

# RAISING THE BAR

## STATE STRATEGIES FOR DEVELOPING AND APPROVING HIGH-QUALITY CAREER PATHWAYS

### Introduction

According to a 2016 Pew Research Center survey, 60 percent of Americans believe that K–12 education systems should be responsible for preparing students for the workforce.<sup>1</sup> Additionally, half of adults believe that the primary purpose of college is to prepare learners for future careers. Yet data show that too few students are prepared to take the next step after graduation. Fewer than half of high school students say their schools have helped them understand the steps they must take to begin their career<sup>2</sup> — and only 21 percent of college students say they feel very prepared for professional work.<sup>3</sup> Clearly, interest is growing in learning experiences and pathways that are relevant and high quality and equip learners with the skills they need to be successful in college and career.

Industry-aligned career pathways can make education more relevant for students, build connections to the workforce, and allow students to develop career-relevant skills. Although the term “career pathway” has been used in many different contexts, this paper defines a career pathway as *a sequence of learning experiences that span secondary and postsecondary systems, blend rigorous core academic and career technical instruction, offer focused career guidance and advisement systems, include high-quality work-based learning experiences, and culminate in postsecondary or industry credentials of value.*<sup>4</sup>

Examples of high-quality career pathways abound in every state. Yet too often, these career pathways are islands of excellence in an educational ecosystem in which quality is inconsistent across schools and regions. The state has a critical role to

### Key Terms: Career Pathway vs. Program of Study

A **career pathway** is a sequence of learning experiences that span secondary and postsecondary systems, blend rigorous core academic and career technical instruction, offer focused career guidance and advisement systems, include high-quality work-based learning experiences, and culminate in postsecondary or industry credentials of value.

A **program of study**, a requirement under the federal Carl D. Perkins Career and Technical Education Act of 2006, is one type of career pathway. A program of study is a non-duplicative sequence of academic and technical courses that include secondary- and postsecondary-level content and opportunities for high school students to earn postsecondary credit and culminate in industry-based credentials and/or postsecondary degrees. In many states, programs of study are the primary way students access career pathways.

play in leveraging policy, programs and resources to ensure that all learners have access to high-quality career pathways.

States across the country are working to examine and improve the quality of their career pathways and meet the growing demand for relevant learning experiences throughout the education continuum. For example, under New Skills for Youth, a three-year initiative generously supported by JPMorgan Chase & Co., states have committed themselves to transforming their career readiness systems to better prepare all students for college and careers. These states have worked to modernize career pathways delivery systems, braid funding streams, integrate career readiness indicators into their accountability systems and encourage meaningful employer leadership — all with the ultimate aim of strengthening and expanding access to high-quality career pathways.<sup>5</sup> It is important to note that in these states employers and workforce development leaders are as integral to the work as secondary and postsecondary education officials.

Other state-led networks — including Jobs for the Future's Pathways to Prosperity initiative, the Council of Chief State School Officers' Career Readiness Network, and the National Governors Association's Talent Pipeline Policy Academy and Work-Based Learning Policy Academy — demonstrate that strengthening career pathways is a priority across the nation. While federal policy sets the minimum standards — often requiring the adoption of certain policies and procedures to release funding from programs such as the Carl D. Perkins Career and Technical Education Act of 2006 and the Workforce Innovation and Opportunity Act (WIOA) — states

are demonstrating a commitment to move the goalpost and define their own vision of success.

## The State Role in Strengthening and Expanding Career Pathways

In 2016, Advance CTE released *Putting Learner Success First: A Shared Vision for the Future of CTE*. Rather than further isolating Career Technical Education (CTE) as a separate educational strategy, *Putting Learner Success First* identifies how an integrated approach to education and training can expand student options and ensure that all learners have opportunities to achieve career success. The first principle focuses specifically on the quality of CTE programs — or career pathways more broadly — and suggests that states adopt rigorous review and approval processes, align funding with high-quality programs, and design sustainable processes for employers to validate the standards and learning experiences within a career pathway.

State leaders are critical to making this principle a reality. Defining the non-negotiable elements of a high-quality career pathway and adopting strategies to strengthen and scale career pathways that include those elements — as well as to transform and phase out those career pathways that do not — are among the most powerful tools states can leverage.

States should begin by defining what success looks like from the perspective of learners and the state economy. Such a vision can help states develop and align career pathway or program approval policies, monitoring practices, and

### Career Pathways: A Federal Perspective

Federal policy defines and promotes high-quality career pathways. The Carl D. Perkins Career and Technical Education Act of 2006, for example, articulates the core requirements of a program of study and requires local Perkins grant recipients to offer at least one program of study. According to a survey of state Career Technical Education directors, nearly 50 percent of states require local program administrators to offer programs of study beyond the federally mandated requirement.<sup>6</sup>

Likewise, the Workforce Innovation and Opportunity Act (WIOA) helps regional workforce development boards develop and execute industry-aligned career pathways with support from employer and education leaders in the region. While linkages are often made with the K–12 system, WIOA career pathways generally include adult or postsecondary education and training opportunities.

