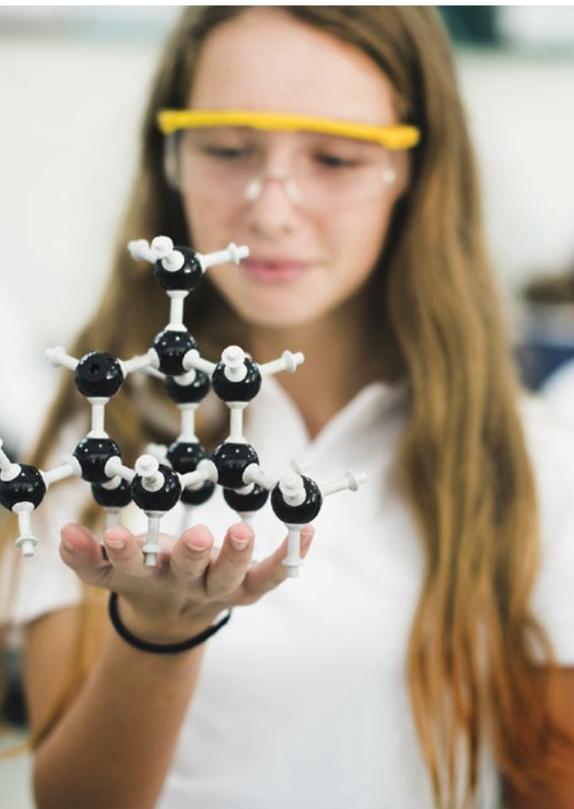


ALIGNING FOR STUDENT SUCCESS

How Community Colleges Work With K-12
to Improve College and Career Outcomes



Education
Strategy
Group



AMERICAN
ASSOCIATION OF
COMMUNITY
COLLEGES



ASSOCIATION OF
COMMUNITY COLLEGE TRUSTEES

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EXECUTIVE SUMMARY

Since 2012, community colleges have made a considerable effort to increase student success and completion. Today, as much greater attention is being paid to drawing stronger linkages between education and workforce needs, institutions are becoming more strategic and deliberate in this work. In particular, many institutions are building stronger relationships with their K-12 partners to ensure students are ready to succeed in college and beyond. These promising models show that when community college and K-12 leaders link up to align academic, navigational, and career supports students are set on a path to succeed in postsecondary and beyond. This report will identify those practices and offer high-level strategies, as well as concrete actions community college presidents and trustees can take to partner with K-12 to dramatically improve student outcomes.

STRATEGIES TO ACCELERATE ACADEMIC TRANSITIONS



Integrate opportunities for students to speed their learning through early postsecondary opportunities or catch up to a college-ready level through transitions courses.



Put incoming community college students into appropriate courses and, consequently, on a path toward persistence and completion.

LEADERS CAN PARTNER WITH K-12 BY:

- Chairing a joint process between high school and postsecondary faculty to develop high school transitions courses that, upon passing, place students directly into credit-bearing courses.
- Identifying gaps in dual enrollment participation or success outcomes and leveraging data to enhance supports offered alongside early postsecondary opportunities.
- Enacting policies that use a variety of data points to ensure students are placed in appropriate gateway courses.
- Hosting community conversations with K-12 school districts to develop a common understanding of college readiness and success.

STRATEGIES TO EXTEND NAVIGATIONAL SUPPORTS



Beginning as early as middle school, provide students with the straightforward assistance and career exploration necessary to develop focused college and career goals.



Work with K-12 to stretch the clear program maps and course sequences being developed in higher education down into high schools.



Clearly communicate and advise on transfer opportunities, beginning in high school and through successful transition to a 4-year institution or the workforce.

LEADERS CAN PARTNER WITH K-12 BY:

- Co-developing a tiered advising framework that provides a roadmap for aligned advising beginning in high school.
- Convening an expert work group of K-12 and higher education faculty to rethink 9-14 course sequences and pathways, and how they align with student aspirations.
- Hosting joint board meetings between K-12, 2-year and 4-year partners to commit to and sustain transparent and accelerated pathways to 4-year degrees.

STRATEGIES TO SERVE AS CAREER BRIDGES



Capture employer demand signals for skills, competencies, and credentials and actively work with K-12 to align skills taught in pathways with these signals.



Establish or formalize regional partnerships in which K-12, higher education, and private sector leaders are represented to mobilize multiple stakeholders and advance alignment.

LEADERS CAN PARTNER WITH K-12 BY:

- Taking a regional approach to workforce alignment in which higher education, K-12 and private sector partners are at the table together.
- Approaching employers with or connecting employers to K-12 partners to support curriculum development or work-based learning experiences.
- Setting regional goals for alignment and monitoring progress toward them alongside employers and K-12 partners.
- Leveraging data findings to provide cover for the innovative build up or necessary phase out of pathways based on their alignment with labor market needs.
- Investing in awareness and recruitment efforts as early as middle school to ensure new pathways are fully and equitably enrolled.

INTRODUCTION

The New Stakes

In recent years, community colleges have been at the center of many education policy conversations—and with good reason. Two-year institutions play a critical role in our education ecosystem by providing open-access education to a substantial majority of the country’s first-generation, low-income, and underrepresented minority undergraduates. With education levels continuing to be a powerful proxy for individuals’ abilities to earn a living wage and productively engage in a democratic society, community colleges have an increasingly important role to play as engines of economic and social mobility.

In our 2016 report, “[Seizing the Moment: Community Colleges Collaborating with K-12 to Improve Student Success](#),” we identified how efforts to increase community college access and open the door to more students must include a similar focus on college readiness and success. We focused on three areas of policy and practice that directly affect the success of students prior to their leaving high school that can accelerate academic transitions from high school through community college. These strategies include:

- **Providing Pre-college Academic Interventions:** Integrate opportunities for students to speed their learning through early postsecondary opportunities like at [El Paso Community College in Texas](#) or catch to a college-ready level through transitions courses like [Tennessee SAILS](#) at Chattanooga State Community College.
- **Revising Placement Policies and Practices:** Prioritize placing community college students into appropriate courses, and consequently, on a path toward persistence and completion like the [Illinois Community College President’s Council](#) and [Washington State](#).
- **Redesigning First-Year Experiences:** Support students’ transitions into credit-bearing coursework as the [State University of New York](#) did with Statway and Quantway or as [Ivy Tech Community College in Indiana](#) did with its Associate Accelerated Program.

