



2020 Colorado Talent Pipeline Report

The Talent Pipeline Report explores issues related to the supply and demand of talent in Colorado and strategies for strengthening our talent pipeline.



Colorado Workforce
Development Council



In accordance with C.R.S. 24-46.3-103, this Colorado Talent Pipeline Report was prepared by the Colorado Workforce Development Council (CWDC) in partnership with Colorado's Department of Higher Education (CDHE), Department of Education (CDE), Department of Labor and Employment (CDLE), including the CDLE's Labor Standards and Statistics division, the Office of Economic Development and International Trade (OEDIT), and the Department of Local Affairs (DOLA) State Demography Office. Support was provided by the Governor's Office, the Colorado Community College System (CCCS), CareerWise Colorado, Skillful, and other partners.



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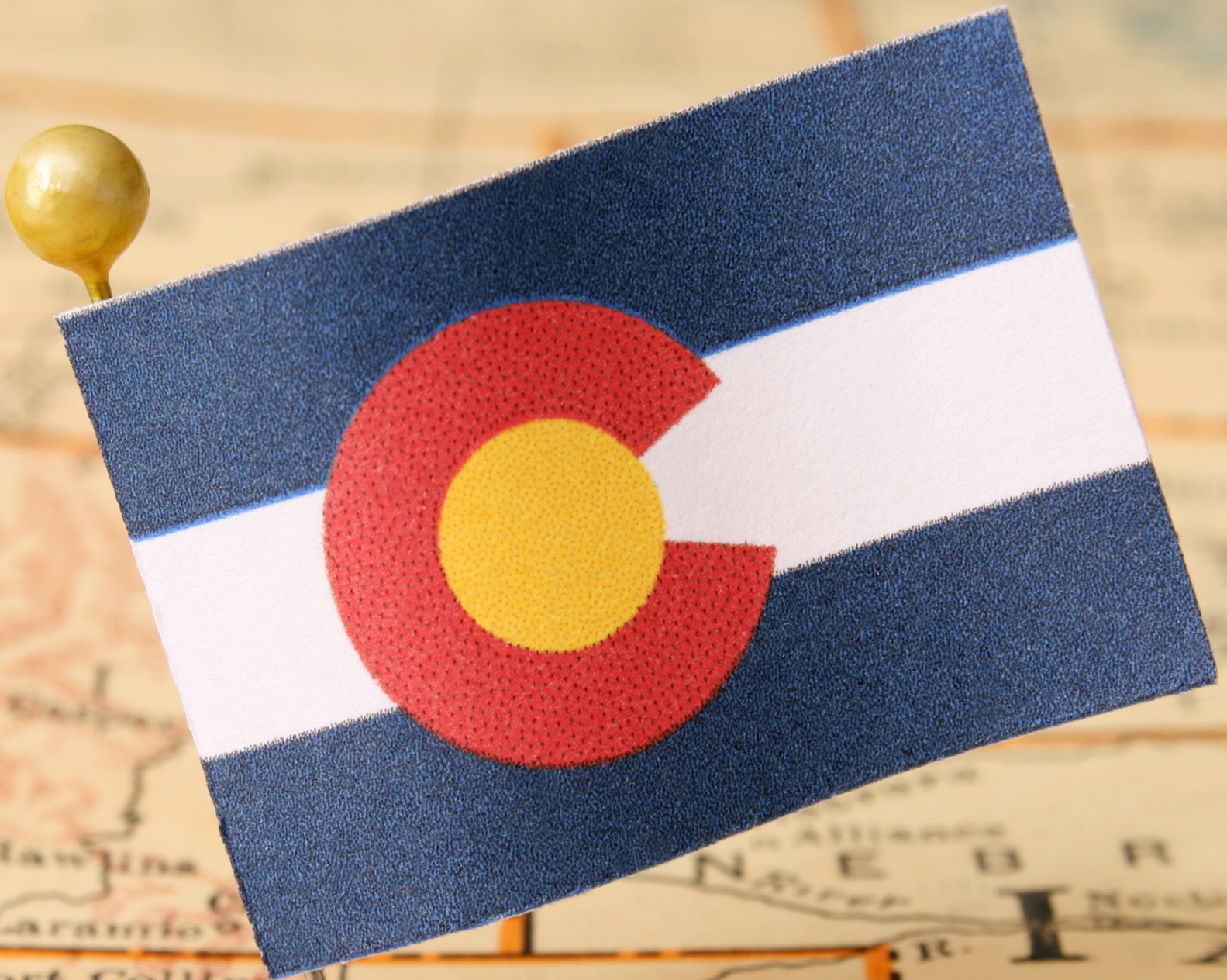
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Colorado and the world have been experiencing economic disruption and uncertainty since the onset of the COVID-19 pandemic in spring 2020. Colorado's economy was thriving in 2019 with steady job growth and low unemployment. Now, towards the end of 2020, we are working to restructure and reshape our workforce and our economy for the future.

The future of work is now, and we are working to build our economy back stronger than it was before. Rebuilding includes purposeful equitable practices, reskilling and upskilling, investment in programs with promising results, and career-connected education to continue to foster a Colorado for All.

The 2020 Talent Pipeline Report identifies leading industries and occupations, Top Jobs, key features of the current labor force, COVID-19 impact and response, and strategies to align supply with industry demand. However, the data available at this time do not yet show the full impact of the pandemic on our economy and the workforce.

In 2021, Colorado must focus on its talent pipeline in order to facilitate a strong and **equitable** economic recovery that creates more opportunity for prosperity throughout the state. This collection of strategies, investments, and policy recommendations formulates a bold response to the COVID-19 pandemic that will stimulate growth by **stabilizing, accelerating, and preparing** all segments of the labor force for the immediate and long-term future.

I encourage you all to examine this report and its recommendations, put these strategies into action, and partner with us as we work to promote the best policy for Coloradans in each corner of our state. We will not only recover from these crises, but together we will build back stronger than before.

A handwritten signature in blue ink that reads "Jared Polis".

Governor Jared Polis

The Colorado Workforce Development Council (CWDC) is a Governor-appointed, public-private partnership with the purpose to advise, oversee, and integrate the work of the Colorado talent development network. The vision of the CWDC is that every Colorado employer has access to a skilled workforce and every Coloradan has the opportunity for meaningful employment, resulting in individual and statewide economic prosperity. The CWDC's mission is to enhance and sustain a skills-based talent development network that meets the needs of employers, workers, job seekers, and learners for today and tomorrow.

The CWDC Office supports the Council and facilitates collaboration with other state agencies to make recommendations to the Governor on talent development related issues. The CWDC is also the champion of [TalentFOUND](#), which has been adopted as the brand for Colorado's talent development network. The TalentFOUND network refers to all of the public and private entities working together to achieve positive talent development outcomes and includes more than 150 affiliates.

The data and recommendations provided in prior Talent Pipeline Reports have led to the Colorado State Legislature passing more than 50 bills to support talent development (see [Appendix A](#)).

This is the seventh iteration of the Talent Pipeline Report. It continues to analyze and explain relevant labor market data, highlights pandemic data and recovery strategies, and provides data-informed recommendations to enhance the talent pipeline in Colorado. Recommendations in the 2020 Talent Pipeline Report include:

- **Stabilize:** Existing programs and available jobs are leveraged to mitigate worker displacement in the short-term by publishing data and investing in what works.
- **Accelerate:** The response time to put Coloradans back to work is advanced through a variety of programs that provide job training with critical wraparound supports and career coaching.
- **Prepare:** Upskilling and reskilling for the future of work equips Coloradans with the skills and support they need to succeed in the future of work.

