: Stackable Construction Pathways for All*. <https://coloradosucceeds.org/resource/project-scale-stackable-construction-pathways-for-all/>
- 40 Weifield Group. *Project SCALE: A Connected & Cumulative Career Pathway in Construction*. <https://www.weifieldcontracting.com/careers/project-scale-career-pathway/>
- 41 Laney, D. B. (2025). *Viral Shopify CEO Manifesto Says AI Now Mandatory For All Employees*. Forbes. <https://www.forbes.com/sites/douglaslaney/2025/04/09/selling-ai-strategy-to-employees-shopify-ceos-manifesto/>
- 42 Eloundou, T., Manning, S., Mishkin, P., and Rock, D. (2023). *GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models*. arXiv. <https://arxiv.org/pdf/2303.10130>
- 43 City University of New York. *CUNY AI*. <https://www.cuny.edu/about/administration/offices/ocip/student/sai-one/#workshops>
- 44 Ross, M., et. al. (2018). *Pathways To High-Quality Jobs For Young Adults*. Brookings. <https://www.brookings.edu/articles/pathways-to-high-quality-jobs-for-young-adults/>
- 45 Keily, T. and Erwin, B. (2024). *State Financial Incentives for Work-based Learning*. Education Commission of the States. https://www.ecs.org/wp-content/uploads/PB_0524_State-Financial-Incentives-for-Work-Based-Learning.pdf
- 46 ElevateEdAZ. (2024). *HopSkipDrive Fuels High School Internship Program, Driving Student Success in Phoenix*. <https://elevateedaz.com/2024/11/hopskipdrive-fuels-high-school-internship-program-driving-student-success-in-phoenix/>
- 47 U.S. Department of Education. (2025). *U.S. Department of Education Encourages States to Maximize Opportunity to Improve Academic Achievement*. <https://www.ed.gov/about/news/press-release/us-department-of-education-encourages-states-maximize-opportunity-improve-academic-achievement>
- 48 Belsha, K. (2025). *Many States Picked Diploma Pathways Over HS Exit Exams. Did Students Benefit? The 74*. <https://www.the74million.org/article/many-states-picked-diploma-pathways-over-hs-exit-exams-did-students-benefit/>
- 49 Achieve and Advance CTE. (2014). *Making Career Readiness Count*. <https://careertech.org/wp-content/uploads/2023/01/MakingCareerReadinessCount-2014.pdf>
- 50 Education Strategy Group. (2024). *Measurement for Mobility: How U.S. States Can Use Data to Incentivize Postsecondary and Workforce Success in Public Education*. <https://edstrategy.org/resource/measurement-for-mobility/>
- 51 Education Commission of the States. (2024). *School Accountability Systems: Indicators and Weights for High School*. <https://reports.ecs.org/comparisons/states-school-accountability-systems-2024-06>
- 52 KY STATS. *Career & Tech Education Feedback Report*. <https://kystats.ky.gov/Latest/CTE>



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