



## Pathways to Prosperity Network

AN INITIATIVE OF JOBS FOR THE FUTURE  
AND THE HARVARD GRADUATE SCHOOL  
OF EDUCATION

# STATE STRATEGIES FOR SUSTAINING AND SCALING GRADES 9-14 CAREER PATHWAYS

TOWARD A POLICY SET FOR  
PATHWAYS TO PROSPERITY

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**The Pathways to Prosperity Network**, a collaboration of states, Jobs for the Future, and the Pathways to Prosperity Project at Harvard Graduate School of Education, seeks to ensure that many more youth complete high school and attain a postsecondary credential with currency in the labor market. Each participating state is engaging educators and employers in building a system of grades 9-14 career pathways, combining high school and community college, that launches young people into an initial career, while leaving open the prospect of further education.

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# TABLE OF CONTENTS

<b>INTRODUCTION</b>	<b>1</b>
The Pathways to Prosperity framework	2
Overview of brief	3
<b>SUPPORTIVE STATE POLICIES</b>	<b>4</b>
Organizing a cross-agency leadership team	4
Jumpstarting regional initiatives	5
<b>9-14 CAREER PATHWAYS</b>	<b>8</b>
Building pathways to careers	8
Supportive dual enrollment policies	8
Supportive career and technical education policies	10
The Tennessee Promise	11
<b>CAREER INFORMATION AND ADVISING SYSTEMS</b>	<b>12</b>
School counseling and career advising	12
Student learning plans	13
<b>WORK-BASED LEARNING AND EMPLOYER ENGAGEMENT</b>	<b>14</b>
Employer-targeted policies to incentivize work-based learning	15
Education-targeted policies to incentivize work-based learning	16
<b>INTERMEDIARIES</b>	<b>18</b>
Organizational structures for convening stakeholders	19
Organizational structures for aggregating and distributing work-based learning opportunities	19
<b>CONCLUSION</b>	<b>22</b>
<b>ENDNOTES</b>	<b>23</b>



# INTRODUCTION

## The Pathways to Prosperity framework • Overview of brief

The goal of the Pathways to Prosperity Network is to build systems of grades 9-14 career pathways that launch young people into family-supporting careers in high-growth fields. State leadership, state policies, and funding streams play a critical role in bringing together the diverse coalitions of stakeholders needed to succeed in this work. These policies can enable collaboration across divides among secondary and postsecondary education, education and workforce development, and employer needs and requirements. Effective policies bridge these divides by facilitating cross-agency partnerships, establishing common goals and collaborative approaches, and ensuring a flow of flexible and dependable funding for school-to-career pathways.

State and regional stakeholders from across education, business, and government lead the work in each Pathways to Prosperity state, with the long-term goal of creating statewide systems of grades 9-14 career pathways that can serve all students. Across these states, key sectors of the economy identified for building career pathways include STEM fields such as information technology, health care, and advanced manufacturing.

This brief, which draws on the first two years of the Pathways to Prosperity work, is a first step toward developing a policy set that can be used across multiple states to put career pathways in place. Here, we take a preliminary look at what states in the network and some others are doing to determine what states *can and should* do to build momentum for the implementation of pathways systems. No single state in the Pathways to

Prosperity Network has comprehensive policies regarding pathways today, but each brings to the table policy sets that make possible critical aspects of the Pathways to Prosperity design and that should be helpful to peer states. This brief organizes and compiles examples for each key implementation lever in the Pathways to Prosperity framework. It goes without saying that good policies do not ensure local capacity or quality of implementation, but they are a necessary condition.

The brief has three main purposes:

1. To begin an assessment of policy elements and strategies that are required for putting grades 9-14 pathways systems in place
2. To highlight a selection of state efforts that can serve as models to support elements of the Pathways to Prosperity design and rollout
3. To describe policies that are not currently in place but would be desirable to facilitate the involvement of intermediaries, employers, and industry groups

## THE PATHWAYS TO PROSPERITY FRAMEWORK

The Pathways to Prosperity framework identifies a series of five levers, each of which has policy implications that are essential to the implementation of a system through this initiative.

### THE PATHWAYS TO PROSPERITY NETWORK

A collaboration of member states, Jobs for the Future, and the Harvard Graduate School of Education that seeks to ensure that many more youth complete high school, attain a postsecondary credential with currency in the labor market, and get launched on a career while leaving open the prospect of further education.

Committed state leadership and a favorable state policy environment play critical roles in the development of grades 9-14 pathways by providing a foundation for the development of the other four levers. Through their actions on the policy front, state leaders set out their visions for pathways development efforts. Work that is taking place in the Pathways to Prosperity Network provides examples of how effective state leadership can play this role.

## OVERVIEW OF BRIEF

This brief begins with a discussion of the composition of state leadership teams and organizing structures for supporting a Pathways to Prosperity Network initiative, and then describes effective strategies currently at play in the network states for jumpstarting work in the regions. It goes on to review state policies that support 9-14 collaborations, including dual enrollment, career and technical education policy, and funding. The 9-14 career pathways policy lever is well developed as a result of extensive work by several organizations, including Jobs for the Future, which has a decade of experience in high school-to-postsecondary transitions that incorporate dual enrollment. JFF has also developed a specific 9-14 policy set to support Early College Designs. The organization has led the Early College High School Initiative nationally since 2002.<sup>1</sup>

Levers for Implementation	What the Work Looks Like
<b>Supportive state policies</b>	State dual enrollment policies provide a wide range of students with access to college-level work in high school. Districts and community colleges have financial incentives and sustainable funding to provide 9-14 programs of study in career and technical education and leading to diplomas, certificates, or Associate's degrees. Accountability systems weight dual enrollment courses and Advanced Placement and International Baccalaureate courses similarly. The state provides incentives for employers and unions to provide work experience opportunities.
<b>9-14 career pathways</b>	High schools and community and technical colleges create 9-14 career pathways, with clear structures, timelines, costs, and requirements, that link and integrate high school and postsecondary curricula and align both with labor market requirements.
<b>Career information and advising systems</b>	Starting in the middle grades, students are exposed to a wide range of career options, information, and opportunities to learn about high school and postsecondary courses of study leading to careers. Students engage in a 9-14 continuum of work-based learning opportunities in their chosen career areas. Intermediaries, employers, industry groups, and community-based organizations help young people make informed choices throughout each 9-14 pathway.
<b>Work-based learning and employer engagement</b>	Employers commit to providing a continuum of learning opportunities at the workplace throughout the 9-14 pathways, and provide guidance and input into the pathways curricula and programs of study. Employers collaborate with educators and receive support from intermediaries in structuring and managing workplace learning. Employers support students' transitions into the regional labor market.
<b>Intermediaries</b>	Local or regional intermediaries serve as conveners, brokers, and technical assistance providers to schools and employers engaged in building and sustaining pathways. Intermediaries recruit business, nonprofit, and public employers and ensure that participating leaders understand and support the regional vision for a pathways system.

The paper then becomes more speculative. In the sections on career advising, employer engagement, and intermediaries, the paper lists and briefly describes policies that could be deployed in the service of 9-14 career pathways development, but are not currently widespread or designed specifically to support 9-14 career pathways. These sections are shorter, and while they do include some examples, they also point in new directions that might be explored and raise questions about where state-level policies are needed and where regional and local decision making are more effective.

