Pathways to Implementation

Building and Sustaining Effective Career Pathways

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Design

What Is Design, and Why Is It Important for Career Pathways Implementation?

Effective implementation requires deliberate, cohesive design. Cohesive design means starting with the end in mind: Goals for the initiative, including associated metrics, are established at the outset, and the design considers all aspects of what it will take to reach those goals.[1] For career pathways, this means bringing together key stakeholders to clearly articulate the purposes of the initiative. Stakeholders can then develop a design for the program that intentionally considers how to meet all identified requirements, including content and instructional quality, alignment with workforce needs, currency in the labor market, ease and equity of access, and data collection and reporting to monitor progress.[2]

Program design is an opportunity to deliberately consider and integrate other core elements at the outset.[3] For career pathways, this includes engaging employers in the design process to ensure programs have labor market value; considering how the program will be funded, staffed, and sustained over time; establishing delivery methods, communication strategies, and student supports that enable equitable access; and setting data reporting requirements that support continuous improvement.[4]

SERIES OVERVIEW

As the needs of the U.S. workforce change, states have sought to improve educational and career outcomes for students by investing in the development of career pathways.[5] Career pathways programs allow high school students to access postsecondary education and employment opportunities, work-based learning experiences, skill-building in alignment with academic content and high-demand occupations, and opportunities to earn credentials before graduation.[6]

To effectively change students' experiences and outcomes, strong policy must be coupled with robust implementation. In Pathways to Implementation, Bellwether draws on nearly 40 interviews with leaders and experts across 14 states to highlight innovative strategies and effective models in career pathways policy, implementation, and programming, as well as challenges states encounter in this work. The series is organized thematically into seven briefs, each addressing one of the key elements of Bellwether's framework for career pathways policy implementation:

1. Vision
2. Design
3. Stakeholder Engagement
4. Resources
5. Communications
6. Data
7. Continuous Improvement

Each brief defines the key framework element, articulates common challenges to state implementation, provides examples of successful state action, and concludes with considerations for state leaders and policymakers.

State leaders and national experts identified the following as core characteristics of strong state-level design for career pathways initiatives:

- **Establishes aligned, collaborative partnerships**: Stakeholder engagement is critical in both the vision and design phases of career pathways implementation. Stakeholders (including state agencies, secondary and postsecondary education representatives, and business/industry leaders) understand and agree on the vision behind the design and what the initiative aims to accomplish. They engage in program design through collaborative, cross-sector partnerships.[7] Similar to the development of a shared vision, the design process continues to build buy-in across stakeholder groups and ensures that design is informed by all relevant sectors: government, K-12 and postsecondary education, and business/industry.

- **Builds on policy and resource analysis**: State leaders thoroughly analyze existing policies, programs, and industries to ensure alignment with new programs.[8] State leaders also identify the resources they need for implementation, including funding, human capital, and data infrastructure.[9] Financial and human resources are necessary to support implementation, and data is necessary to support evaluation, data-driven decision-making, and accountability for results. Attention to the state's policy and resource landscape during the design phase supports smoother implementation processes, helps prevent midstream setbacks, and enables continuous improvement.

- **Creates coherent, aligned program structures**: Career pathways programs include multiple, aligned elements: career exploration opportunities that connect students with employers; course sequences that keep students' options open but are aligned to workforce needs and college readiness standards; and credentialing that allows students to codify and communicate their skills and experiences.[10] Career pathways programs also include supports to ease student transitions from high school to postsecondary education and the workforce. This support may include advising on credit transfers, degree alignment, financial assistance, or other individualized student needs.[11] Designing a program with intention, appropriate context, and support maximizes the benefit to students, employers, and states.

What Gets in the Way of Design, and How Are States Making It Work?

While focusing on strong program design at the front end is critical for effective pathways implementation, it requires effort, intentionality, and dedicated staff capacity to do well. State leaders and national experts elevated the following common challenges to developing cohesive, effective design for career pathways:

- **Incomplete understanding of market needs**: If initiatives are designed without critical analysis of the state's current and upcoming statewide, regional, and local labor market needs, programs are unlikely to provide completers with credentials of value. This is even more likely to be a problem when employers and industry representatives are not engaged at the design stage.

- **Incomplete understanding of existing state policies and programs**: When an initiative is designed by stakeholders who do not have a clear grasp of all relevant policies, programs, and incentives already available in the state or provided by the federal government, new programs may unintentionally duplicate efforts, create barriers for student access to programs, or struggle to build buy-in and engagement from educators.