Those ideas still ring true today, but as jobs and economic opportunity have taken center stage, the focus for community college leaders has understandably evolved. Students, families, and the government are paying close attention to the link between education and workforce needs. More than 40 states have adopted aggressive postsecondary attainment goals tied to current and future workforce demands. And a renewed focus on apprenticeships has called on community colleges specifically to build out opportunities for youth to gain the technical skills needed within high-demand fields.

This new emphasis raises the stakes for community colleges, putting more pressure on institutions to develop strong collaborative relationships with their K-12 partners. As before, it is essential that the work to prepare students to successfully complete a credential and attain a good job begins well before a student arrives on campus. Low college readiness levels, demonstrated by high remediation rates and low success rates in those developmental courses, are a major impediment to degree completion and credential attainment. Ensuring high school students receive straightforward, timely advice and assistance in navigating college and career choices also is critical. However, many students lack access to critical information about key decision points on the path to higher education and a meaningful career. For instance, new research by Strada Education Network and Gallup finds that more than half of U.S. adults would change at least one of their educational decisions, with 36% claiming they would change their major—a choice that has incredible implications for employment and earnings potential after college.¹

¹ Carnevale, A.P. (2015). What’s it Worth? The Economic Value of College Majors. *Georgetown Center for Education and the Workforce*; Strada-Gallup Education Consumer Insights. (2017). *From College to Life*.

The opportunity for community colleges to collaborate with their K-12 and workforce peers has never been riper than it is today. College- and career-focused measures are now included in more than 40 states' K-12 accountability systems, so high schools will be measured, in part, based on how well prepared their students are for postsecondary transitions. Perkins V, which was passed into law on July 31, 2018, now requires state career and technical education systems to include a strategy for joint planning and alignment between K-12 and postsecondary. Further, under the umbrella of the Workforce Innovation and Opportunity Act, more states are aligning the work of in-school, out-of-school and adult training programs through their workforce development boards.

Community colleges are experienced in working across sectors to help students succeed and, therefore, are well positioned to take the lead partnering with K-12 school districts to help strengthen college and career readiness. In addition to bolstering academic transitions strategies such as providing pre-college academic interventions and revising placement policies and practices, this report will put forth other specific strategies institutions can execute given the new stakes. First, community colleges must do more to extend navigational supports down into K-12 by:

- **Providing Early and Aligned Advising:** Beginning as early as middle school, provide students with the straightforward assistance and career exploration necessary to develop focused college and career goals.
- **Connecting Guided Pathways:** Work with K-12 to stretch the clear program maps and course sequences being developed in higher education down into high schools.
- **Mapping Transfer and Career Opportunities:** Clearly communicate and advise on transfer opportunities, beginning in high school and through successful transition to a 4-year institution or the workforce.

Second, community colleges must serve as career bridges that guide students from high school to a credential with currency in the labor market by:

- **Using Data to Drive Pathways Alignment:** Capture employer demand signals for skills, competencies, and credentials and actively work with K-12 to align skills taught in pathways with these signals.
- **Accelerating Alignment through Stakeholder Engagement:** Establish or formalize regional partnerships in which K-12, higher education, and employers are represented to mobilize multiple stakeholders and advance alignment.

ACTION AREA 1: ACCELERATE ACADEMIC TRANSITIONS

Despite significant efforts to prepare youth for the rigors of college, millions of 12th graders are not ready to seamlessly transition to college without the need for remediation.² This is costly for students and states, and hinders higher education's ability to increase enrollment and close

equity gaps. It is paramount that K-12 and higher education leaders collaboratively align expectations and develop supports to ensure that all students can reach them. In particular, taking advantage of the 12th grade year to provide students accelerated opportunities to speed up their transition into college or catch up on knowledge and skills they have not yet mastered has led to increases in enrollment and success in a number of states.

"Despite significant efforts to prepare youth for the rigors of college, millions of 12th graders are not ready to seamlessly transition to college without the need for remediation."

Promising Practices

In an effort to broaden economic and career opportunities for students who have been traditionally underrepresented and underserved in higher education, community colleges across the nation are partnering with K-12 school districts to expand the pre-college experiences available to students. Since "Seizing the Moment" was released in 2016, community colleges have doubled down on supports that help accelerate academic transitions between high school and community college. Some of these strategies include:

- **Providing Pre-college Academic Interventions:** Integrate opportunities for students to speed up their learning through early postsecondary opportunities or catch up to a college-ready level through transitions courses.
- **Revising Placement Policies and Practices:** Prioritize putting incoming community college students into appropriate courses and, consequently, on a path toward persistence and completion.

² Chen, X., & Simore, S. (2016). Remedial Coursetaking at U.S. Public 2- and 4-Year Institutions: Scope, Experiences, and Outcomes. *National Center for Education Statistics*.

PROVIDING PRE-COLLEGE ACADEMIC INTERVENTIONS

South Texas College, TX

Bringing Dual Enrollment Opportunities to Scale

South Texas College realized that its dual enrollment program was broadening the horizon for countless students throughout the region and wanted to provide opportunities for more students to speed up their journey to college. To scale their dual enrollment program and service more students, South Texas College developed partnerships with 22 independent school districts throughout the region. South Texas College's dual enrollment courses, dual enrollment academies, and early college high school programs serve more than 12,000 students from nearly 80 high schools each year. South Texas College has expanded traditional dual enrollment offerings by creating three distinct dual enrollment programs designed to ensure that pre-college opportunities are available for all students ranging from those students who are traditionally at-risk to those who are high achieving.

To ensure that students who participate in dual enrollment are successful, South Texas College has established student-centered initiatives focused on managing enrollment and support services for students enrolled in dual credit programs. The Dual Credit Enrollment Services department provides navigational support, or assistance with the completion of the dual enrollment application, admissions, and course registration process. The staff in the Dual Credit department coordinate orientation, transition, and career-focused activities so students have the academic supports necessary to succeed in their dual enrollment courses.