# SUPPORTIVE STATE POLICIES

## Organizing a cross-agency leadership team • Jumpstarting regional initiatives

### ORGANIZING A CROSS-AGENCY LEADERSHIP TEAM

**B**uilding a statewide system of high-quality career pathways for all high school students begins at the state level with a vision for, and commitment to, a multifaceted and long-term state investment, and with assembling a state-level team to do the work. Because the Pathways to Prosperity framework entails an end goal of better preparing the next generation of employees to fuel state economies as well as raising high school and postsecondary completion rates, educators alone cannot successfully lead the team. Whether the Pathways to Prosperity initiative is introduced by the governor, a state agency, a legislative committee, or concerned business leaders, a cross-agency and cross-sector leadership team is needed to guide the work. In general, the design, planning, and decision-making team includes state agencies responsible for economic development, commerce, workforce and labor, and K-12 and higher education, along with nonprofit and industry sector leaders.

Effective state Pathways to Prosperity teams are housed in a single agency or organization where the agency head plays the champion role and holds all members accountable for carrying out mutually agreed-upon responsibilities. There are substantial advantages to having a lead organization from outside the K-12 education sector. This structure can increase the impact of the work by making it more likely that states will build backward from business priorities or regional economic development plans rather than forward from the interests and needs of the K-12 education system alone.

Examples of cross-agency state leadership teams include:

> In **California**, Pathways to Prosperity is a partnership among the legislature, the California Department of Education, and the James Irvine Foundation. For

over a decade, the Irvine Foundation has supported [Linked Learning](#), a career pathways approach to high school reform in California now implemented deeply in nine districts and in the process of implementation in multiple additional sites across the state. The California Senate's president *pro tempore* sponsored legislation and appropriations for career pathways development and the grants are managed by the California Department of Education in partnership with the Chancellor's Office of the California Community Colleges system.

- > In **Illinois**, the Department of Commerce and Economic Opportunity leads the [Illinois Pathways](#) initiative in partnership with five other state agencies. The six state agencies (Department of Commerce and Economic Opportunity, Illinois Department of Employment Security, Illinois State Board of Education, Illinois Community College Board, Illinois Board of Higher Education, and Illinois Student Assistance Commission) formed the Illinois Pathways Interagency Committee through a 2011 intergovernmental agreement that details their respective and collective commitments to the work. In addition, state agency leadership for Illinois Pathways and regional career pathway system development has been extensively supported by the Illinois Business Roundtable, Advance Illinois (a statewide public education organization), and the Education Systems Center at Northern Illinois University.
- > In **Massachusetts**, [Pathways to Prosperity](#) was launched by the secretary of education with the secretaries of labor and workforce development, and housing and economic development. A director of education and workforce development coordinates across all three secretariats in the governor's cabinet. As a first-year strategy, this launch pad made sense since the agency heads could champion the work



and deep implementation capacity was not yet needed. In the project's second year, Massachusetts shifted Pathways to Prosperity to the Department of Elementary and Secondary Education's Office of College and Career Readiness, a unit that works collaboratively with the Department of Higher Education. The Department of Elementary and Secondary Education has hired a full-time Pathways to Prosperity staff person to provide technical assistance and to embed the work within the College and Career Readiness unit. A new governor will be elected this fall, but the initiative is assured continuity because it is housed in the two agencies rather than in the secretariat.

- > **New York** State is replicating the IBM/New York City Department of Education/City University of New York P-TECH model ([Pathways in Technology Early College High School](#)) in 26 sites across the state. An example of a specific pathways design, NYS P-TECH is guided by a Leadership Council that includes the Executive Chamber, the commissioner of the State Education Department, the chancellor of the State University of New York, the president of the Business Council of New York State, and the IBM Foundation. Business has a prominent role, and the Leadership Council, serving as an intermediary, functions as an inside/outside organization bringing governmental and private sector voices to reviewing the regulatory and operating environment to support new pathways with a focus on educational opportunity and local economic development.
- > In **Tennessee**, the Department of Education leads the [Pathways to Prosperity](#) work and staffs and convenes a Pathways State Planning Team comprising leadership from the Department of Labor and Workforce Development, the Tennessee Higher Education Commission, the Tennessee Business Roundtable, the Governor's Office, the Tennessee State Board of Education, the Department of Economic and Community Development, the Tennessee Council on Career and Technical Education, and the State Collaborative on Reforming Education. Each member is integrating the Pathways to Prosperity work into organizational goals and communications, including but not limited to: advocacy, funding, convenings, data sharing, and additional technical assistance needed to develop sustainable regional pathways statewide.

## JUMPSTARTING REGIONAL INITIATIVES

Ultimately, state leaders and regional implementers will have to use existing financial streams to sustain Pathways to Prosperity, and some states are moving ahead with repurposed existing funds. In other participating states, leaders made funds available competitively to support the initial design and rollout of Pathways to Prosperity outside of the usual funding streams. Such quick investments of new funds serve to attract attention statewide, launch regional activity, and provide critical information about the challenges and advantages of the designs to be implemented. Most importantly, these special appropriations can require and fund designs that incorporate all of the Pathways to Prosperity levers (supportive state policies, grades 9-14 pathways, career advising, employer engagement, and intermediaries), alleviating the challenge of assembling design and startup funds from multiple and often incompatible sources, catalyzing a coherent and cross-sectoral approach to pathways.

Startup funds for the Pathways to Prosperity work have been appropriated through the budget process in California, Missouri, New York, and Ohio. In other states, funding has come through Race to the Top, Youth CareerConnect, and Perkins reserve money.<sup>2</sup>

## CALIFORNIA CAREER PATHWAYS TRUST

[Read more](#) about this state's initiative.

In Fiscal Year 2014, the California Assembly and Senate, under the leadership of Senate President *pro tempore* Darrell Steinberg, appropriated \$250 million in competitive grant funds to regions seeking to create and expand career pathways that build stronger connections between businesses, California schools, and community colleges. Designed by the California Department of Education, the request for applications invited local education agencies (LEAs) and community colleges to apply for funding at three levels: \$15 million for regional consortia, \$6 million for local or regional consortia, and \$600,000 for local consortia. The department invited JFF to organize and lead regional meetings to provide applicants with a vision and framework for their proposals. (A second round of competitive grants totaling an additional \$250 million will go out in 2015.)

The key competitive criteria of the program are below. The U.S. Department of Labor's [Youth CareerConnect](#) and New York State's P-TECH replication initiatives required applicants to meet similar criteria.

- > Evidence of the use of labor market data showing how applicants will build integrated academic and career-focused pathways toward postsecondary credentials in high-growth, high-wage careers
- > Documented financial and in-kind commitments of regional Workforce Investment Boards, LEAs, colleges, businesses, and community-based partners to help develop the pathways and support students
- > Incorporation of dual enrollment and other acceleration mechanisms and defined work-based learning opportunities
- > Support for coordinating functions to organize education and industry partners in career pathways through internships and other work-based learning activities
- > Plans for sustainability beyond the grant period

## MISSOURI INNOVATION CAMPUSES

[Read more](#) about this state's initiative.