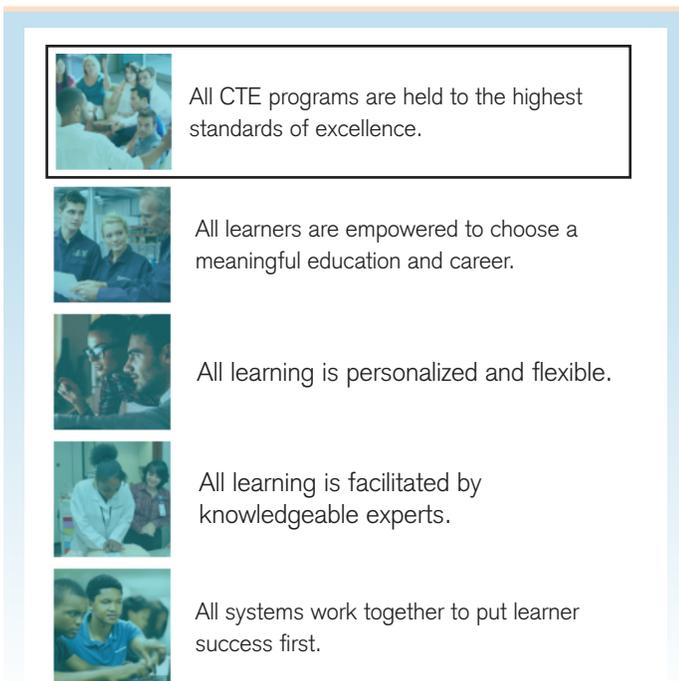


Figure 1: Five principles of Putting Learner Success First: A Shared Vision for the Future of CTE

evaluation metrics to build a systemic process that defines and supports quality. The criteria states use to review and approve career pathways should be determined by and drive toward the state's definition of success. While this definition may vary depending on the economic needs of the state, adopting a shared understanding of quality ensures that all stakeholders — specifically those involved with developing and executing career pathways — know the role they play in the process.

*Regardless of the approach, the state must ensure that the approval process is used not simply as a checklist but rather as a mechanism to drive consistency and quality statewide.*

Such a vision and the related policies can empower states to not only strengthen and scale quality career pathways but also provide a clear process for discontinuing others. These same policies can serve as guideposts for states to provide technical assistance to struggling local career pathways, helping them build solutions for vexing problems, sharing and replicating best practices, or creating opportunities for career pathway transformation. Regardless of the approach, the state must ensure that the approval process is used not simply as a checklist but rather as a mechanism to drive consistency and quality statewide.

This brief does not define or prescribe the elements of a high-quality career pathway. Rather, it explores three states' strategies for leveraging career pathway approval processes to promote a vision of quality and either phase out or strengthen career pathways that do not meet defined standards. The paper describes the approaches taken by Tennessee, New Jersey and Delaware to provide insight into strategies that other states can emulate. While all three state examples focus on approval processes for CTE programs of study specifically, the lessons apply more broadly and can be used to support state efforts to strengthen and scale employer-led career pathways.

## Tennessee: A Multi-Phase Course Revision Initiative

One state that has demonstrated what it takes to put quality first in career pathways approval is Tennessee. In 2013, the Tennessee Department of Education (TDOE) undertook a rigorous, multi-phase review of its existing programs of study with the ultimate goal of embedding rigorous academic standards throughout the educational continuum and aligning programs with state economic needs. Although the process is ongoing, the effort resulted in the discontinuation of nearly 100 courses between 2014 and 2018 that were identified as duplicative, low quality, and/or not aligned to industry needs.

In Tennessee, standards and courses are developed in house in TDOE and provided to local program administrators as a menu of course options. In 2012, TDOE determined Tennessee's statewide programs of study were overdue for a refresh to ensure that they were rigorous and aligned with the state's labor market needs. State leaders reasoned that a comprehensive, statewide review of existing career pathways was required to identify gaps and ensure that programs of study would equip learners with work-ready skills leading to high-wage careers. This reasoning is what ultimately led TDOE to embark on its multi-year initiative to review and revise existing programs of study, develop new rigorous course standards, and identify assessments that could validate student learning in various career pathways.

In the first phase, executed in the 2013–14 school year, Tennessee worked to consolidate its many courses around 16 state-approved Career Clusters, based on The National

Career Clusters® Framework. The aim was to more intentionally align the menu of available courses with regional, state and national industry standards. TDOE organized industry advisory councils for each of the Career Clusters and worked with postsecondary faculty, secondary educators, employers and industry experts in the state to identify the appropriate standards and curricula for each particular career pathway. Courses that the state identified as not aligned to labor market needs were removed from the available course menu, meaning that local education agencies could no longer offer those courses to students. In total, TDOE retired 15 programs of study and 57 courses during the first phase.

Picking up where it left off in phase one, TDOE revisited its remaining programs of study and either revised or removed courses depending on the degree to which they aligned with industry needs. While this second wave led TDOE to

discontinue 37 additional courses, the state also revised 117 courses and adopted 71 new courses, ensuring that each program of study included appropriate course sequences relevant to its respective industry. The state also tightened up the existing program of study framework by including four rather than three courses in a single sequence. TDOE also identified state-approved industry certifications aligned with each career pathway. At the end of the year, the state published the approved programs of study available for use by districts, identifying specific standards and sequences of courses within each consolidated Career Cluster.

In the third and final phase of the initiative, TDOE is focusing on integrating industry-aligned assessments into its career pathways to better assess student learning. Tennessee's approach is to use formative examinations that enable educators to receive information about student progress

### Career Pathways Approval: The Postsecondary Role

Postsecondary leaders play an important role in developing and maintaining high-quality career pathways. Community college and university systems often have their own rigorous processes for developing or reviewing postsecondary career pathways, processes that take into account labor market demand, employer needs and community input. To better situate postsecondary programs within a broader career pathway, postsecondary leaders should examine the transition points from high school to college, from two-year to four-year institutions, and from college to the workforce to reduce friction along those critical transition points.

For example, postsecondary leaders can support the development of secondary programs of study in the communities served by their institutions by sitting on advisory committees, identifying linkages between secondary programs and courses offered in their own institutions, and developing articulation agreements to enable students to transfer credits toward a postsecondary degree. Taking these steps may require adjusting institutional practice by reviewing course standards taught in high schools and area Career Technical Education (CTE) centers, finding opportunities to award credit for prior learning, and aligning postsecondary degree requirements based on opportunities available to secondary students. Additionally, programs of study supported by the Carl D. Perkins Career and Technical Education Act of 2006 are required to integrate secondary and postsecondary coursework to be eligible for federal funding — forcing the vertical alignment of career pathways.