South Texas College also offers a uniquely structured dual enrollment opportunity known as Dual Enrollment Academies. The academy is designed for students to take high school courses in the morning and dual credit courses in the afternoon at the college. The goal is to accelerate the academic transition for students who have identified a field of study. Since the development of the program in 2005, approximately 1,200 students have enrolled, and 80% of them have completed an associate degree program upon completion of high school. South Texas College also has developed a series of short-term certificates that are based on industry needs and are recognized as a college-level credential by the Texas Higher Education Coordinating Board (THECB).

The students who enroll in South Texas College dual enrollment programs are highly successful when they transition to higher education. In the fall immediately following graduation, approximately 62% of students are enrolled in a postsecondary degree program in Texas, and of those students enrolled in higher education 24% matriculated at South Texas College.

FIND OUT MORE:

https://academicaffairs.southtexascollege.edu/highschool/dual_enrollment.html



8,000

high school seniors
were enrolled in college
credit hours

53%

of the students
earned over 16 credits

25%

of the students
earned over 30 credits



22%

of the students earned
an associate degree or
certificate upon completing
high school

City University of New York, NY and State University of New York, NY

Using the 12th Grade Year to Increase Academic Readiness

The Lessons in Navigating College Transitions (LINCT) program was designed to reduce the enrollment barriers experienced by New York City high school students as they transition into college. LINCT's year-long math and English courses ensure that students have the opportunity to catch up and enter college with the skills necessary to enroll and succeed in credit-bearing, college-level courses. In addition to building strong content knowledge in English and math, the course includes opportunities for career exploration. The LINCT program team at the City University of New York (CUNY), in partnership with the New York City Department of Education, also offer a highly popular cohort-based professional development series and instructional coaching program for high school teachers who teach LINCT courses.

LINCT was developed as part of a collaborative effort between the New York State Education Department, the State University of New York (SUNY), and CUNY. As the content for LINCT was developed, CUNY staff sought feedback from high school teachers and college faculty throughout New York State. The highly collaborative process has helped to facilitate the adoption of the program across the state.



75%

of LINCT students enroll within
a year of graduation



15%

LINCT students have 15 percentage point
gains over comparison group students in ELA
on state assessments and SAT

Transition courses like LINCT and [Tennessee SAILS](#) have reduced the number of students in need of remedial courses and have provided students with the supports necessary to successfully transition to and succeed in college. They also provide a critical opportunity for community colleges to partner with K-12 school districts on designing curriculum to ensure that all students are successful in their postsecondary pursuits.

FIND OUT MORE:

<http://www2.cuny.edu/academics/school-college-partnerships/linct/>

REVISING PLACEMENT POLICIES AND PRACTICES

Davidson County Community College, NC

Revolutionizing the Course Placement Process

Each year, approximately 50% of all college entrants will take a remedial course in math or English.³ Given the impact of course placement policies on course completion, credit accumulation, and degree attainment, more than half of community colleges in the U.S. have incorporated multiple measures as a process for determining course placement.⁴ Since 2013, Davidson County Community College (DCCC) in North Carolina has been a leader in this effort and has utilized multiple measures to assess and place students in developmentally appropriate math or English courses.

"76% of the students who were placed using high school transcript data successfully completed their English course, compared with 59% of students placed via a placement exam."

The DCCC multiple measures approach utilizes a hierarchy of measures that first takes into account a student's unweighted high school GPA. If the student's GPA does not meet the placement threshold, the college will then evaluate the student's SAT/ACT scores to determine if the student is eligible for bypassing remediation. Should the student not have SAT/ACT scores, or the scores do not meet the threshold, DCCC staff will review whether the student has completed any prior college credits that would make them eligible for placement into a credit-bearing course. If the student meets none of those criteria, college staff will utilize a state-developed placement exam to place the student. Students who have graduated from a high school more than 10 years prior to enrollment also will be placed using a placement exam.

Since implementing the policy, DCCC has seen an increase in the number of students who successfully complete gateway courses. An analysis of the policy change found that students who were placed using multiple measures completed courses at a higher rate than those students placed in courses using traditional measures. Further, 76% of the students who were placed using high school transcript data successfully completed their English course, compared with 59% of students placed via a placement exam. For math, students placed via multiple measures also outperformed their peers placed by the traditional placement exam.

Part of the success of the new policy can be attributed to supplemental supports the DCCC staff have implemented to ensure students could successfully complete the gateway courses. DCCC has expanded tutoring services, added teaching assistants and has strengthened connections with faculty by providing opportunities for faculty to participate in professional development at the state and national level. Building off of lessons learned from DCCC's multiple measures policy, the North Carolina Community College System office is piloting a new placement policy known as **Reinforced Instruction for Student Excellence (RISE)**. The new policy is designed to include co-requisite and transitions courses to support students before and after placement. Since 2016, **26 states** have at least one postsecondary system which has implemented, piloted, or is considering developing a multiple measures policy.

FIND OUT MORE:

<https://www.nccommunitycolleges.edu/student-services/multiple-measures>

3 Scott-Clayton, J. (2018). Evidence-based reforms in college remediation are gaining steam – and so far living up to the hype. *Brookings*

4 Early Findings from a National Survey of Developmental Education Practices

Making it Actionable...

Providing a high-quality learning experience in which all students can succeed is an essential priority for institutions of higher learning. From a policy perspective, community college presidents and trustees can take action on a number of fronts to ensure their students are mastering necessary skills and competencies. More specifically, community college leaders can take action by:

- Chairing a joint process between high school and postsecondary faculty to develop a high school transitions course that, upon passing, places students directly into credit-bearing courses;
- Identifying gaps in dual enrollment participation and leveraging that data to enhance supports offered alongside early postsecondary opportunities;
- Enacting a holistic process for placement purposes; and
- Hosting community conversations with K-12 school districts to develop a common understanding of college readiness and success.

