

Effective Pathways Depend on Collaboration:

An Analysis of State Policy to Foster Cross-System Collaboration and Ensure Strong Pathways

A State Policy White Paper

July 2018 By Grant Blume and Ling Yeh



JFF is a national nonprofit that drives transformation in the American workforce and education systems. For 35 years, JFF has led the way in designing innovative and scalable solutions that create access to economic advancement for all. Join us as we build a future that works. www.jff.org.

ABOUT THE AUTHOR

Grant Blume is a faculty member at the University of Washington's Evans School of Public Policy & Governance and affiliate faculty of the UW's Community College Research Initiatives (CCRI). Grant's research and teaching focus on centering policy analysis and program evaluation on racial equity. His research and consulting work have explored such topics as affirmative action, institutional racism, postsecondary access, community college programming, and how public schools serve homeless youth. Grant's passion for public policy and public service began during his work as a legislative aide to a member of Congress in Washington, DC. Grant earned his MPA and PhD at the University of Washington and undergraduate degrees at the University of Oregon

Theresa Ling Yeh is a research scientist with Community College Research Initiatives (CCRI) at the University of Washington and is also Director of Research & Programs for the UW Brotherhood Initiative. Her work focuses on postsecondary access and completion for first-generation, low-income students and students of color, transfer policy & practice, community engagement, and program evaluation. Ling has over 15 years of professional experience working in higher education and non-profit sectors on college access and retention, service-learning, multicultural affairs, and federal TRIO programs. She earned her PhD in Education Leadership & Policy from the University of Washington, MA in College Student Personnel from the University of Maryland, and BA in Psychology from the University of Pennsylvania.

ACKNOWLEDGEMENTS

JFF would like to thank the following members of the Policy Leadership Trust for Student Success for reviewing this paper: Maria Hesse, vice provost for academic partnerships, Arizona State University; Ken Klucznik, co-manager, Transfer and Articulation Policy, Connecticut State Colleges & Universities; Sharon Morrissey, vice chancellor for academic services and research, Virginia Community College System; and Peter Quigley, associate vice president for academic affairs, University of Hawai'i Community Colleges. Special thanks to the Bill and Melinda Gates Foundation. The following JFF staff members also provided review: Lexi Barrett, senior director, national education policy; Erica Cuevas, policy manager; and Amy Loyd, associate vice president. JFF communications team provided editorial and design support. Becky Eidelman, program associate, and Julita Bailey Vasco, program manager, provided project management support. Michael Collins, vice president, provided strategic guidance. David Altstadt, assistant director, served as project lead and editor of the four-paper series.

TABLE OF CONTENTS

PREFACE	5
INTRODUCTION	7
WHAT'S THE PROBLEM?	9
HOW TO MOVE COLLABORATION-RELATED POLICY FORWARD?	11
PUBLIC POLICY THAT FOSTERS COLLABORATION DIRECTLY	12
STRATEGY 1: INCENTIVES ("CARROTS")	12
STRATEGY 2: DIRECTIVES ("STICKS")	13
STRATEGY 3: INFORMATION ("SERMONS")	16
PUBLIC POLICY THAT FOSTERS COLLABORATION INDIRECTLY	18
STRATEGY 4: DUAL ENROLLMENT	18
STRATEGY 5: P-20 COUNCILS	19
STRATEGY 6: PROGRAM ACCREDITATION	20
IMPLICATIONS FOR COLLABORATION	21
DESIGNING STATE POLICY TO FOSTER COLLABORATION: QUESTIONS TO CONSIDER	24
CONSIDERATION 1: ASSESSING THE POLITICAL LANDSCAPE FOR COLLABORATION	24
CONSIDERATION 2: COLLABORATION AS THE CENTERPIECE OF STATE-LEVEL POLICY DESIGN AND IMPLEMENTATION	25
CONCLUSION	28
ENDNOTES	29

PREFACE

Effective Pathways Depend on Collaboration is part of a four-paper series that explores a variety of state policy approaches for dramatically increasing community college completion rates and building a competitive workforce. The series emphasizes the role of state policy in creating the conditions, incentives, and structures needed to forge seamless, affordable pathways to credentials and careers for all students — especially those who are underprepared and underserved. All told, the papers offer policy recommendations for reshaping how states measure student success, fund public 2-year institutions, strengthen alignment across K-12 and postsecondary systems, and support students along their paths.

Said differently, the papers focus on metrics, money, and systems integration. These three pillars reflect the collective vision of JFF's Policy Leadership Trust for Student Success (the "Trust") for what ought to be the primary focus of policymakers concerned with college completion. Established by JFF in 2015, the Trust comprises two-dozen community college presidents and state system leaders who together cull their institutional knowledge and the latest evidence to consider how policy can best catalyze change in higher education and improve student success. In 2017, the group released a set of policy design principles and priorities to represent their core tenets¹.

JFF commissioned this paper series to delve more deeply into the Trust's priority issues. The goal is to stimulate discussion and consideration among practitioners and policy influencers, alike.

Thank you for reading,

David Altstadt Associate Director, JFF

INTRODUCTION

The importance of post-secondary education in the United States cannot be underestimated. The labor market, shaped by continual technological advancements and the growing global economy, requires more skilled employees with at least some technical training, if not a postsecondary degree. Yet countless reports and studies document the significant shortage of workers with the necessary skills for these jobs. Moreover, the link between income level and education continues to grow stronger, which means that millions of individuals are losing access to the middle class as our economy evolves.

A policy-oriented focus on the "9-16 pipeline" is often proposed as a way to increase degree attainment by better aligning educational sectors. The policy relevance of this "pipeline," spanning the ninth grade to graduation from a four-year college or university (or completion of the "16th" grade), calls attention to student outcomes within, between, and across sectors along the educational continuum in the United States. Yet improving student outcomes within, between, and across sectors — not to mention developing policy and program initiatives that span these sectors — requires a key ingredient: collaboration.

This paper considers how to use policy as a tool to foster greater collaboration among high schools, community colleges, and four-year universities — the three education sectors that are part of the 9-16 pipeline. The goal of such a policy intervention is to make transitions from high school to higher education, and from community college to university, more seamless so all students can move along their education path to a credential of value in the labor market. In undertaking this policy discussion, this paper does not attempt to provide an exhaustive survey of state-level policies and programs, nor an inventory of all pathways-related policies and programs.