Shortly after joining the Pathways to Prosperity Network, Missouri state leaders took important steps to support regional efforts. Governor Jay Nixon recognized the need to build exemplars of 9-14 career pathways that could be emulated statewide. In 2012, he established a competitive grant program to support Innovation Campuses created through partnerships among local governments, regional economic development organizations, LEAs, businesses, and public two- and four-year institutions of higher education.

In February 2013, high schools in three St. Louis-area school districts participating in the Pathways to Prosperity Network (St. Louis Public Schools, Pattonville School District, and Ferguson-Florissant School District) were awarded \$1.3 million in Community Development Block Grant "Innovation Campus" funds to establish Innovation High Schools, which, through partnerships with St. Louis Community College and local businesses, allow participating students to earn college credit and gain hands-on experience in high-demand fields, such as advanced manufacturing, skilled trades, health sciences, and information technology. In addition to launching the Innovation High Schools, St. Louis

Public Schools has developed four dual enrollment courses in technical areas that currently serve 250 students; Ferguson-Florissant has launched an advanced manufacturing pathway; and Pattonville is launching programs in health care, IT, and manufacturing.

## NEW YORK STATE'S P-TECH INITIATIVE

[Read more](#) about this state's initiative.

In 2013, in partnership with IBM, New York Governor Andrew M. Cuomo announced a statewide competition to form public-private partnerships in a range of industries and communities. The first cohort of 16 schools will prepare more than 6,000 New York high school students for high-skilled jobs in technology, manufacturing, and health care. Students earn an Associate's degree at no cost to their families and will be first in line for jobs with participating companies when they graduate. NYS P-TECH will launch 16 new schools, and planning for a second round of up to 10 new partnerships will begin in fall 2014 for a total of \$56 million in state grants over 8 years to support the spread of the P-TECH model across the state.

## OHIO STRAIGHT A FUND

[Read more](#) about this state's initiative.

The Columbus/Central Ohio region, through its work with the Pathways to Prosperity Network, was fortuitously positioned for a major state-level funding opportunity. Its pathways plans are also consistent with efforts established by the Central Ohio Compact, a collaboration of LEAs, colleges and universities, the region's education service center, and business and civic leaders determined to raise the number of adults in the region with postsecondary certificates or degrees. The Ohio Department of Education's Straight A Fund allowed Columbus to accelerate implementation of these emerging plans for rigorous and innovative career pathways. Established in 2013-14, the \$250 million fund was designed to encourage a wide range of proposals for improving educational achievement and reducing education spending through the provision of \$15 million competitive grants to LEAs and consortia of LEAs.

Although the fund did not specifically prioritize elements of 9-14 pathways, the short proposal submission timeline and requirement that all grant funds be expended quickly favored applicants like Columbus that had

a head start on planning, a framework for forming partnerships focused on clear goals and roles, and a strong rationale for achieving efficiencies in education spending. In this case, a region's coherent focus on building systemic 9-14 pathways paid dividends under a broad funding opportunity with a tight timetable.

## TENNESSEE USE OF PERKINS RESERVE

The [Carl D. Perkins Career and Technical Education Act of 2006](#) (Perkins IV) gives recipients the opportunity to create a reserve fund of up to 10 percent of the

state's Perkins funds to be used for new and innovative programs. The reserve fund was introduced in [Perkins III](#); Perkins IV gives states more flexibility in the use of the funds and is likely to remain in the pending federal reauthorization of the act. Tennessee has used the 10 percent reserve fund for secondary-to-postsecondary transitions and to jumpstart the Pathways to Prosperity work in pilot regions. The funds are supporting Pathways to Prosperity design teams in all of the core school districts in the Southeast region, as well as academic career coaches in Upper Cumberland high schools and the regional intermediary, the Highlands of Tennessee. In the next fiscal year, all regional intermediaries will be funded again using Perkins reserve funds.

# 9-14 CAREER PATHWAYS

Building pathways to careers • Supportive dual enrollment policies  
Supportive career and technical education policies • The Tennessee Promise

## BUILDING PATHWAYS TO CAREERS

Policies that enable states and regions to build and scale up career pathways that span grades 9-14 are the best developed of the Pathways to Prosperity levers. Drawing on more than a decade of experience with early college high schools, JFF has refined a policy set and supported implementation in a number of states. In addition, states with expanded dual enrollment opportunities have seen that, if open to a wide range of students, such programs can increase student motivation to complete high school and save education dollars for both families and the state. Nonetheless, more work is needed to better connect and align high schools with community and technical colleges and industry certification programs in sectors of the economy that are projected to grow rapidly in the coming years. (The Pathways to Prosperity states are generally concentrating on information technology, health care, and advanced manufacturing.) In addition, MOUs are required to ensure that there are spaces and supports for younger students at technical and community colleges. In times of financial downturn, high-demand programs of study have waiting lists, and career-changing adults with work experience and Bachelor's degrees often fill the available places, shutting out younger applicants.

In order to create coherent and accelerated course sequences, instruction, and work-based learning (WBL) experiences across grades 9-14, policies must enable the movement of students, credits, and funding across the secondary and postsecondary education systems. Policies should also facilitate articulation in academic and technical standards within and between the two systems, and the provision of such support should be ongoing and dependable. The mainstream strategies that policymakers can use toward these ends are dual enrollment and career and technical education

policies. Attributes of dual enrollment and CTE policies that enable 9-14 pathways are described below.

## SUPPORTIVE DUAL ENROLLMENT POLICIES

Key attributes of supportive dual enrollment policies include:

- > Financing that ensures that there are no tuition costs for students. Secondary and postsecondary partners should be held harmless (e.g., per-pupil enrollment funding maintained for both) or be provided incentives for serving dual enrollees.
- > Encouragement for high schools and colleges to offer college courses that are counted for high school graduation requirements as well as postsecondary requirements for technical programs of study and general education.
- > Student advancement into college-level work based on preparation for the specific course content as defined by colleges, rather than overall GPA or test scores.

All Pathways to Prosperity states, except Massachusetts and New York, currently have dual enrollment legislation that can support 9-14 pathways.<sup>3</sup> (JFF has developed a [database](#) with information on dual enrollment policies by state.<sup>4</sup>) In most cases, the legislation spells out the conditions for access, any limits on the number and selection of courses, quality standards, and how dual enrollment is counted in the state's accountability system, if at all. While each state has some limitations in its statutes that may require waivers or revisions to support widespread and systematic 9-14 career pathways, the principles supporting acceleration are similar, and dual enrollment has become increasingly accepted over the last five

years as a strategy educators should employ to provide a wide range of students with a head start on college.

