Building a System Where Learner Experience Counts

With input from internal and external stakeholders and community partners, The Attainment Network identified key policy areas where statutory changes and additional support would strengthen Colorado's education-to-career systems. Updated in November 2025, these policy briefs provide analysis of the issues, national and local best practices, and recommendations to accelerate learner success in Colorado.

Background

The U.S. Department of Labor defines **stackable credentials** as "part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and help them to move along a career pathway or up a career ladder to different and potentially higher-paying jobs." Credentials in a stackable pathway can include industry-recognized certifications, micro credentials, badges, credit for prior learning, career and technical education, and degrees. Stackable pathways enable learners to complete credentials over time, giving them more flexibility and agency in their educational journey as they pursue a more direct path to higher wages and better jobs. Additionally, they allow employers to retain and upskill employees with specific skill sets and allow postsecondary providers to remain nimble—a necessity in an ever-changing skills market. The Attainment Network views stackable credentials as a critical component of a career-connected learning system because they create clear, flexible pathways that align education with workforce needs, empowering learners to progress toward meaningful careers while meeting employer demand for adaptable, skilled talent.

Over the past decade, stackable credentials have grown from a niche concept, primarily concentrated within the community college systems, to a mainstream approach of a targeted workforce development strategy primarily driven by demand for flexible, affordable and career-focused education. This has been particularly true for technical and high demand industries like healthcare, information and engineering technology, and advanced manufacturing, where earning dividends can have an immediate payoff for the learners and earners.

This policy paper provides recent updates to previous stackable credentials policy briefs, with a particular emphasis on Colorado institutional expansion, recent state efforts, and critical federal initiatives.

The need for stackable credentials has **increased** and become **more urgent** with the **rapid pace of economic and technological changes.**

39% of employee skills will be transformed or become outdated between 2025 and 2030 due to the rapid integration of artificial intelligence and automation

More than **70%** of students who built up their credentials through stacking were making middle-income wages within six years

Problem Statement

The need for stackable credentials has increased and become more urgent with the rapid pace of economic and technological changes. Employers now have consistent needs for new skills and demonstrations of competency while learners need efficient and affordable access to opportunities that provide economic mobility, which requires flexible and responsive training and education.

- 39 percent of employee skills will be transformed or become outdated between 2025 and 2030 due to the rapid integration of artificial intelligence and automation (World Economic Forum).

- "Employers are looking for candidates who can demonstrate competency, not just those with traditional degrees" (Michelle Weise, cited in Insight Into Academia, 2025).

- More than 70 percent of students who built up their credentials through stacking were making middle-income wages within six years—outcomes that rival or exceed many traditional educational approaches (RAND Corporation, 2024).

- 63 percent of employers believe micro-credentials add value to candidate resumes, and employers are 76 percent more likely to hire candidates with industry micro-credentials (Education Design Lab, cited in Insight Into Academia, 2025).

- 72 percent of workers believe alternative credentials are an affordable way to gain skills or experience, and 68 percent reported that they believe the credential helped them progress in their career (Society for Human Resource Management, 2025).

Stackable credentials support economic development in high-demand industries, providing a mechanism to respond to the technological innovations that are creating new occupational categories faster than traditional educational systems can respond. This provides pathways for learners and earners to gain skills in emerging areas and for postsecondary institutions to evolve, maintaining flexibility to adapt to evolving workforce demands.

A STACKABLE STRATEGY THAT WORKS

Building a statewide stackable credential strategy is a proven and economically valuable approach. By distilling learning experiences into industry-valued requisite parts, this strategy reduces cost and time barriers to completing a postsecondary credential. It enables learners to move through postsecondary programs at their own pace, complete credentials that are valued in the marketplace, and more clearly understand the cost-to-outcome ratio. Stackable credentials allow employers to develop, find, and retain specific skill sets and allow postsecondary institutions to be more responsive to the changing needs of industry and employers.

FEDERAL, STATE, AND LOCAL UPDATES

Federal Initiatives Supporting Stackability

Federal funding adjustments in 2025 support more avenues to develop, offer, and fund stackable credential opportunities:

- A U.S. Department of Education and Labor [Interagency Agreement](#) transfers $2.18 billion to unify the administration of Perkins V career and technical education (CTE) and WIOA Title II adult education programs, which will allow for the creation of seamless pathways between CTE certificates and adult education credentials. This includes developing a [national skills currency](#)—a framework that would bundle credentials into verifiable competencies that can be stacked into flexible career pathways, enabling learners to accumulate skills and credentials from multiple providers while maintaining a coherent record that employers can easily understand and verify.