Community colleges represent a critical inflection point along the 9-16 continuum for millions of students. The paradox, however, is that this particular inflection point is one of both access and barriers. In 2016, more than 40% of all students attending postsecondary institutions in the United States were enrolled at community colleges.² However, too few students at U.S. community colleges successfully fulfill their educational goals, whether they involve earning a credential or transferring to a baccalaureate-granting college or university. Among a cohort of students entering community colleges in 2010, for instance, only 39% had earned a two-year or four-year credential by 2016. Disaggregated by race, this figure drops to 33% for Hispanic/Latino people and to 26% for African Americans.³

In this context, various policies and programs have been developed to support students in accessing and completing postsecondary credentials. Such policies include articulation agreements, transfer policies, and numerous programs to support postsecondary access, retention, and completion, such as dual enrollment and early college high schools. In an effort to improve college completion outcomes, one broad strategy to emerge in the past decade is the

pathways model. Pathways take numerous forms and comprise different sets of policies and programs, but all pathways depend on collaboration. The effective design, implementation, and scaling of pathways requires meaningful and sustained collaboration between high schools and community colleges, between community colleges and four-year universities, and ideally, across all three of the sectors that make up the 9-16 pipeline.

WHAT'S THE PROBLEM?

The argument in favor of collaboration is ultimately based on a *problem*: earning postsecondary credentials and degrees in the United States is a complicated and often inefficient process that can needlessly cost students time and money. Moreover, the credentials and degrees that students earn may not directly connect to labor market demands, calling into question the return on investment for such degrees.

The **symptoms of this problem** are the statistics and stories with which we are all too familiar: Too few students attain the postsecondary credentials they need to advance in an everchanging workforce. Along the way to a postsecondary credential that they may or may not earn, students may take more classes than they need, wasting time and money that they could have spent elsewhere. Many students also incur a high amount of debt while pursuing postsecondary educations, and for those from low-income backgrounds, this burden has an especially negative impact on their ability to complete a degree.

What's the **root cause** of this problem? A major cause of this problem is the misalignment between high schools, community colleges, and four-year universities. Prominent education policy scholar Michael Kirst calls this a "disjuncture" between K-12 and higher education that spans the areas of "policy, finance, academic standards, and communication."⁴ Remedying this disjuncture must involve a solution in which either "postsecondary education drives policy, K-12 drives policy," or the two sectors "combine their efforts" to drive policy, Kirst says, and argues that "the preferred delivery is, of course, the collaborative approach."

However, when it comes to developing a compelling rationale for policy options to foster the collaboration needed to address the root cause of the above-mentioned problem, the reality is that policymakers may not see "fostering collaboration" or "collaboration" as compelling goals. On the other hand, a pronouncement such as "too many students in our state spend too much time and money in a system that is misaligned with workforce demands and four-year degree requirements" presents an urgent problem that calls out for a coherent policy solution.

This point about focusing on the policy problem, a theme that will reoccur throughout this paper, is made clear in observing how collaboration (and the pathways that result from such collaboration) is framed in state legislation. In a report on comprehensive pathways legislation in Texas, for instance, the background on the bill is simply stated as follows: "Students seeking to transfer between institutions of higher education can face a confusing array of choices, resulting in a significant amount of lost time and money for students and taxpayers." That pithy definition of the problem sets up collaboration as a necessary first step that is required in the development of sector-spanning pathways.

A focus on the root cause of the problem — the misalignment between high schools, community colleges, and four-year universities — also positions state-level policy to foster collaboration in a

way that does not prescribe a one-size-fits-all policy for pathways. A "pathway" in and of itself is not synonymous with a single, agreed-upon policy or set of programs. A particular pathway may comprise one or more interventions for increasing alignment within and across systems. An example of intra-sector alignment would be a state adopting a standard 65-credit-hour curriculum for a particular associate degree program to facilitate consistency in credential requirements across colleges. Pathways also provide critical linkages across sectors. Such an initiative, for example, could establish common course numbering within a state's community college system *and* public universities, or statewide articulation agreements. It could also entail statewide dual enrollment policies between high schools and community colleges, and alignment of curricula with labor market needs and high-demand careers.

In this paper, we focus on state-level policy options to foster collaboration assuming that from this collaboration stakeholders will create, implement, and scale the types of pathways that best fit their local context. A central benefit of pathways as a conceptual approach is that pathways can be tailored to the needs of students, postsecondary institutions, and industry partners. However, the tailoring of such pathways requires that all these stakeholders be willing and able to collaborate on such initiatives, which is why a focus on policy options to foster collaboration is a logical first step in moving pathways-related policy forward.

The distinctions between various types of pathways within and across sectors are important to make explicit because these distinctions are critical to the effective advocacy for, and design of, state-level public policy to foster collaboration. Designing policy interventions to foster greater collaboration requires careful consideration of the following three particular points — each of which is highly relevant to lawmakers and policymakers:

- The many stakeholders involved in collaborating to create a pathway will have different, and sometimes competing, interests. The fact that there are multiple stakeholders with diverse interests means the risks and rewards of collaboration will vary.
- The cost in both time and money of collaborating to create pathways will vary substantially across stakeholders.
- Like cost, implementation complexity can vary substantially across the policies and programs that fall within the realm of pathways, and that may deter stakeholders from collaborating on such initiatives.

Broadly speaking, these three factors represent only a sampling of the political dynamics in which state policymakers create public policy. These factors shape the implications for collaboration-related policy in its numerous iterations. We will return to these three points in our concluding discussion on policy considerations.

HOW TO MOVE COLLABORATION-RELATED POLICY FORWARD?

Although exceedingly complex in its design and implementation, public policy ultimately is made up of three basic approaches. First, policy can create incentives to motivate a behavior. Second, policy can create directives that mandate or require a behavior. Third, policy can provide information; the use of information as a policy option assumes that information will be acted upon in a manner that changes behavior. Any given policy tool should *foster collaboration* among stakeholders to create or strengthen the collaborative environment in which pathways are designed, implemented, and scaled; the outcomes of such collaboration are the pathways that solve the policy problem as articulated above.

These three potential approaches to public policy — incentives, directives, and information — that states use to foster collaboration are often described as "carrots, sticks, and sermons." The "carrots, sticks, and sermons" framework is a longstanding conceptual tool for understanding the options, along with their trade-offs, that lawmakers and policymakers have at their disposal to solve public problems. In the first section of this paper, we will profile a series of states to illustrate how to *directly* foster collaboration among stakeholders in a manner that sets the stage for the design, implementation, and scale of pathways-related policies and programs.

We also analyze three examples of public policy that may *indirectly* foster collaboration among stakeholders in the development of pathways. These policies — dual enrollment, P-20 councils, and program accreditation — depend on collaboration *but do not always place collaboration as the policy's primary objective*. Nonetheless, such policies are important levers to consider and serve as insightful examples of how collaboration may emerge in a variety of policy contexts.