In North Carolina, the NCWorks Commission, the state body responsible for advancing an ambitious statewide workforce development agenda, created a certification process for state-approved career pathways that requires collaboration across secondary and postsecondary systems.<sup>7</sup> Specifically, certified career pathways must be developed in partnership with postsecondary leaders — including the president, chief academic officer, CTE dean, vice president of workforce development, or continuing education program area deans — who actively provide input and support for the career pathway. These career pathways are further supported by North Carolina's Career & College Promise program, in which the state pays for students to take dual credit courses at North Carolina community colleges that are aligned with their CTE program of study.

## Career Pathways Approval: The Business and Industry Role

At both the state and local levels, business and industry representatives can take a real leadership role in the approval process, ensuring that career pathways are held to the highest standards and are relevant in the labor market. They can strengthen career pathways by providing insights into current and projected economic needs, reviewing and adjusting program standards and curriculum, and creating linkages to relevant work-based learning experiences that allow students to apply their skills in the real world.

Various mechanisms are available for business and industry leaders to guide career pathways development. One such strategy is working with the state or regional workforce development board to create and execute career pathways. Employers can also participate on local, regional or state advisory committees where they can lend insights on occupational needs and industry standards. Further, employers can partner with local schools or area Career Technical Education centers to mentor students, guest lecture, place interns and apprentices or otherwise contribute expertise. The participation of business and industry leaders ensures that career pathways are connected to workplace opportunities and are relevant to state and regional economic needs.

One example of a state where business and industry leaders have played a close and active role in developing career pathways is Nevada. In 2016, Governor Brian Sandoval reorganized the state's Industry Sector Councils to better address the needs of priority industries. Industry Sector Councils represent each of the eight major industries in Nevada and are composed of industry sector leaders, labor union representatives, postsecondary education leaders and others. Representatives on each Council contribute their expertise to advise and recommend strategies for strengthening talent in their respective industry sectors and identify relevant job training and education opportunities.

throughout the course and program of study and make adjustments as necessary. The aim is to empower educators and program administrators to continuously improve the quality of local programs of study. This step of the initiative is scheduled to be piloted during the 2017–18 school year.

## Annual Program Justification

Tennessee's multi-phase revision process ultimately resulted in an aligned system of course sequences organized around

16 Career Clusters. To ensure continuous program alignment and quality, TDOE adopted an annual program of study justification process that draws on labor market data and the availability of postsecondary programs.<sup>8</sup> To be approved, programs of study must demonstrate alignment between secondary, postsecondary and the labor market. Each year, Career Cluster consultants execute the justification process, identifying and revising courses that are not in alignment. If the consultants determine that a program must be

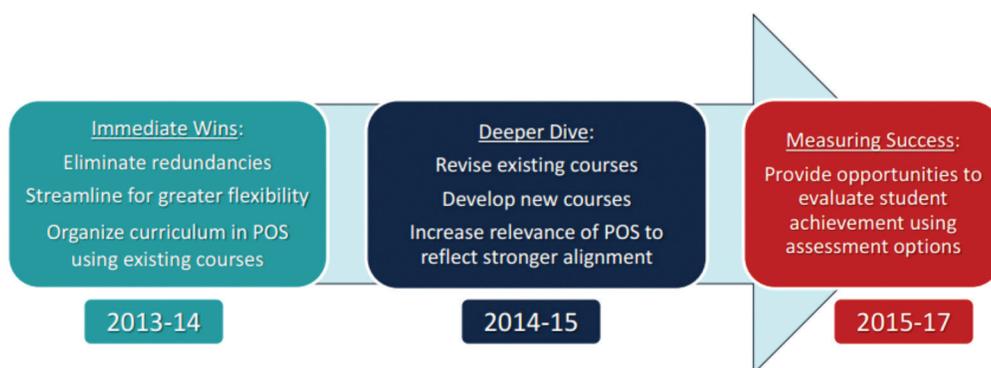


Figure 2: Tennessee's multi-phase course revision process

## Walters State Community College Emergency Medical Services Program of Study

*A high-quality program of study*



The Emergency Medical Services (EMS) Program of Study at Walters State Community College (WSCC) in Morristown, TN, demonstrates how high-quality career pathways facilitate the transition from secondary to postsecondary education and

help learners get a leg up on their future careers.<sup>8</sup> Students from 23 surrounding high schools can earn up to four college credits within the WSCC EMS career pathway by completing a three-course sequence, participating in a job shadow, and taking the WSCC final exam. Further, students have the opportunity take dual enrollment Career Technical Education courses at WSCC while still enrolled in high school.

WSCC maintains several relationships with industry and education partners that provide high school and community college students with hands-on learning experiences and industry-relevant instruction. Students in the EMS course complete an eight-hour job shadow on an ambulance. Partnerships with local hospitals expose students to illnesses and trauma they will encounter in the field. And course standards are developed with input from the State of Tennessee EMS Office and the National Registry of Emergency Medical Technicians, ensuring that the program is aligned with certification standards in Tennessee. The quality and relevance of WSCC's EMS program contributes to student success. In 2013, 100 percent of participating secondary students graduated from high school, and 96 percent of postsecondary students entered the workforce or military after graduating.

discontinued, districts are notified in October and are given nearly two years to phase out the program.

