Systems Alignment

Through the National Career Clusters® Framework

Career Clusters
Pathways to College & Career Readiness

Executive Summary

Advance CTE, as the steward of the National Career Clusters® Framework, recognizes the need for a limitless career preparation ecosystem, in which all learners can access and succeed in programs of their choosing. As the primary beneficiaries of the Framework, learners of all ages require a career preparation ecosystem that works for them, and industry requires learners equipped with the skills and competencies needed to succeed in ever-changing work environments. To meet these requirements, secondary and postsecondary policies and programs at the state and local levels must be flexible and responsive to the needs of learners, educators, advisors, administrators, and industry.

This document is one in a series of resources designed to help Career Technical Education (CTE) leaders consider policy opportunities facilitated by a modernized Framework. While this resource seeks to push state and local CTE systems forward, it is not comprehensive; many states may have other policy areas that need to be considered that are not discussed here.
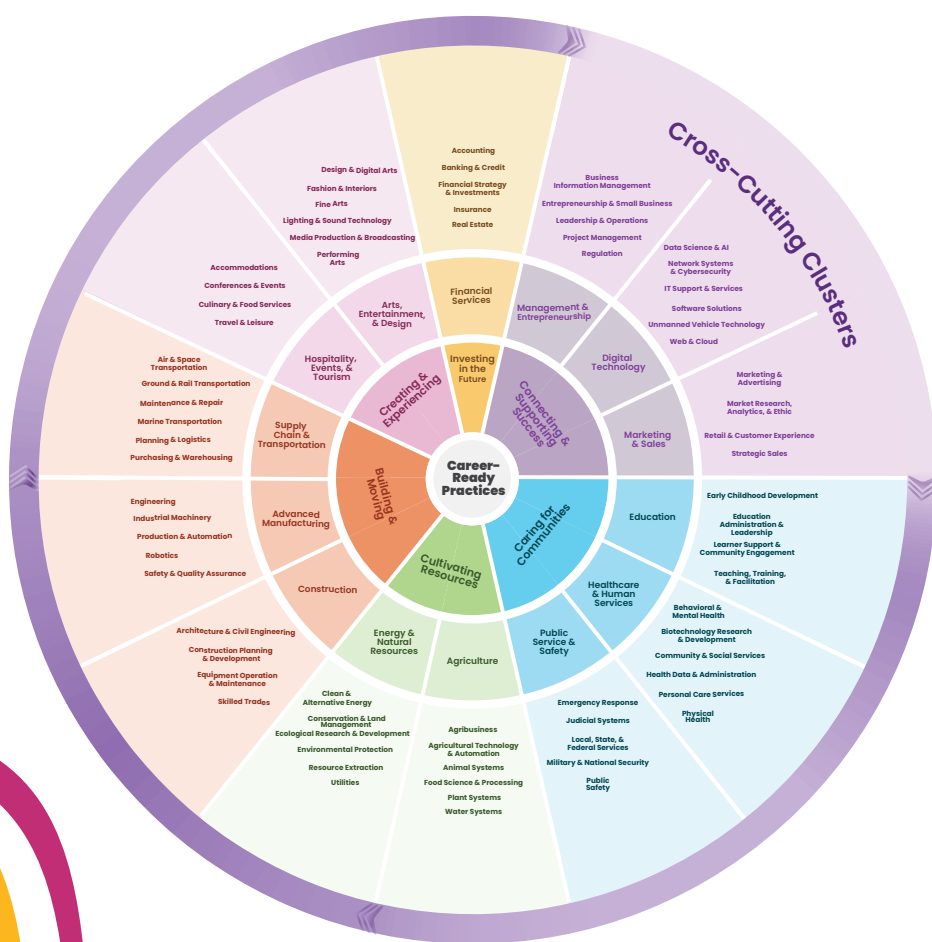
Despite ongoing efforts and intentions, education and workforce systems remain too siloed, each offering their own programs, structures, and terminology, which can serve as a barrier for learners and industry partners alike. This brief articulates how to leverage the modernized National Career Clusters Framework as a prime opportunity to bring together these key systems—K-12, higher education, workforce development, and economic development—to support an aligned and cohesive career preparation system.

