

Opportunities and Options: Making Career Preparation Work for Students

THE COUNCIL OF CHIEF STATE SCHOOL OFFICERS

The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, membership organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public.

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EXECUTIVE SUMMARY

Our nation's secondary schools must provide young people with the knowledge, skills, and experiences that will enable them to lead productive and fulfilling lives. In today's economy, being "well prepared" means continuing education or training beyond high school. By the year 2020, almost two thirds of jobs, and nearly all high paying jobs, will require postsecondary education or training.¹ A high school diploma is simply no longer enough.

State leaders across the country are addressing this by adopting more challenging, meaningful K-12 standards that will propel students toward college and career success. Their efforts to implement college- and career-ready standards must continue, but work remains to ensure that the educational experiences of young people in our schools are sufficiently rigorous and relevant to prepare them for their futures and close the skills gap evident within our labor markets.

The Bureau of Labor Statistics recently announced an unemployment rate of 5.9 percent, the equivalent of 9.3 million Americans classified as unemployed². More troubling still, 14.3 percent of our 16-24 year olds are unemployed,³ yet there remain 4.8 million job openings in our economy, the highest number of job vacancies since January of 2001.⁴ According to a recent survey, 54% of American companies report having openings for which they cannot find qualified workers.⁵ Our education system is clearly not keeping up with the skills demands of our knowledge-based economy.

Most states and school systems are working toward the goal of getting their students "college- and career-ready," but what we mean by "career-ready" is not always clear, and the supply of quality career-technical education programs has not kept pace with demand.

Career education in too many of our secondary schools reflects an outdated model that tolerates low expectations and is often misaligned with the evolving needs of the current labor market. The result: an increasingly pronounced skills gap that plagues American businesses as they struggle to find qualified workers and dead ends for our students who rely on career preparation programs as their ticket into the middle class.

CCSSO launched its Career Readiness Task Force in the spring of 2014 to bring a renewed focus to this issue. The task force – composed of state school chiefs, postsecondary leaders, business leaders, and career-technical education experts – analyzed leading career preparation practices in the U.S. and abroad and identified specific policies states must adopt to dramatically improve the preparation of their high school graduates.

¹ Carnevale, Smith, and Strohl. "Recovery: Job Growth and Education Requirements through 2020", Georgetown University Center on Education and the Workforce (June, 2013).

² U.S. Department of Labor. "[The Employment Situation, September 2014](#)", Bureau of Labor Statistics (Oct., 2014).

³ U.S. Department of Labor. "[TED: Youth Employment and Unemployment, July 2014](#)", Bureau of Labor Statistics (August 19, 2014).

⁴ U.S. Department of Labor. "[Job Openings and Labor Turnover, August 2014](#)", Bureau of Labor Statistics (Oct., 2014).

⁵ CareerBuilder commissioned study, conducted online by Harris Poll, on hard-to-fill jobs, (June 2013).

This report outlines a complete set of actions states must take to transform their schools' approach to career readiness. We highlight here the three drivers of change needed within states' systems:

First, states must make their high school programs more responsive to the labor market by enlisting the employer community as a lead partner. While some career preparation programs in our secondary schools today are excellent, others are not effective at preparing young people for the well-paying jobs available in today's economy. This means dead ends for students and job vacancies for employers. States need a new "demand-driven" system for determining which programs and pathways warrant continued development and investment, and which should be scaled down or phased out; a system that places greater value on preparing students for high-paying, in-demand jobs. This will require a new partnership with the employer community, one that gives them the responsibility for identifying high-demand, high-skill industries and developing a suite of authentic work-based learning experiences so that schools can align career preparation with the specific needs of business and industry.

Second, states must significantly raise the threshold for quality career pathways in secondary schools. States must develop and make available to all students an array of high quality career pathways spanning secondary and postsecondary levels that combine rigorous academics with an applied curriculum and work-based learning opportunities, supported by focused career planning and guidance. These pathways can no longer be treated as the "less rigorous" option for high school students. High quality career pathways must be every bit as rigorous as the traditional "college-prep" track. They must result in credentials that are valued by employers and aligned with current and emerging market needs so that completing a pathway opens real doors of opportunity in the job market. States must use their funding and accountability models to prioritize pathways that focus on high-demand, high-skill industries and phase out programs that no longer lead to meaningful credentials and careers.

Third, states must make career preparation matter to schools and students. What's measured gets valued by schools, but most state accountability systems today don't measure or value career readiness. According to a recent report by Achieve and the National Association of State Directors of CTE Consortium (NASDCTEC), just over half of states publicly report any career-focused readiness measures in their school report cards; only a handful actually make these indicators count in their school improvement metrics.⁶ Given the critical role that accountability systems play in signaling priorities and driving resources, states must expand these metrics to emphasize readiness for both college and careers. States also need to re-examine their high school graduation requirements and scholarship programs to consider whether there are opportunities to give credit for career-focused courses and credentials.

States that embrace these changes and put policies and incentives in place to help their districts and schools move in this direction will close the skills gap and better prepare their students for postsecondary success. State chiefs must lead this change, but they can only succeed in partnership with business, governors, and postsecondary leaders. Transforming school systems to make career readiness a priority will require each of these sectors to work together in unprecedented ways. We must step out of our individual comfort zones and work together on behalf of our students.

⁶ Achieve and the National Association of State Directors of CTE Consortium, "[Making Career Readiness Count](#)", May, 2014.

CCSSO Task Force Recommendations to Improve Career Readiness

RECOMMENDATION #1: Enlist the employer community as a lead partner in defining the pathways and skills most essential in today's economy.

1. Enlist the employer community as a lead partner in identifying the high-demand, high-skill industry sectors that are most important to the state's economy so career pathways can be aligned with those opportunities.
2. Engage the employer community in designing career pathways in secondary schools that develop the specific knowledge and skills needed for entry-level work within high-demand, high-skill industries.
3. Establish a structured process through which the education and business sectors come together to establish priorities and design pathways.

RECOMMENDATION #2: Set a higher bar for the quality of career preparation programs, enabling all students to earn a meaningful postsecondary degree or credential.