Each year, TDOE publishes a matrix mapping the different programs, units of study, and locations where students can continue their education through the Tennessee Colleges of Applied Technology (TCAT) system. This information empowers students, families and educators to understand how courses align across secondary and postsecondary systems. Additionally, statewide agreements between TDOE and the TCAT system allow students to receive postsecondary credit for industry certifications earned in their program of study, further streamlining the transition from secondary to postsecondary.

### Supporting Program Administrators to Continuously Improve Program Quality

Tennessee has the unique capability to create and discontinue programs of study at the state level, but the state also recognizes that quality can be lost at the intersection of policy and practice. As such, the state provides technical assistance, professional development and other supports to empower local administrators and educators to continuously improve the

quality of their programs. For example, Tennessee provides local program administrators with performance data above and beyond what is required by federal and state law so they can monitor student performance. This information empowers local leaders to be thoughtful about how students progress through the program of study and make adjustments as they go rather than wait for programs to be revised through the annual program justification process.

Tennessee has also made extensive efforts to engage stakeholders across the state and generate awareness and buy-in for the program review and approval process. In the first phase of the program of study review, TDOE officials consulted numerous stakeholders — including teachers and postsecondary leaders — to get their input on the course standards in each program of study. As a result, stakeholders were able to voice their concerns early in the process and were more amenable to changes once TDOE began to revise programs of study. Additionally, Tennessee provides professional development on a quarterly basis, convening program administrators across the state to share best practices and learn how to use data to drive continuous improvement. This approach has created an environment in which local leaders understand and buy into the process.

While discontinuing programs can be a challenging decision, local leaders in the state understand the program justification process and are aware of the need for continuous review and alignment of programs.

## New Jersey: Leveraging Existing Systems to Drive Program Quality

In New Jersey, the state Department of Education (NJDOE) reviews locally developed programs to ensure that they are aligned with quality criteria and have relevant postsecondary and workforce linkages. Unlike in Tennessee, such courses and programs are developed at the local level. The criteria for reviewing and approving secondary programs are outlined in regulations in the administrative code for Career and Technical Education Programs.<sup>9</sup> In 2008, the NJDOE took a more hands-on approach to reviewing existing approved programs and began using the established criteria as a mechanism to drive quality. This approach led to establishing a review cycle for all existing programs and a commitment to quality for all students across the state.

New Jersey administrative code stipulates that district boards of education must meet nine requirements for approved programs and programs of study. Prior to 2008, a rigorous approval process was in place for developing a new CTE program, but processes to regularly review existing programs offered to students locally were limited. After the reauthorization of Perkins in 2006, the state saw an opportunity to reset its program approval processes and made quality the priority by incorporating a program re-approval cycle in its state plan.

### Program Approval As a Driver of Quality, Not a Checklist

In preparing its renewed Perkins plan, the NJDOE sought guidance from the state CTE Advisory Council to leverage New Jersey's codified program approval criteria and develop a new, more rigorous approval system. At the time, the Council was made up of about 40 individuals including parents, educators, business and industry leaders, students, superintendents, higher education administrators and legislators. With the Council's guidance, the NJDOE adopted a multi-year strategy to improve the quality of existing career

### New Jersey Program of Study Approval Requirements

In New Jersey, programs of study must meet the following requirements:<sup>10</sup>

1. Document labor market need;
2. Establish a program advisory committee;
3. Establish admission requirements that include equity and access for all populations;
4. Hire instructional staff with appropriate certifications;
5. Develop enrollment projections for the first three years;
6. Develop program curricula that include (a) at least three coherent course sequences, (b) a combination of classroom and structured learning experiences, (c) academic content aligned with the New Jersey Student Learning Standards, (d) industry-recognized standards, (e) technical skills assessments, (f) opportunities for structured learning experiences, (g) opportunities to participate in career technical student organizations, and (h) safety and health plans for hazardous occupations;
7. Provide adequate resources to operate the program;
8. Establish relevant postsecondary and training linkages; and
9. Establish processes for program evaluation and improvement.

pathways. Under the initiative, the NJDOE would use The National Career Clusters Framework to review existing state-approved programs, one Career Cluster at a time. In addition to ensuring school district compliance with state standards and regulations, the NJDOE sought to place a greater emphasis on the quality of the programming.

Using data based on labor market need and the availability of existing programs in the state, the NJDOE selected three Career Clusters as priorities for the first year of review:

the Information Technology Career Cluster®; the Finance Career Cluster®; and the Science, Technology, Engineering & Mathematics Career Cluster®. After the NJDOE sent a notice to local administrators detailing the steps and timeline for the review and re-approval process, some districts opted not to re-submit applications for certain programs. While the NJDOE offered technical assistance to encourage and support districts to maintain their CTE programs, with the understanding that the programs needed to be aligned to the high-quality standards, many districts chose to discontinue their programs. Moreover, while completing this extensive inventory of programs, the NJDOE also learned that many programs had not been fully operational for years. This finding resulted in the deletion of many programs from NJDOE records.

Next, the NJDOE asked districts to submit documentation of program structure — including curriculum, teacher certification, partnerships and facilities and equipment — for each program offered in any of the first three Career Clusters that the NJDOE reviewed. The NJDOE reviewed the first three Career Clusters by examining labor trends and postsecondary opportunities aligned with the specific course sequences in each program. It also drew upon program performance data using the NJ Standards Measurement and Resource for Teaching (NJ SMART) student data collection system to determine whether programs were achieving their

goals. By refining this process over a number of years, the state deleted more than 500 programs. These programs were removed from the list of state-approved programs and were therefore ineligible for federal Perkins funding.

