

# **Creating Stackable Credential Programs**

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The development of Colorado's banking  
and financial services stackable  
credential pathway program

**the Bell Policy Center**



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## Executive Summary: Creating Stackable Credential Programs

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There are many unknowns when it comes to the future of work. Automation, technological advances, and shifting demands in our economy mean there are jobs that are being displaced and jobs that don't even exist yet. One further challenge feeding into this changing and uncertain future is a workforce that may lack skillsets aligned to the demands of a new landscape. Without paying special attention to equity of access and existing barriers, policymakers and education institutions run the risk of creating a workforce that is unable to meet the demands of the day.

Today, too many **students face barriers that make it difficult to complete and attain a credential that is relevant to a career path** that will have opportunities for advancement and yield a positive return on investment. These barriers include:

- The high costs of training programs and postsecondary education
- Misalignment between coursework and curriculum that may not meet industry needs and long-term opportunities
- Significant time burdens in attaining different credentials and degrees

It is in addressing this complex nexus of issues the stackable credentials program – championed by Mi Casa Resource Center, the Community College of Aurora, Metropolitan State University of Denver, and members of the financial services industry – emerged as a powerful tool to ensure students have the opportunity to gain the skills and credentials needed to meet the demands of growing industries. In Colorado, these organizations, led by the financial services industry's need for a better talent pipeline, convened to develop a program wherein the skills gained from one partner organization translated directly into prerequisites for another.

### **A stackable credentials program:**

- Offers a defined career pathway that allows for individuals to advance within the industry by building off previous experience or formal credentials
- Allows students to enter at different points, but also enables minimally entering the program with an entry-level position with a livable wage
- Ensures previous experience and trainings lead directly to credit within the next tier of education and to desired skills for employers

To build the larger banking and financial services stackable credential program, the partners focused on **three main components:**

- Prioritizing addressing equity barriers in the design and implementation
- Developing strong partnerships that include strong industry representation
- Utilizing existing structures, such as existing curriculum and credential programs

Through these components, the program was able to remedy existing inefficiencies and optimize a pathway to best meet the needs of students. One key example was using prior learning assessments (PLAs) to give students credit for past work experiences. This tool was already used by the institutions of higher education, allowing students to reduce the cost and time it takes to receive a credential. The pathway program also includes many “on- and off-ramps,” offering students the flexibility to gain skills and attain a credential that would lead to advancement, without having to sink costs only to partially complete a program without gaining a credential or translatable skills.

At its core, the program recognizes the many different ways learning can and does occur. The partners convened with a shared goal of recognizing the value of different ways of learning all for the purpose of creating a robust talent pipeline for the development of Colorado’s workforce.

Partnership between different organizations was critical for the success of this program. Ensuring the coursework at one institution aligned to the skills being taught at another was the result of iterative engagement and reflection. While innovative partnerships are a prerequisite for success, the stackable credentials program can easily be translated to other settings.

**While this study outlines the steps taken in the financial services stackable credentials program, the lessons learned are transferable across a number of industries.** Regardless the circumstance, honoring past experiences, reducing costs, and a commitment to partnership are critical to both the success of the program and fidelity of implementation. As Colorado strives to meet the demand for future jobs and ensure our future is more equitable than today, programs like stackable credentials have significant potential to help prepare our communities for good jobs that will be in high demand.

Recognizing the demand for skilled workers in the banking and financial industries talent pipeline, Mi Casa Resource Center (MCRC), the Community College of Aurora (CCA), and the Metropolitan State University of Denver (MSU Denver) partnered to create a unique stackable credentials pathway (SCP) program for the banking and financial services industry.

This publication captures their design process and learnings essential to implementing a sustainable stackable credential pathway for any industry or geographic region. The banking and financial services industry pathway is an example of a model that could be applied to multiple issue areas such as early childhood education and health care. The lessons from this pathway offers guidance to those thinking about replication.

## Stackable Credentials Pathway

For too many businesses and students, the current workforce development and postsecondary systems are not working. The trainings, certificates, and degrees available often do not translate into the skills businesses need from their employees. Too often, students are not able to build upon their existing skills and have to start over with each education institution. Credentials, such as degrees or training certificates, are now a prerequisite for most good jobs, yet the road to these certificates and a college degree is expensive and complicated.<sup>1</sup> For those who do earn their degrees, they may find themselves in a situation where their degree does not translate to the skills needed by employers.

