



Industry Infrastructure Grant Program Annual Report

Established by HB16-1288, C.R.S 24-46.3-401 et seq.

In December 2016, per C.R.S 24-46.3-401, the Colorado Workforce Development Council (CWDC), contracted with a non-profit entity (CareerWise Colorado) to build an in-school youth apprenticeship system. The attached annual report was submitted to the CWDC by CareerWise Colorado for the first extension period of the grant September 2017 through August 2018.



Industry Infrastructure Grant Program, HB16 1288 Report on 1st Extension Period (September 2017 – August 2018)

Over the course of the first extension period of the Industry Infrastructure Grant (HB1 1288), CareerWise has undertaken the first full year of *implementing* competency-based workplace training programs in three communities across the state – Grand Junction, the metro Denver community and Fort Collins. There, 116 young people embarked on modern, youth apprenticeships created by key Colorado industries that have encountered a rapidly changing, and growing, need for skilled talent. Simultaneously, we recruited another group of businesses and students who have become part of the second CareerWise cohort, in addition to expanding the program into a new community, Eagle County, and into a new industry, healthcare. In June 2018, we welcomed our first apprentices into our newest competency-based occupation in a nursing pathway, through which we are seeking to address acute talent shortages within the healthcare industry. To date, more than 220 apprentices have been hired in modern youth apprenticeships across our state, driving change not only in the way businesses think about talent acquisition and development, but also in the ways in which students, families and the educators that serve them think about pathways to post-secondary success in a new economic reality.

The gift of the first year of implementation has been tremendous learning; we also feel strongly that the initial success of the overwhelming majority of our apprentices and the satisfaction of their employers is proving that our industry-led, youth apprenticeship model is a viable, appealing solution to better align workforce needs and our education system. The continued growth of the program, in terms of both expansion into new occupations as well as into new geographies (not to mention simply the expansion into a second cohort as we ramp up to three simultaneous cohorts within the system at any given time), is also allowing us to test new strategies for implementation rapidly, from one cohort to the next. Both processes – implementation of on-the-ground programming and continued expansion, including the recruitment of new employer and school partners – has allowed us to execute against almost all of the goals and key milestones we had identified last summer as targets for the 2017-2018 program year.

Now, as we capture, process and analyze the learning gleaned from the implementation process, we will be refining or, as necessary, re-designing and re-testing the processes, tools and technology that we use. The goal will be to ensure that the data we collect from those processes and tools enables better, more robust tracking and measurement of competency practice and mastery; this measurable attainment, we believe, will, in turn, unlock the still elusive goal of specific credit-transfer agreements, both at the K-12 and higher education level. A key, intermediate step that we will now focus on is to create guidelines for companies to credibly assess competency attainment, particularly in the case where existing industry

credentials do not cover a full set of apprenticeship competencies. Much of the work we will undertake in this coming, second extension period will be to drive more strategic collaboration to facilitate the more seamless integration of classroom- and work-based training and education. We will build upon the competency-based work we have done to ensure that the orientation of the program remains centered on highly valuable skills in the workplace, while also pointing toward further education. We will also build a more meaningful set of guardrails around how to advance, measure and assess mastery, so that industry-led training like that which occurs in an apprenticeship can be given credible currency within the educational ecosystem.

Below you'll find an update, milestone by milestone, on progress toward previously outlined milestones.

UPDATE: Workstream 1: Continuing to Create Competency-Based Curricula in Additional, In-Demand Colorado Industries and Occupations

- By September 2017 - Junior Coder occupation competency development process completed
 - **COMPLETE**
- By October 2017 - Healthcare -- Billing Specialist occupation competency development process completed
 - **IN-PROGRESS** – The process to launch the *clinical* occupation (Certified Nurse Assistant to Licensed Practical Nurse, below) was the most pressing need and required extensive work to cultivate buy-in of employers for a unique 4-year pathway; ongoing conversations with employers have surfaced a more general bucket of “healthcare financial management” career pathways that may encompass billing, insurance and/or other healthcare-specific competencies
- By October 2017 - Healthcare --Clinical occupation competency development process completed
 - **COMPLETE** – 4-year, Certified Nurse Assistant to Licensed Practical Nurse apprenticeship competency set and training plan has been developed and approved by the first set of hiring employers
- By January 2018 – Competency-based training plan templates for Healthcare - Clinical and Billing Specialist occupations developed
 - **COMPLETE** – 4-year, Certified Nurse Assistant to Licensed Practical Nurse apprenticeship competency set and training plan has been developed and approved by the first set of hiring employers
- By March 2018 – Competency-based training plan templates for Junior Coder occupation developed
 - **COMPLETE**
- Ongoing from August 2017 to July 31, 2018 – Define Cybersecurity occupation(s): assemble business partners, develop competencies, identify relevant industry credential(s), and draft training plan templates
 - **ON PAUSE** – Though there is an acute talent need in this industry and career pathway, it presents obstacles for youth apprenticeship; namely, it is likely beyond the ability of a high-school student, given the multiple sets of preceding, more