01

DEMAND



EMERGING SHIFTS IN DEMAND

Colorado and the nation are experiencing unpredictable turbulence in the midst of a global pandemic. In this section, we will look at workforce data in relation to COVID-19. All industries were not equally impacted by COVID-19 and the challenges it presents. Thus, this section highlights occupations and industries that are still posting for jobs, sectors with permanent job losses, remote and teleworking data, and digital literacy to appropriately respond to the ever-increasing digital workforce and world.

An important factor to note is that **employment and wages data lag considerably**. This section analyzes job postings and unemployment insurance data in an attempt to look at the most recent workforce data through COVID-19. Additionally, given that COVID-19 is a novel experience globally, it is hard to predict the future of the workforce with certainty.

COVID-19 has accelerated the future of work trends (e.g., globalization, market forces, demographic shifts, technological advances); trends we initially thought would take more than 10 years to occur happened in a matter of weeks, requiring workforce, education, training, and the world to quickly adapt and adopt strategies to fit the current reality and new predicted future. As a nation and as a state, we need to be flexible in our response and strategies moving forward as new information and data become available.

Unpredictable Pandemic Progression and Impact

There is an obvious caveat involved with the data in this report; currently, there is a novel, global pandemic that is surrounded by different contingencies and uncertainty. Globally, we had to shift and adapt our lives with the sudden onset of COVID-19. Workforce, education, retail, and healthcare all look vastly different than they did in the first three months of 2020.

For example, as of August 2020, the healthcare and social assistance industry had the third-highest initial unemployment claims in Colorado since March 2020.¹ This seems counterintuitive to what we would predict in the middle of a public health crisis, until it is realized that elective procedures were halted during initial shutdowns to prevent the spread of the virus. There are interconnected implications that are associated with the challenges the virus poses.

Although it was predicted that the nature of work would shift, it was not predicted that it would happen in a matter of weeks. This pandemic is unlike anything we have experienced before, therefore it is difficult to predict what will happen with confidence. At the time of development of this report, data for the second quarter of 2020 (i.e., the onset and progression of the pandemic) has yet to be released due to data collection lags. As time goes on, short-term and long-term impacts on our economy and workforce, as well as effective recovery strategies, will be more clear.

COVID-19 Industry and Occupation Impact

Leading Industries and Occupations

Table 1 shows the top five occupations with the highest number of job postings from March 2020 to September 2020.² Heavy and tractor-trailer truck drivers, registered nurses, and software developers and software quality assurance analysts and testers top the list with more than 29,000 unique job postings each during that time period. Although these jobs have higher average monthly hires in 2020 than they did in 2019, the number of unique job postings themselves have decreased, except for stockers and order fillers, compared to 2019.

Table 1
Top 5 Posted Occupations (March-September 2020)

Occupation	Unique Postings	Average Monthly Hires	Average Monthly Job Postings (March-Sept. 2019 vs. 2020)
Heavy and Tractor-Trailer Truck Drivers	44,390	2,090	-43.6%
Registered Nurses	35,459	1,237	-31.1%
Software Developers and Software Quality Assurance Analysts and Testers	29,187	1,625	-22.0%
Retail Salespersons	16,252	7,181	-15.2%
Stockers and Order Fillers	14,626	3,062	26.8%

Source: EMSI 2020.4 Datarun²

Table 2 shows the top five industries with the highest number of job postings from March 2020 to September 2020.² Administrative and support and waste management and remediation services, a sector that performs routine support activities for the day-to-day operations of other organizations (e.g., office administration, hiring and placing of personnel, etc.) had more than 100,000 unique job postings from March 2020 to September 2020. However, similarly to the occupations above, job postings overall have decreased in 2020 compared to the same timeframe in 2019.

DEMAND

Table 2
Top 5 Posted Industries (March-September 2020)

Industry Sector	Unique Postings	Average Monthly Job Postings (March-Sept. 2019 vs. 2020)
Administrative and Support and Waste Management and Remediation Services	107,978	-33.3%
Professional, Scientific, and Technical Services	76,279	-41.4%
Retail Trade	75,199	-13.0%
Health Care and Social Assistance	73,110	-33.2%
Information	45,187	-23.7%

Source: EMSI 2020.4 Datarun²

Pandemic Top Posted Skills

Tables 3 and 4 show the top posted technical and essential skills in job postings from March through September 2020. In contrast to technical skills that are specific to jobs and industries, essential skills are more general personal qualities that help facilitate interactions with others and are associated with workplace readiness. Communications, management, and customer service still top the list for essential skills, further highlighting the importance of these skills in the past, present, and future.

Table 3
Top 10 Posted Technical Skills (March-September 2020)

Skill	Frequency in Job Postings
Merchandising	5%
Warehousing	4%
Accounting	4%
Nursing	4%
Auditing	4%
Selling Techniques	4%
Restaurant Operation	3%
Agile Methodology	3%
Basic Life Support	3%
Customer Experience	3%

Source: EMSI 2020.4 Datarun²

Table 4
Top 10 Posted Essential Skills (March-September 2020)

Skill	Frequency in Job Postings
Communications	28%
Management	20%
Customer Service	18%
Sales	16%
Operations	14%
Leadership	13%
Detail Oriented	9%
Problem Solving	9%
Valid Driver's License	9%
Planning	8%

Source: EMSI 2020.4 Datarun²

Qualifications in EMSI are certifications decided on by a third-party entity that acknowledges a body of skills and abilities. Table 5 shows the top 10 posted qualifications found in job postings from March through September 2020. Note that these qualifications are not an exhaustive list of certifications in the state.

Table 5
Top 10 Posted Qualifications (March-September 2020)

Qualification	Frequency in Job Postings
Commercial Driver's License (CDL)	39,731
Certified Nursing Assistant	8,985
Licensed Practical Nurse	8,665
Master of Business Administration (MBA)	6,933
Bachelor of Science in Nursing (BSN)	5,345
Certified Information Systems Security Professional	3,816
Nurse Practitioner	3,315
CompTIA Security+	3,200
Associates Degree in Nursing	3,063
Project Management Professional Certification	2,996

Source: EMSI 2020.4 Datarun²

Vulnerable Jobs

As Colorado focuses on economic recovery, an important factor to consider is job vulnerability. According to the Brookings Workforce of the Future initiative tool, [Visualizing Vulnerable Jobs Across America](#), Colorado is the eighth most vulnerable state with 21.4% of the jobs being classified as vulnerable. In this tool, vulnerable jobs are defined as jobs that pay low wages and do not provide benefits. The hospitality sector (i.e., food and drinking places and accommodation) holds the highest share of vulnerable jobs in the state with 49.17% of the jobs in the sector being classified as such, followed by the retail sector (33.47%).³

Permanent Job Losses

From September 2019 to September 2020 nonfarm payroll jobs in Colorado have decreased by an estimated 134,300 jobs. Leisure and hospitality had the highest job losses, with a decrease of an estimated 56,500 jobs, followed by trade, transportation, and utilities (~12,400 jobs lost), and construction (~8,800 jobs lost).

Colorado's overall rate of job loss over the past year is -4.8% (as of September 2020). The initial job loss of the pandemic (-10.8% in April 2020) was almost double the rate of job loss during the peak of the Great Recession (-5.5% in August 2009);⁴ however, Colorado has since gained those jobs back and the longitudinal impacts of the pandemic have yet to be realized. Industries with the largest rate of job loss are leisure and hospitality with a -19.1% job decrease in August 2020 compared to August 2019, and mining and lodging at -18.3% change over the year.