The SCP program is one promising solution to this problem: It builds upon industry demand and expertise and streamlines advancement opportunities between multiple workforce development and postsecondary education institutions. In short, a stackable credentials pathway is the sequencing of postsecondary credentials that can be accumulated over time and help individuals develop qualifications to move along a career ladder or higher paying jobs.<sup>2</sup>

For students, stackable credentials address multiple barriers that keep students from attaining relevant certificates and degrees in a timely way and at a lower cost. Instead of focusing on a skills gap, the program focuses on how to build upon the existing skills of individuals. Through extensive partnerships, students can translate their existing skills into credits, resulting in less time and costs to attain the next level of credential or degree.

For business, the demand-driven nature and strong business partnership embedded within stackable credentials ensures businesses have a direct recruitment pipeline of employees who have the skills they need for positions at all levels.

The banking and financial services stackable credential program created a career pathway that provides students with many on and off ramps within the in-

## Banking and Financial Services Stackable Credentials Pathway:

Strengthens collaboration between community trainers with two-year and four-year postsecondary education institutions.

Engages industry at every step to ensure alignment between education and workforce.

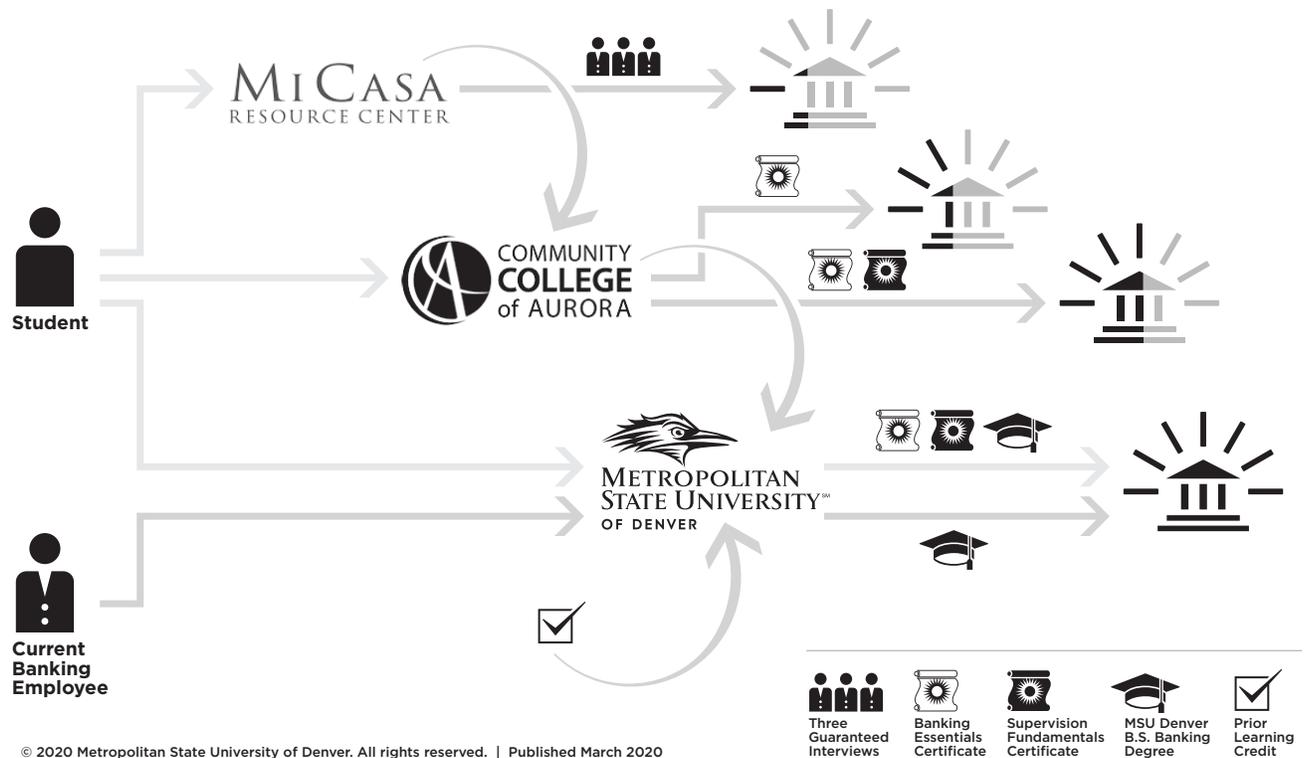
Encourages skills-based hiring by recognizing competencies through shorter term credentials that can be stacked into additional associates or bachelor's degree over time.

Reduces time and cost of credentials by recognizing prior work experience as valuable to formal postsecondary education.