4. Require that all career programming is organized within pathways that culminate with a meaningful postsecondary degree or credential that opens doors to high-skill, high-demand jobs.
5. Raise the level of rigor in career programs by including both a college-ready academic core and a technical core that spans secondary and postsecondary systems and meets industry expectations.
6. Work with the employer community to dramatically expand work-based learning opportunities to expose students to career options and connect what they're learning in the classroom with the world of work.
7. Strengthen and expand career guidance and support services, beginning in middle school, and seek out non-traditional partners to help provide these supports.
8. Use state funding and program approval processes to scale up the pathways in greatest demand and scale down or phase out programs that do not lead to credentials of value.
9. Build the capacity of educators to more effectively engage students in high-quality, career-relevant instruction through deeper engagement with business and industry.

RECOMMENDATION #3: Make career readiness matter to schools and students by prioritizing it in accountability systems.

10. Make career readiness a higher priority in school rating and accountability systems.
11. Adapt graduation requirements and scholarship criteria to give students credit for meeting rigorous career readiness indicators.

INTRODUCTION: The urgent need to transform our system

At a time when the American economy is demanding a more highly-educated workforce with a sophisticated and transferable set of skills, our schools are doing a very poor job of being responsive. And we're letting our students down in the process. Not all of the underlying causes of this fall in the purview of schools and state chiefs alone, but the impact on the economy and on the lives of our students is unacceptable. We must transform our career preparation system.

Despite our recent efforts to raise K-12 academic standards to a college- and career-ready level, much work remains to ensure those standards lead to well-rounded programs that prepare students – all students – to make a successful transition from our schools to the world of work. In too many of our secondary schools, career education remains committed to an outdated model that tolerates low expectations and is often misaligned with the evolving needs of the labor market. The result: an increasingly pronounced skills gap that plagues American businesses as they struggle to find qualified workers and dead ends for our students who rely on career preparation programs as their ticket into the middle class.

Closing the Skills Gap

The most recent unemployment data further illustrates the harsh impact of this skills gap on our economy. In October of 2014, the Bureau of Labor Statistics announced an overall unemployment rate of 5.9 percent, with 9.3 million Americans classified as unemployed⁷. Within those figures lies a stubborn 14.3 percent unemployment rate among youth ages 16-24.⁸ At the same time, there remain 4.8 million job openings in our economy, the highest number of job vacancies since January of 2001.⁹ This mismatch between skilled workers and skill sets needed by employers becomes more troubling with the projection that the gap will grow to exceed 5 million job openings by 2020.¹⁰

Furthermore, according to a 2013 survey conducted by Harris Poll, 54% of American companies report having vacancies for which they cannot find qualified workers.¹¹ In a related study, more than half (55%) of the job seekers surveyed blame gaps in their education for their lack of skills, while 42% attribute the problem to a lack of knowledge about potential career opportunities. Furthermore, only 25% of those job seekers reported receiving career path counseling in high school; 41% said they wished they had received more career guidance.¹²

The solution is to better educate all students so they are prepared to advance in their postsecondary

⁷ U.S. Department of Labor. "[The Employment Situation – September 2014](#)", Bureau of Labor Statistics (October 3, 2014).

⁸ U.S. Department of Labor. "[TED: Youth Employment and Unemployment, July 2014](#)", Bureau of Labor Statistics (August 19, 2014).

⁹ U.S. Department of Labor. "[Job Openings and Labor Turnover – August 2014](#)", Bureau of Labor Statistics (October 7, 2014).

¹⁰ Carnevale, Smith, and Strohl. "Recovery: Job Growth and Education Requirements through 2020", Georgetown University Center on Education and the Workforce (June, 2013).

¹¹ CareerBuilder commissioned study, conducted online by Harris Poll, on hard-to-fill jobs, (June 2013).

¹² CareerBuilder, "The Shocking Truth about the Skills Gap", <http://careerbuildercommunications.com/skillsgapstudy2014>, (released March, 2014).

education and training after high school. Additionally, we must provide students with a much richer set of experiences in high school that expose different career options, help make better connections between classroom learning and professional application, and support planning for the future.

We must start by recognizing that as important as the high school experience is for students, a high school diploma is no longer enough. While young adults for several generations have been able to secure long-term, livable wage work after high school, those jobs have become largely obsolete in the modern economy and have been replaced by positions demanding higher level skills. By 2020, nearly two-thirds of all jobs will require postsecondary education or training beyond high school, with 35% requiring a bachelor's degree and another 30% requiring an associate's degree or some college training.¹³ These "middle skills jobs" in particular—those requiring an additional degree or credential but not a four-year degree—must become the target for many career preparation programs in our high schools.

Ending the Stigma and Isolation of Career Education

For decades, the work of preparing students for careers was left to vocational or career and technical education programs. The implication was that only some students needed this type of preparation and it was distinct and separate from the academic track. And in many of our schools, these programs have historically been less academically challenging and targeted at students—often poor and minority students—who were not deemed capable of pursuing postsecondary education. Worse still, a significant number of these programs prepared students for low-paying or dead end jobs, with little opportunity for upward mobility in the labor market. The result: the students who could most benefit from higher expectations were held back by the very programs designed to help them.

This has begun to change. Some states and districts are redefining their career and technical education programs and pathways with a clear eye toward enabling students to continue their education and training to earn meaningful credentials and develop transferable skills. But the pace and scale of this change is insufficient.

State leaders must pay greater attention to their career and technical programs as an integral part of their states' economic development strategies. But their leadership on career readiness must span beyond career and technical education. Improving career preparation and giving students the ability to pursue further education and training as part of a pathway to a career is the job of all educators.

We must break down the barriers that have traditionally separated these programs and shed the stigma associated with career preparation programs: "*career ready*" means *postsecondary ready*. That means establishing rigorous standards for all students and paying serious attention to the future labor market our young people will face.

CCSSO's Task Force

In response to this clear call to action, CCSSO has engaged experts from across the nation to collectively examine high-impact strategies to improve the readiness of our students for postsecondary education and training opportunities and, ultimately, productive, fulfilling careers.

¹³ Carnevale, Smith, and Strohl. "Recovery: Job Growth and Education Requirements through 2020", Georgetown University Center on Education and the Workforce (June, 2013).