ACTION AREA 2: EXTEND NAVIGATIONAL SUPPORTS

For many students, college can be a difficult to navigate particularly for students who have been traditionally underrepresented and underserved in higher education. Studies show that providing students with personalized information, intensive counseling, and assistance with the steps necessary to enroll and succeed in college can significantly improve college enrollment and persistence outcomes.⁵ Similarly, high schools that provide students with the opportunity to cultivate their career aspirations, envision their future, or routinely embed college-going behaviors can be successful in improving both long- and short-term educational outcomes.⁶ While these strategies could move the needle on high school transitions, particularly for underserved youth, most schools struggle to find the capacity and resources to deliver on them. Working together, community colleges and their K-12 partners can and have strengthened and accelerated supports so more students reach graduation and attain a postsecondary credential.

Promising Practices

Partnerships between community colleges and K-12 school districts that systematically align navigational support strategies could go far to improve student outcomes. For instance, many institutions have created more clearly defined program maps in higher education that have led to increases in credential attainment and at a faster pace, especially for those students who have traditionally struggled in higher education. Community colleges across the U.S. are extending navigational supports down into K-12 by:

- **Providing Early and Aligned Advising:** Beginning as early as middle school, provide students with the straightforward assistance and career exploration necessary to develop focused college and career goals.
- **Connecting Guided Pathways:** Work with K-12 to stretch the clear program maps and course sequences being developed in higher education down into high schools.
- **Mapping Transfer and Career Opportunities:** Clearly communicate and advise on transfer opportunities, beginning in high school and through successful transition to a 4-year institution or the workforce.

5 Castleman, B., & Goodman, J. (2016). Intensive College Counseling and the Enrollment and Persistence of Low Income Students. *Education Finance and Policy*, 1-41.

6 Engle, J., Bermeo, A., & O'Brien, C. (2006). Straight from the Source: What Works for First-Generation College Students. Pell Institute for the Study of Opportunity in Higher Education, 2006.

PROVIDING EARLY AND ALIGNED ADVISING

Miami Dade College, FL

Advising Early to Support Students to and Through College

Miami Dade College (MDC) has realized that waiting for students to arrive as freshmen is too late to begin providing the advising and navigational supports students need to succeed in completing a postsecondary degree program. Through a partnership with the K-12 school district, MDC has developed a three-tier advising structure

that starts with 12th grade students receiving pre-college advising support in their high school. On-site advising is available at 97 high schools, and more than 90% of Miami-Dade high school students are assigned a pre-college advisor from MDC. These advisors are responsible for providing navigational support and facilitating workshops on financial aid and career selection for high school seniors.

“For students who participate in Shark Path, the fall-to-fall retention rate is 75%.”

The Miami Dade Pre-College Advising Program (Shark Path) is a comprehensive series of programs, activities, and counseling sessions that guide students at every stage of their college and career journey. Shark Path includes a non-cognitive assessment, a career assessment, and an online curriculum that students complete prior to their participation in first-year orientation. The pre-college portion of Shark Path has increased the number of students who have registered for courses by 12%, approximately 78% of students enrolled in a developmentally appropriate English and math course and 90% of students attended orientation. For students who participate in Shark Path, the fall-to-fall retention rate is 75%.

The program continues with new student orientation, which is an opportunity for students to meet their assigned advisor to discuss course selection and review the results of their pre-college assessments. During the first semester, students continue to meet with their advisor to develop academic degree maps, which have led to significant increases in the number of students who have completed gateway courses in their programs of study.

Shark Path was developed after academic and student affairs staff analyzed student data, and conducted focus groups to identify the barriers to student success. Today, MDC continues to analyze student data to revise and further develop interventions and to implement their learnings at scale.

FIND OUT MORE:

<https://www.mdc.edu/wolfson/student/newstudentcenter/offices.asp>

<http://www.mdc.edu/admissions/>

CONNECTING GUIDED PATHWAYS

Ivy Tech Community College, IN

Implementing and Extending Multiple Mathematics Pathways

College algebra is a critical gateway for many students transitioning into higher education. Yet, for students outside of the STEM fields, the algebra-calculus pathway may not necessarily align with the skills and competencies needed to be successful. To address this, Ivy Tech Community College and other institutions in Indiana teamed up with Complete College America and the Charles A. Dana Center Math Pathways (DCMP) to rethink how their mathematics pathways are aligned with the skills required for different careers. These pathways are now being extended down into K-12 to ensure coursework is relevant to students' varying interests and aspirations across the education continuum.

Ivy Tech's Math Pathways to Success has resulted in pathways that provide students with clearer and more relevant mathematics requirements. To begin, the program reduced the number of math course options offered at the institution, which subsequently reduced the likelihood that students would repeat a math course if they changed majors. It also put students on a path that includes math courses aligned with their career interests, increasing students' engagement and thus their likelihood to succeed in gateway math. Ivy Tech now offers three different math pathways: a technical pathway that has an emphasis on real-life applications; a quantitative reasoning pathway designed for all non-transfer Associate of Applied Science, transfer Associate of Arts, and programs in public and social services; and a traditional college algebra pathway intended for students pursuing occupations in STEM.

The changes have had a meaningful effect on the courses students take at the college. Today, about 50% of Ivy Tech majors include quantitative reasoning as the gateway course and college algebra is only required for 34% of majors. As a result, in 2016, about 65% of all first-time Ivy Tech students took quantitative reasoning as their gateway math course and only 11% took college algebra. These efforts have borne out in on-time completion rates. For instance, the percentage of minority and low-income students who are on-track to graduate from the institution has increased substantially over the last 5 years.

Ivy Tech Community College On-Time Completion by Population

	%	1 YR Δ	5 YR Δ
Black or Hispanic Students	7.1%	+0.6	+6.1
Grant Recipients	14.1%	+4.2	+12.9
Other Low-Income Students	6.5%	+0.5	+4.6
All Students	9.7%	+1.8	+7.1

Sources: Indiana Commission for Higher Education, National Student Clearinghouse

Note: Data limited to first-time degree-seeking students who initially enrolled full-time at Ivy Tech Community College.

Next, the state of Indiana and Ivy Tech Community College are looking toward extending these new math pathways down into K-12. A two-fold process has already begun to develop 1) a high school transition course, much like CUNY LINCT and Tennessee SAILS, that, upon passing, will make students who may otherwise be deemed not college ready eligible for placement in a postsecondary gateway course, and 2) an algebra II equivalent, that conceptualizes the content in new ways for students, while still preparing them for success in higher education. The combination of these courses, alongside a traditional STEM/college algebra pathway, will prepare students to be successful in the multiple pathways offered at Ivy Tech and for satisfying and sustainable careers.