The seasonally adjusted unemployment rate was 6.4% in September 2020, and the job recovery rate was 56.7% with Colorado gaining back 194,100 of the 342,300 nonfarm jobs lost between February and April 2020 since May 2020.

Job losses in leisure and hospitality and other jobs that typically have lower wages may explain why the average hourly earnings of Colorado employees increased from \$30.79 to \$31.10 over the past year.¹

Small vs. Large Businesses

Most businesses were impacted by the onset of COVID-19 regardless of size. However, response to the pandemic may look different for small businesses (i.e., businesses with fewer than 500 employees) versus large businesses, especially in sectors where the coronavirus has had significant impacts (e.g., accommodations and food services) or those with limited financial resources.

In June 2020, McKinsey & Company released research on which small businesses are most vulnerable to COVID-19. They identified that the most vulnerable small businesses that faced financial and virus-related challenges were those in accommodations and food services and arts, entertainment, and recreation, which are sectors that include a higher concentration of low-wage workers.⁵ Small business responses may require more temporary or permanent closures or layoffs than large businesses because of the change of consumer behavior and revenue disruption caused by the pandemic, or because the businesses were already financially at risk prior to the pandemic.

The Federal Reserve found that one-fifth of healthy small businesses had enough financial reserves to continue operations if they experienced a two-month revenue loss. Additionally, distressed or at-risk small businesses are more likely to use the owner's personal funds, take out debt, or close or sell the business in response to a two-month revenue loss.⁶ Without accounting for interventions (e.g., Paycheck Protection Program), McKinsey estimates that more than 25% of small businesses nationally could close permanently.⁵

Larger businesses typically have the infrastructure, resources, or financial assets to allow for more strategic planning, investment, and new process development to respond to the pandemic. Having these resources helps large businesses continue operating during financial crises.

Accelerated Future of Work and the Need to Rebuild Better

The 2019 Talent Pipeline Report flagged the future of work, technological development and displacement, and automation response and strategies as all playing a role in the natural progression of labor and employment. Pre-pandemic, the future of work was already emerging and has always been a progressive change in our workforce with the development of new technologies and increasing efficiency in how work is completed. However, with the onset of the pandemic, these changes were no longer gradual. With a sudden shock to the system, the emergence of the future of work and education accelerated overnight. Consequently, this sudden change has resulted in an increased need for digital skills, access to technology, and access to broadband for both workforce and education.

Challenges that have been navigated—and are still being navigated—by business and industry, the public workforce system, and the education system include equitable access to technology (e.g., computers), access to broadband, and digital literacy. Distance learning especially requires all three as it is vital for the education system to avoid continued or further disruption in learning. The same can be said for the overall workforce. COVID-19 exposed the areas in our system that need to be fortified, highlighted our strengths, and expedited innovation and the collaboration of workforce and education, especially when it comes to equitable access to resources so these systems work for all Coloradans.

Remote Work and Teleworking

The terms “remote work,” “distributed work,” “location-neutral work,” and “flex work” are all used interchangeably across state agencies and refer to any position or work duties that are done outside of the business's office. The worker and employer can choose where they complete work, whether it be at home, at a collaborative working space, or any other location.

Challenges associated with working remotely include the absence of informal interactions (i.e., hallway conversations), managers needing to lead a virtual team as well as their in-person teams, strained communication due to difficulty reading nonverbal and social-emotional cues, and the potential for different team cultures to form, affecting team dynamics.⁷ Being aware of these challenges allows for proactive mitigation, thus increasing the level of satisfaction of remote working teams.

Digital Literacy and Inclusion

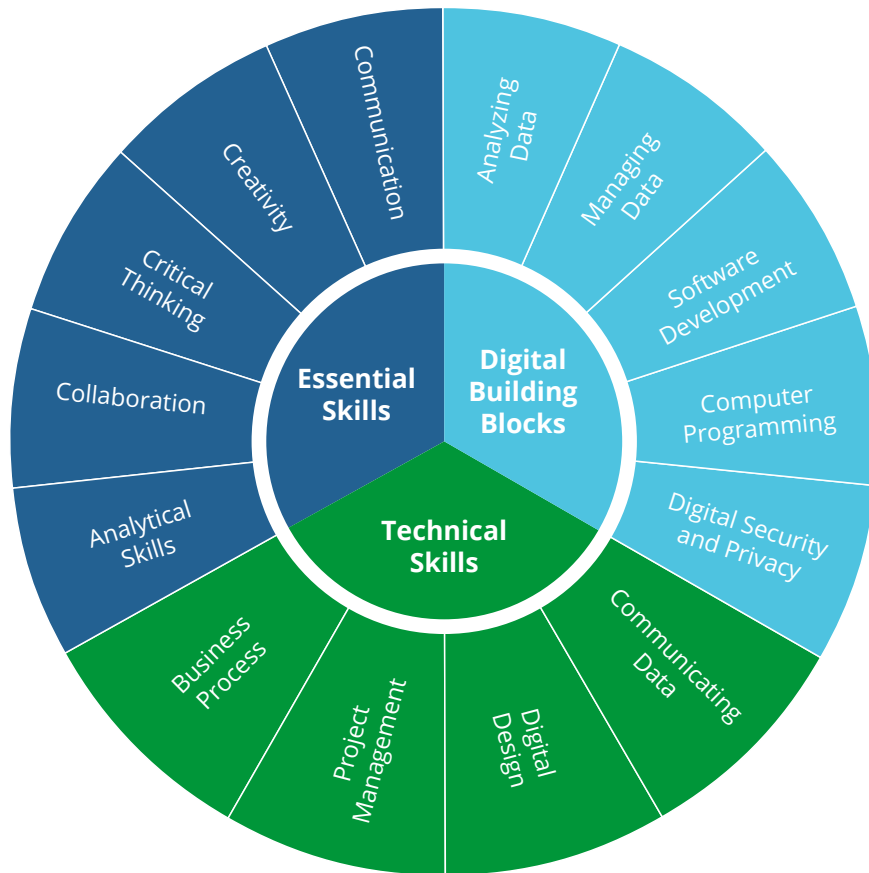
In the last 10 years, demand for jobs requiring medium and high digital skills has increased, with 77% of all jobs requiring digital skills and 84% of small businesses using at least one digital platform as of 2020.⁸ Jobs vulnerable to displacement or significant transformation due to technology are disproportionately concentrated among people of color, those without college degrees, and workers under the age of 34 and over the age of 50.⁹

Currently, 14% of rural Colorado households have slow or no broadband internet.¹⁰ More than 54,000 school-age children lack internet in Colorado, two out of three of whom are Hispanic.¹¹ Meanwhile, 53,000 students in Colorado lacked devices for remote learning.¹² Of the adult population with no digital skills, 80% have a high

school credential or less; 57% have earnings in either the bottom or the second-lowest quartile; 44% are white, 15% are Black, 35% are Hispanic, and 4% are Asian/Pacific Islander.¹³ Digital literacy and inclusion strategies will be addressed later in this report.