This task force – comprised of state school chiefs, postsecondary and career technical education leaders, national education experts, and business leaders – analyzed leading career preparation efforts in the U.S. and abroad, and identified high leverage policies states must adopt to transform their systems. The task force’s recommendations fall under three main drivers of change:

1. **Enlist the employer community as a lead partner** to refocus and retool schools’ career preparation efforts to ensure that they are responsive to the labor market and effectively prepare **all** students for the expectations of the 21st century workplace.
2. **Raise the bar for the quality of career preparation programs** to ensure that all programs are embedded in pathways that are tightly aligned with the needs of the labor market and culminate in a meaningful postsecondary credential or an industry certification in a high-skill, high-demand field.
3. **Make career preparation matter to schools and students** by incorporating career readiness indicators into accountability systems and incentivizing students to earn postsecondary or industry certification credentials in high-skill, high-demand fields.

The recommendations set forth in this report are intended to guide states in their planning and decision making processes to transform career and technical education and prepare all students for career success. This report does not attempt to prescribe *how* states should approach these recommendations, and instead brings them to life by profiling leading practices that demonstrate the various strategies in action. It is the **totality** of these strategies—not the selective implementation of a few – that will result in significantly better outcomes for our children and our economic prosperity.

It is important to acknowledge that state chiefs cannot effectively lead this charge on their own. It will take the collective effort of key stakeholders – governors, business and postsecondary leaders, and intermediary education organizations – in collaboration with state education officials to drive the transformation of our career preparation system. Fortunately, important efforts that complement the CCSSO task force recommendations are already underway.

- The National Governor’s Association (NGA) recently supported 14 states with grants to help them align their education and training systems with the current and future needs of their state economies.
- The U.S. Chamber of Commerce Foundation is launching a talent pipeline initiative to help employers more actively partner with their school systems to close the skills gap.
- The Southern Regional Education Board (SREB) recently formed a Commission on Career and Technical Education to challenge state policymakers to strengthen career programming by forging strong partnerships between secondary schools, community colleges, and the private sector.
- The Pathways to Prosperity Network, managed by Jobs for the Future, is working with a group of states to build stronger systems of career pathways for students.

Harnessing the synergy of these important efforts will dramatically increase the likelihood of success in preparing all of our students for success in the 21st century economy.

RECOMMENDATION #1: Enlist the employer community as a lead partner in defining the pathways and skills most essential in today's economy

There are currently a wide range of career preparation programs and pathways in our secondary schools. While some are excellent and effectively prepare young people for the livable wage jobs available in today's economy, others are not as effective. This means dead ends for students and job vacancies for employers.

States need a new "demand-driven" system for determining which programs and pathways warrant continued development and investment, and which should be scaled down or phased out; a system that places greater value on preparing students for the high-paying, in-demand jobs of today and tomorrow.

Getting this right is critical to both our students and to the local economy. It will necessitate states and districts building a new and different relationship with the employer community to gain greater insight into which programs and pathways are most relevant and responsive to the needs of the job market. Success will require stronger feedback loops between employers and educators to adapt and improve career preparation programs. The business community must commit to provide the leadership and input necessary to align career preparation efforts of schools with the demands of the labor market.

State Action Steps:

- 1. Enlist the employer community as a lead partner in identifying the high-demand, high-skill industry sectors that are most important to the state's economy so career pathways can be aligned with those opportunities.**

The employer community has a vested interest in and an unparalleled understanding of workforce needs in states and regions. States must leverage this to create mechanisms that enable the employer community, statewide as well as within state regions, to identify the high-growth, high-skill jobs of today and tomorrow and ensure that career preparation programs and pathways are responsive to those needs. As a result, pathways must be driven by the demands of the labor market and result in credentials that employers value.

This is already a priority for a number of states. Louisiana created the Workforce Investment Council to provide a mechanism for business leaders to set the direction for career pathways in the state. The Council, made up of business executives and education leaders in K-12 and higher education, uses workforce data to identify high-wage careers that offer the best opportunity for employment and continued education. From this information, they establish an approved list of credentials that districts can offer. The state board of education approves pathways designed regionally by teams of educators, businesses, and postsecondary faculty to meet these workforce needs.

North Carolina passed legislation in 2013 requiring school districts, employer communities, and workforce development entities to assess specific state and local workforce needs and identify industry certifications and credentials to meet those needs. The state then took a step further to require the Department of Commerce to annually update the State Board of Education on the high-need, high-skill occupations that exist within the state so that districts and schools can continually prioritize career pathways aligned with those needs.

In addition, the U.S. Chamber of Commerce recently launched a national Talent Pipeline Initiative to foster greater business leadership in setting the direction for career pathways in schools. Its work with state and local chambers of commerce will help them create new demand-driven partnerships with K-12 and postsecondary institutions to better utilize signals from employers that will inform decisions about career pathways, including competency credentialing and work-based learning opportunities tied to employer needs. The initiative also seeks to establish new information systems and, ultimately, performance metrics based on how graduates perform and persist in postsecondary programs and the workforce.

2. Engage the employer community in designing career pathways in secondary schools that develop the specific knowledge and skills needed for entry-level work within high-demand, high-skill industries.

Beyond *identifying* specific high-need, high-skill industries, states must forge ongoing collaborative relationships with the employer community to delve into the deeper work of *designing* demand-driven pathways. Together, they must identify and articulate the specific knowledge and skills needed for entry-level jobs in priority fields, design courses to grow that knowledge and skills within career pathways, and develop a suite of workplace learning experiences that provide real-world application of those skills to prepare students to successfully meet workplace expectations.

For example, Louisiana’s Jump Start Initiative provides competitive grants ranging from \$25,000 to \$75,000 to support the formation of regional teams of leaders from districts, postsecondary institutions, and workforce and economic development agencies to catalyze initiatives that lead students to earn state-approved industry credentials. Their efforts have resulted in new career readiness courses, teacher training, regional workplace exchanges, and career counseling for middle and high school students.

Indiana uses its 11 regional Works Councils to bring together more than 160 leaders from education, workforce, and business and industry to evaluate their education programs, assess the specific workforce needs of the employer community, and identify any possible gaps between the two. The Indiana General Assembly will award over \$4 million in competitive grant funds to promising efforts to scale innovative and effective career studies curriculum models to overcome the skills gap.

3. Establish a structured process through which the education and business sectors come together to establish priorities and design pathways.

This more active and sustained role for the employer community will not happen organically. States must establish a forum to facilitate this change by creating a clear and compelling opportunity for business involvement, establishing standards for the skills and knowledge needed in high-demand, high-skill fields, and helping states and districts create and implement more ambitious and aligned career programming.