- A provision in the US Budget Reconciliation bill expands the Pell Grant program to include short term credentials—also known as [Workforce Pell](#)—to go into effect July 2026. Current draft rules require programs to be between 150 and 599 clock hours (between eight and 15 weeks), lead to a stackable and portable postsecondary credential, provide articulated credit to additional degree programs, and prepare students for high-skill, high wage, or in-demand occupations.

Momentum In Colorado

Colorado continues to be at the forefront of expanding stackable credential options at the state and local levels, with a particular emphasis on apprenticeships, industry-recognized credentials and other work-based learning options.

New Institutional Models

- In 2024, **the Colorado Community College System,** with support from the [Education Design Lab](#) and in partnership with the Colorado Behavioral Health Administration, launched [five micro-credential pathways in behavioral health](#), including Qualified Behavioral Health Assistant (QBHA), Behavioral Health Assistant II, Behavioral Health +, Patient Navigator, and Addiction Recovery Assistant at nine of its 13 system colleges. All five of the micro-credentials stack into an Associates of Applied Science, which stacks into a Bachelor of Applied Science.

  - Denver Public Schools (DPS), in partnership with Community College of Aurora, has launched the first of four courses in a stackable pathway to complete the Qualified Behavioral Health Assistant Certificate through CTE programming. With over 100 students enrolled in this first course, DPS plans to expand the pathway with additional courses in the coming year.

- In the **San Luis Valley,** The Attainment Network has partnered with local employers, school districts, higher education institutions, and community organizations to expand healthcare career opportunities through stackable Certified Nursing Assistant and Medical Assistant certificates.

  - As of June 2025, 126 students have enrolled or completed these programs at Trinidad State College and Adams State University, including 17 current entry-level employees at local healthcare facilities participating in the "upskill" program.

- **Colorado Mesa University,** through CMU Tech, now offers [11 industry forward stackable credential options](#), including options in construction, culinary arts, emergency medical services, and fire science.

- **Colorado Mountain College** developed a unique stackable credential in [Essential Skills](#), intended to provide learners and earners in technical or certificate programs with 15 credits of transferable general education coursework such as communication, literacy, math, and humanities, allowing progression to an associate or bachelor's degree, or job applicable durable skills.

- In 2025, **Emily Griffith Technical College** was the first technical college in Colorado to be granted the authority to offer Associate of Applied Science degrees for students in registered apprenticeship programs through the passage of HB 25-1221.
  - This unique "earn and learn" model enables registered apprentices to leverage work-based learning outcomes and credit for prior learning to earn a degree while being paid for their on-the-job training. It allows students to stack relevant career experiences to bolster workforce options and pursue advanced education options.
  - Through a partnership with MSU Denver, students can also gain a college-level education during their apprenticeship with MSU Denver awarding 45 credits to apprenticeship completers.

Statewide Initiatives Advancing Stackable Credentials

- **Credential As You Go:** Between 2021 and 2024, Colorado was one of three states (including New York and North Carolina) that participated in the "Credential As You Go" (CYAG) USDOE Institute for Educational Science grant program, focused on developing an incremental credentialing system. Throughout the project, 183 incremental credentials were developed in Colorado (42), New York (70) and North Carolina (49). Most of the credentials were developed at community colleges, and they were highly concentrated in healthcare, technical trades, and business. Students surveyed as a part of the project noted that the primary motivation for pursuing an incremental credential was job related growth, security, advancement, or a career new opportunity (63%), while 28% highlighted opportunities for educational advancement. Forty-seven percent (47%) of students surveyed appreciated the incremental nature of the credential, noting that it takes less time to complete and can be earned in addition to a degree, while 33% highlighted the focus on skill development. Importantly, the initiative revealed challenges with data collection and evaluation, including misalignments with course schedule and degree audit/learning management systems that are not constructed in a way that easily captures data for these types of courses, particularly when credentials exist within courses and do not stand alone. (Credential As You Go, 2025. Annual report to the Institute for Educational Science, U.S. Department of Education. Note: annual report is in press, see additional research for CYAG here).