There are new foundational skills that are becoming increasingly important for employees and job seekers to stay relevant and qualified in the digital economy. These skills can be grouped into essential skills, technical skills, and digital building blocks. A combination of these skills has been associated with opportunities and higher wages for workers. However, only one-fifth of workers' resumes have skills in all three categories, highlighting the need for communication and awareness of these skills to job seekers and employers.¹⁴

Figure 1
Foundational Skills of the Digital Economy



Source: Adapted from Burning Glass Technologies' 'The New Foundational Skills of the Digital Economy'

COLORADO'S TOP JOBS

Colorado's economy features Top Jobs that cross a variety of industries (see [Appendix B](#)) and geographies across Colorado (see [Appendix C](#)). This report uses labor market projections from the Colorado Department of Labor and Employment (CDLE) Office of Labor Market Information to identify Top Jobs meeting three criteria:

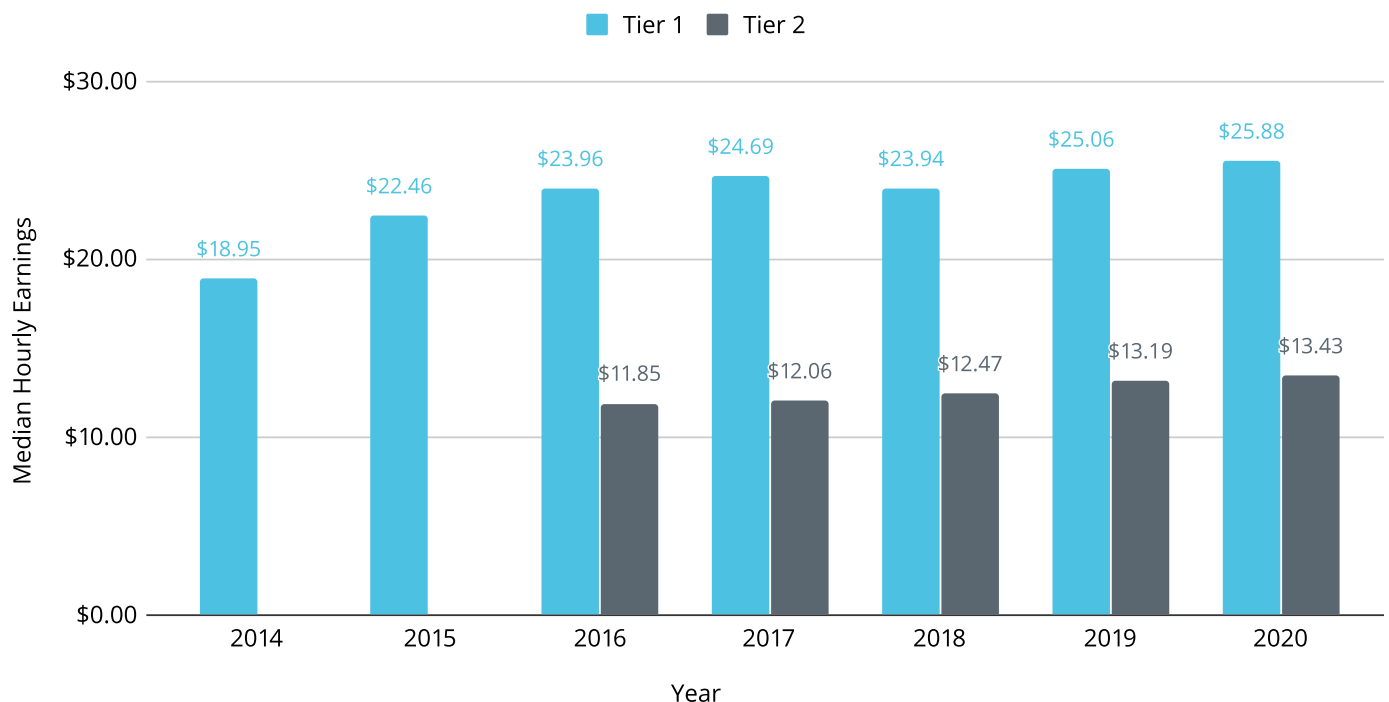
- Projected High Net Annual Openings (>40)
- Above Average Growth Rate over 10 years (>10%)
- A Good Wage¹⁵

The jobs in this report are classified into two earning tiers:

- Tier 1 is a median hourly earning living wage benchmark of \$25.88 or above; a level that supports two adults—one working—and one child.
- Tier 2 is a median hourly earning living wage benchmark of \$13.43 or above; a level that supports an individual.

Figure 2 visualizes the changes in the hourly wage for each tier since the first Talent Pipeline Report in 2014. From 2019 to 2020, the living wage in both Tier 1 and 2 has increased. This indicates that in Colorado, occupations require a higher wage than previous years to be classified as a "living wage." Specifically, when controlling for inflation, Tier 1 jobs median hourly earnings increased by 83 cents, and Tier 2 increased by 24 cents.