Three points are worthwhile to make clear before we profile these diverse state-level approaches to fostering collaboration directly and indirectly. First, important to note is that our focus is on state-level policies or initiatives that foster collaboration, not the many policies and programs that comprise pathways. Second, we acknowledge that we do not profile every example of state policy that may exist to foster collaboration; rather, our goal is to provide a thought-provoking sample of state-level approaches to illustrate the merits, drawbacks, and trade-offs between directives, incentives, and information as distinct policy tools to foster collaboration. Third, we attempt to strike a balance in our analysis between the public policy initiatives that could be spearheaded by community college leaders in state system offices and institutions *and* initiatives that would require broader advocacy coalitions.

PUBLIC POLICY THAT FOSTERS COLLABORATION DIRECTLY

Incentives as a policy tool to foster collaboration ("Carrots")

Incentives to foster collaboration offer a financial or in-kind resource to motivate stakeholders to engage in the type of cooperation and partnerships that lead to the design and implementation of pathways at the college or system level. Incentives can be structured and funded by a public source such as a state legislature authorizing funds to support the development of a policy initiative. Incentives can also be funded by private entities. Private organizations that typically provide financial incentives to foster collaboration are foundations, such as the Bill and Melinda Gates Foundation and the Lumina Foundation, in partnership with national intermediary organizations.

TAACCCT

In rare cases, incentives to foster collaboration may come directly from the federal government. For example, the U.S. Department of Labor's Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant program awarded more than 256 grants totaling \$1.9 billion to community colleges and community college consortia to develop career pathways that led to high-demand, living wage jobs. Built into this federal program was an expectation that community colleges that were awarded TAACCCT grants would collaborate with 1) four-year universities to develop pathways to bachelor's degrees and 2) industry partners to design pathways to workforce-relevant credentials. Likewise, the establishment of a federal postsecondary completion state grant program to support a focus on college completion and successful practices⁶ also would exemplify a sort of incentive for fostering collaboration between stakeholders in order to create pathways. The theoretical mechanism behind both TAACCCT grants and a postsecondary completion state grant program is that awarding money will lead stakeholders to engage in the collaboration activities necessary to develop and implement pathways within community colleges, between sectors (e.g., community colleges and universities or community colleges and the workforce), and across statewide systems.

DELAWARE

Much more common than federal grants are incentive-based policy tools to foster collaboration among colleges, workforce leaders, and state-level policymakers. These incentive-based policy tools assume that financial support from both public and private sources to offset the cost of such efforts will spur collaboration. Delaware's experience with its Delaware Pathways initiative provides valuable insight on this type of approach. Initially championed by Governor Jack Markell in 2014 with modest funding from a local Delaware philanthropy and the Delaware Business Roundtable, stakeholders in Delaware partnered with the Pathways to Prosperity

Network to settle on the strategies and initiatives necessary to implement career pathways in Delaware. Returning to the prevalent theme in this paper of defining the problem for which collaboration is the solution, those leading the Delaware Pathways initiative defined "the lack of systemic coordination among stakeholder groups" as "the greatest obstacle to the development of a strong Delaware workforce."

Delaware's initiative to create pathways provides incentives to high schools to foster collaboration. School districts, for instance, are encouraged to apply for competitive grants to facilitate pathways development and provide professional development for teachers. The assumed mechanism to foster collaboration in this case is that the promise of awarding funding to a school district will motivate the district to spearhead collaboration with industry partners and the state's technical-community college. In addition to ongoing use of funds from the federal Carl D. Perkins Vocational and Technical Education Act, in 2017 the state was awarded \$3 million from the U.S. Department of Labor's America's Promise initiative and \$2 million from JP Morgan Chase's New Skills for Youth grant program to allocate to its pathways initiative. A recent JFF report notes that Delaware's precarious state budget (with a \$75 million deficit in 2017) potentially puts its progress on pathways at risk and could force a greater reliance on private funding to sustain the program.⁸

CALIFORNIA

Compare Delaware's approach, which requires a modest amount of public financing to structure incentives that foster collaboration among school districts, industry partners, and postsecondary institutions, to California's creation of the California Career Pathways Trust, an incentive-based program to which the state legislature allocated more than \$500 million between 2013 and 2015. The purpose of the California Career Pathways Trust was to award one-time competitive state grants to "establish or expand career pathways in grades 9 through 14 that integrate standards-based academics with a sequenced, career-relevant curriculum following industry-themed pathways that are aligned with high-need, high-growth, or emerging regional economic sectors." The grantees, totaling 87 partnerships, include relatively equal numbers of school districts and community colleges. Early evaluations of this program suggest that grantees are using funds effectively to foster collaboration in a manner that emphasizes employer engagement, develops work-based learning opportunities, and strengthens career and technical education sequences as the state's community colleges develop and implement career-oriented pathways.

Directives as a policy tool to foster collaboration ("Sticks")

Three states, Ohio, Tennessee, and Virginia, provide illustrative examples of how state-level directives can foster collaboration across sectors. Recall that our focus on these three states is not on the pathways that emerge from mandated collaboration, but rather on the distinct ways in which directives to collaborate take shape in local contexts. In our analysis, we find that state

agencies, in partnership with political leaders, were instrumental in championing the legislation in their respective states that ultimately brought stakeholders to the table to collaborate. In the case of Virginia, we also illustrate how nonpartisan policy analysis can be a powerful catalyst for policy developments that direct stakeholders to collaborate.

OHIO

In Ohio, education policymakers have focused on transfer policy for decades, but the perceived need for a concerted pathways policy emerged from legislators' growing awareness of their constituents' inability to transfer credits from regional community colleges to the state's public universities. The result was legislation (Sec. 3333.16 of HB 64) passed by the Ohio legislature in 2015 to mandate the cross-sector collaboration that would establish statewide academic pathways between community colleges and universities in an equivalent academic field.

The legislation's overarching objective was to "Establish policies and procedures applicable to all state institutions of higher education that ensure that students can begin higher education at any state institution of higher education and transfer coursework and degrees to any other state institution of higher education without unnecessary duplication or institutional barriers." Additionally, the legislation clearly stated that "The chancellor of higher education shall do all of the following," which included:

- "Develop and implement a universal course equivalency classification system for state
 institutions of higher education so that the transfer of students and the transfer and
 articulation of equivalent courses or specified learning modules or units completed by
 students are not inhibited by inconsistent judgment about the application of transfer
 credits."
- "Develop a system of transfer policies that ensure that graduates with associate degrees
 which include completion of approved transfer modules shall be admitted to a state
 institution of higher education, shall be able to compete for admission to specific
 programs on the same basis as students native to the institution, and shall have priority
 over out-of-state associate degree graduates and transfer students."

The implementation of these objectives thus fell to the chancellor and the Ohio Department of Higher Education, a cabinet-level agency that reports to Ohio's governor.

This open-ended legislative directive allowed the Ohio Department of Higher Education to develop intentional, inclusive, and collaborative processes that would ultimately lead to the development of transfer pathways. Faculty were nominated from all of the state's 36 public institutions of higher education to participate in discipline-specific "cluster faculty panels" to design the meta-major curricula that would span community colleges and universities. The curriculum for each meta-major, upon statewide institutional endorsement, was then implemented across the state system.