- **Stackable Credential Report, 2024:** Senate Bill 22-192 required the Colorado Department of Higher Education (CDHE) to address critical workforce shortages by building 10 stackable credential pathways in high-value industries. The department's 2024 report shares the pathways designed in behavioral health, cybersecurity, education, healthcare, and software development. The report highlights several key lessons, including the importance of broad stakeholder engagement and rigorous data analysis, the need for a mechanism to help identify gaps in the current educational and workforce system, and the importance of developing a quality credential framework to ensure workforce value of new credential pathways.

- **Credential Quality Classification Framework:** In 2024, CDHE was tasked with the development of a comprehensive evaluation framework to align non degree credentials developed as a result of Senate Bill 22-192 with national and international classification systems to improve comparability across Colorado's workforce and education systems. This project was a result of Senate Bill 24-143 and builds on the foundation established by Senate Bill 22-192, which created the stackable credential pathways noted in the above section. CDHE, in coordination with other state agencies and stakeholder partners, developed Colorado's first systematic approach to ensuring compatibility and recognition of alternative credentials throughout education, training, and workforce systems. In its final classification schema, credentials were aligned with three complementary international and national standards:

  - International Standard Classification of Education (ISCED): which provides global comparability and education level equivalency, enabling international recognition of Colorado credentials.
  - National Qualifications Framework (NQF): which offers competency-based assessment of skills, autonomy, and responsibility levels, particularly valuable for non-formal learning contexts.

- **Occupational Information Network (O*NET):** which ensures workforce alignment and occupational classification using widely recognized U.S. standards.

Several industry-specific findings emerged that impact further development and implementation of stackable credentials. Some non-degree credentials carry immediate workforce value as they are highly structured, regulated, and have easily mapped classification systems. For example:

- Healthcare credentials must be aligned to the highly regulated licensing requirements and Medicaid reimbursement rules giving them direct value to these high-need jobs.

- Credentials in cybersecurity and software development have strong industry recognition from trusted organizations like Microsoft, Amazon, Google, and CompTIA, and they can lead to immediate workforce advancement without a formal degree.

Additionally, some non-degree credentials may provide stackable options, but do not necessarily have stand-alone value or opportunities for advancement without additional coursework. While there are growing options for stackable non-credential options within behavioral health and early childhood education pathways, these fields predominantly require a postsecondary degree to meaningfully advance in the respective industry. Both fields have highly regulated systems that are challenging to navigate outside of formal postsecondary education systems, and struggle with historically high demand and persistent low wage outcomes.

Next steps to this project include aligning both current and future apprenticeships and credentials in the Career Development Incentive Program (CDIP) (or like program) with the credential classification schema, and improve on the prototype to ensure its usability and validity in those programs.

63% of employers believe micro-credentials add value to candidate resumés, and employers are

76% more likely to hire candidates with industry micro-credentials

72% of workers believe alternative credentials are an affordable way to gain skills or experience, and

68% reported that they believe the credential helped them progress in their career

Incorporating Best Practices and Mitigating Risk to Inform Policy

As stackable credential programs have matured across the nation and within Colorado, clear patterns have emerged that distinguish successful, sustainable initiatives from those that struggle to deliver meaningful workforce outcomes. The experiences of early adopters—both their successes and setbacks—offer valuable insights for institutions, policymakers, and employers looking to build robust credential ecosystems. Effective stackable credential structures require intentional design that balances immediate workforce needs with long-term career mobility, ensures seamless educational progression, and maintains strong connections between learning and earning. The following highlights lessons learned from implementation efforts nationwide, providing actionable guidance for developing stackable pathways that truly serve learners, earners, employers, and communities while avoiding common implementation challenges that can undermine program effectiveness.