Innovations in dual enrollment include the following:

## OHIO

[College Credit Plus](#), a [bill](#) initiated by the chancellor of the Ohio Board of Regents, consolidates and reframes fragmented and underutilized approaches to dual credit into a single policy that requires all school districts and public higher education institutions to make opportunities available at no cost to students.<sup>5</sup> Each high school must offer two pathways—one of 15 and the other of 30 transcribed credits. College Credit Plus also sets a floor and ceiling for the costs higher education institutions can charge school districts for dual enrollment, an interesting model for states that have disparate per-credit or per-course charges and disincentives for educational institutions to participate. The per-credit-hour ceiling is calculated from a base equal to 83 percent of the per-pupil formula amount in the foundation funding to school districts. This allows a school district to retain a portion of state funding to provide services to the student. The maximum tuition rate (ceiling) for public institutions of higher education is set equal to the base divided by the 30 credit hours a full-time student would be expected to earn during one academic year. The minimum (floor) is set to 25 percent of the ceiling. Other provisions address academic quality, transcribing, and program of study requirements.

## TENNESSEE

Tennessee is scaling [SAILS](#) (Seamless Alignment and Integrated Learning Support), a promising dual enrollment math initiative that prepares students for college-level math courses by introducing the college developmental math curriculum to students in their senior year of high school, thereby reducing student remediation needs at the postsecondary level. The program embeds the [Tennessee Board of Regents Learning Support Math](#) program in the high school Bridge Math course, which is required during the senior year of high school for students who took the ACT in their junior year and scored less than a 19 in math.

The Governor's Office has provided over \$1 million in funding to support the development of SAILS statewide. In its first year, SAILS Math Tennessee was implemented by all 13 institutions in the Tennessee Community College System, which partnered with 118 high schools serving

8,400 students. In the first half of year 1, more than one-third of students—2,252 of 6,003 participants—completed the entire program in the fall; an additional 2,400 students planned to start the program in the spring. From August through December of 2013, students saved 6,350 semesters of learning support (remedial math) and \$3.5 million in tuition and books. In year 2, the SAILS program expects to serve 12,000 students in 150 high schools across the state, with the ultimate goal of impacting 30,000 students each year.<sup>6</sup>

## BEYOND THE PATHWAYS TO PROSPERITY STATES

North Carolina's [Career and College Promise](#) program ensures that college credits earned in high school will count toward a credential program. The primary goal of Career and College Promise is to accelerate students' completion of college credentials, certificates, and two- and four-year degrees. The state restructured its dual enrollment programs in 2012 by creating defined pathways for students. Eligible high school juniors and seniors pay no tuition for college courses in a specific pathway: a general education transfer pathway, a technical career pathway, or enrollment in an early college high school. Eligibility rules differ by pathway and take multiple indicators of readiness into account.

## SUPPORTIVE CAREER AND TECHNICAL EDUCATION POLICIES

Career and technical education policies should support efforts to:

- > Integrate technical instruction and curricula with the required foundation of college-ready courses, enabling students to meet all college preparatory-level high school graduation requirements, including college-prep math and science
- > Provide endorsements and honors options for going beyond the core, making CTE attainment equal to earning AP or IB credit
- > Form articulation agreements that ensure a connected, non-duplicative sequence of courses from high school through technical and community college



- > Design programs of study with employer input and use real-time labor market information and other data sources to ensure job projections are considered in curriculum design and applied learning experiences

Examples of states that have moved in these directions include:

## GEORGIA

The foundation of much of the current career preparation work in the state is the [College and Career Clusters/ Pathways Legislation](#) (House Bill 186) that was signed into law in 2011. The legislation has led to the development of CTE courses for high school students, who are required to select a career area to explore. A total of 17 career clusters and 97 career pathways have been approved. In fall 2013, an initial 28 foundation courses were implemented in Georgia high schools, while an additional 157 courses were developed between May 2013 and February 2014. All courses will be available to school districts in the state for implementation in fall 2014. This career pathways work is also integrated into the accountability system for Georgia schools in grades K-12, in their nationally lauded [College and Career Readiness Performance Index](#).

This career pathways legislation works in tandem with House Bill 713, which mandates career exploration and awareness activities in grades K-12. The [Work-Based Learning Act](#) (House Bill 766), which took effect on July 1, 2014, expands the range of industries in which high school students in Georgia can participate in WBL. The bill calls for the creation of WBL opportunities that are linked to students' career pathways and that allow students to earn dual credit toward their high school diplomas through the Technical College System of Georgia. Georgia has also incorporated into all pathways 11 [Foundation Skills](#) intended to "provide learners a broad foundation for managing lifelong learning and career transitions in a rapidly changing economy."<sup>7</sup>

## TENNESSEE

The state is completing Phase II of its CTE [Standards Revisions](#), a multi-step process to revise Tennessee's CTE course offerings. The first phase streamlined the Programs of Study while increasing alignment of programs to postsecondary and career opportunities. Phase I was completed in fall 2012 and implemented for the 2013-14 school year. The second phase involves the

review and revision of specific course standards and the development of new courses to ensure all courses promoted by the department are rigorous, relevant, and student-focused. The revised and new courses are being rolled out in the 2014-15 school year. The next phase of work will be to develop low-stakes and high-stakes course assessments to ensure that students are achieving marked growth in targeted skills attainment.<sup>8</sup>

## BEYOND THE PATHWAYS TO PROSPERITY STATES

- > The North Carolina Department of Public Instruction, working with business and industry partners, developed new statewide CTE [Essential Standards](#) (effective 2012), which were approved by the state board of education and are currently being implemented in secondary schools across the state. The state has divided occupational groupings into 10 career pathways and has created 53 career maps within those 10 pathways that outline high school course sequences, as well as postsecondary and career options.
- > [Jump Start](#), Louisiana's new CTE program, aims to create public-private partnerships and to foster collaboration among school districts, colleges, and businesses. The program provides high school students with career courses and workplace experiences and is intended to give students opportunities to pursue postsecondary education and to obtain certifications related to career fields that offer high-wage jobs. Students pursuing career diplomas will be required to participate in Jump Start, while the program will be available as an elective to students pursuing a university-preparatory diploma. Students in the program will have additional time in the school day and year in which to earn certificates and credentials. Jump Start credentials will be state-approved and reflect the needs of employers, who participated in the design process.<sup>9</sup>

## THE TENNESSEE PROMISE

While not focused specifically on 9-14 career pathways, the [Tennessee Promise](#) has the potential to enable many more high school students to earn two-year degrees in career areas of their choice. Tennessee Governor Bill Haslam's initiative to provide two free years of college has some dimensions that differentiate it from citywide approaches like the Kalamazoo Promise or state programs

like HOPE scholarships in Georgia. The Tennessee Promise targets seniors graduating from the state's public high schools. Along with the promise of a last-dollar scholarship, it builds in a set of requirements based on recent research on what keeps college students on track.

Students must apply early in their senior year, fill out the Free Application for Federal Student Aid, attend mandatory advising sessions prior to the opening of school, attend college full time, and meet virtually or in person with a mentor a prescribed number of times per year. There is no GPA requirement; only the completion of high school is needed to qualify. Once in the program, students who wish to retain their scholarships must maintain a 2.0 GPA, complete eight hours of community

service per term enrolled, and complete the FAFSA by February 15 every year they are in the program.