Overview

The challenge of aligning systems to enable smooth transitions for learners and more coherent guidance for industry partners is neither new nor easy to solve. States and local communities have struggled for decades to build and maintain aligned systems that feel truly seamless for learners and industry. These efforts have gotten only more complicated as career pathways systems have grown more complex and now also include CTE, youth apprenticeship, and other programs and experiences. Systems alignment is even more critical now given the need for a nimble system that supports learners' upskilling and reskilling as they come in and out of a larger career preparation ecosystem.

While there are a number of ways to tackle the challenge of systems alignment, this brief will focus specifically on the idea of "systems coherence," or the way in which education and workforce systems work in concert to reduce confusion, redundancies, and competition. Ensuring that states and/or local institutions have aligned data systems with data-sharing agreements and early postsecondary credits that seamlessly transfer is critical to an effective CTE system. However, this brief will focus on how the Career Clusters can serve as a shared framework across systems, enabling shared goals, language, and structures—all of which are foundational to strong collaboration and programmatic alignment.

Visit the Career Clusters Framework Resources page for additional briefs on key topics connected to Framework updates and implementation.

Optimal Conditions

Leveraging the Career Clusters Framework to advance systems coherence within CTE and career pathways system can open doors to connections and collaboration that previously may have seemed too challenging to realize.

Imagine if

- ▶ A learner graduated from a high school that leveraged a career advising model based on the 14 Clusters and then that learner enrolled in a two-year college that leveraged those same 14 Clusters for its meta majors or guided pathways;

- ▶ State leaders from various agencies came together annually to review labor market data to inform key priority sectors (Career Clusters) and occupations and collaboratively communicate those to the field.

- ▶ A district and community college co-designed a program of study, with a fully laid out progression of competencies, courses, experiences, and credentials informed by a shared industry advisory group;

- ▶ An industry partner was asked (separately) by a local district and a local workforce board to give input on the skills it most needs, and the district and the board used the same Cluster language to describe the industries and occupations of interest as well as the Career-Ready Practices to define critical employability skills; or

- ▶ Secondary, postsecondary, and workforce development institutions and providers used one coordinated umbrella list of credentials of value, disaggregated by the 14 Career Clusters.

The shift to the updated Career Clusters represents a unique moment in time to engage key audiences, have conversations about opportunities for greater alignment of work and language, and identify where capacity can be better leveraged across systems.

Key elements of this optimal state include:

Statewide Adoption of the National Career Clusters Framework: As a starting point, state and local agencies and institutions (e.g., departments of education, higher education, labor, and workforce development, as well as school districts and colleges) will need to adopt and integrate the Framework into their policies and practices. In addition, other agencies, such as departments of agriculture, natural resources, health and human services, and others, may have workforce development programs and goals that can also be aligned with the Career Clusters. This level of coordination will likely require engagement and support at the highest levels of leadership, including the governor and state legislature, as well as an audit of each entity's policies or programs that focus on specific sectors, Clusters, and/or industries.

**A Commitment to Common Language and Terminology**: A unified language across K-12, postsecondary, workforce, and industry partners would include standard terms for and resources around sectors, career pathways, competencies, and outcomes to facilitate clearer communication and alignment. For example, some states have sector strategies, high-demand occupation lists, defined employability skills, and CTE programs of study, all of which use different terminology. Getting to start with a clean slate and a common framework can reduce confusion and streamline efforts.

Shared Goals: While adoption of the Career Clusters and shared language is foundational, achieving more cohesion and coordination among educational institutions (K-12, community colleges, technical schools) and workforce systems requires a set of shared goals around educational attainment, economic development, and/or workforce participation.

Key elements (continued)
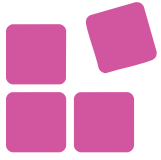
Established Structures to Support Cohesion: There are opportunities to look at the various convening structures in place—statewide and local CTE advisory boards, statewide sector councils, workforce development boards, P-20 councils, and others—to identify gaps and new opportunities to bring more intentionality in how public and private entities and partners work together to support a skilled economy. One model is ensuring clear reciprocity across entities—for example, requiring CTE representatives to sit on workforce boards and vice versa. Another model is creating joint advisory boards at the state and local levels that consider secondary and postsecondary programs in concert, an approach some states have used around a combined Comprehensive Local Needs Assessment (CLNA) as part of their Carl D. Perkins Career and Technical Education Act (Perkins V) planning. Or states or local agencies may develop aligned professional development sessions, such as a single conference for secondary, postsecondary, and workforce development professionals who are responsible for counseling and advising to strengthen relationships and opportunities for collaboration.