After completing the entire first cycle of program re-approvals in all 16 Career Clusters between 2008 and 2013, the NJDOE recognized the strain the process put on its staffing resources. That realization led to the creation of an enhanced infrastructure to process the massive amount of materials necessary for a comprehensive review of the programs. The NJDOE understood the process needed to be streamlined and not focused on processing paperwork. With this in mind, the NJDOE put the process on hold in 2014 to develop a web-based application system that would better facilitate the transfer of information from local to state program administrators. The initiative was restarted again in 2016 with a focus on the next three Career Clusters: the Business, Management & Administration Career Cluster®; the Transportation, Distribution & Logistics Career Cluster®; and the Health Science Career Cluster®.

The NJDOE has found that this process has resulted in an increase in high-quality CTE programs offered throughout the state. Although school districts must submit for re-approval once every five years, performance data are submitted through the NJ SMART database annually, enabling the NJDOE to regularly monitor program performance. New

## Marine Academy of Science and Technology

*A high-quality program of study*



The Marine Academy of Science and Technology (MAST) in Highland, NJ, is a research-based program focused on technology and marine sciences.<sup>11</sup> Students progress along a sequenced career pathway providing rigorous instruction in marine biology, marine chemistry and marine physics and

can participate in one of three 12th grade capstone courses enabling them to demonstrate their performance and build a portfolio. By the time they graduate from the program, students can earn up to 17 college credits through dual enrollment or credit transfer agreements.

Furthermore, MAST students can take advantage of mentorships and work-based learning experiences through partnerships with local industry and research facilities, including the National Park Service and a research lab at the National Oceanic and Atmospheric Administration's North East Fisheries Science Center.

MAST offers students a rigorous and relevant high school learning experience that prepares them for a seamless transition to college or work. In 2014, 100 percent of students graduated and continued on to postsecondary education.

programs are subject to the same rigorous review process before they are approved for implementation. The NJDOE has also strengthened the technical assistance it offers to districts when developing new programs and re-approving existing ones. Resources have been developed for each Career Cluster, including model courses for schools to incorporate into the programs. The collaboration with the state Department of Labor and Workforce Development has also expanded the availability of labor market data to inform appropriate program development. Statewide Career Cluster Advisory Committees, consisting of secondary and postsecondary educators as well as representatives from business and industry, have also provided invaluable input regarding resources for CTE programs.

### Promoting Quality

Under this updated review system, New Jersey leveraged existing criteria to promote high-quality programs of study, steering districts to align course sequences vertically with postsecondary and workforce opportunities. To facilitate the transition from secondary to postsecondary coursework, districts are required to submit articulation agreements with local institutions of higher education that guarantee the seamless transfer of credits toward a postsecondary credential. Such required documentation ensures that all programs of study have relevant postsecondary linkages. Additionally, each program of study is required to have a local advisory committee made up of representatives from postsecondary institutions and business and industry, as well as educators, students, parents and others. Advisory boards help to identify linkages with postsecondary and work-based learning programs, as well as review standards and course sequences within the specific program, further strengthening quality.

New Jersey's system of supports is designed to encourage the adoption and implementation of high-quality programs of study. During the program application process, administrators can receive technical assistance from the NJDOE to identify strategies for improving rigor and relevance. Additionally, CTE teachers receive professional development annually through Career Cluster-specific summer academies, during which teachers discuss problems of practice and share best practices from model programs across the state. New Jersey is also developing a program quality rubric that will serve as a

guiding tool to help local program administrators self-assess the strengths and gaps in their own programs of study.

## Delaware: A Dual Approach to Program Development and Approval

Delaware's process, in comparison, strikes a balance between those of Tennessee and New Jersey. In Tennessee, programs of study are developed centrally and made available to districts as a menu of course options, while New Jersey approves locally developed programs at the state level. In the 2015–16 school year, Delaware launched a streamlined approval process that allows districts to either adopt a secondary program of study from a menu of state-model programs or develop a local model, which is submitted and approved at the state level. The expectations for state-model programs and locally developed programs are identical and establish linkages between secondary, postsecondary and career learning experiences. Further, this process provides district administrators the flexibility to adopt programs of study that best meet their needs.

Delaware's vision for career readiness is broad and ambitious: "Every learner ready for success in college, career and life."<sup>12</sup> This vision is the framework around which the state has constructed a rigorous, aligned program of study approval process. The process, launched in February 2015, was developed in consultation with CTE district- and school-level staff in partnership with postsecondary and employer representatives to examine CTE programs of study across the state and present a draft framework for program approval. After receiving public input, the framework was finalized and launched during the 2015–16 school year.

### Developing and Expanding State-Model Programs of Study

What is notable about Delaware's approach is that local education agencies have the flexibility to either select and implement a state-developed program of study or develop one of their own. Both options have advantages, and this process provides local districts the flexibility to select the programs that best suit the needs of their regional economies and the students they serve.

For state-model programs, the Delaware Department of Education (DDOE) examines state and regional labor market information to identify the need for specific programs of study. Drawing on input from business and industry leaders in the state, DDOE then identifies the course sequence, instructional strategy, skill standards, early college and career opportunities, industry credentials and student supports that are relevant within specific in-demand career pathways.

Further, DDOE has established statewide memoranda of understanding with institutions of higher education for certificates and two- and four-year degrees to ensure that credits earned through state-model programs of study transfer to a postsecondary credential or degree. To date, Delaware has developed 14 unique programs ranging in length from three to six credits at the high school level for comprehensive and technical school districts (the three-credit model is designed for the state's comprehensive high schools, whereas six-credit programs of study are designed for Delaware's career technical schools). Since this work started in 2015, state-model programs of study are now available in 86 percent of Delaware high schools and spreading rapidly.

For local districts, the advantage of selecting state-model programs of study is that they can rely on DDOE to study statewide labor market data; establish partnerships with postsecondary and business leaders; and assign resources to developing rigorous, aligned programs of study. Additionally, as a state agency, DDOE has the advantage of being able to identify and create linkages across systems. Thus by drawing on state-model programs, local districts can free up capacity to focus on implementation and expanding supports for youth.