Provides flexibility through multiple on and off ramps to students.

dustry. Jobseekers start by taking a financial services training connected to employment and college credit simultaneously. By enrolling in the class, they are guaranteed three job interviews with employers and the opportunity to earn nine college credits. These credits stack into a certificate program at Community College of Aurora and those credits then stack into a new B.S. in banking degree at MSU Denver, a local four-year institution.

## Banking Career Pathways



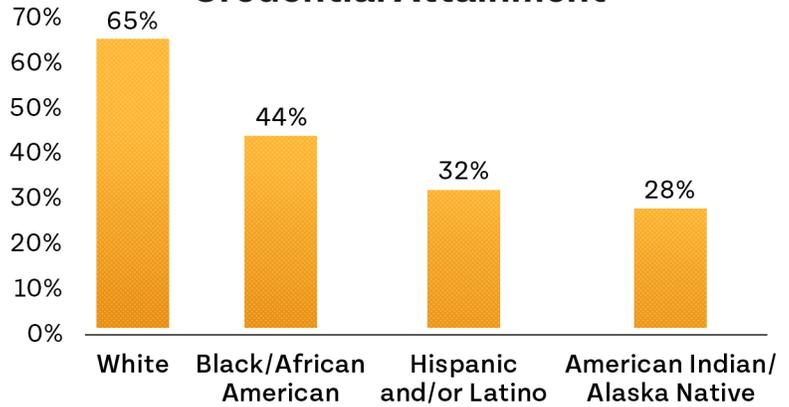
### Need for Postsecondary Education

Researchers at Georgetown University project 65 percent of all jobs will require some form of postsecondary education or training as early as 2020.<sup>3</sup> Currently, 57 percent of Colorado’s workforce has attained a postsecondary credential, but one-third of Colorado’s adult population lacks education beyond high school.<sup>4</sup> Furthermore, only 32 percent of Latinx Coloradans, the primary demographic served by the program partners in Colorado, have postsecondary credentials.

While not all jobs in Colorado require postsecondary credentials, 67 percent of the state’s top jobs or jobs with living wages and industry growth require credentials beyond a high school degree.<sup>5,6</sup> Accessing jobs with living wages is a challenge for adults and communities of color lacking postsecondary credentials that meet job requirements. These challenges also exist for approximately 400,000 adults in Colorado’s workforce who have some postsecondary education, but not the credential needed to meet many job requirements.<sup>7</sup>

Promising solutions tailored to meet the needs of adults and communities of color without credentials are critical to adequately prepare for Colorado’s workforce demands. Combining their deep institutional commitment to equity, MCRC, CCA, and MSU Denver partnered to build a stackable credentials pathway specifically tailored to the needs of low-income, adult learners of color.

### Colorado 2018 Postsecondary Credential Attainment



#### Mi Casa Resource Center (MCRC)

Mi Casa educates and provides career and business development to support job seekers and business owners to advance towards economic self-sufficiency. Seventy-five percent of their participants are Hispanic and/or Latino, 80 percent are women, and 92 percent have low incomes.



#### Community College of Aurora (CCA)

The Community College of Aurora is a designated Hispanic-serving institution and a recognized leader in Colorado’s postsecondary education space. Known for its cultural competence and innovation, nearly 32 percent of CCA’s student population identifies as Hispanic and/or Latino.



#### Metropolitan State University of Denver (MSU Denver)

MSU Denver is a designated Hispanic-serving institution and is known for serving students from diverse socioeconomic backgrounds. MSU Denver’s undergraduate student body makeup is 46 percent students of color and 56 percent first-generation students.

### Why Partner with the Banking Industry

A central component of the banking and financial services SCP design is a focus on equity and inclusion to better support adult learners of color to gain entry into or advance within the financial services industry. The focus on these students was partly because they have been left out of traditional models or existing programs, and because all the partner organizations had a mission-driven interest in serving these students. Because the banking and finance industry needed to increase the supply of skilled workers in many areas that

do not require a four-year degree, it offered strong potential. Critically, jobs in the financial services industry have opportunities for advancement and growth, addressing a key equity barrier that many adult learners face. According to the Colorado Talent Pipeline Report, the banking and financial industry was identified as an industry with projected growth in jobs and median earnings above livable wages.<sup>8</sup>

Further, the financial services industry was crucial as an initial convener, and strong partner in the development of this program. Industry partners approached MSU Denver, citing the need for students with skillsets that were aligned to the demands of the job. This allowed partners to use the entry points in the banking and financial services industry as a starting point in the SCP design and build additional credentials that aligned with the industry's career ladder. Through a demand-driven approach and the continual engagement of the banking and finance industry during every step of the process, the program partners were able to ensure that they were creating opportunities for students that translated into actual careers and employees that had skills that matched business needs. Ultimately, this alignment between student and industry needs drove the collaboration to develop an innovative pathway that put both these interests first.