Important directives and mandates related to collaboration on pathways in Ohio have originated outside the legislature, too. In 2013, for instance, the chancellor and Board of Regents mandated that the state's postsecondary system reform mathematics instruction using a pathways model to facilitate multiple types of math-related learning that better align with college and career advancement. Specifically, the Board of Regents charged a 12-member faculty committee to "develop expectations and processes that result in each of Ohio's 36 public colleges and universities offering pathways in mathematics that yield: (a) increased success for students in the study of mathematics, (b) a higher percentage of students completing degree programs, and (c) effective transferability of credits for students moving from one Ohio public institution to another."

That initiative led to the development of three distinct math pathways based on statistics, quantitative reasoning, and preparation for STEM (science, technology, engineering, and math) careers. In the case of these math pathways, the Board of Regents mandated the collaboration that was required to develop the pathways but did not mandate adoption by community colleges and public universities. Nonetheless, by 2017 a survey of Ohio's public community colleges and universities found that 35 of 36 institutions planned to implement the math pathways model.¹²

TENNESSEE

In his final year in office as governor of Tennessee, Phil Bredesen championed legislation, the Complete College Tennessee Act of 2010, that was made up of a suite of policies to improve postsecondary access and completion in Tennessee. Relevant to the collaboration that leads to pathways was that this bipartisan bill explicitly articulated the legislature's intent "that community college students who wish to earn baccalaureate degrees in the state's public higher education system be provided with clear and effective information and directions that specify curricular paths to a degree." Specifically, the legislation required that the state's community colleges and public universities develop a program "consisting of sixty (60) hours of instruction that can be transferred and applied toward the requirements for a bachelor's degree at the public universities.... [Such courses] shall transfer and apply toward the requirements for graduation with a bachelor's degree at all public universities."

The Complete College Tennessee Act of 2010 led more than 450 faculty from community colleges and public universities to engage in a multiyear deliberative process that ultimately produced 50 academic pathways between Tennessee's community colleges and public universities. A study of Tennessee's legislative directive that community colleges and public universities collaborate to develop pathways found that postsecondary administrators uniformly applauded the directive to collaborate and cooperate, while university faculty generally resisted such initiatives. One Tennessee administrator observed that Section 4 of the Complete College Tennessee Act (which mandated the collaborative development of pathways) was "one of those pieces of legislation that you feel guilty about... in that [pathways] should have always been there and should not have to be [required by] the law." be a feel of the community of the community colleges.

VIRGINIA

The Virginia General Assembly in 2016 directed the state's Joint Legislative Audit and Review Commission (JLARC) to study the effectiveness and affordability of Virginia's community colleges. As was the case in Ohio and Tennessee, community college transfer policy in Virginia had been a longtime focus of education policymakers, but nearly three decades had elapsed since the legislature had requested a statewide evaluation of the community college system. In its evaluation, JLARC found that a "relatively low percentage of students attain credentials, dual enrollment programs did not appear to consistently save students time or money in their pursuit of baccalaureate degrees, and community colleges did not consistently ensure the quality of dual enrollment courses taught in high schools."16 The report put forth 21 recommendations for Virginia lawmakers to consider, and three of those recommendations explicitly acknowledged the need for greater collaboration among the community college system's stakeholders.

An outcome of the JLARC report was Senate Bill 1234, legislation passed in 2017 that directed Virginia's public colleges and universities to develop general education courses (constituting a "passport credit program") that could be offered at community colleges and transferred to any of the state's public colleges and universities. The legislation required each public college and university develop and implement a passport credit program in partnership with the State Council of Higher Education for Virginia and the state's community colleges, by the 2020-2021 academic year. The State Council of Higher Education for Virginia is required to report to the General Assembly in July 2018 on its strategies for facilitating such collaboration between the state's universities and its community colleges.

Information as a policy tool to foster collaboration ("Sermons")

Information-based tools are often promoted under the guise of "data-driven decision-making," either for policymakers or individuals navigating the academic and workforce landscapes. For instance, a Center of Education and the Workforce report proposed "five practices [that] call for the integration of postsecondary education and workforce data to support individual, organizational, and policy decisions" within the context of career pathways. ¹⁷ These five "practices" include the following:

- Information tools based on education projections, business expansion, and workforce quality
 - Example: Indiana's IndianaSkills
- Alignment of academic programs with labor market demand
 Examples: California's LaunchBoard and Connecticut's Training and Education
 Planning System
- Alignment of academic curriculum with workforce requirements Example: Texas's Skills Outcome Analysis

- Counseling tools to support students in educational and career decisions Examples: Virginia's Education Wizard, City University of New York's Career Maps, and Colorado's Launch My Career
- Information tools for workers to navigate job placement and analyses of skills gaps *Example: Minnesota's JOBSTAT, an online information-based tool*

These information-based policy tools hinge on two key assumptions. First, they assume that data are available. Second, they assume that people will access the tool, use the tools to access information, and act on the information that the tools provide. Connecting these assumptions to policy tools that foster collaboration, the logic here is that the voluntary development and dissemination of these information-based policy tools would compel collaboration across sectors.

Instead of a stand-alone policy tool to foster collaboration, information as a policy tool may be utilized as a complement to incentives and directives. For instance, much of the Delaware Pathways program budget is allocated to using information in a variety of ways to leverage the pathways developed through the state's use of competitive grants; types of information, from brochures highlighting academic majors to social media campaigns, are created with the hope that such information increases the odds that students, schools, counselors, and industry partners participate in pathways. In Ohio, Section 4 of the state's 2015 legislation that mandated the creation of academic pathways includes a specific clause about the use of information as a policy tool. The legislation directs the chancellor to "examine the feasibility of developing a transfer marketing agenda that includes materials and interactive technology to inform the citizens of Ohio about the availability of transfer options at state institutions of higher education and to encourage adults to return to colleges and universities for additional education." ¹⁸

PUBLIC POLICY THAT FOSTERS COLLABORATION INDIRECTLY

Fostering collaboration through policy: Dual enrollment

Dual enrollment policies and programs allow high school students to complete college-level coursework through a community college. The credits awarded through such courses allow students to complete high school diploma requirements while simultaneously earning college credit for an associate or baccalaureate degree. Dual enrollment programs are common throughout the United States and represent one of the most important ways that K-12 and community college systems partner to increase postsecondary access and completion.

An extensive review of dual enrollment policies and programs conducted by JFF in 2012 found that 47 states have a wide range of policies, rules, and regulations to facilitate high school students earning college credits. ²⁰ JFF also identifies six design principles that characterize the "best dual enrollment policies": Provide equal access and eligibility, offer high-quality course options, coordinate academic and social support systems, ensure adequate funding, establish transparent data systems to monitor quality and outcomes, and build a system for accountability. No single dual enrollment design principle centers on fostering collaboration, although two principles (coordinate academic and social support systems and build a system for accountability) imply the importance of collaboration.