Figure 2
Colorado Living Wage for Top Jobs

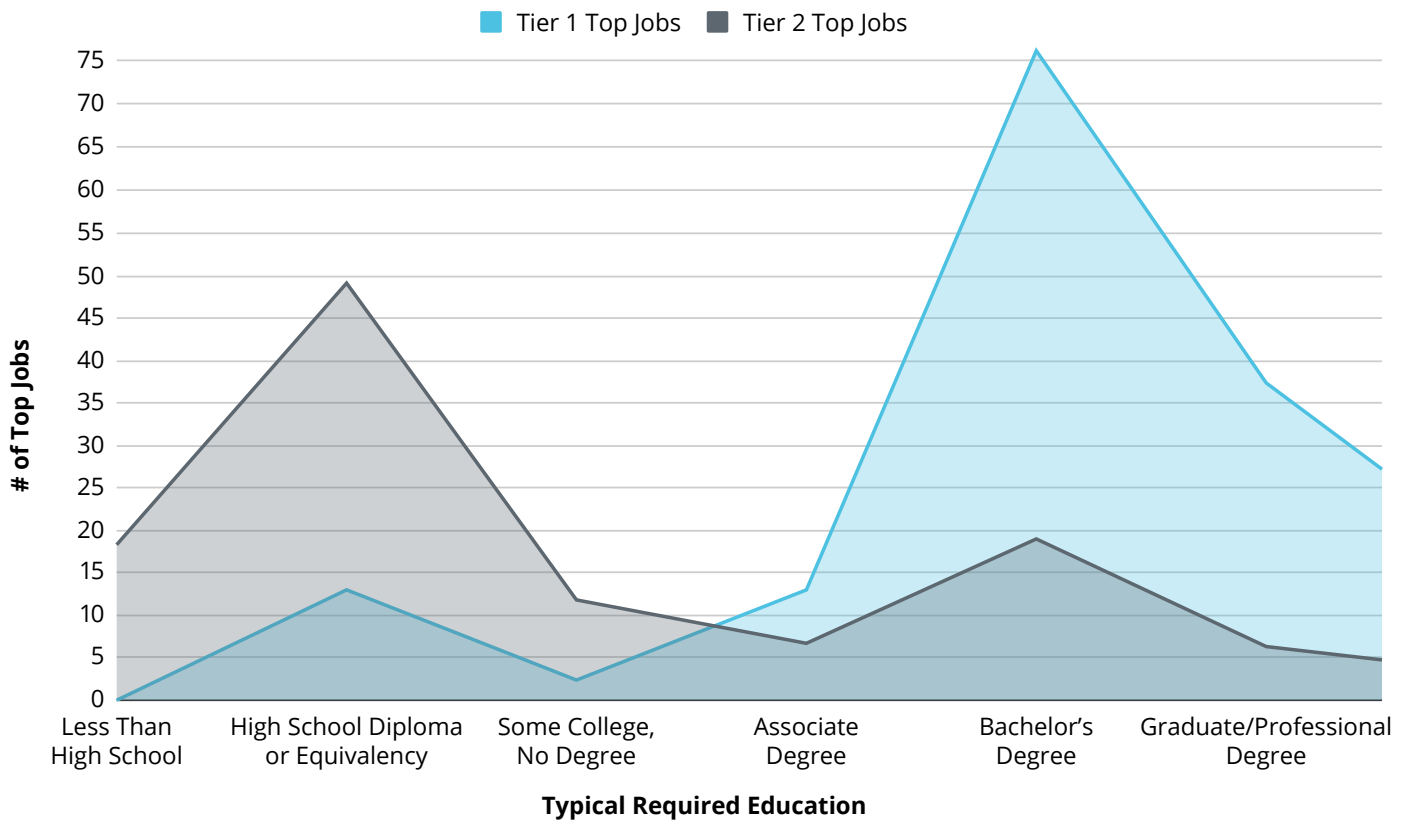


Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

Statewide, there are 143 Top Jobs classified at Tier 1 and 111 Top Jobs classified at Tier 2. Additionally, median hourly earnings are correlated to the level of education or training that individuals have in these occupations. Figure 3 illustrates the percentage of Top Jobs that fall into each educational attainment category. Of all the Top Jobs, 62.6% require a credential past high school.

The figure further depicts that Tier 1 Top Jobs typically require higher education levels than Tier 2 Top Jobs, with a majority of Tier 1 Top Jobs (88.8%) requiring a credential past high school.

Figure 3
2020 Colorado Top Jobs Categorized by Typical Education



Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

Top Jobs Automation Potential

Another factor to consider for Top Jobs is the automation potential of the occupations. As mentioned in the 2019 Talent Pipeline Report, the traditional way of work continues to transform with the evolution of technologies and globalization. [Using Brookings's Automation and Artificial Intelligence analysis](#) we looked at the automation potential for Colorado's Top Jobs. Brookings classifies each job's automation potential by identifying the share of tasks that are susceptible to automation: Low (0% to 30%); Medium (30% to 70%); High (70% to 100%).

The overall average automation potential for all the Top Jobs (both Tier 1 and Tier 2) is 34.5%, indicating a low to medium potential of automation for these occupations. However, looking at each tier independently, Tier 1 Top Jobs have a low average automation potential of 26.7% while Tier 2 Top Jobs have a medium average automation potential of 41.9%.¹⁶ We can infer from these numbers that higher-paying jobs requiring fewer routine tasks (with an above-average growth rate and more than 40 annual openings) have a lower risk of automation.

Higher Growth Top Jobs

The 2020 Talent Pipeline Report is the first since 2014 to cover the dynamics of a widespread economic contraction. One implication is that the criteria thresholds for Top Jobs have changed. While we maintain adherence to the prior year factor of "above-average growth," the average growth rate of jobs over the next 10 years has been cut in half, and therefore the threshold of "above average" is also much lower.

Using this new threshold, this report has a similar number of Tier 1 and Tier 2 jobs as prior reports. However, we can also highlight 36 jobs that meet the Top Job growth criteria that was utilized in the 2019 Talent Pipeline Report (20.5% growth over 10 years). Twenty-eight occupations meet Tier 1 criteria and eight meet the Tier 2 criteria (see [Appendix B](#) for a full list). Of these highest growth Top Jobs, a majority fall into the computer and mathematical, educational instruction, and healthcare fields.³

IN-DEMAND CROSS-INDUSTRY OCCUPATIONS AND SKILLS

Table 6 showcases the fastest-growing occupations in Colorado that are projected to grow by greater than or equal to 10% over 10 years. These occupations not only have a higher growth rate, but they also have high average annual openings. The average annual openings take into consideration annual exits (i.e., those leaving the labor force), transfers (i.e., those switching occupations), and growth. The high growth and average annual openings indicate that these occupations are "in-demand."

Table 6
Colorado's Fastest Growing Occupations

Occupation	2019-2029 % Change	Median Hourly Wage	Projected Annual Openings
Computer and Mathematical	21.22%	\$45.00	759
Healthcare Support	17.40%	\$16.89	603
Educational Instruction and Library	16.34%	\$28.62	273
Community and Social Service	14.86%	\$24.08	283
Life, Physical, and Social Science	13.34%	\$32.43	115
Building and Grounds Cleaning and Maintenance	12.10%	\$16.94	1927
Healthcare Practitioners and Technical	11.83%	\$30.83	234
Architecture and Engineering	11.17%	\$39.04	198
Legal	10.72%	\$28.52	261
Management	10.40%	\$52.27	472

Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

Although many occupations are cross-industry, there are required skills that are common across occupations. Table 7 shows the top 10 essential skills that are found in job postings in Colorado in 2019. These skills are valuable across industries (i.e., management, customer service), thus making them valuable for all workers.

Table 7
2019 Colorado Top 10 Essential Skills Across all Occupations

Skill	Frequency in Job Postings
Communications	29%
Management	21%
Customer Service	19%
Sales	19%
Leadership	14%
Operations	14%
Detailed Oriented	10%
Problem Solving	9%
Valid Driver's License	8%
Presentations	8%

Source: EMSI 2020.4 Datarun²

Continuing to focus on utilizing clear behavioral definitions of what these skills mean in each position, in conjunction with skills-based hiring, will give students, job seekers, and organizations a clear understanding of what is required to perform job tasks. Additionally, it will help break down the communication barrier and allow workers to transfer industries or occupations more seamlessly.

Table 8
2019 Colorado Top 10 Qualifications Across all Occupations

Qualification	Frequency in Job Postings
Commercial Driver's License (CDL)	83,102
Certified Nursing Assistant	18,677
Master of Business Administration (MBA)	13,605
Licensed Practical Nurse	11,350
Bachelor of Science in Nursing (BSN)	11,073
Associate Degree in Nursing	7,254
Nurse Practitioner	6,726
Project Management Professional Certification	6,545
Certified Information Systems Security Professional	6,357
CompTIA Security+	5,539

Source: EMSI 2020.4 Datarun²

Table 9
2019 Colorado Top 10 Technical Skills Across all Occupations

Skill	Frequency in Job Postings
Selling Techniques	5%
Merchandising	5%
Accounting	4%
Auditing	4%
Nursing	4%
Restaurant Operation	4%
Basic Life Support	3%
Customer Experience	3%
Agile Software Development	3%
Cardiopulmonary Resuscitation (CPR)	3%

Source: EMSI 2020.4 Datarun²

A close-up photograph of a man with a beard and glasses, wearing an orange hard hat and a light grey work shirt. He is looking down at a tablet computer he is holding with both hands. The background is a blurred industrial setting with bright overhead lights.