### **Core Components**

The Bell Policy Center in partnership with MCRC, CCA, and MSU Denver conducted interviews with the banking and financial services SCP program design team to capture the learnings and elements of the design. The SCP design team included leadership and program staff from all three partner organizations who were involved in the design process. Through these interviews, three core components of SCP design were identified as essential to the SCP model. The core components of the banking and financial services SCP design include:

1. Centering equity and inclusion to eliminate barriers to postsecondary and workforce success
2. Engaging employer partners and having an intentional focus on including industry voice in all phases of the design process
3. Convening innovative education and workforce partners to reconfigure existing programs to build pathways that meet employer expectations, student needs, and Colorado's policy priorities.

#### **Core Component: Centering Equity & Inclusion to Eliminate Barriers to Postsecondary & Workforce Success**

Adult learners (also referred to as “nontraditional” students) are commonly identified by their age and enrollment status. Nontraditional students are also characterized by delayed postsecondary enrollment, part-time attendance, full-time work status (35 hours or more per week), financial independence, having a dependent, being a single parent, or lack of a high school diploma.<sup>9</sup> Based on these characteristics and by meeting at least one criterion, three-quarters of Colorado students in postsecondary institutions are nontraditional students.

Compared to students who enroll in postsecondary education programs immediately out of high school, adult learners face significantly different barriers to postsecondary education success. There are four primary barriers adult learners face:

- Lack of time to pursue education
- Family responsibilities
- Course times and locations,
- Cost of postsecondary education.<sup>10</sup>

Recognizing the specific barriers facing adult learners, the SCP design team developed solutions that allow for greater affordability and flexibility, addressing two key equity barriers.

## Colorado Students in Postsecondary Institutions

- 26% are parents
- 38% are older than 25
- 43% are part-time students
- 76% work more than 20 hours per week while enrolled in postsecondary education program
- 87% live off campus

## Affordability

To reduce the cost barriers facing adult learners, the program partners selected an industry with entry-level wages that allowed for employment while taking classes, ensured credit for prior learning experiences is available, and provided financial assistance at every level of credit programming.

Connecting adult learners to employment opportunities early within the program was essential to reducing financial burdens.

Building upon the existing assets and skills of participants, the program also addresses the cost burdens of postsecondary education by creating formal mechanisms for participants to receive credit for skills and experiences attained outside of traditional institutional settings. A majority of MCRC's participants entered their programs with experience in the retail sector and were looking for careers in professional settings, family-friendly hours, benefits, and higher wages. There was, therefore, a natural alignment between adult learners' existing skillset and entry-level jobs in the banking and financial services sector.

These skills were formalized into educational credits through the use of prior learning assessments (PLAs), which provided credit for past skills and knowledge acquired in work or other non-postsecondary settings.<sup>11</sup> Students benefit from PLAs by testing out of required courses which ultimately save students time and the cost of the course, reducing the financial burden. Multiple PLA assessment options are available for Colorado's postsecondary institutions to assess prior training and competencies for college credit, such as:

- **Standardized exams:** tests that are nationally recognized, like the College Board College-Level Examination Program (CLEP)
- **Institutional challenge exams:** exams created by faculty which assess the students' knowledge of the competencies taught in the challenged course

- **Published guides:** nationally approved workforce training programs like the American Council on Education (ACE) National Guide to College Credit for Workforce Training, or “locally evaluated industry and workplace certifications and training”<sup>12</sup>
- **Faculty-evaluated local industry and workplace credit:** a process in which faculty can evaluate an industry or business provided training for PLA credit
- **Portfolio assessment:** a combination of professional artifacts a student has collected that validate the student’s mastery of the competencies taught in the challenged course<sup>13</sup>

In addition to PLAs, MCRC, CCA, and MSU Denver each allocated scholarship funding opportunities available to program participants. The programs partners also ensured adult learners could access additional financial support through federal financial aid and worked with students to fill out applications.