- **Barriers to student participation**: The state's requirements for the structure of the high school experience — such as the number of credit hours required, the number of hours students have to

be in school, and how school days are scheduled — may pose barriers to student access if these structures are not considered in the design phase of the career pathways program.

- **Barriers to student success**: Programs designed without appropriate academic and nonacademic student support, counseling, or seamless transitions to available postsecondary or workforce options will limit the value gained by participating students, and such programs may eventually lose public and educator support.

While these challenges are common across states, leaders and stakeholders in **Colorado**, **Delaware**, and **Indiana** have successfully engaged in effective processes that have led to strong program design.

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Colorado

Aligned to Workforce Needs

Colorado hosts pathways in 17 industries, ranging from cybersecurity and aerospace to health care and education.[12] The 17 career clusters were drawn from Advance CTE's work but prioritized based on conversations with employers and in-depth evaluations of labor market data. Sarah Heath, vice chancellor for academic and student affairs at the Colorado Community College System, shared, "Our Workforce Development Council ... identified which pathways to work on first because of what was in demand in our state, and where we had gaps and shortages in our state for the future of workforce." The Workforce Development Council — a public-private partnership whose members are appointed by the governor — also **conducted research around skills gaps**.[13] The findings of those analyses were then shared with other stakeholders, including high school and college leaders, highlighting **the value of collaborative partnerships**. Equipped with the information around skills gaps, education entities incorporated those competencies into pathways curricula.

The commitment to aligning with workforce needs continues as programs receive increased investments from Colorado.[14] Heath said, "For our apprenticeship-aligned [career and technical education] programs bill, there was a specific callout about in-demand careers, and we will be focusing on those [when] incentivizing program development. While we honor all our program areas, we will be providing more financial and development support for those industries identified in the bill — like infrastructure and health care." By **explicitly aligning to labor market needs**, Colorado is letting its workforce drive the conversation around career pathways and their design, ensuring that students have opportunities for in-demand, high-quality jobs upon pathway completion.

Designed for Reengagement

Colorado state officials are intentional about creating **coherent, aligned program structures** that allow for permeability[15] and reentry after gap years so that students can receive credit for prior learning without having to start from scratch. Guided by Senate Bill 22-192, the Colorado Department of Higher Education convened stakeholders to identify which degrees and credentials could be stacked — added together toward higher levels of certification or degrees — and where students could get credit for non-degree work.[16] The "stackable" credential pathways of focus in that conversation were informed by the annual "Colorado Talent Pipeline Report."[17]

Ensuring that students can get credit for prior learning is especially critical in the wake of the COVID-19 pandemic. As Heath explained, "We [are] being very intentional in our design around what credit for prior learning looks like for someone returning to college or even, frankly, high school. They may have been disengaged during COVID-19, but they want to bring some of their current workforce experience that they might have had in that gap year or two." The state is even considering a "digital learner wallet," which would track a student's prior learning that they could carry with them along a pathway.[18] By designing their programs with intentionality and support for students, Colorado makes pathways more accessible and seamless to students from all backgrounds.

Delaware

Established Clear Minimum Requirements for Programs

Delaware requires that all career and technical education (CTE) programs meet three minimum requirements before the conversation can even begin about whether they will be certified. Program occupations must be set to a minimum wage threshold, identified in collaboration with the Delaware Workforce Development Board; align to an in-demand field, supported by labor market data; and meet the requirements to be defined as "middle skill" level.[19] These minimum requirements were designed to be **aligned with Delaware's broader vision of career pathways** and are set forth in the Delaware Combined State Plan. The state offers exceptions to enabling sectors — foundational sectors that provide essential services like early child care — that may fail to meet one of these requirements.

Once those three minimum requirements are met, prospective CTE programs are evaluated along a range of other dimensions, as outlined in the Delaware Administrative Code.[20] Many of these requirements are explicitly taken from CTE programs in the federal Perkins statute. Any requirements beyond what is named in federal statute were designed by Delaware's Department of Education in collaboration with CTE directors within school districts. They were then sent out for public comment to ensure broad stakeholder buy-in, illustrating a **commitment to alignment among vision, policy design, and program delivery**.