Accomplishing this will require leadership from the employer community. Companies are not accustomed to playing this role and many may not have the bandwidth to immediately engage with schools in this manner. This necessitates an important role for state and local chambers of commerce, workforce investment boards, and other institutions with the capacity to convene, aggregate, and facilitate across local businesses. Businesses will need to see the return on investment they can get from putting the time in to help shape the demand for career pathways.

Employer Engagement in Switzerland

European countries such as Germany, Austria, Denmark, Norway, and Switzerland have earned a reputation for having strong vocational education and training programs. These programs offer real lessons for the U.S. in building more meaningful connections between schools and employers. The Swiss system is a particularly strong model¹⁴; more than 70% of Swiss students participate in vocational education programs that result in gainful employment. Incidentally, Switzerland has the lowest youth unemployment rate in Europe.

Swiss secondary school programs within the vocational system are designed in close partnership with business and industry, and most students participate in paid apprenticeships that allow them to spend up to several days a week in a workplace. Swiss companies take an active role in the vocational education system, contributing time and resources, and hiring students as apprentices.

The Swiss system is truly a demand-driven model, with employers establishing the expectations for what young people need to know and be able to do. A robust network of business associations take responsibility for identifying the skills and knowledge young people need to succeed in different industries and those become the standards for school programs. The Swiss use labor market data to prioritize and shape vocational programs to ensure that pathways align with the needs of the economy.

The Swiss also place great emphasis on career exploration and counseling; students are exposed to employment opportunities and pathways at a younger age than they are in the U.S. (i.e. 14 years old). Despite starting students on career pathways at a younger age, the Swiss system is very permeable so students can change career paths and move between the vocational and academic pathways over time. This distinguishes it from other European systems.

Given the complexity of establishing, managing, and scaling school-to-business partnerships, states are beginning to turn to independent, third-party organizations to work closely with districts and schools to help translate workplace expectations into teaching and learning experiences. These intermediary organizations have the expertise, relationships, and bandwidth to convene schools, business, and postsecondary partners and are emerging as a promising solution. Wisconsin, Louisiana, and Kentucky have taken a regional approach that allows for aggregation of resources across regions. Local or regional intermediaries serve as conveners, brokers, and technical assistance providers to schools and employers. Intermediaries recruit business, nonprofit, and public employers and ensure that participating leaders understand and support the vision.

The National Academy Foundation is another example of an external organization that facilitates authentic partnerships between schools and businesses to provide underserved students in career academies with industry-focused courses, work-based learning experiences – including paid internships – and industry expertise, all in high-growth fields. Since its founding in 1982, the NAF has grown to a strong network of 565 academies serving over 70,000 students nationwide. The academies boast a graduation rate of 96%.

Bringing high quality career pathways to scale will require greater investments by states, districts, and the philanthropic community.

¹⁴ Hoffman and Schwartz, “The Swiss Vocational Education System”, National Center on Education and the Economy, (2014).

RECOMMENDATION #2: Set a higher bar for the quality of career preparation programs, enabling all students to earn a meaningful postsecondary degree or credential

There is a formidable need and a pressing opportunity to connect the work of our schools with the needs of our economy. As states seek ways to align education and the economy and make teaching more effective and meaningful for students, many have turned to career pathways as an effective method to accomplish both. Career pathways are organized around a particular program of study—such as architecture and construction, health sciences, or information technology—through partnerships between secondary and postsecondary schools and industry. This serves to connect the content, skills, and credentials students need to be prepared for high-skill, high-demand workforce opportunities.

While pathways are an effective mechanism to prepare students for the heightened demands of the 21st century workplace, *they must result in real economic opportunities for kids*. Thus, it is necessary to engage the business community in the program design process. Far too often, states and districts have turned to pathways that send students down a single short-sighted employment path rather than preparing them for a range of meaningful opportunities.

States must revamp their pathways in partnership with employers and postsecondary institutions to meet a higher bar of quality and relevance to the job market. They must ensure that pathways provide an accessible, delineated route to postsecondary and industry credentials in high-demand fields, and allow multiple “on ramps” and “off ramps” that enable students to change career paths and progress through successively higher levels of education and employment over time.

State Action Steps:

- 4. Require that all career programming is organized within pathways that culminate with a meaningful postsecondary degree or credential that opens doors to high-skill, high-demand jobs.**

The conclusions drawn by labor economists are clear: a postsecondary or industry credential is fast becoming a pre-requisite for students to be competitive in the job market and earn meaningful employment in the 21st century economy. States must set a high bar to measure students’ career readiness in a universal language that employers understand and respect, beyond simply completing a pathway. Postsecondary and industry credentials meet that demand; they level the playing field among all potential employees – students and adults – and signal to employers that job candidates have the requisite skills and knowledge for particular high-need, high-skill positions.

However, there exists a great deal of variance in quality among postsecondary and industry credentials that are awarded across the country. Filtering through a complicated, unaligned credentialing system that spans government, professional associations, and private industry is not a simple task. Each awarding “institution” uses its own assessment and quality assurance methods to set a proficiency requirement for knowledge and skills to earn any type of credential, which range from a certificate, a professional license, or a degree, among others.

Career Pathway Profiles: California and Massachusetts

California and Massachusetts have both made a significant commitment to redesigning career pathways in partnership with their business and education communities. These states are part of a larger network, called Pathways to Prosperity, that is providing support to states and districts developing grades 9-14 pathways that include many of the elements recommended in this report.

In **California**, a growing number of districts have embraced a high school transformation initiative known as Linked Learning that uses career pathways as its vehicle for wholesale change. This approach links rigorous academics, strong technical instruction, work-based learning, and personalized supports, all of which are aligned to 15 major industry sectors, to prepare students for postsecondary education and careers in high-demand, high-wage industry sectors as varied as engineering, arts and media, and health sciences.

An infusion of funding from the Career Pathways Trust Fund has incentivized local districts that educate approximately 1/3 of California's public school students to re-orient themselves around career pathways. Delivery models include career academies, themed small learning communities, and themed small high schools, among others.