FIND OUT MORE:

<https://dcmathpathways.org/where-we-work/indiana>

<https://www.ivytech.edu/math-pathways/>

MAPPING TRANSFER AND CAREER OPPORTUNITIES

Montgomery College, MD and Prince George's Community College, MD *Accelerating Baccalaureate Degree Completion through Collaboration*

In Maryland, two community colleges are making the pathway to baccalaureate degrees more transparent and efficient for their students. In Montgomery County, MD, Montgomery County Public Schools (MCPS), Montgomery College (MC) and the Universities at Shady Grove (USG), the University System of Maryland's satellite campus in Montgomery County, teamed up to create the Achieving Collegiate Excellence and Success (ACES) program. Nearby, in Prince George's County, MD, Prince George's County Public Schools (PGCPS), Prince George's Community College (PGCC), and University of Maryland University College (UMUC) have similarly developed the 3D Scholars programs, which provides an accelerated pathway that begins in 10th or 11th grade and culminates in a Bachelor's of Science. In both cases, commitment from K-12, 2-year and 4-year leaders has resulted in more accelerated and more affordable pathways to a high-value credential.

Montgomery County's ACES program offers academic coaches and other supports to high school students in 14 MCPS high schools. These coaches follow them as they transition to any of the three MC campus locations and then as they transfer to the USG. In addition to coaches, ACES supports students along that transfer pathway by providing test preparation, tutoring, assistance with college applications and financial aid/scholarship applications, career exploration and readiness programming, college visits, college transfer workshops, and other advising services. With these supports, ACES students report higher average GPAs than non-ACES students and their fall-to-spring retention rate is an astonishing 20 percentage points higher than their peers at 84%. Today, the program serves more than 2,500 students and continues to demonstrate positive results with participating students outpacing their peers on an array of progress and completion metrics.

The ACES Pathway



- Individualized coaching that continues throughout the entire pathway
- College application and financial aid assistance
- College preparation and transition support
- Transfer advising into USG
- Career exploration opportunities
- Financial aid and scholarship assistance
- Leadership development
- Career readiness programming and internship guidance
- Networking opportunities

Similarly, Community College, building upon achievements as a participant in AACC's Pathways Project, offers the 3D Scholars Program—a more affordable, definitive pathway to a bachelor's degree for students in the county that begins with dual enrollment in high school. The name "3D" stands for the three degrees earned in the program: high school diploma, associate degree, and bachelor's degree. 3D Scholars begin by earning credit towards an associate's degree while in high school, then immediately transition to PGCC to complete their associate degree, and are then awarded a scholarship to UMUC. In this structure, students pay less than \$10,000 to earn a Bachelor's of Science in one of three fields: criminal justice, computer networks and cybersecurity, or business administration. While only in its second year, Maryland state legislators hope the 3D Scholars Program and the "\$10,000 bachelor's degree" can be a scalable model within the state of Maryland.

FIND OUT MORE:

<http://mcblogs.montgomerycollege.edu/aces/>

<https://www.pgcps.org/3dscholars/>

Making it Actionable...

Student success is a strategic priority for community colleges across the nation. Community college presidents and trustees can magnify the effects of their programming by extending students success strategies down into high school. More specifically, community college leaders can take action by:

- Co-developing an aligned advising framework with K-12 partners that provides a roadmap for aligned advising beginning in high school;
- Convening an expert work group of K-12 and higher education faculty to rethink 9-14 course sequences and pathways, and how they align with student aspirations;
- Hosting joint board meetings between K-12, 2-year and 4-year partners to commit to and sustain transparent and accelerated pathways to 4-year degrees.

ACTION AREA 3: SERVE AS CAREER BRIDGES

More than 30 million good jobs exist for those without a bachelor's degree, making a strong case for the economic return of an associate degree.⁷ Nationally, those numbers are likely to grow as the good jobs increasingly shift toward workers with an associate degree and away from those with a high school degree or less. Despite these abundant opportunities for 2-year degree holders, surveys reveal that Americans are in favor of requiring colleges to do more for their career prospects, suggesting there may be a disconnect between the skills being taught and those demanded by the workforce.⁸ Indeed, as of August 2018, the National Federation of Independent Businesses (NFIB) reported record rates of labor quality issues, with 89% of those hiring or trying to hire reporting few or no qualified applicants.

Promising Practices

As the workforce engines of their communities, community colleges have important roles to play in drawing more explicit connections between education and the workforce to equip students with the skills the 21st-century demands. Further, given their deep roots within local communities and with local businesses, 2-year institutions are well-positioned to act as a link between K-12 partners and the workforce to provide more seamless pathways to a good job. As the following promising practices show, community colleges are partnering with K-12 to bridge the gap between education and the workforce by:

“As the workforce engines of their communities, community colleges have important roles to play in drawing more explicit connections between education and the workforce to equip students with the skills the 21st-century demands.”

- **Using Data to Drive Pathways Alignment:** Capture employer demand signals for skills, competencies, and credentials and actively work with K-12 to align skills taught in pathways with these signals.
- **Accelerating Alignment through Stakeholder Engagement:** Establish or formalize regional partnerships in which K-12, higher education, and private sector leaders are represented to mobilize multiple stakeholders and advance alignment.

7 Carnevale, A. P., Strohl, J., Cheah, B., Ridley, N. (2017). Good Jobs that Pay without a BA. *Georgetown University Center on Education and the Workforce*.

8 New America. (2017). Varying Degrees: *New America's Annual Survey on Higher Education*.

USING DATA TO DRIVE PATHWAY ALIGNMENT

Monroe Community College, NY

Co-Developing Data-Informed Pathways

By building out authentically data-informed pathways, The State University of New York at Monroe Community College (MCC) has become a workforce development powerhouse for the Finger Lakes region of Upstate New York. The institution has taken labor market data usage to the next level by not only informing program development, but also examining the return on investment to students for every dollar invested in their education. As a part of this pathway, MCC works with local schools to ensure that “labor links,” or the linkages between skills learned in high school career and technical pathways and those learned at MCC, are strong.