### **Maintaining Quality Through Locally Developed Programs of Study**

The second option in Delaware's bifurcated program approval system is for local districts to develop their own programs of study and apply for state approval. This option provides local districts more flexibility to tailor their programs to meet unique regional economic needs. Resources for examining labor market data — including 10-year industry projections, real-time occupational demand, and guidance documents for navigating labor trends — are available through DDOE and the Delaware Department of Labor. These resources empower local leaders to determine the immediate and

long-term viability of industry-specific programs of study. Additionally, districts are required to work with partners in the postsecondary system to ensure that career pathways are vertically aligned and progress beyond a high school degree. This requirement includes identifying linkages through dual credit articulation agreements, industry certifications and more.

Finally, the district is required to establish an advisory committee for each program, staffed with educators, counselors, business and industry representatives, postsecondary leaders, parents and students. The advisory committee provides guidance related to the design, implementation and support of programs of study but also establishes linkages outside of the secondary system. As a result of these submission requirements, the individuals responsible for designing and implementing local programs of study undergo labor market review, engage relevant stakeholders, and create college and career linkages before the program of study is even submitted for review.

From there, the district submits an application to DDOE that outlines the core elements of the program of study, documenting the course sequences; academic and technical skill standards; teacher certification; opportunities to participate in career technical student organizations (CTSOs); and additional opportunities that are available to youth, which the state refers to as "value-added opportunities," including academic dual credit coursework, supports for youth and more. Once programs are submitted to DDOE, the department reviews the application to ensure that each program meets quality requirements and, barring any concerns about the quality of the program, approves the program of study for implementation.

Striking a balance between state-model programs and locally developed programs supports Delaware's agenda for program innovation and continuous improvement. The DDOE aims to enroll 50 percent of all 9th–12th grade students in a state-model program by the 2019–20 school year. Additionally the state-model option allows local education agencies to transition CTE programs that are no longer relevant, while drawing from a specific set of resources to better communicate with the local community.



Figure 3: The life cycle of program of study approval in Delaware

## Sustaining Quality and Promoting Continuous Improvement

Developing and approving relevant programs of study is only the first step. To ensure that programs continue to be high quality, Delaware has worked to align its program, fiscal and accountability policies with its vision for career readiness. Under the program approval policy, districts must develop an evaluation plan that includes metrics and goals approved by the program advisory committee and outlines strategies to drive continuous program improvement. Districts are encouraged to set ambitious goals and share data with all stakeholders. Every program in the state is subject to rigorous review every five years, drawing on program performance data and labor market information to determine whether or not the program should be continued. Underperforming programs are identified for transition in the sixth year, at which point funds may be reduced. If no action is taken the program is then discontinued by the eighth year. The state has also adopted career readiness indicators in its statewide and school-level accountability systems through a weighted index that includes the attainment of industry credentials, early college credit, and completion of a work-based learning course, further encouraging districts to drive toward student success.

## Creating Linkages to Postsecondary and Workforce

While DDOE's program approval process is specific to secondary-level programs of study, the state's approach

encourages linkages outside of the secondary system. As mentioned earlier, all state-model programs of study include statewide agreements with institutions of higher education to ensure that learners can apply credits toward a postsecondary credential. Locally developed programs of study must include input from postsecondary leaders to ensure that they are vertically aligned from the secondary to postsecondary system and that students have the opportunity to earn college credit.

These requirements enable students to progress beyond high school but also apply an additional layer of quality review since postsecondary programs have a review and approval process of their own. To approve a postsecondary program the institution's board of trustees — often composed of local employers — conducts an extensive examination of labor market information to determine occupational demand. A program is approved for implementation only if the board determines that it is aligned with in-demand occupations and has buy-in from employers in the community. Thus, by connecting with postsecondary programs, secondary programs of study offered in comprehensive high schools and career technical centers also map toward in-demand occupations.

Additionally, Delaware's program development and approval process encourages linkages with early career opportunities, including work-based learning, participation in CTSOs and industry certification. Students use the student success plan, a required planning tool that organizes a student's college and career goals along his or her education pathway, to integrate

such opportunities into their career pathways. Districts are encouraged to use the student success plan to identify opportunities for work-based learning that are relevant and aligned with a student's program of study.

## Relevant Practices for Reviewing and Approving Career Pathways

Although each state takes a slightly different approach to reviewing and approving career pathways, common lessons can be drawn from Tennessee, New Jersey and Delaware, specifically around the key elements of their career pathways approval systems and the various tools leveraged to promote quality career pathways statewide. This paper examines the processes for approving programs of study — one type of career pathway — but the practices in each of the profiled states can be applied to other types of career pathways as well.

### Key Elements of a Relevant, Robust Career Pathways Approval System

>>> **All Relevant Stakeholders Should Contribute to the Approval Process:** Developing and scaling high-quality career pathways requires a concerted, collaborative effort from a variety of stakeholders, including, but not limited to, representatives from the K–12 system, institutions of higher education, workforce and economic development, and business and industry. As seen in New Jersey, convening a cross-sector advisory council at the outset can strengthen the approval process. New Jersey's advisory council helped prioritize targeted Career Cluster areas and provided the political cover the state needed to discontinue underperforming programs. Further, engaging stakeholders early and often can help to identify implementation challenges, generate buy-in and support for the career pathways approval process, and protect against future opposition to new reform efforts. In Tennessee and Delaware, state leaders continually convene and train local program administrators and educators, thus strengthening a culture of awareness and support for high-quality career pathways.