We draw from a database of dual enrollment policies across 47 states²¹ to analyze the extent to which statewide dual enrollment policies explicitly direct K-12 and community college stakeholders to collaborate. We find from a cursory review of these policies that nearly all states assume that collaboration will occur; however, explicit directives for high schools and community colleges to collaborate vary widely and are more often the exception than the norm. States that explicitly require and outline the steps for collaboration, such as California, Kansas, Florida, and New Mexico, provide insightful examples of how dual enrollment (or other pathways-related policies and programs) can intentionally structure collaboration between K-12 and community college stakeholders.

CALIFORNIA

The California Assembly passed legislation in 2015 (AB 288) to expand and enhance dual enrollment programs by facilitating collaboration between public high schools and community colleges. This legislation created a legal and financial framework for the governing boards of a community college and a school district to enter into a College and Career Access Pathways (CCAP) partnership. CCAP partnerships are created "for the purpose of offering or expanding dual enrollment opportunities for students who may not already be college bound or who are underrepresented in higher education, with the goal of developing seamless pathways from high

school to community college."²² This equity-oriented approach to increasing access to dual enrollment goes so far as to require that high school and community college faculty "shall involve a collaborative effort to deliver an innovative remediation course as an intervention" when students need remedial coursework ²³ The chancellor of the state's community college system evaluates CCAP partnerships annually and can void any partnership if the agreement fails to comply with the statewide directives for collaboration set forth in AB 288.

KANSAS

In Kansas, state policy to foster collaboration is less prescriptive than California's approach but still depends on creating explicit collaborative partnerships between high schools and community colleges to facilitate dual enrollment programming. A high school and a community college in Kansas can enter into a Concurrent Enrollment Partnership (CEP) to outline explicitly the curriculum, principles for assuring quality in programming, and plans for implementing dual enrollment courses. The Kansas Board of Regents reviews these Concurrent Enrollment Partnerships with a focus on the implementation plan for professional development of CEP instructors and student-level outcomes such as credit hours generated within each CEP.

In short, the formal agreements that reflect collaborative efforts between K-12 stakeholders and community colleges can take a variety of forms. In Florida, such agreements are "Interinstitutional Articulation Agreements" that outline institutional roles and responsibilities; in New Mexico, a high school and community college enter into a "master agreement" that is meant to "reflect unique local needs and education goals of both the high school and college."²⁴ Our intent in profiling dual enrollment policies here is to illustrate how collaboration between K-12 and community college stakeholders can be explicit, as in the above examples, or left as an implicit assumption of the policy, which we find to be the more common approach in statewide dual enrollment policy.

Fostering collaboration through policy: P-20 councils

Many states in the past two decades have attempted to align their educational sectors by implementing P-20 councils. These councils bring together decision-makers from preschool and pre-kindergarten sectors (hence the "P" in P-20) up through public postsecondary institutions with graduate programs (i.e. the "20th" grade, assuming a two-year master's degree follows a four-year baccalaureate degree). Salient to pathways-related policy is that high schools and community colleges are in the middle of this P-20 spectrum. Policymakers assume the collaboration that arises from P-20 councils facilitates communication and aligns policy between state education entities. Little evidence, however, exists to substantiate such claims. Current trends also suggest that P-20 councils are of declining significance; the number of states with P-20 councils decreased from 38 in 2008 to 22 in 2017. 25

The limited capacity of P-20 councils may relate to the fact that most P-20 councils are advisory in nature. As noted earlier, the effective design, implementation, and scaling of pathways

requires meaningful and sustained collaboration between high schools and community colleges, between community colleges and four-year universities, and ideally, across all three of these sectors. P-20 councils may facilitate a deeper understanding of challenges related to education policy across these sectors, but these councils typically lack the statutory authority to implement policy. The result is that a P-20 council may represent a model that aspires to foster collaboration but does not provide an actual framework to design, implement, and scale collaborative initiatives. Referring to P-20 councils, Jennifer Rippner acknowledges as much by noting, "The case for collaboration is strong, but how to do it remains a problem to be solved." 26

Fostering collaboration through policy: Program accreditation

Program accreditation signifies a valuable way in which pathways-related stakeholders engage industry and workforce partners. Program accreditation, unlike institutional accreditation, which is carried out by regional accreditors, is typically overseen by national professional associations.²⁷ States may require program accreditation or postsecondary institutions may opt to pursue accreditation as a signal of program quality. Most program accreditation exists at the baccalaureate level in such areas as business, engineering, and the health sciences, but community college programs in health-related fields (nursing, radiology, dental hygiene, etc.) are also accredited at the program level.

Program accreditation spurs collaboration between postsecondary stakeholders and industry partners in two ways. First, collaboration between colleges and industry partners may occur directly as an accreditation requirement. Nursing programs, for instance, are often required to engage a workforce advisory board to demonstrate that the nursing curriculum and practicum align with local labor market needs and trends.

Program accreditation also potentially reflects collaboration in that accreditation standards demonstrate the interest and the stake employers have in the skills that college students develop. The Accreditation Board for Engineering and Technology (ABET), for instance, is made up of 35 professional and technical societies representing 1.5 million professionals worldwide. ²⁸ In the case of ABET and other accrediting bodies, professionals from a particular field both develop program standards and serve as the accreditors who engage with college programs throughout the accreditation process.

IMPLICATIONS FOR COLLABORATION

Public policy may foster collaboration across sectors, but what about equity?

Racial equity deserves to be front and center in conversations about the collaboration that leads to the design, implementation, and scaling of pathways, but we find little evidence that concerns about equity factor into how incentives, directives, and information are used to foster collaboration. Racial equity matters because, as Debra D. Bragg, professor emerita at the University of Illinois College of Education, notes, community colleges are the "nexus" through which "large and growing number of students who are underrepresented and underserved by the U.S. higher education system" will access postsecondary degrees along with the economic and societal benefits tied to such credential attainment.²⁹

In our analysis of state-level initiatives to foster collaboration, we find few policies and programs *designed* with a focus on either equity in general or racial equity in particular. Acknowledging in the definition of a problem that African American, Hispanic/Latino, and American Indian students are disproportionately affected by low degree attainment rates at community colleges *is not the same as designing policy that intentionally seeks to disrupt the racial inequity that pervades U.S. higher education*. Across incentives, directives, and the use of information, few examples, let alone clear patterns, emerge for how policymakers are grappling with racial equity. This is unfortunate — but it's an opportunity for policymaking — because pathways-related policies with a racial equity focus implemented at the state level can potentially foster "the kind of responsibility for creating the necessary conditions for equitable educational outcomes" that Frank Harris and Estela Mara Bensimon note is sorely lacking across postsecondary institutions in the United States.³⁰

Academic pathways between community colleges and public universities in Arizona, the product of legislation passed in 1996, are a rare example of collaborative policy where racial equity likely emerged as a byproduct of the state's initiatives. The Arizona legislation requiring collaborative efforts to develop pathways between community colleges and universities ultimately led to a concerted effort by four-year public universities to create pathways with the two tribal colleges in the state. These pathways have, in turn, expanded access in a meaningful way for American Indian students in Arizona. While Arizona may not have led with racial equity as the focus of its initiative, it is worthwhile to point out that the state directive nonetheless heightened racial equity as a byproduct of requiring collaboration between all community colleges and public universities.