Through the division of Economic Development and Innovative Workforce Services (EDIWS), MCC is using labor market data to inform program development. In addition to building new, scaling up, and phasing out programs based on labor market needs, the college also has been using data to break down high-demand programs, looking at specific course sequences and their wage return in the labor market. In doing so, MCC can identify the minimum sequence of courses a student can take and still achieve a strong return in earned wages, while also having clear data on the negative impact when students do not complete a full pathway. Such information is being leveraged by college leaders to support the development of high-quality certificates and credentials within degree programs.

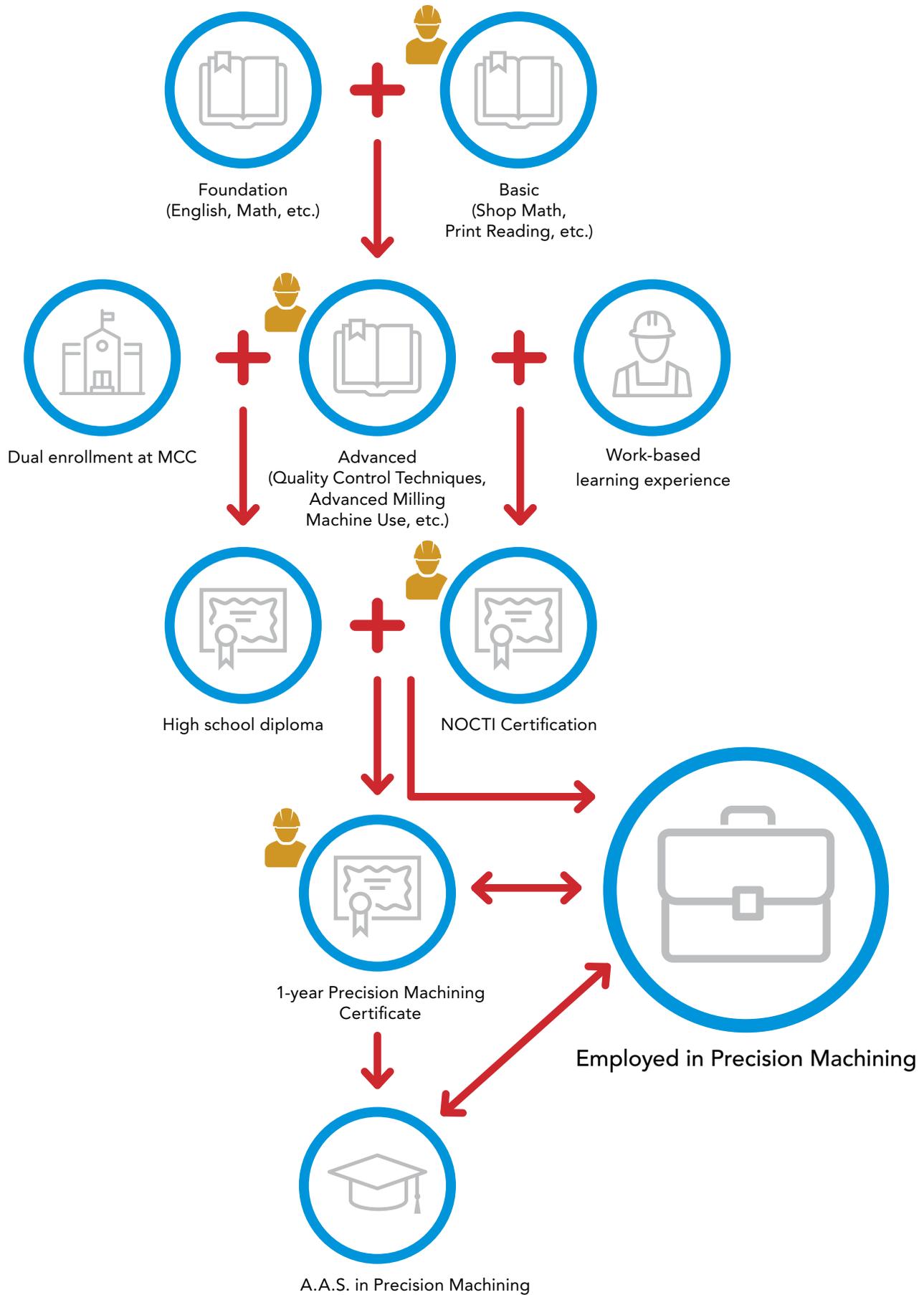
The same strategy also is being applied at the high school level by ensuring career and technical pathways culminate in an industry-recognized credential while offering the opportunity to continue on to postsecondary education. For many pathways, Monroe Community College has worked closely with local school districts to ensure high schools students are equipped with the technical skills they need to succeed in college and career. For instance, faculty from the college’s School of Applied Sciences and Technologies, as well as business and industry representatives, were very involved with the development of a precision machining curriculum used at the Eastern Monroe Career Center, a local Board of Cooperative Educational Services (BOCES) center that provides half-day training for students from 10 local high schools. All students within the 2-year pathway are required to participate in a high-quality work-based learning experience, have the opportunity to earn up to nine credits in precision machining from MCC, and ultimately can earn an industry-recognized certification through NOCTI Precision Machining.

The institution has received additional funding from the National Science Foundation to expand their optics and photonics pathways, providing education and training, increasing internship opportunities, and expanding outreach efforts to underrepresented populations. In the coming years, MCC is hoping to continue scaling this work to more programs at the college such as mechatronics. The cross-sector development of curricula and establishment of dual enrollment opportunities in high school remain a priority for all new programs.

FIND OUT MORE:

<https://mcclmi.com/>

<https://www.mccediws.com>



ACCELERATING ALIGNMENT THROUGH STAKEHOLDER ENGAGEMENT

Northern Virginia Community College, VA

Coupling Program Development with Outreach to Mobilize a Region

The Washington, D.C., metropolitan area is the second largest region in the country for employers seeking information technology (IT) workers and is expected to grow by 1.7% annually over the next 10 years. Located just outside of D.C., Northern Virginia Community College (NOVA) awards more I.T. degrees than any other community college in the United States, yet talent shortages still exist. NOVA has made it a priority to strengthen relationships with employers and K-12 school districts, allocating state, private, and institutional funds toward addressing the community's talent-sourcing challenges. Through both outreach and program development, the college has laid the groundwork for more sustainable IT workforce development in the region and set a goal to double the number of local technology graduates over the next 5 years.