junior credentials (potentially stackable) that are pre-requisite to cyber security competencies and credentials (i.e. students would not likely be able to progress through A+ and Networking credentials in addition to Security+ credentials within the timeframe of a youth apprenticeship)

Workstream 2: Improving Ability of K-12 partners to Promote and Support Competency and Work-Based Learning

- By September 30, 2017 - Advisory group of school counselors and influential teachers formed to define plan for counselor engagement throughout the 2017-2018 school year to support effective recruitment of students
 - **COMPLETE** – We met with school counselors over the course of the year to determine obstacles to effective recruitment; best practices are being incorporated into the 2018-2019 recruitment strategy
- By September 30, 2017 – K-12 Educator needs for LMS access and use defined
 - **REVISED** – At this time, we have determined that there is not a need for our K-12 educational partners to access the CareerWise system for tracking competencies.
- By February 2018 – Counselor and teacher engagement plan completed; student recruitment cycle completed
 - **COMPLETE** – 391 students applied for more than 150 apprenticeship positions; 126 will begin competency-based apprenticeships this fall across five Colorado communities
- Ongoing from September 2017-July 31, 2018 - Develop plan to provide core, high-school academic credit for on-the-job apprenticeship experiences
 - **IN PROGRESS** – No formal agreements have been brokered, but conversations are ongoing and evolving as we learn about which specific competencies are best learned in which environment, and where work-based learning can supplement, rather than supplant, classroom-based learning

Workstream 3: Linking Competency-Based Training with Complementary Academic Training

- By August 31, 2017 - Memorandum of Understanding (MOU) for pilot “training center” (community colleges, four-year colleges or other training providers) developed and distributed
 - **IN-PROGRESS** – We have determined that at this time, we do not need formal MOUs between CareerWise and institutions, in order to allow students to access and enroll in courses as part of their apprenticeship training; however, we *have* created - and executed – an MOU with Colorado State University – Global Campus, to govern credit for prior learning granted to an applicant after an apprenticeship experience. That is, if a student comes to CSU-Global with completed work-based learning as part of an a CareerWise apprenticeship, they will be given a certain amount of credit, based on the amount of the apprenticeship they completed.
- By August 31, 2017 - Personalized Academic Plan template developed and distributed to high schools for students to complete with their counselors