Few examples of state-level policy contain an adequate focus on equity, but pathways with a racial equity focus represent promising developments around which state-level policy could be designed. For instance, Los Angeles Trade-Technical College, in partnership with the University of Southern California's Center for Urban Education, has used comprehensive pathways-based

reforms to advance educational and workforce outcomes for the college's African American and Latino students.³¹ At a system level, in 2009 the Illinois Community College Board and the University of Illinois Office of Community College Research and Leadership (OCCRL) created a racial-equity-focused initiative using pathways-related interventions to create an outcomesfocused continuous improvement process called Pathways to Results (PTR). This initiative, completing more than 80 equity-focused pathways projects in 46 of the 48 Illinois community colleges, provides a template for how state-level policy could foster collaboration across stakeholders while centering racial equity in such an effort.

What salient policy-related lessons and trade-offs emerge from these cases?

Initiatives to foster collaboration built around incentives or information are potentially easier to implement and less likely to encounter stakeholder resistance than directives but, at the same time, are highly dependent on revenue and may be relatively weak in their ability to institutionalize long-term change. The interest in state policy approaches to foster collaboration comes at a time when state lawmakers and policymakers have scarce resources and face a neverending stream of requests for funding. With this in mind, what lessons emerge from our analysis of state policy tools to advance a pathways-related policy agenda?

A common theme among directives ("the stick") that ultimately appears to move pathways initiatives forward is a focus on fostering collaboration while not prescribing the details of specific pathways-related interventions. This legislative focus on collaboration between stakeholders, rather than prescriptive policymaking, is a key factor in Ohio's successful implementation of pathways. A key policymaker in Ohio noted in a conversation with us that making a legislative mandate as broad as possible maximizes the odds that stakeholders will come together with an attitude of "how can we make this work?"

Another lesson to emerge from our analysis is that the success of a particular type of policy, such as directives that mandate collaboration on creating academic pathways, are highly dependent on local political contexts. These politics are not partisan (e.g., put forth exclusively by either Republicans or Democrats) but rather revolve around the earlier-noted three political dimensions of public policy's design and implementation. That is, the stakeholders, implementation complexity, and so on, represent the local context in which policy is debated, designed, and implemented. Consider the two states profiled here that adopted different forms of statewide directives requiring collaboration across the 9-16 pipeline: Ohio and Tennessee. In both states, the initiatives were championed by the community college system, with the support of a popular governor. Comprehensive legislation, once adopted by the state, compelled colleges and universities to come to the table to align curriculum requirements and develop comprehensive academic pathways to facilitate successful transfer and bachelor's degree attainment. In each state, the successful mandate was based on what was appropriate and feasible given the state's local context and politics.

In Ohio and Tennessee, the collaboration-based legislation to create pathways that was passed into law involved substantial resources in terms of stakeholders committing their time and energy to the effort. But unlike incentives, which, by definition, require financial resources, the Ohio and Tennessee programs do not specifically authorize a substantial investment of public resources to policy directives requiring cross-sector collaboration.

Acknowledging and planning for the policy process's time horizon is an additional theme that is relevant when considering how to advance state policy that fosters collaboration among stakeholders. Policymakers, lobbyists, and advocacy organizations typically suggest thinking about policy adoption in five-to-ten-year time frames, because developing ideas and policy options, building coalitions, and reaching consensus among stakeholders are activities that take years but must precede the formal processes through which policies are designed and adopted. The policymaking process is generally slow, with unexpected bouts of punctuated, rapid change brought on by external shocks (a certain political party being swept into power, a recession that hits a state unexpectedly, etc.). This means it is necessary to embrace a timeline for policy change to foster collaboration that sets milestones across a decade, not a year or two.

Finally, these cases demonstrate that collaboration can be the primary or secondary objective of a statewide policy. In cases such as those in Ohio or Virginia, state lawmakers can explicitly direct community colleges and universities to collaborate to develop pathways-related outcomes. Collaboration can also be an indirect outcome of a policy initiative, as is the case when, for example, a dual enrollment policy outlines programmatic outcomes with an implicit assumption that collaboration will be a necessary condition to yield such outcomes. Ultimately, this need not be an either/or proposition: It is possible to embrace public policies to advance collaboration in and of itself *and* policies in which collaboration is a key ingredient. For policies in which collaboration is an essential component, providing a framework for such collaboration (in the way California, Kansas, and Florida created explicit guidelines for dual enrollment collaboration, for example) likely facilitates cooperation among stakeholders.

DESIGNING STATE POLICY TO FOSTER COLLABORATION: QUESTIONS TO CONSIDER

Assessing the political landscape for collaboration

As a stutely observed by JFF's Policy Leadership Trust for Student Success, no "silver bullets" exist in public policy.³² Instead of searching for one-size-fits-all solutions or focusing on "best practices" or "promising strategies" to promote collaboration at the state level, it may be useful to ask a series of questions to guide a particular state's stakeholders through the long-term process of developing *a specific strategy unique to their state* to advance the policy or policies to foster collaboration among stakeholders. The first set of questions is designed to gauge the political landscape relative to the feasibility of collaboration.

1. What is the state's policy problem for which cross-sector collaboration is the answer?

This first question opens up a critical dialogue among stakeholders. A clear definition of the problem for which cross-sector collaboration is the answer will provide clarity in all the subsequent questions a state's stakeholders must consider.

2. Who are the state's stakeholders that ought to collaborate, and to what extent are these stakeholders receptive to collaborating?

Identifying a stakeholder group should be accompanied by an assessment of that stakeholder group's receptiveness to collaboration. Assessing the feasibility of collaborating across high schools, community colleges, four-year universities, and workforce partners means acknowledging that some stakeholder groups may be less inclined to collaborate than others (e.g., faculty from four-year universities, a stakeholder group that is simultaneously critical to developing pathways and often notoriously difficult to engage in collaborative processes).

3. Among these stakeholders, who inside (or outside) state government is going to champion a policy initiative to foster collaboration across stakeholders?