"Northern Virginia Community College (NOVA) has made it their priority to strengthen relationships with employers and K-12 school districts, allocating state, private and institutional funds towards addressing the community's talent-sourcing challenges."

NOVA's first step to address the growing demand for skilled talent in IT is to develop strong, employer-verified programming. NOVA has a long history of working with employers, particularly technology employers in the region, to develop new or improve old programs. For instance, with support from Amazon Web Services (AWS), NOVA established an apprenticeship program designed to train veterans in technology fields, which the college parlayed into a new collaboration with Amazon Web Services' AWS Educate program. This fall, the college launched a cloud computing degree program, which will be one of the first offered by a community college in the nation. The college already has made plans to build out the pipeline for the program by developing opportunities for dual enrollment in high school and transfer articulation to local cloud computing baccalaureate degree programs. Both the new cloud computing degree and apprenticeship program are mapped to skills and competency-based credentials required by both AWS and other employers who leverage cloud-based services, contributing to the high-skilled needs of not just one, but multiple technology employers in the region.

Parallel to program development, NOVA also is engaging in outreach to local school districts and communities to build interest in newly developed programs, with a particular focus on groups underrepresented in IT such as women and minorities. In addition to quarterly reports on in-demand industries, occupations and job vacancies, and career ladders from high school to post-grad (see next page), the college is working on a data-driven career exploration website specifically designed to help students make informed decisions about their careers. Complementary to this, the college invests in the capacity of high school counselors to provide college and career advising through Pathways to the Baccalaureate, a nationally awarded program that places NOVA counselors in local high schools. These students, in addition to gaining valuable information about college and finances, are advised on the economic opportunities and associated educational pathways in the Northern Virginia region.

By developing stronger programs, building greater awareness and setting ambitious goals, NOVA has created an environment in which workforce alignment can thrive and will continue to be sustained in the future. Part of the college's sustainability strategy is to regularly convene employers and K-12 through Northern Virginia's Tech Talent Pipeline Initiative, which is a collaborative, regional effort to address talent sourcing challenges in IT. This work is being sustained through a state-run Growth and Opportunity (GO) Virginia grant, but the region, with NOVA's leadership, is committed to maintaining these routines beyond the grant period. Already, the initiative has resulted in a new marketing campaign through which NOVA, using both grant and institutional matching funds, will contract with a marketing firm to develop standardized messaging and branding about the value and pathways in IT fields.

FIND OUT MORE:

<https://www.nvcc.edu/news/press-releases/2018/aws-cloud.html>

<https://www.nvcc.edu/>

INFORMATION TECHNOLOGY CAREER LADDER



**PROGRAMMING
AND SOFTWARE
DEVELOPMENT**



**NETWORKING AND
CYBER SECURITY**



**DATA WAREHOUSING
AND ANALYSIS**

 HIGH SCHOOL DIPLOMA OR GED	<p>Customer Service Representatives</p> <hr/> <p>\$11.74/hr 3,713 Openings</p>	<p>Customer Service Representatives</p> <hr/> <p>\$11.74/hr 3,713 Openings</p>	<p>Customer Service Representatives, Sales Representatives, Data Entry Specialists</p> <hr/> <p>\$11.74 - \$18.10/hr 4,647 Openings</p>
 CERTIFICATE OR DIPLOMA (1-2 Years) AND/OR Vocational Training, Apprenticeships	<p>Computer Support Specialists</p> <hr/> <p>\$19.45/hr 4,417 Openings</p>	<p>Computer Support Specialists</p> <hr/> <p>\$19.45/hr 4,417 Openings</p>	<p>Computer Support Specialists</p> <hr/> <p>\$19.45/hr 4,417 Openings</p>
 ASSOCIATE DEGREE (2 Years)	<p>Web Developers, User Interface (UI) and User Experience (UX) Designers</p> <hr/> <p>\$85,400/yr 3,962 Openings</p>	<p>Network/Systems Support Specialists</p> <hr/> <p>\$79,600/yr 601 Openings</p>	<p>Web Developers, Network/Systems Support Specialists</p> <hr/> <p>\$79,600 - \$85,400/yr 3,411 Openings</p>
 BACHELOR'S DEGREE (4 Years)	<p>Software Developers and Engineers, Mobile Applications Developers, Software Testers and Quality Assurance Analysts, Operations Analysts, Business Analysts, IT Project Managers, Hardware Engineers</p> <hr/> <p>\$103,800 - \$121,500/yr 40,732 Openings</p>	<p>Penetration Testers, Information Security Analysts, Systems Analysts, Network and Systems Administrators, Operations Analysts, Business Analysts, IT Project Managers, Network and Systems Engineers, Cyber Security Engineers</p> <hr/> <p>\$102,400 - \$118,000/yr 48,928 Openings</p>	<p>Database Administrators, Data Warehousing Specialists, Business Intelligence Analysts, Data Analysts, Database Architects, Business Intelligence Developers, IT Project Managers, Sales Engineers, Data Engineers</p> <hr/> <p>\$99,800 - \$114,200/yr 24,165 Openings</p>
 POST-GRADUATE DEGREE	<p>Computer Scientists, Chief Information and Technology Officers</p> <hr/> <p>\$124,100 - \$164,800/yr 670 Openings</p>	<p>Computer Scientists, Systems Engineering Managers, Chief Information Security Officers</p> <hr/> <p>\$124,100 - \$164,800/yr 670 Openings</p>	<p>Data Scientists</p> <hr/> <p>\$124,100 /yr 1,124 Openings</p>

www.nvcc.edu/workforce

Occupations grouped by level of education typically required for employment, as determined by the Bureau of Labor Statistics (BLS). Openings represent the total number of online job postings from July 1, 2017 to June 31, 2018 in the NOVA region, as compiled by Burning Glass Technologies. Wages represent entry-level hourly pay for positions at the High School/GED and Certificate/Diploma levels, and average annual salaries for positions at the associate, bachelor, and post-graduate degree levels. Wages calculated by JobsEQ based on 2017 Occupational Employment Statistics (OES) data from the BLS.