Tennessee lawmakers plan to pay for students by investing a portion of state lottery funds into an endowment that will sustain the Tennessee Promise and by lowering [HOPE scholarship](#) awards for college freshmen and sophomores while raising them for juniors and seniors. The initiative, which launched in fall 2014, is intended to send a strong signal to young people, their families, and employers that the state's current postsecondary educational attainment rate (31 percent of Tennesseans have a postsecondary degree or certificate) is not sufficient to build and sustain a strong Tennessee economy.

# CAREER INFORMATION AND ADVISING SYSTEMS

## School counseling and career advising • Student learning plans

The role of the state is to champion career preparation for all and to provide resources to support it on the ground. To be effective, school career counseling and individual student learning plans (SLPs) must be part of a package of resources states provide to support districts in infusing career information and a sequence of workplace experiences into the curriculum starting as early as middle school.<sup>10</sup> Neither counseling nor SLPs should be state mandates, especially in view of the chasm that currently exists between policy and the human resources and commitment needed for comprehensive implementation.

Given the challenges of the job market for young people today, and the premium employers put on experience, as well as a body of research on the positive impact of work experiences on young people, investing in work-based learning and internships should be a higher priority than new policy mandates, especially if the mandates are unfunded.<sup>11</sup> Neither required guidance counseling nor mandated SLPs can adequately address students' need for greater clarity about which career areas are of most interest to them.<sup>12</sup> Nonetheless, while counseling and SLPs cannot drive career preparation, both provide highly valuable building blocks for career preparation, including WBL experiences such as job shadow opportunities, internships, and applicable courses designed to teach students more about career fields and developing a career pathway.

### SCHOOL COUNSELING AND CAREER ADVISING

Responsibility for providing career information and advising to middle and high school students has historically rested with guidance counselors. Four of the Pathways to Prosperity states—California (grades 7-12 only),

Georgia, Missouri, and Tennessee—require counseling.<sup>13</sup> In the others, counseling is left to the discretion of districts. All community colleges have career counseling offices and internship and job placement services. Today, career information is widely available to anyone with Internet access; online providers target a wide range of ages, population groups, and specific sectors of the economy. In addition, states and districts are increasingly buying or building online platforms for their school systems, making career information available in classrooms, often along with options for students to create electronic portfolios that highlight their career plans and show samples of their academic work and other accomplishments. While these tools are of value, most states have unworkably high ratios of students to counselors, and many counselors can barely meet the demand for psychological and social supports for young people, let alone spend the amount of time needed to develop and delve into individualized career advising activities. In general, online tools do not substitute for human guidance, especially for younger students.<sup>14</sup>

### STUDENT LEARNING PLANS

States are increasingly either mandating or strongly encouraging districts to provide individual SLPs. Twenty-three states now require SLPs, though some require them only for special populations (gifted and talented, English language learners, special education, and CTE).<sup>15</sup> SLPs vary in quality and approach, from a simple list of courses that the student plans to take over four years of high school to much more elaborate visioning documents or portfolios that are based on principles of positive youth development and include interest inventories, out-of-school activities, and postsecondary and career planning. A key purpose of an effective SLP is to stretch students' aspirations, taking into account not

just their academic pursuits, but also the development of metacognitive qualities that promote confidence and are encompassed in the term “growth mindset.”<sup>16</sup>

A new report produced by Educators for Social Responsibility for the Nellie Mae Education Foundation, [Personal Opportunity Plans](#), develops a comprehensive vision of what a plan might encompass. It goes far beyond typical counseling functions, arguing that constructing and following a meaningful life plan, including finding a calling or career, is a primary purpose of schooling.

## COLORADO

Among states mandating SLPs, Colorado appears to be supporting high-quality implementation of their required [Individual Career and Academic Plan](#) starting in high school. As the ICAP website for Boulder Valley explains, “ICAPs begin with a vision of what a student would like to do in the world of work. This could mean identifying

a career cluster (grouping of careers) that interests them, or a specific career, and then linking what they are interested in doing in the world of work with courses, extracurricular activities and postsecondary plans. All districts must provide ICAP access and assistance for every student in grades 9-12 ([ICAP Legislation](#)).”<sup>18</sup>

## MASSACHUSETTS

In Massachusetts, guidance from the Department of Elementary and Secondary Education, not a policy mandate, links SLPs to other priority state initiatives, such as increasing high school graduation rates, the use of the Massachusetts [Model for School Counselors](#), and the participation of students in career development education activities. Massachusetts created an Individual Learning Plan Guide for schools and districts that illustrates how these plans overlap with other required student plans, such as career/vocational technical education career plans and special education transition plans.

# WORK-BASED LEARNING AND EMPLOYER ENGAGEMENT

**Employer-targeted policies to incentivize work-based learning counseling and career advising**  
**Education-targeted policies to incentivize work-based learning**

One of the greatest challenges in the development of 9-14 pathways is to provide a sequence of career-related activities and experiences, including authentic and sustained work-based learning opportunities for all students before they graduate from high school. This section explores several policy options to incentivize employers and educators to work together to provide scaled work-based learning experiences for students and to consider WBL as a culminating activity for students in the context of career development education (CDE) offered in a continuum over the course of a number of years, ideally starting no later than middle school. As yet, this policy set is undeveloped and without a research base, but JFF's experience in the field indicates that incentives and supports are needed both for educational institutions and employers, and that the two policy sets should align and could be packaged together. WBL policies also need to be coupled with the policies supporting intermediaries that are addressed in the final section of this brief.

Work-based learning refers to experiences in which students learn on the job and outside of the classroom, as opposed to the broader learning and activities, including those focused on career awareness and exploration, included in career development education. CDE may prepare students to participate in WBL, but a major challenge in the Pathways to Prosperity work is that there is little likelihood that WBL placements, usually in the form of internships, are available at any scale. Generally, neither our education systems nor our workforce systems have created the infrastructure needed to provide WBL opportunities to significant numbers of young people. U.S. employers typically have not been at the table collaborating to promote systems to ensure that all students have WBL experiences before they complete high school, nor has the business community taken the long view about the value of investing in talent early. Instead, employers rely on our education

system to prepare students for work without active support from employers and prefer to hire applicants with proven experience in a workplace, rather than those who still need training. The business community generally views the prospect of training new employees on the job as a cost rather than as an investment.

State officials are accustomed to hearing one set of complaints from employers and another from educators. Employers claim that high school and community college graduates arrive ill-prepared for the workplace and with weak skills, while educators claim that, unless and until employers demonstrate more willingness to partner in education and training designs and to open doors so that young people can gain work experience, employers won't get what they need. Even if employers were more inclined to collaborate with high schools to share in preparing young people for the labor market, teachers and school leaders are generally not set up or disposed to work with them. Most simply do not have the time or capacity to develop internships and other collaborative ventures while attending to their primary responsibilities. State leaders must approach this dilemma using campaigns and the bully pulpit as well as policy levers and evidence about the effectiveness of WBL to garner business community support.