## Flexibility

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Another major equity barrier for adult learners to attain postsecondary credentials is the lack of flexibility provided to balance life and employment demands. Hence, it was important to provide participants with the ability to take advantage of advancement opportunities at a time in their life or career that made sense for them. In order to overcome this barrier, the banking and financial services SCP program was designed with multiple on and off ramps to connect adult learners to employment and up to four industry recognized credentials with the following options.

### **MCRC offers a four-week entry-level financial services training certificate that:**

1. Prepares adult learners for entry-level jobs in the banking and financial services industry
2. Guarantees participants with three job interviews for jobs that pay up to \$20 per hour
3. Provides an opportunity for adult learners to earn up to nine college credit hours through PLAs that transfer into CCA’s banking essentials certificate

### **CCA offers two industry certificates:**

1. Banking Essentials Certificate (16 credits), which coincides with the first two years in banking and retail experience
2. Supervision Fundamentals Certificate (16 credits), which coincides with supervisory roles as adults move up in their career ladders

### **MSU Denver developed a bachelor’s degree in banking program:**

1. Adult learners can earn up to nine PLA credits from MCRC’s training program that stack into CCA’s Banking Essentials Certificate
2. After completing CCA’s Supervision Fundamentals Certificate, adult learners will have completed a total of 32 college credit hours
3. All 32 credits stack into MSU Denver’s B.S. banking program, which is 120 credit hours total
4. MSU Denver offers a combination of multiple PLA options to help adult learners test out of 19 courses, equivalent to 57 of the total 120 credit hours required for a B.S. degree

## Key Lessons Learned

Industries must be flexible and validate postsecondary credentials outside a four-year degree as valuable for career advancement.

Adult learners face significantly different barriers to postsecondary education success, which must be addressed to increase access to attaining postsecondary credentials.

Centering equity is critical for postsecondary institutions to shift their focus to reconfigure institutional structures to better meet the needs of adult learners.

### Core Component: Engaging Employer Partners & Having an Intentional Focus on Including Industry Voice in All Phases of the Design Process

MCRC recognized a need to better prepare its adult learners going into the banking and financial industry with options to obtain a four-year degree. CCA and MSU Denver also identified a need in the industry and were looking to expand their student pipeline by offering multiple ways of delivering education that met the needs of their students.

Skillful provided MCRC skills and competency data in the banking and financial industry with employer requirements and/or preferences from job postings. Using this data, MCRC conducted a crosswalk exercise with CCA in which they identified courses that matched the skills that were needed for positions within the industry and presented this information to their existing Employer Advisory Council (EAC). MCRC's EAC consists of subject matter experts in the financial industry and includes representatives from myriad positions, such as recruiters and direct supervisors.

The EAC meets semi-annually to inform the design of MCRC's existing banking program, ensures programs align with changing needs of the industry, and advocates for changes on a broader spectrum. Recognizing the challenges to individually meet with employer partners, MCRC relies on its EAC to communicate with employer partners and advocate for their participants.

**“This industry is growing jobs that require a college degree by 57% in the next few years, while the jobs that don't require a degree are shrinking.”**

**-Andrea Stiles-Pullas, MCRC**

Multiple focus groups took place with the EAC to develop strategies to eliminate unnecessary program requirements, incorporate essential skill development into the proposed curriculum, and align the program with the existing employment ladders within the banking and finance industry. First, CCA mapped a foundational level certificate, a total of 16 credits which would begin with MCRC's program and stack into CCA's certificate. This would allow adult learners the opportunity to earn nine college credits through PLAs and jumpstart CCA's entry-level certificate program. MCRC and CCA introduced this idea to the EAC for feedback. The EAC explained a foundational certificate was a promising start to address part of their problem to get qualified individuals into the industry but did not address the challenge to support employees advance into supervisory roles. CCA learned from the EAC that the two in-demand skills for supervisory roles are managerial and analytical skills. This feedback prompted the development of a second industry-focused certificate to be offered at CCA.

Simultaneously, the Colorado's Bankers Association approached MSU Denver to request the development of a four-year degree program tailored to adequately prepare students for careers in the industry. They expressed a disconnect between the skills individuals with four-year degrees entered the industry and the skills required to perform job duties. This prompted MSU Denver to reconfigure its current four-year degree program to mirror the needs of the industry and developed a four-year degree program in banking. MCRC and CCA learned of MSU Denver's efforts and approached their leadership to share their priorities to support adult learners through the development of this SCP program. MSU Denver joined the initiative and all three organizations combined their expertise, continued the course alignment crosswalk, and drafted articulation agreements.

### **Key Lessons Learned**

The banking and financial services SCP program was initiated by the industry and made for the industry which resulted in a greater buy in from all partners.