- **COMPLETE** – Plans were completed for each apprentice, with “theoretical” course offerings (i.e. they did not have data about the availability or applicability of specific course schedules upon completion, but they were able to complete a “sketch” of what types of classes would be taken when over the course of the apprenticeship).
- By September 30, 2017 – Training Center instructor needs for LMS access and use defined
 - **REVISED** – At this time, we see no need for higher education training partners to enter information into a CareerWise specific system, as it is currently designed. At this time, we are re-evaluating our strategy around tracking higher education attainment, given our inability to “prescribe” an individual student’s schedule and the role that K-12 institutions must play as a broker for concurrent enrollment.
- By November 30, 2017 - Convening with Higher Education (4-year institutions) to understand how matriculation from through community colleges to 4-year institutions can best be achieved by apprentices planned and executed
 - **DELAYED** – We will convene higher education leadership over the coming year, with the goal of cultivating higher-level buy-in to apprenticeship as a vehicle that helps them meet their own goals and objectives, and we will seek to have business at the table alongside higher education.
- By November 30, 2017 – Set of soft skills videos, known as SkillWise videos, developed and deployed for apprentices to watch with their supervisors in order to provoke conversation around key workplace skills and abilities
 - **COMPLETED** – CareerWise developed a set of SkillWise videos in partnership with a company called Karrakins; versions of the videos were distributed on a regular basis to apprentices, schools and CareerWise relationship managers (to share with supervisors).
- By December 31, 2017 - Personalized Academic Plans approved by businesses
 - **REVISED** – Again, due to better understanding of the process of integrating training courses into current high school students’ schedules, we have realized that businesses do not need to -and at this time, cannot - “sign off” on a comprehensive academic plan, given each student’s unique situation (geography, academic standing, preferences, school schedule flexibility, etc.).
- By December 31, 2017 – All apprentices enrolled in community college coursework prescribed by their particular pathway/occupation/industry
 - **DELAYED** – As of June 30, 2017, 13 students had completed at least one course and an additional 14 had earned exemptions for AP coursework. The majority of the remaining first year apprentices were scheduled to start in the summer or fall of 2018 and so we do not yet have enrollment and completion data for them.
- By December 31, 2017 – Training Center instructor side of LMS tested and ready for launch
 - **REVISED** – N/A
- By January 31, 2018 – Training Center instructor side of LMS launched and live
 - **REVISED** – N/A
- By January 31, 2018 - Articulation agreements (preferential admission, guaranteed admission, credit applied, etc.) for apprentices into 4-year colleges defined for each partnering institution

- **REVISED/DELAYED** - As mentioned above with regard to MOUs, we have secured an articulation agreement with CSU-Global, but they are the only partner with whom we have done so. Key strategic work, alignment and partnership cultivation must be undertaken first.
- Throughout February – May 2018: ONGOING progress monitoring: adherence to Personalized Academic Plans and tracking of competency attainment in LMS
 - **IN PROGRESS AND REVISED** – At this time, we are only able to access self-reported, individual data from apprentices as they work with their counselors and employers to both enroll in and complete higher education. As alluded to above, due to the current design of the CareerWise system (now an LMS, but likely different moving forward), there was no need to create a data-entry process for institutions of higher education within the LMS, as we imagined there may be. As we learn more about how and when apprentices can and should access training center courses, we will design a more forward-looking and automated process for tracking progress against academic plans. However, currently this system is still highly manual and time-intensive in terms of tracking down individual apprentices' plans and actual enrollment/completion.
- By June 30, 2018 - Develop and implement “Career Ready” (foundational, cross-industry professionalism skills) Bootcamp training for second cohort of apprentices and refresher Bootcamp for returning apprentices- June 2018
 - **COMPLETE** – CareerWise facilitated three separate Bootcamp trainings for newly hired apprentices in May and June of 2018, as well as two “ReBoot” training sessions for current apprentices. Separate trainings were held in metro Denver (northern Colorado participated in this training), as well as in Grand Junction and our newest community, Eagle County.
- By August 2018 – New training center partners for new curricula (healthcare and others, TBD, being implemented in the 2018-2019 apprenticeship year) identified and selected
 - **COMPLETE** – As part of the build-out of the new competency-based occupational pathways, appropriate training center partners were identified and selected with the approval of employers. In the case of our pilot healthcare occupations, we were able to leverage existing partnerships to satisfy the requirements.

Workstream 4: Supporting the Successful Implementation of Competency and Work-Based Learning for Youth among Colorado Business and Industry

- By October 2017 – Training plan quality assessment site visits at 2017-2018 apprenticeship workplaces completed; initial effectiveness of existing training plans assessed
 - **COMPLETE** – All business partners developed, in partnership with CareerWise, an initial training plan designed to help them onboard and begin working with their youth apprentice(s). Initial feedback was largely optimistic, though some employers struggled to reconcile/integrate the CareerWise process/framework with existing processes and frameworks already in place in their organization. Additionally, given

that most apprentices had just begun their work in the fall of 2017, it was too early to leverage these meetings for feedback on the effectiveness of the plans overall.