Standardized Process for Articulation Agreements

To streamline processes, ease participation for education institutions, and reinforce design consistency, Delaware created **a standardized template for all articulation agreements** for course and credit transfer between high schools and postsecondary institutions — a component of design that has allowed for less confusion at both the institution and state levels. Jonathan Wickert, director of CTE and STEM initiatives at the Delaware Department of Education, led this effort. He explained, "Back in 2019, there was no standard process. Each education associate, each program lead, negotiated their own agreements on their own terms with different institutions, and so it was a nightmare to manage as well as communicate to students, parents, and educators." He proposed the creation of a template and, after a few months of collaboration with postsecondary institutions, landed on the template hosted by the department today.[21]

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Indiana

Created a Permeable System

Indiana is intentional in designing pathways that are permeable, so no pathway leads to a dead end. Leaders highlighted **the importance of student choice and flexibility** along pathways, indicating that they intended to make moving among pathways a simple option for students. Claire Fiddian-Green, President and CEO of the Richard M. Fairbanks Foundation, highlighted the importance of permeability, saying, "[Switzerland was] elevated as the gold standard because of their permeable system ... you don't get dead-ended somewhere. You have the ability to start somewhere, change your mind, move from the career to the academic track, and back and forth. That's obviously very appealing to our stakeholders. Nobody wants their children or somebody else's children to make a decision at the age of 16 to go into an apprenticeship where they get stuck."

The value of permeability shows up in the design of Indiana's readiness seals on high school diplomas.[22] While still in the design process, these seals aim to share areas of overlap "so that a student pursuing one path is also completing requirements in another path so that if they decide to switch, they are not starting over," according to David Buyze, director of policy and special programs at the Indiana Department of Education.

Designed for Stability

Indiana is designing its pathways systems in close alignment with external partners, in part to ensure sustainability of the system in the long term. The state's partnership with the Richard M. Fairbanks Foundation is critical to **convening stakeholders across sectors to ensure alignment** in developing new policy, as well as establishing stability even if there is turnover.

Key stakeholders praised the foundation's role as a convenor. Jason Callahan, the executive vice president for Cross Systems Consulting at the Forum for Youth Investment, noted, "Indiana is fortunate to have the Fairbanks Foundation that can be somewhat external, to help convene and bring together systems."

Leaders at the foundation echoed this commitment to serving as a convenor and as a force for stability by creating the iLab, a network of state leaders working collaboratively to develop a statewide youth apprenticeship program.[23] Currently, the iLab includes more than 100 members from across sectors and state regions organized into five distinct committees.[24] Building a vast coalition of stakeholders from various sectors lessens potential volatility in the program due to staffing turnover at the state level. Fiddian-Green reflected, "We've had massive turnover everywhere, including in government, but also outside of government. And so one of the things we're trying to do with the iLab is scale it statewide with lots of different people and sectors at the table that can hopefully help mitigate the loss of the institutional memory that happens when somebody leaves their job."

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—CLAIRE FIDDIAN-GREENE, PRESIDENT AND CEO, RICHARD M. FAIRBANKS FOUNDATION, INDIANA

Design: Considerations for State Leaders and Policymakers

In developing strong **design** for career pathways implementation, state leaders and policymakers should consider the following critical questions.

***Program Components* — How will you ...**

- Determine which program components are essential and articulate to key stakeholders (e.g., educators and employers) the reasons why they are essential?
- Integrate essential components into program design in ways that both support the intended outcomes and are sustainable?

***Equitable Access* — How will you ...**

- Deliver and communicate programs equitably to all student groups?
- Consider regional differences in program access and workforce development needs?

***Data* — How will you ...**

- Gather and use data appropriate to the rationale for developing the program (labor market needs, economic mobility index, postsecondary attainment) to inform the directionality of programming?
- Use these data to inform continuous improvement of the program?

***Analysis* — How will you ...**

- Identify critical issues (e.g., equity gaps in program access and participant outcomes) and generate analyses to inform the policy design process?
- Set expectations and build capacity for understanding potential implications of design choices on existing policies, programs, and students?

Endnotes

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About Bellwether

Bellwether is a national nonprofit that exists to transform education to ensure systemically marginalized young people achieve outcomes that lead to fulfilling lives and flourishing communities. Founded in 2010, we work hand in hand with education leaders and organizations to accelerate their impact, inform and influence policy and program design, and share what we learn along the way. For more, visit **bellwether.org**.

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ABOUT THE SERIES

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