The results are promising: student attendance is up; participants are more likely to earn credits to graduate and earn admission to postsecondary institutions; they are more likely to enroll and persist in postsecondary opportunities; and pathway completers earn as much as \$2,500 more annually in the 8 years after high school graduation than non-completers.¹⁶

To combat the skills gap in **Massachusetts**, Governor Deval Patrick established a Career Pathways Committee in 2012. The committee operates within the state's Workforce Investment Board to align the efforts of K-12 and postsecondary systems as well as workforce and economic development authorities, and engage in a coordinated state effort to improve the readiness of young adults for the skills demands of business and industry.

Massachusetts has partnered extensively with its community colleges, workforce investment boards, and employer community to develop and offer demand-driven career pathways in healthcare, information technology, and advanced manufacturing that are tightly aligned with the labor market needs of 3 specific regions of the state. These partnerships prepare students to graduate from high school and earn credentials with labor market value, while helping them transition to the world of work, and preparing them to be successful in postsecondary education and training opportunities.

And while some credentials are widely valued within industries, others do not carry as much value. This means that states cannot simply align career pathways with any earned credential.

Instead, states must engage with the postsecondary and employer communities to establish an explicit process through which to differentiate less valuable credentials from those with real economic value. This process must be nimble and on-going to respond as labor market demands shift and the skills workers need rapidly evolve in changing occupational fields. Only those credentials that open meaningful doors of employment in high-skill, high-demand fields should be embedded into career pathways.

For example, Oregon requires that short-term certificate programs in their community colleges include content aligned with the knowledge and skills employees need for entry-level jobs in high-demand fields. To be responsive to the changing needs of those industries, the state has streamlined its program approval process to enable quick adjustments to course requirements.¹⁵

5. Raise the level of rigor in career programs by including both a college-ready academic core and a technical core that spans secondary and postsecondary systems and meets industry expectations.

States must remove the stigma that suggests that career pathways or programs are a lower-level option that exists only for those students who won't matriculate through college. As mentioned earlier, to gain access to most

¹⁵ Ganzglass, "Scaling Stackable Credentials: Implications for Implementation and Policy", Center for Postsecondary and Economic Success, (March, 2014).

¹⁶ Hoachlander, "[Linked Learning: Pathways to College and Career](#)", ConnectEd: The California Center for College and Career, (February, 2014).

Early College High Schools

livable wage jobs, students will need some education and training after high school. High quality career preparation programs will also need to prepare students to enter a 2- or 4-year college or a postsecondary training program. This raises the stakes for the quality and rigor of the curriculum and instruction in career pathways. To prepare all students for meaningful career options, career pathways must offer both a college-ready academic core that emphasizes real world application and a technical core that meets industry expectations and motivates students to pursue postsecondary education.

One effective way to meet these heightened expectations is through dual enrollment, especially in community or technical college programs, but also in four-year postsecondary institutions. By allowing students to take college-level courses in high school as part of robust career pathways, states integrate more challenging content and instruction into high school classrooms. Dual enrollment offers the added benefit of allowing students to earn credits toward a high school diploma and a postsecondary credential concurrently. This not only provides students with more meaningful employment options after high school, but can also shorten the time it takes to earn a college degree. States must encourage and facilitate dual enrollment by instituting a funding model that allows both high schools and colleges to claim apportionment for dually enrolled students.

While covering the cost of dual enrollment courses is critical, there are other barriers that need to be overcome as well. The goal of dual enrollment is to increase the number of students who go on to earn a college credential, certificate, or degree in high-

¹⁷ Jobs for the Future, "[Early College Design Overview & FAQ](#)"

¹⁸ The Aspen Institute. Economic Opportunities Program, "[Model of Success: Pathways in Technology Early College High School \(P-TECH\)](#)."

Early College High Schools (ECHS) have been highly successful in motivating and supporting high school students to conquer challenging coursework while saving time and money by compressing the number of years it takes to earn either a 2-year degree or credit towards the first two years of a 4-year degree program. Research has found that students graduating from ECHS across the country in 2010 on average had a graduation rate of 84% compared with their district's average graduation rate of 76%, and 77% of those students went on to enroll in some form of postsecondary education. 52% of ECHS graduates enrolled in a 4-year degree program.¹⁸

Through thoughtful, demand-driven, and focused collaboration, IBM, the New York City Department of Education, the City University of New York, and City Tech envisioned and created a robust and scalable partnership to improve high school STEM education and better prepare graduates for postsecondary opportunities. The first Pathways in Technology Early College High School – or P-TECH – opened in 2011 in Brooklyn, offering a system through which high school students receive integrated STEM instruction co-mingled with workplace readiness skills training supported with mentoring by IBM employees. The resulting grades 9-14 pathway enables students to graduate with both a high school diploma and an applied science associate's degree and move to the front of the line for an entry-level job opportunity with IBM. In 2012, the program was replicated in four schools in Chicago and gained support from new industry partners, including Cisco, Motorola, and Verizon. Since then, New York Governor Andrew Cuomo has designated \$28M to support statewide replication of the model through a public-private partnership with IBM and 65 other employers – large and small – with the goal of opening 16 new P-TECH sites in 2014, one in each of the state's economic development regions, and 10 more in 2015.¹⁹

Texas has also been a leader in accelerating student access to higher education through ECHS. There are 108 Early College High School campuses in Texas, representing a third of all such campuses in the U.S. and serving over 34,000 students statewide. Students in these schools earn higher scores on standardized tests and complete advanced coursework at more than double the rate of the state average. In 2014, the Texas Education Agency (TEA) joined with two other state agencies responsible for higher education (Texas Higher Education Coordinating Board) and workforce development (Texas Workforce Commission) in a tri-agency collaboration on an innovative dual credit/early college initiative, known as the Texas Career and Technical Early College High Schools, to provide high school students opportunities to graduate with both a high school diploma and a CTE/workforce credential. TEA and the other state agencies pooled \$3M in public funds and awarded grants to four Early College High Schools with a CTE focus. CTE-focused Early College High Schools let students graduate with a diploma and a workforce credential and are developed through local collaborations of colleges, school districts, and workforce boards to align regional workforce needs.

need, high-skill fields. To achieve this goal, states must take steps to ensure that credits earned through dual enrollment in high school transfer to a postsecondary institution. Ohio's Board of Regents, for example, has established credit transfer and articulation agreements so that postsecondary institutions across the state will honor credits from dual enrollment courses regardless of where students attended high school. Additionally, North Carolina's statewide Comprehensive Articulation Agreement requires that any North Carolina student who completes an associate's degree program at a public community college is admitted to a state university with "junior year" status.