- Bi-monthly – General satisfaction/feedback site visits with existing/implementing businesses
 - **COMPLETE/MODIFIED** – CareerWise staff worked to maintain regular communication with implementing businesses in accordance with their desire for support and interaction. We developed bi-monthly “pulse-check” surveys as an additional instrument to collect feedback from supervisors on a regular basis, in addition to phone calls and in-person meetings.
- Quarterly, or as needed, throughout the year - assist existing/implementing businesses in populating subsequent phases of training plan templates for current apprentices
 - **COMPLETE** – CareerWise staff worked with all employer partners to update training plans. However, in the spring of 2018, informal feedback given to relationship managers was that the usefulness of the training plan template was questionable, given how productive many of the apprentices quickly became in ongoing, core workstreams. There was also some confusion, on the part of employers, around the relationship between the paper-based training plan process and the online “Learning Management System”(LMS) that we asked them to use to track apprentices’ mastery of specific competencies.
- Quarterly – Facilitate roundtable discussions with: supervisors, coaches, apprentices (groups based on pathway / geography)
 - **COMPLETE** – Though we only undertook one session of roundtables, which we completed by December of 2017, we gathered valuable insight into the launch of the program, key processes to be improved in the recruitment/hiring phase, as well recommendations for the apprentices’ initial time on site. With the inclusion of monthly (apprentice) and bi-monthly (supervisor) pulse checks, a focus on individual company-management via our “relationship manager” role, and formally facilitated feedback as part of our first year of implementation evaluation from our third-party evaluator, we decided not to ask partners for additional time and feedback in the form of subsequent roundtables over the course of the spring of 2018.
- By October 31, 2017 – New Applicant Tracking System (ATS) to be used within the online, youth apprenticeship “marketplace” is selected, developed and tested
 - **DELAYED** – In the fall of 2017, we determined that we needed a custom-built ATS to meet our process needs. As such, we issued an RFP for a technology solution provider and worked with our existing vendor on key modifications for a stop-gap strategy for the 2018 application and hiring cycle. We also hired a new position to manage the data-pulling and analysis processes that drive decision points throughout the hiring cycle, and which could not be automated under the original system. Throughout the winter and spring we selected a new vendor, carried out user-based design processes for a new system, and tested and refined a custom-built ATS system which is launching in the fall of 2018.
- By November 1, 2017 – Competency-based job postings for all 2018-2019 apprenticeship opportunities completed

- **COMPLETED BY JANUARY 30, 2018** – 165 unique youth apprenticeship opportunities were scoped and posted in the apprenticeship marketplace using competency-based frameworks
- By December 1, 2017 – 2018-2019 online youth apprenticeship marketplace launched and live
 - **COMPLETE** - Though many job postings were not available immediately upon “opening” the marketplace, the marketplace did open on time. This year, however, we are going to open the marketplace when all job postings are completed so as to reduce the lag in communication between students who apply early and employers who want to get a sense of all applicants before beginning the screening process. We will also create separate “phases” of this more condensed marketplace to encourage early matchmaking and the exploration of other positions by candidates who are unable to be hired in the first round.
- By May 31, 2018 – All new businesses have been guided through process of populating competency-based training plan templates
 - **REVISED** – Given the low rates of persistence in using the training plan templates over the course of the first year, as well as low supervisor engagement with tracking the apprentice’s progress toward competencies named in the training plans within the online LMS, we are undertaking a strategic project with the pro-bono support of McKinsey to create a new process for better guiding supervisors in training toward and tracking individual competencies. Then, we will also overlay on that process a framework for assessment of the complete set of competencies, in order to verify mastery and provide currency for the work-based learning experience. This will be the major focus of our strategic improvement work over the coming year and will inform an implementation toolkit for replication in the growth and scaling phase.
- By June 15, 2018 – All 2018-2019 apprenticeship year partners have received supervisor and coach training
 - **IN PROGRESS** – As of June 2018, 80% of employer partners in the 2018 cohort (including renewing partners) had participated in supervisor and coach trainings. Throughout July and August, we continued to offer both “make-up trainings” and individual meetings, particularly with new employer partners to ensure that all partners receive training on supervising apprentices.
- **ONGOING:** respond to businesses’ questions, concerns and challenges and document learning to improve model of competency-based youth apprenticeship for scaling across the state
 - **COMPLETE/ONGOING** – CareerWise has learned extensively from our partners, particularly our two core partners – our employers and apprentices – about the design, execution and functionality of materials, information and communication, processes and tools and technologies that have supported the inaugural year of implementation. Key insights from that learning include imperatives to refine and improve messaging, as well as to implement a different system for supporting companies in designing training plans and tracking mastery of competencies.