02

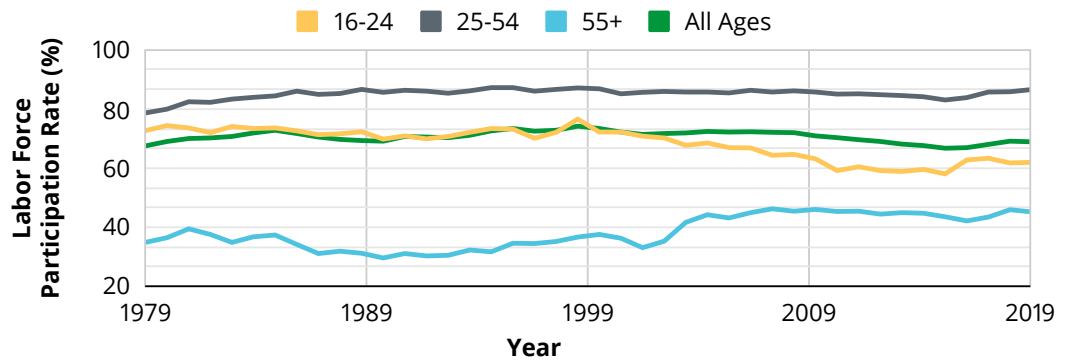
SUPPLY

Given the emerging growth industries and skills needed by the future workforce, we must assess how well the current supply of talent aligns with the demands of industry in terms of numbers, skills, and credentials. This section will look at 2019 labor force numbers as well as COVID-19 impact data and inferences.

WORKFORCE BY THE NUMBERS

In 2019, prior to the pandemic, Colorado had a high labor force participation rate and a low unemployment rate. The labor force participation rate for 2019 was 69% with an estimated 3,143,600 Coloradans in the labor force, which was a decrease of 0.2% from 2018 (see Figure 4).¹

Figure 4
Colorado Labor Force Participation Rate for Individuals 1978-2019



The labor force participation rate is the percent of the civilian noninstitutional population over the age of 16 that is either employed or unemployed (i.e., individuals seeking work but unable to attain employment).

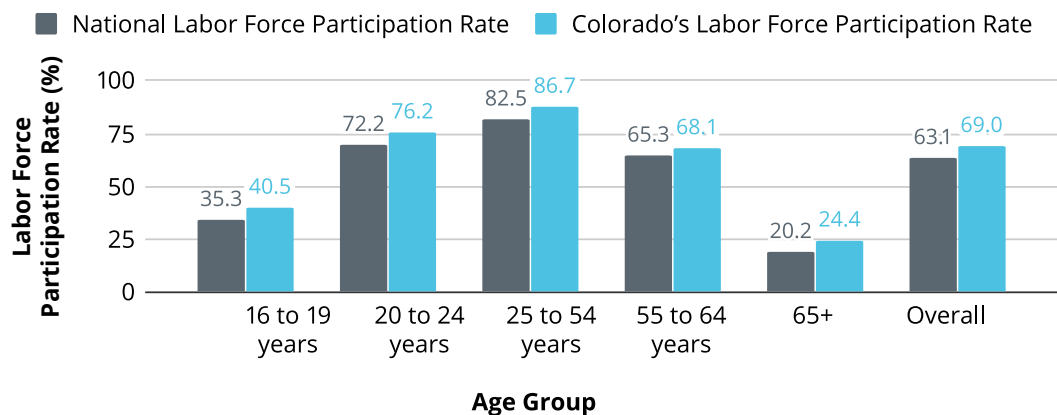
Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

2019 Labor Force

Age

Labor participation is highest between the ages of 25 and 54 at 86.7%. This was 4.2% higher than the national labor force participation rate in 2019 for this group. Figure 5 shows that Colorado was consistently above the national average in labor force participation in all age groups in 2019.

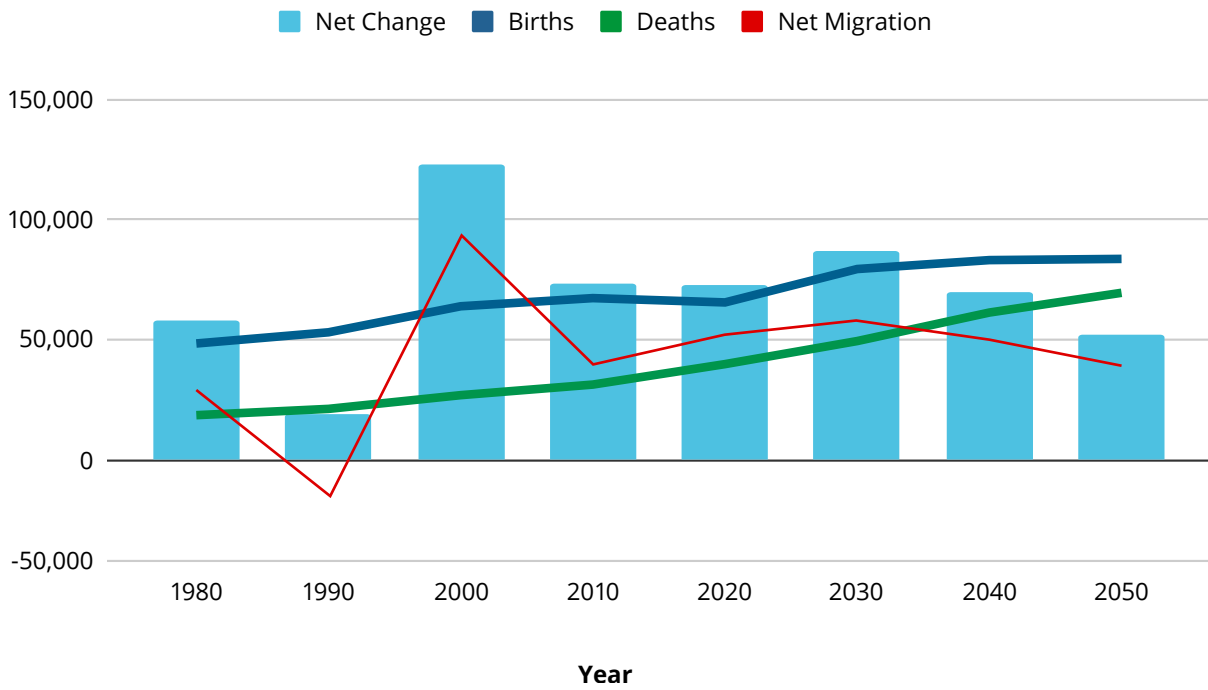
Figure 5
2019 Colorado and National Labor Force Participation by Age Group



Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

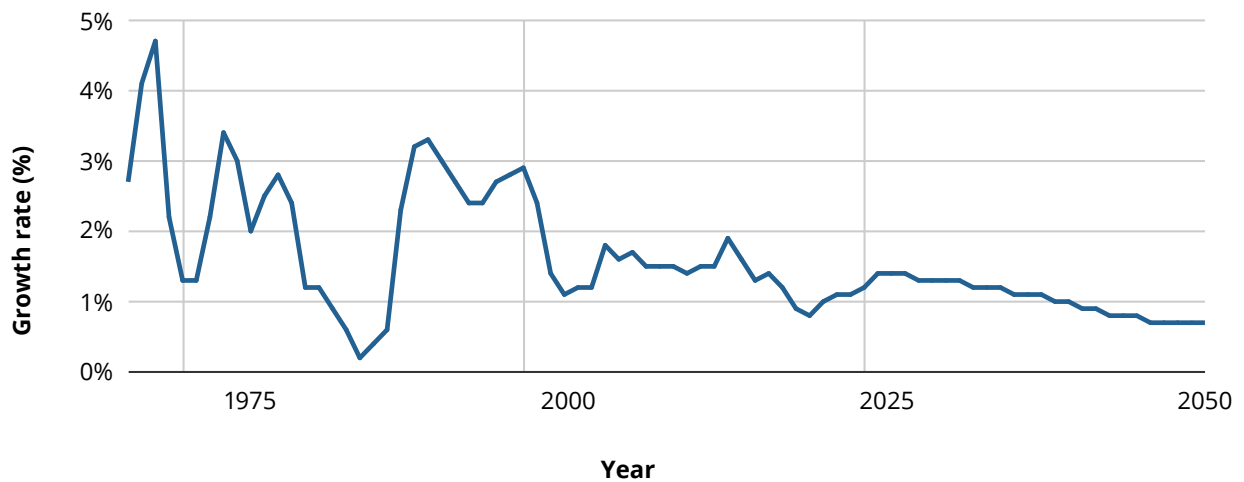
As indicated in the 2019 Talent Pipeline Report, Colorado's population growth is projected to slow (see Figures 6 and 7).