All three institutions were individually engaged with employer partners and recognized a pressing need for the alignment between education and employment for better collaboration.

Relying on PLAs addressed equity barriers by recognizing and valuing the skills and experiences adult learners bring to postsecondary education programs.

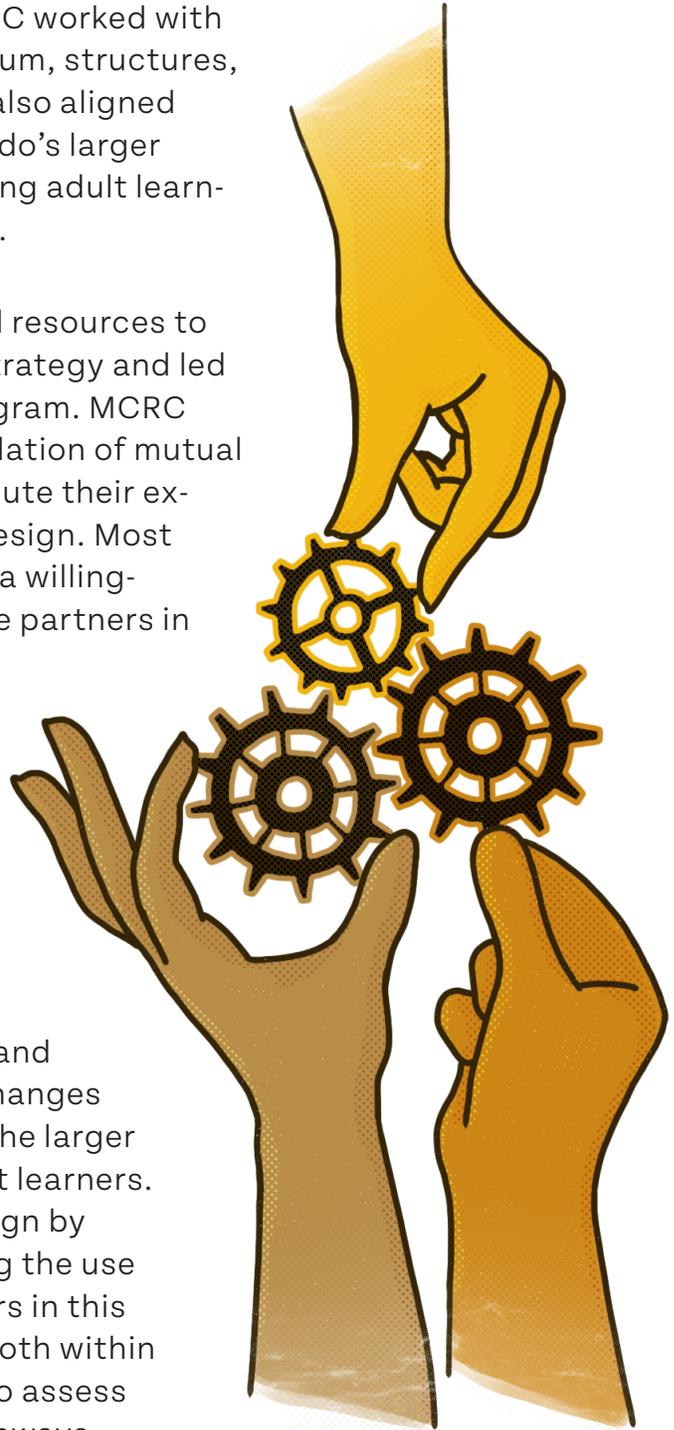
The timing of the partnership allowed for greater flexibility in the SCP design because individual banking and financial services programs at each institution were in the drafting phase and had not been finalized prior to their collaboration.

## **Core Component: Convening Innovative Partners to Reconfigure Existing Programs & Build Pathways That Meet Employer Expectations, Student Needs, & Colorado’s Policy Priorities**

The program was not built from scratch and required a lead organization to constantly bring all the right partners to the table. Instead of building a completely new program, MCRC worked with each partner to build upon existing curriculum, structures, and capacities. The design of the program also aligned with the mission of the partners and Colorado’s larger policy priorities to address equity gaps facing adult learners in the postsecondary education system.

MCRC contributed its internal capacity and resources to serve as a convener with a mission driven strategy and led the collaboration needed to design the program. MCRC built this collaboration structure on a foundation of mutual respect and value for all partners to contribute their expertise with transparency at all stages of design. Most importantly, all institutions partnered with a willingness to think outside the box. While all three partners in this design already had a well-established organizational mindset to recognize learning and skills development occurring outside formal institutional settings, this model requires a structural shift to recognize prior experience as valuable to formal institutional education.