Columbus State Community College, OH

Taking on the Role of Regional Intermediary

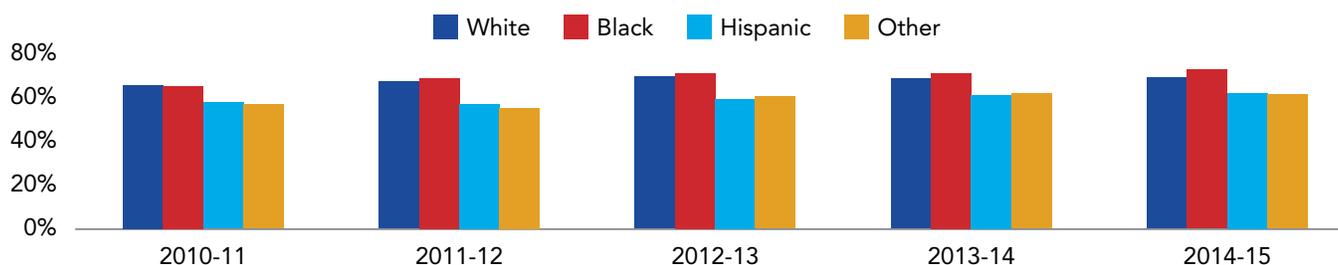
Central Ohio has formed several public-private partnerships to address its workforce needs including the Central Ohio Compact, a regional strategy to increase postsecondary attainment through alignment between educational sectors and economic development priorities. Partners in the Compact include Columbus State Community College, the Educational Service Center of Central Ohio, K-12 districts, workforce and economic development groups, and many 4-year institutions. The involvement of school districts from the onset, as well as the collaborative and cross-sector approach makes the Central Ohio Compact unique and a model for the nation.

“Recognizing its role as an intermediary between education and workforce, Columbus State Community College is the convener of the Compact, hosting regional summits each year that bring together leaders from each partnering organization.”

Recognizing its role as an intermediary between education and workforce, Columbus State Community College is the convener of the Compact, hosting regional summits each year that bring together leaders from each partnering organization, including college and university presidents, school superintendents, and workforce and economic development professionals. In addition to convening, the college also plays an important intermediary function between K-12 and workforce for the Compact. For instance, Columbus State leads collaboration with Nationwide Children’s Hospital and South High School to provide high-school students work-based learning experiences that can lead to advanced credentials and employment following graduation. They also have partnered with Honda Manufacturing of Ohio and Worthington schools on a new, paid work-study program in Modern Manufacturing that includes early postsecondary opportunities for high school students. As of 2017, the program has expanded to nine manufacturing companies and 11 school districts.

Since the Compact was formed in 2011, the Central Ohio region has seen tremendous improvements in postsecondary readiness and completion outcomes. For instance, more students are graduating from high school prepared for college-level coursework. From 2011-2016, the percent of Central Ohio high school students engaging in early postsecondary opportunities has risen by 6 percentage points and the percent taking remedial coursework has dropped by 11 percentage points. Further, the percent of employed graduates in the region has also risen steadily since 2011. This is particularly true for Black graduates, who have outpaced their White peers and seen employment rates increase from 65% to 72% in that time period.

Employed Post-Graduation by Race/Ethnicity



Through this regional approach, the Compact has been able to sustain strong cross-sector engagement that is garnering real results. Their success can be attributed to both the Compact’s collective strategic planning and progress monitoring procedures. For instance, the Compact has taken bold steps to develop a strategic plan for the region with four key priorities that integrate college and career success practices: 1) aspiration and access to postsecondary; 2) cross-sector alignment and academic preparation; 3) alternative pathways for adult learners; and 4) affordability. Each year, they report on their progress, while also maintaining online dashboards that display important metrics like employment outcomes, early postsecondary credit earned, completion, retention, and more.

FIND OUT MORE:

<http://centralohiocompact.org/>

Making it Actionable...

Community college presidents and trustees should continue to leverage their externally-facing roles to double down on efforts to align with workforce needs and transform their college into the career bridge many students need. More specifically, community college leaders can take action by:

- Taking a regional approach to workforce alignment in which higher education, K-12, and private sector partners are at the table together;
- Leveraging data findings to provide cover for the innovative build up or necessary phase out of pathways based on their alignment with labor market needs;
- Setting regional goals for alignment and monitoring progress toward them alongside employers and K-12 partners;
- Approaching employers with or connecting employers to K-12 partners to support curriculum development or work-based learning experiences;
- Investing in awareness and recruitment efforts as early as middle school to ensure new career pathways are fully and equitably enrolled.

CONCLUSION

The ability to collaborate across sectors is easier than it has ever been. Community colleges have a unique opportunity to seize this moment and work with both K-12 schools and employers to improve student outcomes, but the stakes are high. Increasing pressures from the government, local employers, and the community make it essential that higher education and K-12 leaders act now to strengthen alignment between their systems and the workforce.

The colleges highlighted in this report are models for how collaboration can promote college readiness and success for all students. This report highlights how partnerships at South Texas College, Davidson County Community College, and in the state of New York have made a difference through precollege supports that help prepare students academically for the rigors of college. Aligned advising, clear and consistent course sequences, and accelerated transfer pathways at Miami Dade College, Ivy Tech Community College, Montgomery College, and Prince George's Community College also offer lessons on how to ensure systematic barriers never derail students on the path to a postsecondary credential. Finally, the work by Monroe Community College, Northern Virginia Community College, and Columbus State Community College offer cutting-edge practices to strengthen workforce alignment across the entire education continuum.

Undoubtedly, addressing success and attainment gaps will require a comprehensive approach. Nonetheless, the strategies laid out in this report point to several ways K-12 and higher education can work together to take a new approach or build upon an existing foundation at their own institutions. Together, community college and K-12 leaders have a potent opportunity to develop and scale these promising practices to drive outcomes that lead to a more secure and fulfilling future for all students.



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