Such leadership strategies include:

- > Cultivating employer champions who recruit their fellow businesses to partner with workforce and education systems to offer WBL and other career awareness experiences to students while they are in high school
- > Supporting and highlighting districts that are actively involved in scaling up CDE for all students and disseminating their effective practices to other districts not yet involved in the work



- > Ensuring that education programs are aligned with the state’s economic development strategic plans and labor market needs
- > Emphasizing that all students, whether in the K-12 system, community colleges, or four-year liberal arts institutions, are preparing for a career, and thus, CDE is a shared responsibility

## EMPLOYER-TARGETED POLICIES TO INCENTIVIZE WORK-BASED LEARNING

Some of the policies outlined below are already in place, while others are more in the “ideas to try” category and need further development and testing. Beyond direct incentives like tax credits and subsidies, states can also incentivize employers by providing infrastructure to support engagement with young people. Infrastructure support is usually provided by an intermediary organization such as a Workforce Investment Board (WIB), chamber of commerce, workforce organization, or other nonprofit entity. (Intermediaries are treated in the next section.)

States can incentivize and support employers to take on work-based learning through:

- > **Direct subsidies:** Unpaid internships, co-op programs, and other forms of work-study in which the student contributes to the bottom line of a for-profit employer are no longer legal, so funding is required to support such programs.<sup>19</sup> Subsidies can provide full funding to employers for the payment of student wages or they may require an employer match for state-paid wages. Internships offered by employers, by the state, or through public-private partnerships can be targeted to encourage students to enter high-demand fields.<sup>20</sup>
- > **Tax credits:** Companies receive a tax credit for taking on interns and apprentices; credits may be prorated depending on whether students work full or part time or whether young people are at risk or well prepared. Some states provide a range of organizations and businesses with tax credits for hiring at-risk young people, generally as a crime prevention strategy or to target populations that are chronically unemployed. Examples include:
  - > The [Missouri Youth Opportunity Program](#) provides up to \$6 million annually to organizations administering positive youth development or crime prevention projects.
  - > [New York Youth Works](#) offers \$4,000 and \$2,000 for hiring youth.
  - > [Arkansas Youth Apprenticeship/Work-Based Learning Program](#) provides up to \$2,000 for each qualified youth apprentice.
  - > [Apprenticeship Carolina](#) offers \$1,000 for each registered apprenticeship.
  - > The Alabama legislature has passed a [bill](#) that would provide tax credits to area employers that contribute to scholarship funds to support high school students who are taking college courses in technical areas. Contributing employers can receive up to a 50 percent tax credit from the state. The state aims to raise \$10 million in scholarship funds and spend up to \$5 million in tax credits. Businesses will be able to target up to 80 percent of their contributions to specific training programs.
- > **Training levies:** Companies in high-need fields are required to pay into a fund if they do not provide training to develop a pipeline of potential employees. Such levies would likely come from an industry sector organization. These are used in vocational education systems in Europe and other regions, but not in the United States.
- > **Other incentives:**
  - > Target federal work-study funding to skills-based internships aligned with a student’s major
  - > Include paid internships as a business requirement in vendor contracts, as a condition of local zoning changes, or in other contracts in which companies do business with a district, city, county, or state
  - > Provide, at no or low cost, current employees with certain training or college coursework aimed at upgrading skills in return for opening student internships

## EDUCATION-TARGETED POLICIES TO INCENTIVIZE WORK-BASED LEARNING

Compared to policies focused on employers, policies focused on the education sector are better developed—or at least potential structures are in place, if not the desired

results. In general, policies make work-based learning an option, but not a requirement, except when a funded initiative carves out WBL as a component of a specific design, as is the case in the major initiatives described above in the section on jumpstarting regional initiatives. In addition, some schools and school networks incorporate project-based learning or are built with project-based learning at the core, as in [Expeditionary Learning schools](#). While not necessarily keyed to work experience, project-based learning does take a very positive step toward familiarizing students with the messiness and challenges of working with a team on a real problem. The following are potential areas for state policy:

- > **Expanded learning time:** While many elementary schools and some high schools have expanded the school day and year, most use the additional time to enrich academics and improve achievement rather than to provide WBL. Nonetheless, as aligned 9-14 career pathways grow across the United States, educators might attempt to envision a full 12 months of activity incorporating interconnected classroom instruction and internships. Some schools already take advantage of summer to introduce high school students to postsecondary offerings, and this time might also be used to prepare students for internships. The Massachusetts Department of Elementary and Secondary Education has expanded learning time legislation and funding and, with JFF, will be exploring the use of expanded learning time for WBL in a pilot project funded by the Ford Foundation.
- > **Credit for work-based learning:** The best WBL includes substantial time and student support for preparation, reflection, evaluation, and assessment. In many states, students can take a class that incorporates WBL and provides additional credit for completion of an internship. Strong vocational high schools and programs effectively incorporate real-time work into students' days and weeks. They often have paying clients whom students serve with various products and services, and evaluation of students provides a window into business practices. Credit-bearing co-op programs do exist in high schools, but they are often targeted to at-risk students as a dropout prevention strategy rather than made an option for all students. And, for gifted students, especially in STEM fields, there are often credit-bearing research projects, but these are not seen as WBL. Often career and technical education classes incorporating WBL do not have parity with academic credit in terms of calculating students' GPAs.
- > **Inclusion of work-based learning in well designed systems of career development education:** WBL can and should be incorporated into thoughtful, multiyear approaches to career development education, which ideally starts no later than middle school. Districts can benefit from technical assistance and professional development around integrating CDE into existing courses of study in their middle and high schools, whether they are academic, comprehensive, or CTE schools. In that context, WBL, which is the ideal way to give students a career immersion experience that serves as a culminating activity at the end of a multiyear CDE approach, should become the centerpiece of the district's CDE. States that are actively involved in the expansion of CDE, such as Massachusetts, are supporting districts committed to ensuring that all of their students are college and career ready when they graduate from high school.
- > **Endorsements, honors, or "seals" for career and technical education courses that incorporate work-based learning:** A number of states have created special designations to signal the completion of a career program. The accepted trend is to require a common core of courses that constitute college and career readiness for all, and then to encourage students to make choices based on their next steps beyond high school. Examples include North Carolina (CTE seal), Ohio (CTE endorsement), and Florida and Louisiana (industry certification). While the programs of study leading to such designations do not necessarily require WBL, it is more likely to be included in this kind of program than in the core curriculum.
- > **Teacher externships:** Externships provide teachers with an opportunity to learn through direct experience in a workplace about trends, skill requirements, and opportunities in industries related to their subjects. Teacher externships range from a day of job shadowing to longer placements that are usually project-based and can last as long as a semester or a summer. Teachers learn how classroom content and learning strategies are applied in the workplace—in other words, how to connect theory and practice. Teachers thus improve their pedagogical practices by incorporating new methods, labor market information, and employment skills that meet current industry standards.<sup>21</sup> Among the Pathways to Prosperity states, Tennessee, Massachusetts, and Missouri provide such opportunities for teachers.

# INTERMEDIARIES

**Organizational structures for convening stakeholders**

**Organizational structures for aggregating and distributing work-based learning opportunities**

Intermediaries are organizations steered by key stakeholders working together to connect employers and educational institutions, and to create bodies of knowledge and skills to serve the collective goals of the partners. The work of intermediaries in supporting career education includes two broad sets of functions. First, intermediaries often guide and sustain the vision for the Pathways to Prosperity work in a region and convene key stakeholders. Second, intermediaries support the development of needed career development education and work-based learning opportunities. They help design a role for employers that ensures the employers see a return on their investment in the education of young people. Intermediaries support high schools and colleges in securing, developing, and sustaining sequenced, systemic WBL opportunities. State-level support for intermediaries is a necessary component of sustainable models of career pathways.