Leadership at each institution championed innovation by dedicating internal capacity and communicating ongoing institution-wide changes to staff to guide the organization towards the larger goals of eliminating equity barriers for adult learners. These leaders brought life into the SCP design by committing internal resources and directing the use of resources to launch the program. Partners in this design undertook a collaborative process both within each institution and with the larger group to assess capacity, dedicate resources, and map pathways.



### **Key Collaborative Steps in Development of the Program:**

1. Align institutional priorities with state policy priorities to support postsecondary credential attainment for adult learners.
2. Assess internal capacity and resources such as faculty time and internal funds necessary to dedicate for the SCP design.
  - Conduct internal cost modeling for the dedication of faculty time and resources.
  - Conduct external cost modeling with all partners to review the SCP program design and return on investment.
3. Examine existing course structures to add, eliminate, or modify programs to better meet the demands of the adult learners and industry.
  - Identify pre-approved courses which already meet internal accreditation standards.
  - Communicate course curriculum with industry partners for alignment-setting and feedback.
  - Map curricular pathways between all institutions.
  - Implement articulation agreements between all institutions.
4. Discuss strategies for outreach, recruitment, and implementation.

**Aligning institutional priorities with state policy priorities:** The program partners made a strategic effort to connect the program to existing statewide priorities related to increasing postsecondary credential attainment of postsecondary credentials. Following Lumina Foundation’s national postsecondary credential attainment goal of 60 percent, the Colorado Department of Higher Education (CDHE) also established a goal “to increase the number Coloradans aged 25 to 34, who hold a high-quality postsecondary credential – that is, a certificate or degree – to 66 percent by 2025.”<sup>14</sup> This statewide messaging prompted postsecondary institutions to better understand and address barriers to postsecondary education access and persistence for adult learners. Using PLAs as a vehicle to address the equity barriers of cost and time, MCRC, CCA, and MSU Denver designed this pathways program specifically in the banking and financial services industry.

**Assessing capacity:** Developing any new course or program at postsecondary institutions involves a standard cost modeling process for institutions to assess internal capacity. Similarly, for this SCP design partners assessed funding and resource capacity to allocate faculty and staff time and dollars to create a pathways program. Additionally, all three partners also discussed the associated costs and capacity for the group to pursue the pathways design. A key factor to cost modeling is acknowledging that the launch a new program sometimes requires a couple years to recruit participants and break even in costs and revenue. This is typical for any new program, but partners should be prepared to dedicate internal funds to fill any gaps.

In addition to dedicating internal funds and capacity, serving as the lead operator, MCRC took the initiative to explore external funding opportunities to support this design. While it is possible to create a stackable credentials program without external funding, access to external funding helped accelerate the SCP design process to implementation. During this step of the banking and financial services SCP design, MCRC began fundraising to supplement the design process. Through their efforts, MCRC received funding from Lumina Foundation's All Learning Counts Initiative.

**Reconfiguring existing structures:** During the collaborative process, each partner examined possibilities to align existing structures to supplement and build upon their partners existing programs. CCA examined the curriculum in MCRC's entry-level training program and matched the content with Colorado Community College System's (CCCS) pre-approved courses. CCCS's pre-approved courses already met the internal accreditation standards needed to receive PLA credit. Simultaneously, MSU Denver reconfigured existing banking and financial services courses combined with new industry-specific courses to create a bachelor's degree in banking which aligned with the larger stackable credential program. The combined reconfiguration efforts between all three partners then led to a formalized mapping of the course pathways between institutions and were finalized through articulation agreements.

**Outreach and recruitment:** All three partners learned after designing the curricular pathways that for adult learners to navigate through three institutions and understand the pathways process and the PLA options independently was going to be challenging. Therefore, the final step in the collaborative process was strategizing outreach efforts to recruit participants and implement navigation supports for students to persist and complete credentials. Partners also recognized in addition to navigation support on campus, this model would need to rely on an industry liaison to maintain engagement with employer partners and support the pipeline of workers to the pathways program. As a result, the design team strategized efforts to hire a navigator coach and an industry liaison to sustain this program.

## Key Lessons Learned

This SCP design requires a strong mission-driven lead organization to serve as a convener and to lead partners towards shared strategic goals.

The lead organization must structure partnerships with transparency and ensure the voices of all partners are heard. Leadership at all institutions must champion innovation and direct internal implementation of the SCP design.