Cross-sector stakeholder engagement must also be sustained throughout the review and approval process, and responsibilities must be distributed to ensure shared commitment to quality. Truly effective career pathways are connected to a state's vision for economic and educational success, catalyzing partnerships across sectors in support of a common goal. As such, all relevant stakeholders must be involved to ensure that career pathways meet the demands of employers and the needs of the state economy and that appropriate linkages are made across the secondary, postsecondary and workforce development systems.

>>> **Career Pathways Approval Should Be Driven by Regional and State Economic Needs:** State and regional economies can be dynamic, and employment opportunities are subject to rapid change. As such, states should adopt policies to regularly review career pathways and align them with high-wage, high-demand industry sectors. Tennessee annually examines the courses and standards in each state-approved program of study and scales or discontinues programs depending on how well they meet industry needs. Delaware provides labor market data to local administrators, empowering them to prioritize the development of programs of study that are aligned with regional demand. By institutionalizing labor market alignment policies, states can better prepare students for viable career opportunities and close critical state and regional skill gaps by strengthening the talent pool.

>>> **Linkages to Postsecondary and Workforce Opportunities Should Be Prioritized:** States' approval processes should ensure that all career pathways have multiple entry and exit points, extend across the entire learning continuum, and have relevant linkages to postsecondary and workplace opportunities. In Tennessee, a statewide articulation agreement with the TCAT system awards postsecondary credits for industry-recognized credentials earned in a secondary program of study. Thus, students are equipped to either enter the workforce or continue their education after graduating from high school. Additionally, Delaware's early college and early career experiences are further supported through the identification of "value-added"

opportunities that link learning to experiences outside of the classroom, including work-based learning and participation in CTSOs.

## Unpacking the State's Toolbox

Without a doubt, state context is a significant factor in how states review and approve career pathways. Thus, it is critical that state leaders first identify which tools are available to define and promote the implementation of high-quality career pathways in all communities.

### >>> Using Quality Criteria to Improve Career Pathways:

Regardless of whether a state develops career pathways at the local or state level, or somewhere in between, every state has a process in place to regularly review and evaluate career pathways. Some approval processes are limited to Perkins-supported programs, but all include minimum “non-negotiable” requirements that set the baseline standard for quality. The approval process presents states with a unique opportunity to define and promote quality.

States like New Jersey, where programs of study are developed at the local level, go beyond the statutory requirements in Perkins, articulating specific requirements for cross-sector stakeholder engagement, review of labor market information, teacher licensure, co-curricular learning and leadership opportunities, industry certification and more. Even states that self-identify as “local control” states can use such criteria to define and promote quality career pathways at the regional and local levels. By setting the non-negotiable minimum requirements, such states can identify underperforming career pathways and justify discontinuing them.

### >>> Leveraging Fiscal Policy to Prioritize Quality:

Career pathways are supported through a combination of federal, state and local funding streams, each of which can be leveraged to support or phase out specific programs. In Delaware, programs that fail to meet performance goals or labor market needs after their five-year review are flagged for discontinuation of state funds. Over the next two years, funding for these programs is reduced and then eliminated, thus phasing out those particular programs. Often, the power of the purse is a state's greatest asset for strengthening and

expanding quality programs. States should consider aligning funding policies with key quality indicators so that only career pathways that meet requirements for quality, relevance and rigor are eligible to receive public dollars.

>>> **Promoting Quality through Accountability:** Another key lever to support quality is the state accountability system. As of 2016, 34 states include career-focused indicators of some form in public reporting or accountability systems.<sup>13</sup> And as states develop and adjust their accountability strategies under the Every Student Succeeds Act, this number is expected to grow. By integrating career readiness indicators into state accountability systems, states can define what quality looks like, signal that career readiness is a statewide priority, and recognize schools and programs that are effectively preparing students for their future careers.<sup>14</sup>

>>> **Supporting Regional Implementation:** As states align program policy, funding and accountability systems to promote high-quality career pathways, they should consider strategies to connect policy to practice by supporting and sustaining quality program implementation. Targeted technical assistance can often address and resolve gaps in program quality in ways that state policy cannot. Additionally, providing training and supports to local administrators can raise awareness of what quality looks like and empower local leaders to drive quality in a more sustainable way. For example, Tennessee conducts quarterly trainings with program administrators to help them recognize gaps and drive continuous improvement, simultaneously building their capacity to use data and building buy-in and support for the state's vision. According to TDOE officials, Tennessee aims to raise a community of well-prepared educators who have bought into the mission and are empowered to improve the quality of their programs.

No single strategy is perfect for promoting high-quality career pathways, but it is imperative that states define and drive quality, expand career pathways to success, and contribute to a thriving economy. The strategies outlined in this paper, including examples from Tennessee, New Jersey and Delaware, aim to provide a starting point for states to examine and redesign their own systems of career pathways approval.