Figure 6
Colorado Net Population Change, Births, and Deaths 1980-2050



Source: State Demography Office at the Department of Local Affairs¹⁷

Figure 7
Colorado Growth Rate (Actual and Projected): 1971-2050



Source: State Demography Office at the Department of Local Affairs¹⁷

In addition to age, differences between race/ethnicity, gender identity, and credential attainment should be analyzed when looking at labor force participation rates.

Race/Ethnicity

Table 10 breaks down labor force participation by race and ethnicity. Hispanic and Latinx individuals have the highest labor force participation rate at 71%, followed by white individuals at 69.3%, and Black or African American individuals at 68.6%.

Table 10
2019 Colorado Labor Force Participation by Race/Ethnicity

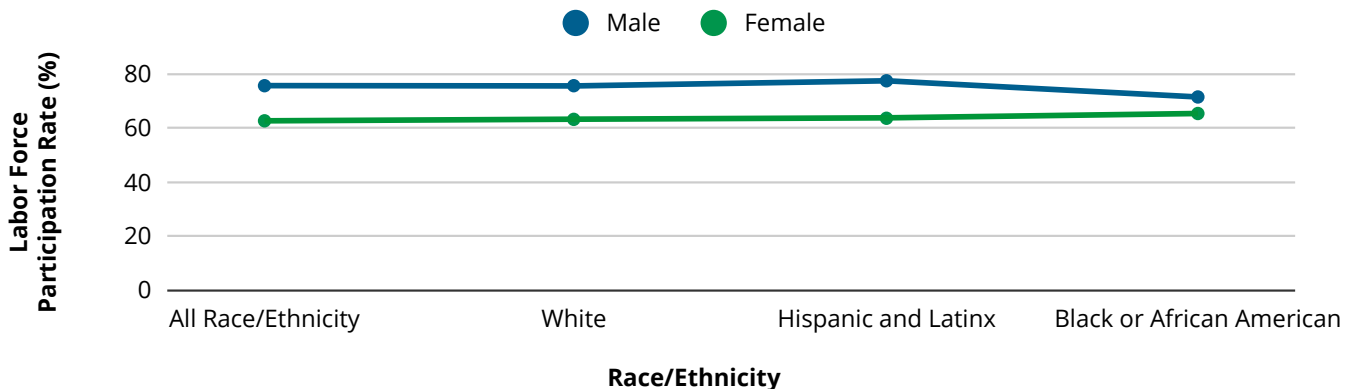
Race/Ethnicity	Labor Force Participation Rate
White	69.3%
Black or African American	68.6%
Hispanic and Latinx	71.0%
All Races	69.0%

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Gender Identity, Race/Ethnicity

Figure 8 shows that regardless of race or ethnicity, those who identify as male have a higher labor force participation rate than females. Hispanic and Latinx males have the highest participation rate at 78.6%, while white females have the lowest labor force participation at 62.9%.

Figure 8
2019 Colorado Labor Force Participation by Gender Identity and Race/Ethnicity



Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Credential Attainment & Labor Force Participation

Individuals in Colorado who have a bachelor’s degree or higher have the highest participation rate at 76.8%. Conversely, those with less than a high school diploma have a participation rate of 57.7%, a gap of 19.1%. It can be noted that **as credential attainment increases, labor participation increases** (see Table 11) and unemployment decreases (see Table 12 in the next section).

Table 11
2019 Colorado Labor Force Participation by Educational Attainment*

Highest Level of Education Attainment	Labor Force Participation Rate
Less than a high school diploma	57.7%
High school graduates, no college**	63.7%
Some college or associate degree	67.9%
Bachelor’s degree and higher***	76.8%

*Labor force participation rate by educational attainment of non-institutional population ages 25+

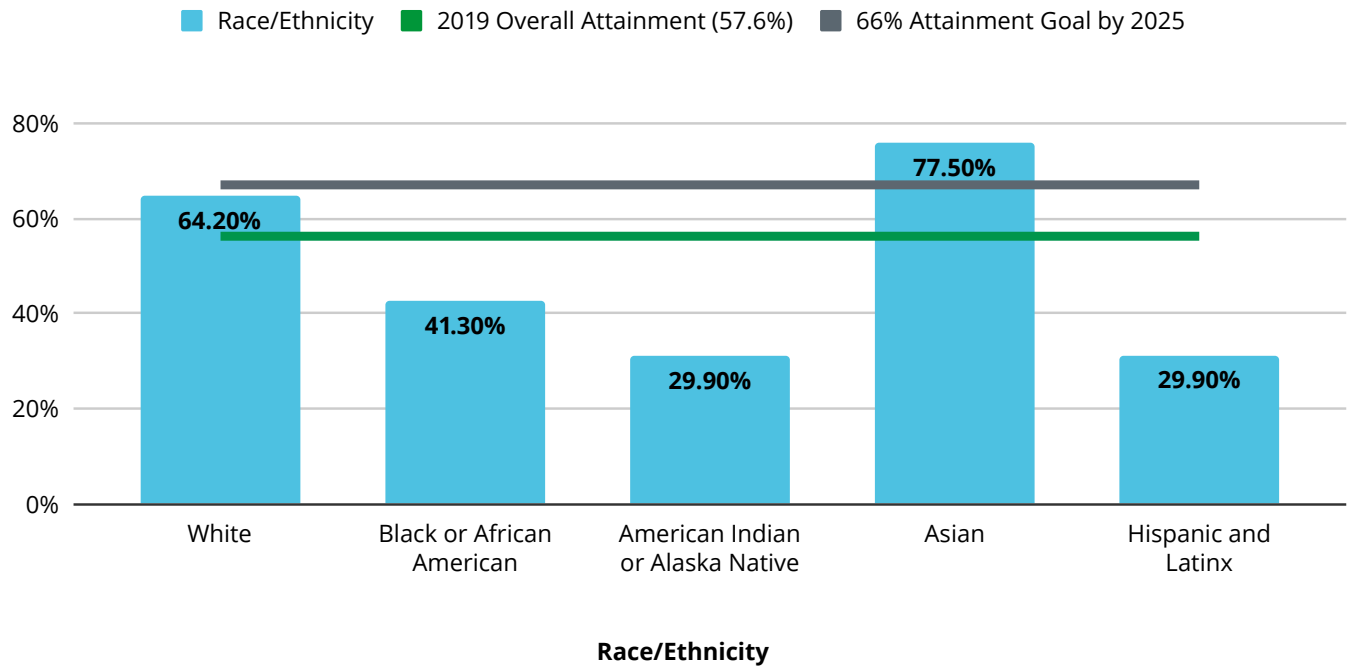
**Includes persons with a high school diploma or equivalent

***Includes persons with bachelor’s, master’s, professional and doctoral degrees

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Figure 9 shows Colorado's 2019 postsecondary credential attainment broken down by race. Using methodology consistent with the 2019 Talent Pipeline Report, the overall postsecondary attainment is 57.6% for all Coloradans between 25-34 years old. This indicates that 57.6% of Coloradans have a certificate, associate degree, bachelor's degree, and/or a graduate or professional degree.