The structure of intermediaries may vary considerably depending on state and regional needs and available resources. A single organization may take on the entire intermediary role, or the intermediary functions may be unbundled and distributed across multiple organizations. For example, a regional steering committee could play the convening role, while an employer association could broker WBL opportunities. Intermediaries can be organized by region and serve employers in multiple fields, and their responsibilities usually go beyond providing young people with workplace learning experiences to include training services for adults, regional economic development, business planning, and even marketing. Existing organizations that could carry out intermediary functions include a state or region's Workforce Investment Board, other workforce training organizations, chambers of commerce, sectoral or professional organizations, and community-based organizations. Organizations carrying out intermediary functions are most commonly private, nonprofit entities that have a track record of representing

and partnering with employers and government bodies. Intermediaries may also be organized by economic sector, as is often the case with trade and professional associations, with each providing expertise within a range of related occupations. While workforce intermediaries have long existed—and can partner in providing CDE and WBL experiences for younger students—the organizational structures needed for partnering among schools, community colleges, and employers on behalf of younger students have different requirements than do intermediaries or partnerships whose target populations are low-skilled, underemployed, or unemployed adults.

## ORGANIZATIONAL STRUCTURES FOR CONVENING STAKEHOLDERS

The functions carried out by intermediaries generally fit within two broad categories. The first is a convening role that includes guiding the work of a regional steering committee or other leadership entity by:

- > Setting the agenda and holding the vision for career pathways in the region
- > Developing and convening subgroups to develop or carry out specific elements of the Pathways to Prosperity work
- > Identifying functions, which may then be distributed to other entities, that are needed within a region
- > Evaluating the outcomes of the work and holding others accountable to identified metrics
- > Building public support for the work by educating the general public and policymakers about the benefits of creating career pathways and providing WBL to youth

## ORGANIZATIONAL STRUCTURES FOR AGGREGATING AND DISTRIBUTING WORK-BASED LEARNING OPPORTUNITIES

The second set of intermediary functions is focused on developing career readiness experiences for youth, including work-based learning opportunities, and engaging employers and industry to sponsor them by:

- > Analyzing regional labor market information as preparation for conducting other functions
- > Recruiting high-level, visible business champions
- > Brokering and aggregating opportunities for career awareness, exploration, and immersion activities, including WBL
- > Assessing needs for support from schools and employers and brokering agreements between partners, including executing contracts and informal agreements between employers and schools
- > Developing and designing workplace experiences (e.g., job shadows, virtual projects, internships, apprenticeships)
- > Providing young people with workplace orientations and general training in the basics of a career area (including work-readiness certifications)
- > Developing WBL experiences and carrying out assessments in partnership with educators
- > Reaching out to and partnering with community-based organizations

Organizations that undertake intermediary functions require funding, including a budget for paid staff, in order to successfully carry out the work. There are several possible avenues through which states can provide this support. States may direct additional state resources to WIBs that are undertaking intermediary functions or make use of their federal Workforce Innovation and Opportunity Act youth funds to support intermediaries focused on WBL. Discretionary grants should take into account the role of funded intermediaries in making pathways work sustainable. As states and regions build out regional ecosystems, states will have to determine the policy supports needed to engage WIBs and other nonprofits in this work. It may be necessary to distribute the basic intermediary functions across several organizations; these functions can be built out over time as additional funding becomes available.

The following examples illustrate the variety of ways in which intermediaries may be constituted and funded:

- > In **Massachusetts**, a line item in the state budget funds [Connecting Activities](#), a Department of Elementary and Secondary Education initiative that provides funding to the local WIBs to partner with school districts to offer WBL opportunities, as well as other career awareness activities, as part of students' preparation for college and career. Connecting Activities funding allows WIBs across the state to hire or support staff members that work with schools and businesses, developing a wide range of career-related activities, including the implementation of individualized [Work-Based Learning Plans](#) for students; student preparation and worksite placement; and the creation of career pathways in targeted industries.
- > **Illinois** Pathways has used \$3.2 million of the state's Race to the Top funding to support new public-private partnerships in priority STEM career cluster areas (known in the state as [STEM Learning Exchanges](#)). The initiative is developing career pathway systems in all 25 Race to the Top districts and in other Pathways to Prosperity-aligned regions across the state.
- > The [Wisconsin Regional Training Partnership](#) is a workforce intermediary that works with the Milwaukee Public Schools to develop career pathways for youth. A major area of focus is getting youth into apprenticeship programs. Programs include career pathways development at a local high school, afterschool programs that emphasize job-readiness training, and an out-of-school program. WRTP works with a local high school and area employers to develop WBL opportunities in fields that include construction and architecture, manufacturing and engineering, and communications.
- > [Long Beach Collaborative to Support Linked Learning](#) has been developed as part of the work of Long Beach Pathways, which has taken the bold step of working to establish and incorporate a new nonprofit intermediary organization that will work between education institutions and the business community to aggregate WBL placements and other opportunities to provide young people with a sequence of work experiences.

# CONCLUSION

The Pathways to Prosperity Network is now two years old. The first cohort of states—California, Georgia, Illinois, Massachusetts, Missouri, New York, Ohio, and Tennessee—is doing significant work in creating career pathways in grades 9-14. Two more states, Arizona and Delaware, joined the network in June 2014, and Madison, Wisconsin will join as a Pathways to Prosperity region this fall. The network has taken on the challenge of career development education and work-based learning and has made the exposure of all young people to a wide range of career options, information, and experiences a key lever in the Pathways to Prosperity framework.

The country simply cannot afford *not* to come up with new and more effective approaches to career education and workforce development. These are critical both for the

healthy development of the nation's younger generations and for the overall health of the U.S. economy and society. The heavy lift required to create such a system belongs to states, and each state will have its own vision and plan for what needs to be done within the broad framework and levers of Pathways to Prosperity. This paper is an initial attempt to gather information and synthesize observations about the policies currently in place in the Pathways to Prosperity states and beyond and to raise questions about areas that might be ripe for policy development to support each state's vision and implementation strategies. The ultimate goal is to create a policy set to serve as guidance to states as they implement Pathways to Prosperity. This brief should be regarded as a preliminary thought piece; comments and additions are welcome.