An assessment of internal capacity should be conducted early in the process to commit internal resources and funds to develop the SCP design.

External funds are not always available but can help to expedite the design planning and implementation.

Partners must recognize one another's expertise and value each other as contributing towards shared goals.

## Recommendations to Continue Supporting Adult Learners Earn Postsecondary Credentials

This cross-sector collaboration between community trainers, postsecondary institutions, and the industry has made strides to eliminate equity gaps for adult learners and better prepare Colorado workers for the needs of the banking and finance industry. These lessons can be further applied to other industries and regions of the state with a specific focus on the following areas:

**Barriers facing adult learners:** Postsecondary institutions must recognize the cost and challenges adult learners face when entering postsecondary education programs. Addressing these challenges or equity barriers helps tap into a new pipeline. Reducing the cost of tuition through PLAs can help lessen the financial burden for students and encourage them to persist in their postsecondary credentials. For institutions, accepting PLAs reduces a small portion of enrollment revenue, but the pipeline can generate revenue from an influx of students that may have never considered postsecondary education programs.

**Need for scholarships and adjustments to PLA costs:** While Colorado's existing PLA process allows for multiple methods to obtain credit for prior learning and experiences, the review process comes with a cost to students. Most often, the costs for PLAs are not

eligible for financial aid and can become prohibitive for students, preventing them from taking advantage of the opportunity. Due to the flexibility provided to postsecondary institutions to set the cost of PLA assessments, the cost of PLAs vary by institution and can be up to 50 percent of the tuition for a course. Postsecondary institutions should consider eliminating costs associated with PLA processes by implementing a statewide policy to eliminate PLA costs to the student.

**Connecting stackable credentials to larger discussions of wages and career ladders within an industry:** The banking and financial services industry can continue their engagement and contribution to the program by aligning credentials with pay increases and validating credentials. Industry has initiated and led ongoing engagement of the design and can further this engagement by developing pay scales which align with pathways and attainment of credentials. Aligning pay increases can motivate adult learners to invest in their education through the pathway and provides more structure to career ladders. Furthermore, the industry should maintain conversations with community trainers and postsecondary institutions to include pre-approved courses from the pathways program to be eligible for tuition reimbursement. Lastly, industry should consider expanding tuition reimbursement to cover the cost of PLAs and industry should maintain engagement with postsecondary institutions systems modifications of PLAs.

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## Conclusion

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The stackable credentials pathway model addresses two core barriers:

1. It provides adult learners multiple entry points to earn credentials to gain entry and progress in their careers, and
2. It strengthens the talent pipeline of workers in industries by connecting postsecondary credentials to industry needs. Stackable credentials designs are not limited to the banking and financial industry, the core components of this design can be applied as a model to develop pathways in other growing industries. By adhering to the core components of a successful stackable credentials pathway, as presented in this publication, a greater alignment between workforce development and postsecondary education systems can be achieved to support students advance in their careers. For Colorado, creating stackable credentials pathways in growing industries can help eliminate the postsecondary education attainment gap and connect students to jobs.

## Endnotes

- 1** For the purposes of this report, postsecondary credentials are defined as all certificates issued by Colorado’s public institutions that certify skills in a specific industry and/or occupation.
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- 8** Colorado Workforce Development Council, Colorado Talent Pipeline Report 2017 (Colorado, 2017) [https://drive.google.com/file/d/1zuZUlxJMRjkjwmfqQuHG9C71jHdZ\\_PKE/view](https://drive.google.com/file/d/1zuZUlxJMRjkjwmfqQuHG9C71jHdZ_PKE/view)
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- 10** Elaine L. Chao, Adult Learners in Higher Education Barriers to Success and Strategies to Improve Results (U.S. Department of Labor, 2007) <https://files.eric.ed.gov/fulltext/ED497801.pdf>
- 11** Colorado Community College System, Prior Learning Assessment Manual (Colorado, 2015), 3. <https://internal.cccs.edu/wp-content/uploads/documents/PLAManual.pdf> The Council on Adult and Experiential Learning defines a prior learning credit as “college level knowledge or skills that have been attained outside of a traditional academic environment and that have not been previously evaluated for or awarded college credit.”
- 12** Ibid, 9
- 13** Ibid, 16
- 14** Colorado Department of Higher Education, The Colorado Goal: 66% Statewide Attainment (Colorado, 2019) <https://masterplan.highered.colorado.gov/the-colorado-goal-66-percent-statewide-attainment/#easy-footnote-1-630>