6. Work with the employer community to dramatically expand work-based learning opportunities to expose students to career options and connect what they're learning in the classroom with the world of work.

Research has established that high school students who are exposed to real world work opportunities are more likely to graduate, persist in and complete postsecondary education,¹⁹ and secure higher-paying employment.²⁰ Yet very few of our young people ever experience meaningful work-based learning opportunities and career exposure while in high school.

States must partner with the employer community to establish authentic opportunities for students to participate in real world work settings that are aligned with priority industry sectors. Such opportunities may include job shadowing, internships, or apprenticeships. Each opportunity must be supported by consistent mentoring, including performance feedback, to support students as they are exposed to the workplace and develop important employability skills. Quality work-based learning experiences must allow students to explore various career options first-hand to determine their long-term interests. Clear connections must exist between what students are learning in high school classrooms and the skills needed to be successful in a work environment.

While a number of states have embarked upon creating policies to support work-based learning opportunities, few have successfully made them readily available to students at scale.

Massachusetts has pursued an initiative known as Connecting Activities that uses state funds specifically designated by the legislature to establish public-private partnerships through local workforce investment boards. These partnerships provide structured work-based learning experiences for students that facilitate their academic growth as well as their employability skill set. In FY13, Massachusetts employers invested nearly \$12 million in student internship wages for almost 10,000 students at over 3,500 work sites. Additionally, more than 1,600 employers sponsored career awareness events.²¹

In Wisconsin, the Youth Apprenticeship Program offers an elective course of study to high school students to become apprentices as part of a statewide school-to-career initiative sponsored by the State Department of Workforce Development. Local employers are given the option of underwriting program costs. This program lasts one to two years and students learn

¹⁹ Andrew Sum and Don Gillis, "[The Continued Crisis in Teen Employment in the U.S. and Massachusetts](#)", Center for Labor Market Studies, Northeastern University and the Massachusetts Workforce Association Board, (2012).

²⁰ Kazis, "[Remaking Career and Technical Education for the 21st Century: What Role for High School Programs?](#)". Double the Numbers: A Jobs for the Future Initiative, (April 2005).

²¹ Massachusetts Department of Elementary and Secondary Education, "[Connecting Activities](#)".

employability and occupational skills, which are assessed by company mentors and aligned with specific industries to prepare them for entry-level work after they graduate from high school.

Getting business to participate in work-based learning can be a real challenge. There are several strategies that states should use, such as liability relief and payroll tax incentives, to encourage the employer community to create and provide sustained and relevant work-based learning opportunities for students. Missouri, for example, offers a Youth Opportunity Tax Credit Program, which provides 50% tax credits to organizations to cover student wages through internships and apprenticeships. Arkansas provides incomes tax credits of up to \$2,000 per youth engaged in either an apprenticeship or work-based learning program.

7. Strengthen and expand career guidance and support services, beginning in middle school, and seek out non-traditional partners to help provide these supports.

Many students do not receive any support to help them think about and evaluate their career opportunities. These students need information and counseling that help them make connections between what they learn in school and a long-term professional path. States must facilitate improved career guidance that empowers students to take ownership for planning and managing their career choices. Counseling services must help every student develop an individualized learning plan that includes career objectives, a program of study, degree and/or certificate objectives, and specific strategies to reach employers. Middle grades must be transformed to serve as the starting point of career preparation by helping students explore in a structured, focused way what they like to do, what skills they have, and how they can connect their schoolwork with potential future career pursuits.

Georgia's new accountability system – the College and Career Ready Performance Index (CCRPI) – requires that grade-specific career activities begin as early as elementary school to acquaint students with various professional opportunities in 17 designated career clusters. In middle school, the career exploration focus is tightened to assess students' particular career interests and build those into individualized plans. Schools are required to administer two or more state-defined career-related assessments or inventories to students by the end of eighth grade, which are included in state reporting on the CCRPI. Other states are also requiring individualized student learning plans, some of which are described in the profile box on page 16.

Because schools often lack the counseling capacity and expertise to provide this level of sustained and personalized career guidance and exploration on their own – with counselors spread far too thin, often responsible for an exceptionally high caseload of students requiring support across a broad spectrum of needs – states and school systems must explore innovative solutions to providing this capacity. One strategy is to build partnerships with the business community and/or intermediary organizations that can be scaled across districts to effectively support diverse needs. Louisiana, for example has contracted with a non-profit organization called Career Compass to partner at scale with districts and provide high-quality career counseling to students.

In addition, career and technical student organizations (CTSOs) offer another high-quality option to support and focus students as they explore a range of meaningful career options. Spanning middle school through post-secondary education, CTSOs are an integral component of a well-developed career readiness system and act as a natural intermediary for career guidance and employer engagement. Aligned to major sectors of the economy,

Career Guidance Profiles

A number of states now require the development and use of individual learning plans to help students plan, monitor, and manage their path through high school graduation and into postsecondary training and the world of work.

Wisconsin, for example, requires that every student have an academic and career plan for 6th grade through high school that includes real market information. Legislators have tied student participation in part-time open enrollment to that academic and career plan; students cannot participate unless the course is aligned with their plan.

Legislation passed in **Colorado** in 2009 requires that all students in grades 9-12 create and manage Individual Career and Academic Plans (ICAPs). These dynamic plans must include career planning, guidance, tracking, and a portfolio to guide students' course selection and performance expectations in high school. In addition, ICAPs must: document students' career exploration activity and establish postsecondary goals; track students' academic progress to those goals; examine assessment scores; note student intentions for service learning; record student applications to college or workplace opportunities; note dual enrollment participation and results; and record progress towards obtaining scholarships, loans, grants, or work study awards.²²

Similarly, **Utah** law requires that high school students create and use a Student Education Occupation Plan (SEOP) as part of their career pathway efforts to guide their selection of high school courses and prepare for postsecondary options. Their SEOP plan must include goals, short-term and long-term plans, education and career goals, graduation requirements and progress.²³ Separately, the Utah Futures Program consolidates all workforce preparation resources into a single site to grant students one-stop access to their academic record, postsecondary information, financial aid records, and job applications. It provides assessments and evaluation tools, assistance with job searches and resume building, search tools for colleges and scholarship opportunities, and information on Utah employers.