# ENDNOTES

<sup>1</sup> Nancy Hoffman & Joel Vargas. 2010. *A Policymaker's Guide to Early College Designs: Expanding a Strategy for Achieving College Readiness for All*. Boston, MA: Jobs for the Future. Accessed August 28, 2014. [http://www.jff.org/sites/default/files/publications/PolicymakersGuide\\_102010.pdf](http://www.jff.org/sites/default/files/publications/PolicymakersGuide_102010.pdf)

<sup>2</sup> "Innovative Uses of Perkins Reserve Funds," *National Association of State Directors of Career Technical Education Consortium*, 2009 brief. Accessed August 28, 2014. [http://www.ctat.org/images/uploads/Innovative\\_Uses\\_of\\_Perkins\\_Reserve\\_Funds\\_FINAL.pdf](http://www.ctat.org/images/uploads/Innovative_Uses_of_Perkins_Reserve_Funds_FINAL.pdf)

<sup>3</sup> Some states have provided waivers or special legislation targeted at early college models. For example, New York State amended its Aid to Localities Budget Bill in 2014 to allow higher education partners participating in an early college high school or P-TECH program to set a reduced rate of tuition and/or fees, or to waive tuition and/or fees entirely. The expectation is that most participating community colleges will waive tuition. See memo, Tuition and Smart Scholars Early College High Schools/ Pathways in Technology P-TECH, May 21, 2014, Office of the Chief Financial Officer, State University of New York.

<sup>4</sup> Changes to dual enrollment policies in three Pathways to Prosperity states have been enacted or proposed since the database was compiled. In California, [Assembly Bill 1451](#) proposes to expand concurrent enrollment offerings and number of credits students can take at zero cost to students. The bill was sent to the Senate Appropriations Committee in 2014 for review. In Delaware, Governor Jack Markell announced in March 2014 a proposal for a \$300,000 dual enrollment scholarship program that would reimburse school districts for the cost of dual enrollment courses. In Missouri, House Bill 1780 would authorize public high school students to take virtual (online) courses for dual credit. Either the student or the school district will be responsible for covering the costs of such courses.

<sup>5</sup> College Credit Plus replaces Ohio's Post-Secondary Enrollment Options program (PSEO) and all alternative dual enrollment programs previously governed by Ohio Revised Code Chapter 3365. Governor John Kasich signed House Bill 487 into law on June 16, 2014. The CCP program will be operational in the 2015-16 school year. Under the program, some students who enroll in private postsecondary institutions may be responsible for some costs. See: "College Credit Plus:

Highlights of Ohio's Dual Enrollment Program," Ohio Board of Regents guidance document, 2014. Accessed August 28, 2014. <https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/CCP/College%20Credit%20Plus%20guidance%20document%282%29.pdf>

<sup>6</sup> "Sails Overview," Chattanooga State Community College. Accessed August 28, 2014. <http://www.chattanooga.state.edu/high-school/sails>

<sup>7</sup> "Career, Technical, and Agricultural Education (CTAE)," Georgia Department of Education. Accessed August 28, 2014. <https://www.georgiastandards.org/Frameworks/pages/BrowseFrameworks/CTAE.aspx>

<sup>8</sup> "Standards Revisions: Phase II," Tennessee Department of Education. Accessed August 28, 2014. [http://www.tn.gov/education/cte/standards\\_revisions.shtm](http://www.tn.gov/education/cte/standards_revisions.shtm)

<sup>9</sup> "Jump Start: Expanding Opportunity for Louisiana Students," Louisiana Department of Education. Accessed August 28, 2014. <https://www.louisianabelieves.com/docs/default-source/course-choice/2014-jump-start-blueprint.pdf?sfvrsn=7>

<sup>10</sup> Most state counseling mandates are funded through local tax levy funds. Thirteen states and Puerto Rico provide state funding to support mandated counseling services. See: Office of Public Policy and Legislation, American Counseling Association. 2011. "A Guide to State Laws and Regulations on Professional School Counseling." Accessed August 28, 2014. <http://www.counseling.org/docs/licensure/schoolcounselingregs2011.pdf?sfvrsn=2>

<sup>11</sup> See, for example, Robert Halpern. 2013. *Youth, Education, and the Role of Society: Rethinking Learning in the High School Years*. Cambridge, MA: Harvard Education Press.

<sup>12</sup> According to an op-ed in *The Sacramento Bee*, California "community colleges typically handle 2,000 to 3,000 students each, making it unlikely that students will get the help they need to obtain a degree." See: Edward James Olmos. August 14, 2014. "Viewpoints: Help Community College Students Stay on Track," *The Sacramento Bee*. Accessed August 28, 2014. <http://www.sacbee.com/2014/08/14/6626569/viewpoints-help-community-college.html>

<sup>13</sup> As of 2011, 29 states, the District of Columbia, Puerto Rico, and the Virgin Islands mandate the

provision of school counseling services in public elementary and/or secondary schools; 24 of these mandate school counseling at all levels. See: "A Guide to State Laws and Regulations on Professional School Counseling," p. 71 (see endnote #10).

<sup>14</sup> Two new tools sensitive to the human dimension tailored to pathways development are JFF's MyBestBets ([www.mybestbets.org](http://www.mybestbets.org)) and ConnectEd Studios ([www.connectedstudios.org](http://www.connectedstudios.org)), created by ConnectEdCalifornia.

<sup>15</sup> See: Rennie Center for Education Research and Policy. 2011. *Student Learning Plans: Supporting Every Student's Transition to College and Career*. Policy Brief. Cambridge, MA: Author. Accessed August 28, 2014. <http://www.renniecenter.org/research/StudentLearningPlans.pdf>. See also: Caralee J. Adams. March 23, 2012. "Career Mapping Eyed to Prepare Students for College." *Education Week*. Accessed August 28, 2014. <http://www.edweek.org/ew/articles/2012/03/23/26career.h31.html>.

<sup>16</sup> Carol Dweck's term "growth mindset" indicates when a student recognizes that she or he can master new knowledge and improve existing skills by exerting effort. This mindset, unlike a traditional viewpoint that student ability is "fixed" or cannot change can increase student motivation. See: Carol Dweck. 2007. *Mindset: The New Psychology of Success*. New York, NY: Ballantine Books.

<sup>17</sup> Carol Miller Lieber. 2014. *Personal Opportunity Plans*. Cambridge, MA: Educators for Social Responsibility for the Nellie Mae Education Foundation. Accessed

August 28, 2014. <http://www.nmefoundation.org/resources/personalization/personal-opportunity-plans>

<sup>18</sup> "ICAP: Individual Career and Academic Plans," Boulder Valley School District. Accessed August 28, 2014. <http://bvsd.org/icap/Pages/default.aspx>

<sup>19</sup> See Federal Work Study regulations: <http://www2.ed.gov/programs/fws/index.html>

<sup>20</sup> Countries with strong and extensive vocational education programs use many incentives to support employers. In those countries, upper secondary students (ages 16-19) participate in a mix of school and work, and the government may subsidize the work portion of a student's year. For examples, see Nancy Hoffman. 2011. *Schooling in the Workplace: How Six of the World's Best Vocational Education Systems Prepare Young People for Jobs and Life*. Cambridge, MA: Harvard Education Press; and OECD. 2010. *Learning for Jobs*. OECD Reviews of Vocational Education and Training: OECD Publishing. Available at [http://www.oecd-ilibrary.org/education/learning-for-jobs\\_9789264087460-en](http://www.oecd-ilibrary.org/education/learning-for-jobs_9789264087460-en)

<sup>21</sup> College and Career Academy Support Network. 2010. *Teacher Externship Guide*. Berkeley, CA: University of California, Berkeley Graduate School of Education. Accessed August 28, 2014. <http://casn.berkeley.edu/resources.php?r=251>



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