This is a question that often goes unasked and unanswered. Yet in our analysis, we find that behind every policy developed at the state level from which effective collaboration emerges, a champion (the governor, an agency head, etc.) or a constellation of champions has led the effort.

4. Is that champion, or constellation of champions, willing and able to dedicate five to ten years (or more) to such an effort?

Creating public policy takes time, especially in states where a part-time legislature may only convene for a few months out of the year. Advancing a policy initiative to foster the type of collaboration among stakeholders that leads to the effective design and implementation of pathways likely requires a decade-long strategy. This question is also important because it helps assess what work has already potentially been done and how such efforts can be moved further along.

5. Does the state have the political infrastructure (a higher education governing board, a P-20 governing board, etc.) to foster collaboration between community colleges and their K-12 and university partners? If not, how will such an infrastructure be created?

A policy to foster collaboration may face unique challenges in states where no single agency has the authority to implement such initiatives. This situation arises in Ohio, where the state's higher education coordinating board lacks the kind of authority that a governing board needs to compel stakeholders to collaborate. And in some cases, legislation may be necessary to realign entire systems to achieve reforms, as was the case with the Complete College Tennessee Act of 2010, which consolidated the governing authority of 13 previously autonomous community colleges into a statewide system.

6. Does the state's political environment lend itself to broad legislative reform, or would a piecemeal approach of adopting incremental policies to spur collaboration be more politically feasible?

The strategy to advance an initiative to foster collaboration will likely account for the political feasibility of what the initiative is trying to achieve relative to the political capital of the champion, or constellation of champions, advancing such an initiative. Clarifying whether a broad or a piecemeal strategy will be adopted helps to identify realistic expectations for what can be achieved across a 10-year (or more) time frame to advance a policy initiative.

Collaboration as the centerpiece of state-level policy design and implementation

Once a state's stakeholders have an understanding of the answers to questions related to the political landscape, additional questions emerge that deserve state-specific consideration related to the design and implementation of the actual policies to foster collaboration.

7. Given the definition of the policy problem and the state's political context, what combination of direct and indirect incentives ("carrots"), directives ("sticks"), and information ("sermons") seem most viable as tools to foster collaboration?

Acknowledging the inherent trade-offs between incentives, directives, and information, a state's stakeholders will need to give careful thought to the types of policies that are most appropriate for their state and how direct such policies ought to be.

8. If a policy proposal requires an investment of public resources, does the public and political will exist to fund such initiatives on a sustained basis (e.g., over a period of five to 10 years), such that collaboration can emerge across such a time span?

In states such as Delaware, where incentives are used to foster collaboration, policymakers must make an annual decision to fund such incentives. This is an inherent trade-off specific to incentives worth considering, because the requirement of annual funding may introduce uncertainty in an incentive-based initiative's ability to institutionalize policy change.

9. If policy initiatives focus on incentives or directives to spur collaboration, can information as a policy tool play a complementary role?

Information on its own may represent a relatively weak policy tool to foster collaboration because of the many assumptions involved with how information is expected to change the behavior of stakeholders. At the same time, the use of information as a policy tool may enhance either directives or incentives in a manner that amplifies the impact of these policies.

10. Are the proposed policy initiatives broad enough to foster collaboration among stakeholders without prescribing specific interventions?

Fostering collaboration across stakeholders is the necessary first step in the design, implementation, and scaling of effective pathways. A key lesson learned from numerous states that have developed such pathways is that the design, implementation, and scaling of pathways should involve the ongoing engagement of practitioners. To achieve such engagement, state-level initiatives to foster collaboration must be carefully designed to leave the details up to the stakeholders sitting at the table.

11. How will the success of any collaboration-related policy initiative be defined and measured, and to what extent are these definitions and measures of success agreed upon across stakeholders?

In the same way that policymakers design and implement public policy to solve public problems, policymakers also want to know that what they have designed and implemented has actually worked. Since "collaboration" does not lend itself to a single output that can be measured, stakeholders will need to carefully map out (and agree upon) how a policy to foster collaboration will solve the problem it was designed to address.

12. What barriers (political, logistical, etc.) could arise that might derail a collaboration-related policy initiative, and what can stakeholders do to plan ahead and anticipate such barriers?

A state-level policymaker put this point best when she said to us, "Part of getting folks to successfully collaborate is identifying ahead of time where the land mines are that are going to thwart your efforts. Because, believe me, those land mines exist." In other words, the most carefully designed policy initiatives often fail because of the unforeseen problems that arise once an initiative is implemented. Making a proactive, concerted effort to anticipate such barriers can maximize the odds of a successful statewide policy to foster collaboration that, in turn, leads to the development, implementation, and scaling of effective pathways.

Other important questions inevitably exist that must be considered carefully by a state's stakeholders who aspire to develop policy to foster collaboration. We believe that these 12 questions represent a starting point, and that only after these 12 questions about collaboration are answered should stakeholders consider specific pathways-relevant policy. In other words, the design and implementation of effective pathways depends first on creating a solid framework for collaboration. Embarking intentionally on answering these 12 questions will take a lot of work. Yet it is essential for advancing evidence-based, practitioner-informed policy approaches that can strengthen pathways at the state level through meaningful, sustained collaboration across stakeholders.

CONCLUSION

Lawmakers and policymakers design and implement public policy *to solve public problems*. This means you must articulate the policy problem for which collaboration is the policy answer.

Advocating for public policies to foster collaboration may look different than advocating for specific policies to create pathways, and this difference may take time to grasp. But to drive this point home, consider that the text of the bills that eventually created extensive statewide pathways in Ohio (HB 64) and Tennessee (SB 7006) did not contain the word "collaboration" or the word "pathways" anywhere. And yet, both pieces of legislation very intentionally spurred the collaboration across stakeholders that ultimately made Ohio and Tennessee leaders in the statewide design, implementation, and scaling of pathways.

In a 2014 policy report,³³ JFF presented "two core recommendations for state-level actors and policymakers." Those recommendations were "1) Create state policy conditions that support colleges' efforts to undertake comprehensive, integrated design... and 2) build state structures to set the conditions for scaling up conditions." Missing from these recommendations is the "how:" *How* do lawmakers and state policymakers create the conditions that support reform? *How* do lawmakers and state policymakers build structures to scale pathways? We believe the examples of state-level policies to foster collaboration we highlight in this report, combined with the 12 questions we pose to stimulate strategic thinking about developing state-specific approaches to advance policy initiatives, provide a framework to begin to grapple with the question of "How?"

Finally, we encourage being intentional about the extent to which a statewide policy is truly statewide, and about the downstream implications of such statewide policy for racial equity. Is a statewide program to award competitive grants for the development of pathways truly statewide if the under-resourced community colleges that students of color attend lack the capacity to apply for such grants? Is a statewide program to reward industry partners for participating in pathways truly statewide if no employers exist in economically depressed areas where students of color live? These implications for racial equity, largely missing from conversations thus far about statewide policy on pathways, deserve attention.