	Tennessee	New Jersey	Delaware
<b>What is reviewed at the state level</b>	<ul style="list-style-type: none"> <li>Everything (courses, standards, programs of study, assessments, credentials)</li> </ul>	<ul style="list-style-type: none"> <li>All programs and programs of study</li> </ul>	<ul style="list-style-type: none"> <li>State-model programs are designed and approved by the state.</li> <li>Locally developed programs must demonstrate labor market justification. This justification and other program artifacts and assurances are reviewed at the state level before programs of study are authorized for implementation.</li> </ul>
<b>Quality criteria</b>	<ul style="list-style-type: none"> <li>Include a sequence of at least four courses</li> <li>Internationally competitive, based on alignment with postsecondary courses and related occupations within the career pathway</li> <li>Clearly written and demanding, allowing teachers the time and flexibility to teach and explore critical topics using meaningful, project-based methodologies</li> <li>Centered around skill-building exercises that foster employability skills such as critical thinking, problem solving and teamwork</li> </ul>	<ul style="list-style-type: none"> <li>Documented labor market demand</li> <li>Inclusion of an advisory committee</li> <li>Admission requirements that include equity and access for all</li> <li>Instructional staff hold appropriate certificates</li> <li>Meet curriculum specifications, including academic and technical content aligned to standards; third-party technical skills assessment; opportunities to participate in CTSOs; opportunities to participate in structured learning experiences (work-based learning)</li> <li>Relevant postsecondary linkages</li> <li>Established procedures for evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Draw on input from a program advisory committee</li> <li>Aligned to a Career Cluster</li> <li>Instructional spaces meet safety requirements</li> <li>Relevant academic and technical standards identified</li> <li>Include a program assessment</li> <li>Include "value-added" opportunities such as industry certification, early college credit and early career opportunities</li> <li>Meet appropriate teacher certification requirements</li> <li>Identify related CTSOs</li> <li>Include an evaluation strategy</li> </ul>
<b>Stakeholder engagement strategies</b>	<ul style="list-style-type: none"> <li>Received input from teachers, postsecondary faculty and industry representatives before courses, standards and programs of study were finalized.</li> <li>Engages teachers through regional meetings before beginning the course review process.</li> <li>Vets courses and programs of study through state industry advisory councils.</li> </ul>	<ul style="list-style-type: none"> <li>The NJDOE established a subcommittee of the CTE Advisory Council to refine the approval process.</li> <li>Each Career Cluster has a statewide advisory committee made up of business and industry representatives, as well as secondary and postsecondary educators.</li> <li>All local programs are required to have a program advisory committee that includes, at a minimum: parents, students, teachers, counselors, business representatives, representatives for special populations and postsecondary representatives.</li> </ul>	<ul style="list-style-type: none"> <li>All local programs are required to have an expanded program advisory committee composed of educators; district coordinators; counselors; business, industry and labor representatives; postsecondary partners; parents; and students.</li> </ul>
<b>Frequency of program review</b>	<ul style="list-style-type: none"> <li>Annually</li> </ul>	<ul style="list-style-type: none"> <li>Every five years</li> </ul>	<ul style="list-style-type: none"> <li>Every five years</li> </ul>
<b>Is funding tied to quality criteria?</b>	<ul style="list-style-type: none"> <li>Funding is tied to Perkins quality program indicators. Although TDOE provides additional program performance data to local administrators, funding is not contingent on these indicators.</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> </ul>
<b>Where are programs designed?</b>	<ul style="list-style-type: none"> <li>Programs are developed at the state level. Districts can select programs from a menu of course offerings.</li> </ul>	<ul style="list-style-type: none"> <li>Programs and programs of study are developed locally.</li> </ul>	<ul style="list-style-type: none"> <li>Some programs of study are designed at state level (approximately one-third), and some are designed locally (approximately two-thirds).</li> </ul>

## Tennessee

## New Jersey

## Delaware

**Use of labor market data**

- TDOE examines national, statewide and regional labor market annually to justify the continued relevance of programs. If the need is justifiable at the regional level but not the state level, districts can develop and apply for special programs of study.
- Applications must demonstrate labor market demand.
- The NJDOE collaborates with the state Department of Labor and Workforce Development to obtain specific labor market data for each specific Career Cluster undergoing the re-approval process to ensure that programs meet labor market demands.
- State-model programs of study are developed with consideration of state economic needs.
- Locally developed programs of study must review and consider labor market information prior to submitting a proposal.

**Strategies used to promote quality**

- Funding can be used only on programs meeting quality program indicators.
- Additional data on student success and outcomes are provided to locals to encourage program improvement.
- Professional development is provided to inform educators and administrators about the process and to empower them to use labor market data to drive continuous improvement.
- TDOE reports data through CTE public report cards.
- Funding is tied to quality programs of study.
- The NJDOE provides technical assistance through regional sessions, through assistance from Career Cluster leads, and via annual professional development tailored to specific district needs.
- The NJDOE shares model programs of study with districts around the state.
- Funding is tied to quality programs of study.
- Labor market information is provided to local leaders.
- Professional learning opportunities are available for all districts using state-model programs of study.
- Technical assistance is available at every stage of local program development.
- Career-ready indicators are included in the state accountability system.

**Alignment with postsecondary**

- Programs of study make use of state-developed dual credit courses and must have agreements in place to transfer credits to the postsecondary system.
- The TCAT system articulates credits from industry credentials toward a postsecondary degree.
- All programs of study are vertically aligned to programs at TCAT and community colleges.
- Secondary programs are required to submit copies of articulation agreements and have postsecondary partners on the local advisory committee.
- Postsecondary leaders are required partners on program advisory committees.
- All state-model programs of study have statewide articulation agreements.
- All locally developed programs of study are required to have agreements in place with local postsecondary institutions identifying learning progression beyond high school.

**Alignment with industry**

- Content-specific statewide industry advisory councils inform relevant course standards and course sequencing.
- Industry certifications are aligned and embedded in course standards and programs of study.
- The statewide CTE Advisory Council provides input on the program of study review process.
- Local programs required to have program advisory committees that include business and industry representatives with content expertise.
- DDOE staff engage state industry leaders to develop state-model programs of study.
- Locally developed programs are required to have program advisory committees that include business and industry representatives as well as representatives from relevant labor unions.

**Evaluation strategies**

- TDOE provides additional student outcomes data beyond Perkins quality performance indicators and trains administrators on how to use these data to improve program quality.
- Additional data are not punitive.
- Use of the state's NJ SMART data system to determine which programs meet quality criteria
- Developing a program quality rubric, which can be used for self-evaluation at the local level
- The program advisory committee designs an evaluation plan, including a strategy to collect relevant data.
- All programs are evaluated every five years to ensure continuous improvement.

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