A Focus on Skills and Credentials: A statewide shift toward recognizing skills over traditional credentials (e.g., degrees) can support better alignment of education and workforce needs as well as improve collaboration among the public and private sectors. By focusing on the development and implementation of programs of study that are grounded in high-wage, high-skill, and in-demand occupations (all of which are represented within the Framework), leaders and other key audiences can be working toward a common goal across their systems and institutions.

Key elements (continued)

A Learner-Centered Approach: When working at the system level, getting caught up in process and policy can be easy. Yet, for systems to truly come together as one, leaders need to always center learners' needs and experiences in key decisions. For example, leaders should consider and intentionally map what transitioning between systems looks and feels like for learners, what information and supports learners have access to and how they are receiving them, and where to build in opportunities for learners to provide their own input on decisions about policy and programs.

Data-Driven Decision-Making: Accessible and meaningful data on outcomes can make or break major efforts such as those to bring multiple systems together. The use of labor market data will be critical to moving toward a shared use of the Clusters, but learner outcomes, disaggregated by Career Cluster and population, will also be essential to understanding what is working and where the state needs to come together to increase access and quality.

State Highlight:
Alabama's Talent Triad

Driven by the goals of adding 500,000 additional credentialed workers to the state's economy and surpassing the national labor force participation rate by 2025, Alabama launched its Talent Triad in 2023. The Alabama Talent Triad is a public-private partnership that engages 19 state agencies around a common vision and collective work to build an ecosystem in which technology and data can support the growth of competency-based education and skills-based hiring. One aspect of this initiative is the state's Credential Registry, which is organized by credential type, Career Clusters (called sectors), and other key factors.

Undergirding this work is the Alabama Committee on Credentialing and Career Pathways (ACCCP), an established committee of the Alabama Workforce Council charged with annually identifying regional and statewide in-demand occupations, career pathways, and credentials of value. The ACCCP reviews labor market data to determine, among the Career Clusters and the associated career pathways, which occupations and career pathways are in demand at the regional and state levels. It then determines competency models for each occupation and the career lattices/pathways needed to provide a clear path for learners of all ages.

Importantly, the ACCCP is co-chaired by the state superintendent of education and the chancellor of the Alabama Community College System, and its members include the governor, chair of the Alabama Workforce Council, chair of the Alabama State Workforce Development Board, secretary of labor, deputy secretary of the Alabama Commission on Higher Education, president of the Alabama Council of College and University Faculty Presidents, deputy secretary of commerce, and one appointee from each of the seven workforce regions.

Key Questions for Consideration

States can take a range of actions to support stronger alignment and cohesion among systems, leveraging the National Career Clusters Framework and federal and state policy. While each state's context varies, the following considerations provide a starting point for effective implementation:

- **What information or signals are learners receiving about CTE and career pathways in the state?** Looking at the downstream implications of a misaligned or incoherent CTE ecosystem from the lens of a learner will be important. How are learners—from K-12 through adult learners looking to reskill or upskill—learning about CTE and career pathways? How are their credentials and experiences being recognized for credit? What does advising look like at each level, and is it seamless or in conflict across the levels? Once these questions are answered collaboratively by leaders at various systems, specific strategies can be identified for smoothing transitions and streamlining efforts.

- **What information or signals are industry partners receiving about talent pipelines in the state?** Similar to the learner lens, states should also consider the impact of misaligned systems from the employer perspective. How do employers learn about existing education and workforce pathways in their sectors? How can they trust the quality of those programs and the related credentials? What opportunities does industry have to inform standards, curriculum, experiences, and credentials at the K-12, postsecondary, and/or workforce levels? Again, once a cross-sector group of state and local leaders can examine these questions, they can begin to identify ways these opportunities can be better aligned or streamlined to reduce the burden on employers and maximize their engagement.