¹ JFF Impact Story: Policy Leadership Trust for Student Success. https://www.jff.org/what-we-do/impact-stories/policy-leadership-trust/, accessed on July 9, 2018.

- ² American Association of Community Colleges (2017), "Data Points: Enrollment Trend," February 2017, Washington, DC: AACC.
- ³ Shapiro, D., Dundar, A., Wakhungu, P.K., Yuan, X., Nathan, A. and Hwang, Y. (April 2017), "Completing College: A National View of Student Attainment Rates by Race and Ethnicity Fall 2010 Cohort," (Signature Report No. 12b), Herndon, VA: National Student Clearinghouse Research Center.
- ⁴ Kirst, M. (2008), "Secondary Schools and Colleges Must Work Together," *Thought & Action*, Fall 2008: 111-122.
- ⁵ House Research Organization, Texas Legislature (2017), Bill digest on HB 3768, Creating the Texas Guided Pathways Program, 85th regular session, 2017.
- ⁶ JFF has recommended the creation of such a state grant program as part of congressional reauthorization of the Higher Education Act.
- ⁷ Delaware Pathways (2017), "Learning to Work: Delaware Pathways Strategic Plan," Wilmington, DE: Delaware Pathways.
- ⁸ Rothman, R. (2017), "The Role of Strategic Partnerships in Scaling Delaware Pathways," Boston, MA: Jobs for the Future.
- ⁹ California Department of Education, Career and College Transition Division (2017), "Report to the Governor and the Legislature: Evaluation of the Assembly Bill 790 Linked Learning Pilot Program, the Assembly Bill 1330 Local Option Career Technical Education Alternative Graduation Requirement, and the California Career Pathways Trust," Sacramento, CA: California Department of Education.
- ¹⁰ Ohio Legislature (2015), House Bill 64, Amended and Substituted, 131st general assembly, 2015.
- ¹¹ Ohio Mathematics Initiative (2014), "Rethinking Postsecondary Mathematics: Final Report of the Ohio Mathematics Steering Committee," Columbus, OH: Ohio Department of Education.
- ¹² Ohio Mathematics Initiative (2017), "Creating the Future of Postsecondary Mathematics: Ohio Mathematics Initiative 2016-2017 Fiscal Year Progress Report," Columbus, OH: Ohio Department of Education.
- ¹³ Tennessee General Assembly (2010), Senate Bill No. 7006: Complete College Tennessee Act of 2010, first extraordinary session, 2010.

- ¹⁴ Tennessee Board of Regents (2011), "TBR, UT Announce 50 Guaranteed Transfer Pathways Between Community Colleges and Universities," press release, Aug. 22, 2011, Nashville, TN: Tennessee Board of Regents.
- ¹⁵ Black, M., Brown, C., and Doochin, J. (2013), "Evaluating the Efficacy of the Complete College Tennessee Act of 2010: A Qualitative Analysis of Leadership and Student Persistence Among Colleges and Universities in Tennessee," unpublished dissertation, Nashville, TN: Lipscomb University.
- ¹⁶ Joint Legislative Audit and Review Commission (2017), "Report to the Governor and General Assembly of Virginia: Operations and Performance of the Virginia Community College System," House Document 21, JLARC Report No. 495, Richmond, VA: Joint Legislative Audit and Review Commission.
- ¹⁷ Carnevale, A., Garcia, T., and Gulish, A. (2017), "Career Pathways: Five Ways to Connect College and Careers," July 2017, Washington, DC: Georgetown University Center on Education and the Workforce.
- ¹⁸ Ohio Legislature (2015), House Bill 64, Amended and Substituted, 131st general assembly, 2015.
- ¹⁹ Karp, M.M., Calcagno, J.C., Hughes, K.L., Jeong, D.W., and Bailey, T.R. (2007), "The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States," St. Paul, MN: National Research Center for Career and Technical Education.
- ²⁰ Ward, D. and Vargas, J. (2012), "Using Dual Enrollment Policy to Improve College and Career Readiness: A Web Tool for Decision Makers," Boston, MA: Jobs for the Future.
- ²¹ Education Commission of the States (2016), "Dual Enrollment: All State Profiles," Denver, CO: Education Commission of the States, accessed online: http://ecs.force.com/mbdata/mbprofallRT?Rep=DE15A.
- ²² California Assembly (2015), Assembly Bill No. 288: College and Career Access Pathways Partnership.
- ²³ California Assembly (2015), Assembly Bill No. 288: College and Career Access Pathways Partnership.
- ²⁴ New Mexico Public Education Department (2018), "Master Agreement Development Process," Santa Fe, NM: New Mexico Public Education Department, accessed online: https://webnew.ped.state.nm.us/wp-content/uploads/2017/12/CCRB_dualcredit_Master.Agreement.Development.Process.pdf.
- ²⁵ Rippner, J. (2017), "State P-20 Councils and Collaboration Between K-12 and Higher Education," *Educational Policy* 31, No. 1 (January 1, 2017): 3-38.
- ²⁶ Rippner, J. (2017), "State P-20 Councils and Collaboration Between K-12 and Higher Education," *Educational Policy* 31, No. 1 (January 1, 2017): 3-38.
- ²⁷ Eaton, J. S. (2009), "Accreditation in the United States," *New Directions for Higher Education* 2009, No. 145 (March 19, 2009): 79-86.

- ²⁸ Accreditation Board for Engineering and Technology (2018), "About ABET: Member Societies," Baltimore, MD: ABET, accessed online: http://www.abet.org/about-abet/member-societies/.
- ²⁹ Bragg, D. D. (2013), "Pathways to College for Underserved and Nontraditional Students," in *The State of College Access and Completion: Improving College Success for Students From Underrepresented Groups*, eds. L. Perna and A. Jones (New York, NY: Taylor & Francis), 34-56.
- ³⁰ Harris, F. and Bensimon, E. M. (2007), "The Equity Scorecard: A Collaborative Approach to Assess and Respond to Racial/Ethnic Disparities in Student Outcomes," *New Directions for Student Services* 2007, No. 120 (Winter 2007): 77-84.
- ³¹ Center for Urban Education (2017), "Pathways, Partnerships, and Progress: Transforming a Community College," Los Angeles: Center for Urban Education, Rossier School of Education, University of Southern California.
- ³² Policy Leadership Trust for Student Success (2017), "State Policy Framework," Boston MA: Jobs for the Future, accessed June 11, 2018, at https://www.jff.org/what-we-do/impact-stories/policy-leadership-trust/.
- ³³ Couturier, L. (2014), "Policy Meets Pathways: A State Policy Agenda for Transformational Change," Boston, MA: Jobs for the Future.