Best Practices to Mitigate Risk

Strategic Development

LABEL MARKET ALIGNMENT	
ACTION Create pathways in high-demand, high-wage fields using labor market data to guide program development.	**MITIGATION** Avoid workforce disconnection by engaging employers early in the design process to ensure credentials connect to high-demand occupations, stack into additional degrees, and maintain workforce value.
QUALITY ASSURANCE	
ACTION Prioritize industry-recognized, competency-based certificates leading to licensure and valued hiring skills.	**MITIGATION** Prevent terminal credentials by ensuring all certificates are stackable and part of longer-term pathways, with options for learners to upgrade or renew skills as industries evolve.
MOMENTUM BUILDING	
ACTION Evaluate quality shorter-term options, including badges and micro-credentials, that create educational pathway momentum.	**MITIGATION** Safeguard against diminishing returns by embedding renewal and progression opportunities, ensuring short-term credentials lead to further education and higher-value outcomes.

Funding and Sustainability

DEDICATED INVESTMENT	
ACTION Provide ongoing, specific funding incentivizing institutional and state stackable credential creation.	**MITIGATION** Structure funding criteria to reward programs that demonstrate employer validation and adaptability to evolving labor markets.
PERFORMANCE INTEGRATION	
ACTION Embed certificate completion into secondary and postsecondary performance-based funding models and other incentive programs available through local and state mechanisms.	**MITIGATION** Tie performance measures not just to completion rates but also to workforce relevance and alignment with industry needs to prevent arbitrary awards.
RESOURCE LEVERAGE	
ACTION Utilize federal and local resources, including Workforce Pell and braided WIOA/CTE funding.	**MITIGATION** Ensure resources support programs that validate prior learning and work experience, helping learners with non-credit backgrounds enter and progress along credential pathways.

Partnership and Engagement

EMPLOYER INTEGRATION	
ACTION Engage employers in program design, development, and validation of inclusive, culturally competent work environments with robust work-based learning and skill development opportunities.	**MITIGATION** Strengthen employer partnerships to prevent disconnection, guarantee credentials reflect real workplace needs and remain relevant over time.
K-12 TO POSTSECONDARY ALIGNMENT	
ACTION Partner across education levels to offer postsecondary credit and work-based learning in high school that stacks into high-value career pathways.	**MITIGATION** Address transfer of credit into degree program barriers by incorporating competency-based demonstrations, recognition of prior learning, and seamless stacking from high school to higher education. Further, ensure awareness of educators in both K-12 and postsecondary of stackable credential opportunities to support aligned communications.
UNTAPPED TALENT	
ACTION Engage diverse populations including CTE students, direct care workers, and military personnel.	**MITIGATION** Ensure pathways include flexible recognition of skills from non-traditional experiences, reducing barriers to entry and improving long-term workforce outcomes.

Policy Recommendations

As local and state policymakers consider opportunities to expand access to stackable credentials, below are areas to prioritize:

1. **Expand Access & Diversify Recruitment:** Promote stackability through flexible entry-level opportunities and apprenticeship programs with state and federal funding support. Engage untapped talent from high school CTE programs, direct care workers, and military personnel

2. **Rural Development:** Expand CTE programs in rural areas to build future workforce pipelines that utilize stackability

3. **Foundational Skills:** Ensure durable skills inclusion in stackable pathway development for enhanced career potential

4. **Resource Coordination:** Leverage federal and local resources including Workforce Pell and braided funding opportunities to promote stackability

5. **Apprenticeship Utilization:** Expand apprenticeship models for entry-level employment and continuing education and ensure those experiences count as credit towards a degree

6. **Data Enhancement & Currency Assurance:** Develop systems measuring student and institutional progress across all credential types, including wage, employment, and growth data to ensure maintained market value

7. **Stakeholder Engagement:** Ensure learner, employer, and industry participation in intentional design meeting current and future workforce needs

8. **Strengthen Career Advising & Navigation System:** Improve consistency and alignment in advising across the ecosystem to best leverage the opportunities that stackable credentials can provide

Conclusion

Colorado's leadership in stackable credentials and pathways demonstrates the potential for innovative approaches to workforce development and economic mobility. While significant progress has been achieved, continued work is essential to build comprehensive data systems, enhance stakeholder participation, and ensure intentional design that meets evolving workforce demands.

The Attainment Network will continue partnering to identify best practices facilitating statewide adoption of stackable pathways that meet workforce demands while providing diverse learners with increased opportunities in high-value, in-demand careers. Success requires sustained commitment to both innovation and equity, access to and utilization of labor market data, and engagement of educators for effective advisement of learners so that stackable credentials truly function as genuine pathways to economic mobility for all Colorado learners.