CTSOs provide opportunities for students to engage in learning that meets employer needs, build leadership skills, and demonstrate competency through hands on, real-work challenges.

For example, SkillsUSA, a national CTSO, actively engages employers through formal processes where employers create qualifications or standards for what students should know and be able to do in their particular field. SkillsUSA has systematized the way employers judge the work of students at regional, state, national, and international competitive events.

8. Use state funding and program approval processes to scale up the pathways in greatest demand and scale down or phase out programs that do not lead to credentials of value.

States need to use all policy levers at their disposal—state funding mechanisms, program approval processes, and even the bully pulpit—to invest in and increase the number and quality of career pathways available to students. States must take advantage of their traditional funding streams, including dollars from the Carl D. Perkins Career and Technical Education Act and the Workforce Innovation and Opportunity Act, to support the development and implementation of “in-demand” pathways and programs. They should also consider using competitive funds to support and scale these pathways. The process must start by engaging employers in a meaningful way and looking carefully at the labor market in states and regions. Career pathways that lead to in-demand, well-paying jobs should be scaled up; pathways that don't meet this criterion should be phased out or reconfigured to be more relevant.

²² Colorado's Individual Career and Academic Plan [Policy Brief](#)

²³ Utah State Office of Education, “[Comprehensive Counseling and Guidance Program](#).”

California’s legislature set aside \$500M in a competitive grant fund known as the “Career Pathways Trust Fund” to scale career pathways that focus on the state’s high-need, high-growth job sectors. The funding opportunity represents a major push to develop more robust approaches to work-based learning and encourage a higher degree of regional system building and collaboration around employer engagement.

New York has instituted a process by which career-technical education programs must demonstrate high quality in order to be re-approved. Teams comprised of district leaders and other education experts perform comprehensive site visits to assess program quality, looking for evidence of rigorous technical curriculum integrated with strong academics; faculty who are certified in their fields; the incorporation of technical assessments that meet industry expectations; and extensive student access to work-based learning opportunities.²⁴ In Maryland, schools are required by the State Department of Education to assess and regularly identify and create improvement plans for the weakest 20 percent of their CTE programs.²⁵ Only strong programs that are tightly aligned with skills demanded by high-need, high-wage fields will be re-approved.

9. Build the capacity of educators to more effectively engage students in high quality, career-relevant instruction through deeper engagement with business and industry.

States must recruit industry professionals with in-demand knowledge and skills to career and technical teaching positions in secondary schools. This will require removing policy barriers and streamlining certification procedures so that practitioners with sought after industry experience are not discouraged from secondary teaching opportunities. It will also require innovative solutions such as public-private partnerships to combat the wage disparity these industry practitioners often face. It is important that states and districts create programs to onboard and support these practitioners to help them successfully transition from their respective industries into the classroom.

For example, the Southern Regional Education Board (SREB) and the National Research Center for Career and Technical Education (NRCCTE) partnered to create, field-test, and validate a fast-track teacher induction program for alternatively certified teachers called Teaching to Lead that builds the capacity of career and technical teachers. The program encourages the use of strategies like project-based learning, work-based learning, and cooperative learning. After Mississippi adopted the model, the teacher attrition rate dropped from nearly 30 percent of all new teachers in 2008 to zero teachers in 2012.²⁶

States must also provide opportunities for existing teachers to improve their skills and stay up to date with the changing needs of the labor market and the workplace. One way to accomplish this is by providing professional development opportunities as well as incentives for teachers to earn credentials in high-growth, high-demand sectors. In addition, states may incorporate industry credentials into certification requirements. Virginia, for example, recently passed legislation that requires all teachers seeking initial state certification with a career and technical endorsement to also hold an industry certification credential in the endorsement area.

²⁴ Kazis, “[Remaking Career and Technical Education for the 21st Century: What Role for High School Programs?](#)”. Double the Numbers: A Jobs for the Future Initiative, (April 2015).

²⁵ Ibid

²⁶ Massey, J. “Mississippi’s Lessons from Two Models to Improve Effectiveness and Attrition in New Alternate Route Educators”. Presentation made to the Southern Regional Education Board’s Commission on Career and Technical Education, Frankfort, KY. (December, 2013)

It is not only career and technical teachers who need additional support; all secondary teachers need greater exposure to the workplace to build real-world applications into instruction and make the classroom experience more relevant and engaging for students. States must build the capacity of academic and technical teachers alike to integrate theory and practice; design and deliver standards-based, multidisciplinary projects; collaborate in team-teaching and make effective use of work-based learning; and make performance assessment a bigger part of student evaluation.

One strategy for building educator capacity is through externships that allow secondary career-technical and academic teachers to spend extended time in a workplace. The Georgia Institute of Technology (Georgia Tech) offers industry fellowships for secondary STEM teachers through its Center for Education Integrating Science, Math, and Computing (CEISMC). Since 1991, CEISMC – the K-12 education outreach arm of Georgia Tech that leverages the institution’s resources to improve STEM education – has provided paid summer internships or laboratory experiences in STEM fields to middle and high school teachers throughout Georgia.

RECOMMENDATION #3: Make career readiness matter to schools and students by prioritizing it in accountability systems

As states build more rigorous, relevant career pathway programs into secondary schools, they must create incentives for schools to provide these opportunities and for students to pursue them. In some school systems, the current reputation of career preparation programs is weak, still suffering the residual effects of years of lower expectations. As states and districts improve the quality of these programs and their alignment to the labor market, they will need to give them higher standing in their accountability systems so that both schools and students prioritize them.

State Action Steps:

10. Make career readiness a higher priority in school rating and accountability systems.

Career readiness is under-measured and undervalued in most current state accountability systems. The result: high schools in most states are not incentivized to make career readiness a priority. According to a recent report by Achieve and the National Association of State Directors of CTE Consortium (NASDCTEc), just over half of states publicly report any career-focused readiness measures in their school report cards and only a handful actually make these indicators count in their school improvement metrics.²⁷

Given the critical role that accountability systems play in signaling priorities and driving funding and resources, states must find ways to expand these metrics to emphasize readiness for both college and careers. One of the most obvious ways is for states to set strong performance goals for all students that value career-focused courses, experiences, and credentials, and then back up those goals with specific indicators that are reported to the public and used in school and district

²⁷ Achieve and the National Association of State Directors of CTE Consortium, “[Making Career Readiness Count](#)”, (May, 2014).

accountability systems. Some of the most effective career-focused indicators include the number and percent of students who:

- Enroll in and complete state-approved career pathways.
- Earn industry recognized credentials in high-demand, high-skill job sectors.
- Earn college credit through dual enrollment opportunities.
- Earn an employability or work readiness certificate.
- Successfully complete competency-based opportunities, such as work-based learning and capstone projects in high school.
- Enroll in college or find gainful employment in a high-skill, high-demand work sector within 18 months after high school graduation.