- **In what ways do the K-12, postsecondary, and workforce systems currently work well together, and where are the major gaps?** Each state will have its own barriers and roadblocks, but doing an analysis of state context is worthwhile. States can audit the current state of play among the key agencies and leaders to identify what is already in place that is working and where the major pain points are. An audit of existing policies that support, or block, alignment will also be useful to at a minimum establish guardrails for what is on the table, at least initially, and what may need more time to address. For example, if a state has a strong dual enrollment system, how can that be leveraged to support career pathways alignment more broadly? If a barrier is accreditation, what evidence needs to be gathered in the interim to prepare for a proposed policy change in the future?

- **Which actions or activities require formal policy changes, and which do not?** The adoption and implementation of the Career Clusters inevitably will require some legislative or administrative code changes. For example, if the state has legislation that explicitly includes the names or the number of Clusters, sectors, meta majors, industries, etc. that must be used within the education and workforce systems, that legislation will need to be amended. However, other changes, such as launching new statewide structures or bodies, may require leadership from the governor's office. Finally, some of these changes, such as aligning nonlegislated names or the focus of industry advisory committees across the systems, can be started simply through engagement and outreach.

The unfortunate reality is that in many places, policy is not the barrier to alignment; the barriers are a lack of trust, inertia, local control, and/or limited resources and leadership. While the Career Clusters are not a cure-all, they do provide an opportunity to start fresh conversations anchored in the needs of learners and industry partners.

State Highlight: Shared Resources and Definitions in Illinois

Illinois is working on a number of efforts to help bridge systems and language. Illinois Pathways is a "public-private education partnership organized to support local implementation of the National Career Clusters Framework and programs of study by coordinating and reducing the transaction cost among statewide networks of education partners, businesses, industry associations, labor organizations, and other organizations." In 2018, it released a first-of-its-kind Career Pathways Dictionary. As the career pathways ecosystem evolved in Illinois, EdSystems facilitated a statewide process in 2022–23 to update this resource. In 2023, the dictionary was re-released as a stand-alone website— **pathwaysdictionary.org**—which includes definitional updates, resource links, and implementation guidance.

In addition, after Perkins V was reauthorized in 2018, the Illinois Community College Board developed Model Programs of Study Guides in consultation and collaboration with the Illinois State Board of Education through a process led and facilitated by EdSystems. These resources provide consistent guidance to districts and colleges alike as they build or update existing programs of study.

Recommendations

Identify Cross-Sector Champions and Leaders

- **Provide Leadership at the Highest Levels**: Engage key leaders and decisionmakers. Making the changes discussed in this brief requires committed leaders, including the governor, state legislature, state boards, and others. These leaders need to communicate beliefs, values, and the mechanisms being put in place to activate the changes, as well as leverage their decision-making authority to put structures and policies in place that support more cohesion.

- **Develop In-System Champions**: Cultivate strong advocates and champions within each agency, institution, and sector to make the case for the change and guide the alignment efforts. CTE leaders are well positioned to be these champions but must also recruit other individuals to ensure that the effort is well rounded.

- **Engage Out-of-System Champions**: Recruit and activate committed champions from business, industry, and labor to engage their colleagues and policymakers about the importance of the Clusters and how the Clusters will directly benefit them and their bottom line.

Maximize Shared Capacity

- **Conduct Capacity Mapping**: Across key agencies, identify whom each entity is serving; what roles/positions are in place at each level; who key partners are (e.g., industry, community based); the federal, state, and/or local funding being used; the metrics and outcomes each entity prioritizes; and how each entity is communicating directly with learners and industry partners. Look for redundancies and opportunities to better connect dots, resources, and communications.

- **Leverage Intermediaries:** Engage community-based organizations, local chambers of commerce, and other key organizations to help communicate, advocate, and implement the changes. These groups provide critical capacity to the CTE and broader career pathways ecosystem and should be part of the shift to stronger alignment and coordination.

Build Trusted Partnerships Through Shared Tables

- **Expand CTE Awareness**: Increase awareness of CTE programs and the modernized Career Clusters within local communities, workforce boards, and employers. Highlight CTE as the solution to workforce needs.