It is important for states to not only include these indicators in their reporting systems but also to give them weight in accountability formulas where appropriate. For example, Kentucky and Georgia both provide points for high schools that increase the number of students who complete rigorous career preparation programs. Idaho's five-star rating system includes the percent of all juniors and seniors who complete an "advanced opportunity course", including Advanced Placement, International Baccalaureate, dual credit, or tech prep in its formal accountability measure. Schools are able to earn additional points for increasing the percentage of students who earn a grade of "C" or better in such courses.

11. Adapt graduation requirements and scholarship criteria to give students credit for meeting rigorous career readiness indicators.

There are few incentives more powerful to high school students than telling them something will count toward graduation. Conversely, when courses or other demonstrations of knowledge don't count, it signals that those things aren't valued. States need to re-examine their high school graduation requirements and consider whether there are opportunities to allow career-focused courses and experiences to count for credit.

There are a number of different approaches to valuing career readiness in diploma requirements. States may allow rigorous CTE or dual enrollment courses offered in high-demand pathways to count toward course requirements. Or they may create diploma endorsements that award credit and provide extra recognition for fulfilling the requirements of high-demand career pathways, including earning credentials of value. States may also recognize work-based learning, capstone projects, or other competency-based approaches to demonstrating student knowledge.

As changes are made to these requirements, it is important to ensure that the academic expectations are not lowered in the process. Adding career readiness elements should be *in addition to, not in lieu of*, meeting rigorous college and career-ready expectations.

Indiana offers a CTE endorsement on its college and career-ready diploma, which requires students to complete rigorous academic courses, eight or more semesters of CTE, and two additional indicators of readiness, including a minimum score on WorkKeys; dual credit in a technical area; a professional career internship course or cooperative education course; a

State Accountability Systems That Value Career Readiness

Virginia's state report card includes CTE, dual enrollment, and AP indicators. It reports the number of credentials earned by passing occupational competency assessments, state licensures, industry certifications, workplace readiness, CTE completers, AP tests taken, and dual enrollment courses taken.

In addition, Virginia has developed its own Work Readiness certificate that measures students' abilities with respect to work ethic, conflict resolution, and customer service. It disaggregates results on this measure as well as the number of students earning state licensures, industry certifications, and passing competency assessments. Virginia also reports attainment levels of their Advanced Studies diploma, which requires students to complete a college prep course of study. Students pursuing the Standard diploma are required to earn an industry credential that has been approved by the Virginia Board of Education.

Kentucky includes both college-ready and career-ready indicators in its accountability system, the latter of which is broken down into career-ready-academic and career-ready-technical indicators. The academic indicators measure benchmark rates on WorkKeys or the Armed Services Vocational Aptitude Battery. The technical indicators consider industry-recognized credential attainment or meeting benchmarks on the state's technical skills assessment. Schools are able to earn a point for students meeting either the college-ready or career-ready benchmark in their accountability score - and 1.5 points for students meeting both benchmarks - signifying that high-quality CTE is valued as much as high-quality academics, and that the two worlds must be brought together.

Georgia's CCRPI awards schools points based on the percentage of their students who earn postsecondary credit through dual enrollment, Early College, AP or IB. It also reports the percentage of students who complete a CTE pathway and earn an industry credential or an IB career-related credential. Bonus points are awarded based on the percentage of students who complete a work-based learning program, a capstone project, or who enroll in a college and career academy.

Ohio's new local report card system reports on a range of assessments at the school level, including the percentage of students who: take a college admission test and score above the remediation cut score; earn at least three dual enrollment credits; earn an industry credential, or earn an honors diploma. It also reports the participation rate of AP and IB courses as well as the percentage who score a 3 or above on AP exams and 4 or above on IB exams.

work-based learning experience; or a state-approved, industry-recognized certificate.²⁸

Virginia requires that all students earn a state board-approved CTE credential such as industry certification; a state licensure exam; a national occupational competency assessment; or the Virginia workplace readiness skills assessment in order to graduate from high school with a standard diploma.²⁹

And beginning in the 2014-2015 school year, North Carolina students will have the opportunity to earn a career endorsement on their diploma. To do this, students must complete a concentration of CTE courses in an approved industry cluster area, maintain a grade point average of 2.6 or higher, and earn one or more approved industry credentials.³⁰

Scholarships are another important lever to align state incentives. The criteria for earning college scholarships can be adapted to recognize and incentivize student enrollment in and completion of career pathways in high-demand fields. This signals the value of these pathways and reinforces the message that they extend beyond high school into postsecondary education and training.

Last year, Louisiana aligned its college-prep curriculum with its state merit scholarship program requirements. This year, Louisiana plans to align its technical core curriculum with its state scholarship program for technical colleges. This will eliminate confusion for parents and counselors and will offer a common set of courses to qualify students for a diploma and a state scholarship.

²⁸ Achieve and the National Association of State Directors of CTE Consortium, "[Making Career Readiness Count](#)", (May, 2014).

²⁹ Virginia Department of Education, "[Standard Diploma: Minimum Course & Credit Requirements](#)."

³⁰ North Carolina State Board of Education, "[North Carolina High School Diploma Endorsements](#)", Policy Manual (March 6, 2014).

CONCLUSION

Preparing students for their futures is our most important job as educators. States that adopt the strategies outlined in this report will transform the educational experience for all students and provide them with meaningful college and career options after high school.

Educators can't do this work alone. Effectively preparing students to grow and thrive in today's economy requires a collective effort of K-12, postsecondary, and business leaders. We must work together in unprecedented ways and challenge our old assumptions about where one's responsibility begins and the other's ends.

We must now make a collective commitment to supporting all of our young people and providing them with multiple pathways to fulfilling careers.



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