- **Build Trust**: Facilitate stronger connections between workforce development agencies and educational institutions, focusing on a shared understanding of labor market needs and the role education plays in meeting those needs. Bring learners into these spaces to help keep everyone anchored in what matters the most—providing opportunities that lead to learner success and economic independence.

- **Create Joint Advisory and Steering Committees**: Bring together key audiences from secondary and postsecondary education, workforce development, and employers to collaboratively set goals and define standards for Career Clusters at the state and local levels on a regular basis.

- **Engage Industry**: Foster better engagement with industry through value-added convenings, during which employers and educators can discuss common challenges and opportunities for collaboration.

- **Integrate Professional Development**: Because alignment can only go so far at the state level, provide opportunities for practitioners to come together from across sectors and disciplines to learn from and with each other, fostering greater understanding and collaboration at the local levels.

Align Policy and Incentives

- **Map the Ecosystem**: Audit state policies and programs that may include references to Career Clusters, sectors, industries, or other ways of organizing careers and occupations. Look for opportunities to bring language and terminology into alignment.

- **Leverage Shared Goals**: Align the implementation of the Framework with state-level educational and workforce goals, which could include common attainment goals across the sectors.

- **Develop Common Skills-Based Competency Models**: Develop skills frameworks that identify the specific skills and competencies required for programs and careers, using the Framework as a starting point and including the Career-Ready Practices and 14 Clusters at a minimum. These competency models undergird efforts around skills-based education, training, and hiring, as well as a common list of approved credentials.

- **Align Funding Models**: Shift funding priorities to reward successful alignment of Career Clusters pathways, with a focus on outcomes such as learner completion, retention, and employment. Explore how Perkins and Workforce Innovation and Opportunity Act (WIOA) funding can be used to incentivize this alignment.

- **Report Data Consistently**: Develop crosswalks and data dashboards that put all labor market data—and outcomes data—in one place or at least use filters to ensure comparability.

State Highlight: Nebraska's H3

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The Nebraska Department of Labor developed H3 (High Wage, High Skill, High Demand), a website that provides labor market data for all education and workforce programs in the state. The Departments of Education and Labor use the same criteria for defining "high wage," "high skill," and "high demand" for CTE and workforce development programs. The H3 website uses Career Clusters for its sector-level filter.

When Nebraska's H3 **website** launched, it was an immediate resource for multiple state agencies, but it also can be important tool for educators and learners. Advisors and learners can pull regional or state data to conduct research on jobs and wages to gather important contextual information for career advising.

Federal Policies and Systems Alignment

Federal laws, including the Every Student Succeeds Act, Perkins V, WIOA, and the Higher Education Act, are opportunities to align systems but also put up barriers.

Opportunities

- Most federal laws, including Perkins V and WIOA, require states to set a clear vision and goals. This visioning is an opportunity to build a clear through line in support of CTE and a strong economy.

- States are also required to engage audiences when developing or updating their plans for leveraging federal funds. This engagement is an excellent time to educate key groups on Career Clusters, activate champions, and identify opportunities for better collaboration and alignment. In addition, both Perkins and WIOA require ongoing local engagement—via the CLNA and local workforce plans, respectively—which enables more cross-sector opportunities for discussion and collaboration on the ground.

- Perkins V requires programs to be aligned with high-skill, high-wage, or in-demand occupations; WIOA requires programs to be aligned with in-demand occupations. In many states, the definition of "in-demand" differs for CTE and workforce training programs. This is a straightforward place to start to look for ways to align these definitions.

Barriers

- Federal reporting requirements are largely misaligned when it comes to defining sectors: The registered apprenticeship system uses the North American Industry Classification System, the CTE system uses Career Clusters, and WIOA reporting does not require disaggregation by sector. Workarounds are necessary until federal policy changes.

- Across federal laws, various eligibility criteria (e.g., age, prior educational attainment, income) and program boundaries (e.g., physical service delivery boundaries, program hours, credit versus noncredit) define who is being served to ensure nonduplication of services and efficient investment of public dollars. These criteria and boundaries need to be unpacked and crosswalked to ensure consistent delivery of programs.

Acknowledgments