Figure 9
Colorado's 2019 Postsecondary Credential Attainment



Source: Colorado Department of Higher Education¹⁸

Utilizing the same methodology, from 2017 to 2019, Colorado's postsecondary attainment rate has increased by 9.4% (~3.1% annual growth) and must increase another 8.4% by 2025 (~1.7% annually)¹⁸ to reach the Colorado Department of Higher Education (CDHE) overall attainment goal of 66% by 2025, suggesting the department is on track to meet the overall attainment goal. However, demographic groups differ in their attainment levels. The strategies section of this report discusses CDHE's attainment strategies further.

Looking at attainment from a national lens, the Lumina Foundation developed the tool [A Stronger Nation: Learning beyond high school builds American talent](#) to track postsecondary progress across states. The benefit of this tool is that postsecondary attainment rates can be compared across different states, it tracks states that have specific postsecondary attainment rate goals, it includes a wider age range of individuals (ages 25-64), and includes a tailored attainment rate estimate for industry-recognized certifications for each state.

The Lumina Foundation's [postsecondary credential attainment estimate for the state of Colorado](#) is 59.8%, with 51.1% holding an associate degree and higher and 8.7% holding a short-term credential. Compared to other states, Colorado ranks second in postsecondary attainment, following Massachusetts by 1.3%.¹⁹

However, regardless of the methodology, there are attainment gaps between demographic groups. Specifically, Black or African American, American Indian or Alaska Native, and Hispanic and Latinx groups have double-digit gaps with the overall average.

2019 Unemployment

Unemployment is defined as individuals who are not employed but are available to work and have made an active effort to find employment.¹⁴ In 2019, the overall unemployment rate was 2.6% (~80,600 Coloradans). While Colorado had maintained a very low unemployment rate pre-COVID-19, that rate does not carry over to all Coloradans. For example, Table 12 looks at the unemployment rate of Coloradans by educational attainment. Those with a bachelor's degree or higher have the lowest unemployment, but those with less than a high school diploma have an unemployment rate 2.5 times higher at 4.8%.⁴

Table 12
2019 Colorado Unemployment Rate by Educational Attainment*

Highest Level of Education Attainment	Unemployment Rate
Less than a high school diploma	4.8%
High school graduates, no college**	2.2%
Some college or associate degree	2.2%
Bachelor's degree and higher***	1.9%

**Labor force participation rate by educational attainment of non-institutional population ages 25+*

***Includes persons with a high school diploma or equivalent*

****Includes persons with bachelor's, master's, professional and doctoral degrees*

Source: 2019 Colorado Unemployment Rate by Educational Attainment⁴

Race/Ethnicity

Table 13 looks at the unemployment rate by race and ethnicity. Compared to 2018 unemployment rates, 2019 unemployment rates had decreased. The overall rate was 2.6%. Hispanic and Latinx and Black or African American individuals have higher unemployment rates at 3.4% and 4.0%, respectively, than their white counterparts at 2.4%. Although the rates of unemployment have decreased, there were still racial disparities present pre-COVID-19.

Table 13
2019 Colorado Unemployment Rate by Race and Ethnicity*

Race	Unemployment Rate
White	2.4%
Black or African American	4.0%
Hispanic and Latinx	3.4%
All Races	2.6%

**Unemployment rate by sex and race of civilian non-institutional population ages 16+*

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Age, Race/Ethnicity

The labor force participation rate for individuals ages 16-19 was 40.5% in 2019, down 1.3% from the 2018 rate of 41.8%. The decrease in labor force participation rates indicates there are fewer individuals in this age band working or looking for work in Colorado. Overall, the unemployment rate for individuals ages 16-19 in 2019 was 7.7%, compared to 14.5% in 2018. It is important to note that data indicating unemployment rates for Coloradans 16-19 years old are typically turbulent and less stable from year to year. Due to small sample sizes, Black or African American unemployment data for this age group that has been available in previous years is not available for 2019.⁴

Table 14
2019 Labor Force Participation and Unemployment Rate for Coloradans 16-19 Years old by Race and Ethnicity*

Race	Labor Force Participation Rate	Unemployment Rate
All Races	40.5%	7.7%
White	43.8%	8.1%
Black or African American	32.3%	-
Hispanic and Latinx	47.0%	9.9%

**Unemployment rate by sex and race of civilian non-institutional population ages 16-19*

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Gender Identity, Race/Ethnicity

Table 15 shows the unemployment rate by gender identity and race and ethnicity. There is a sharp drop in the unemployment rate for Black or African American males from 7.1% in 2018 to 1.2% in 2019. Overall, the unemployment rate had decreased from 2018 to 2019, but reporting methods and the small Black or African American population in Colorado may have caused rates to shift dramatically while still trending in the same direction as other demographic groups. For example, the unemployment rate nationally for Black or African American males decreased from 7% in 2018 to 6.6% in 2019 with the labor force participation rate staying constant at 64.8%.

Table 15
2019 Colorado Unemployment Rate by Gender Identity and Race and Ethnicity*

Gender Identity, Race	Unemployment Rate
Male, White	2.3%
Female, White	2.5%
Male, Black or African American	1.2%
Female, Black or African American	7.2%
Male, Hispanic and Latinx	2.7%
Female, Hispanic and Latinx	4.4%

**Unemployment rate by sex and race of civilian non-institutional population ages 16+*

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

In short, directionally, the unemployment rates are moving similarly, but the drastic drop could be due to sampling methods. These data constraints highlight the need for continued communication between job seekers, workforce centers, and education and training providers to supplement data and fill in the gaps of knowledge to paint the full picture of what is happening 'on the ground.'

About Data Reporting Methods

Unemployment and employment rates are announced by the Bureau of Labor Statistics (BLS) of the U.S. Department of Labor, who use data from the monthly Current Population Survey (CPS). These data are the main source for unemployment and employment rates throughout the nation and have been consistently utilized throughout all Talent Pipeline Reports. The CPS samples 60,000 eligible households (~110,000 individuals) each month, selected to be representative of the entire population broken into different geographical areas in each state. This sample rotates so no household is interviewed for four consecutive months. The sample excludes those living in institutions (e.g., correctional, mental health facilities, etc.) and those in the armed forces. The Local Area Unemployment Statistics (LAUS) follows the same procedure as the CPS and is supplemented by the Current Employment Statistics (CES) program and the Quarterly Census of Employment and Wages (QCEW) program to measure unemployment for states and local areas.

Rural and Urban Unemployment

In 2019, 24.3% of Coloradans 18 years or older lived in a rural county. That is a little more than one million people who live in rural Colorado. According to the Bureau of Labor Statistics 2019 Local Area Unemployment Statistic estimates, and using the counties in the Colorado Rural Workforce Consortium as a parameter, there were an estimated 752,000 individuals in the workforce in rural counties, with almost 21,000 of those individuals being classified as unemployed. The average unemployment rate among the rural counties was 2.9% in 2019. Using the Colorado Urban Workforce Alliance as the parameter for urban counties, in 2019 the average unemployment rate amongst urban counties was 2.7%.²⁰

New Americans

New Americans are defined formally as individuals who have arrived in the United States as immigrants or refugees, and their children. Within the cohort of Coloradans who fall into the New American definition, there is a great diversity in experiences and backgrounds that contribute to the ease, and difficulties, of their transition into work and communities. An individual's reasons for becoming a New American, their race, ethnicity, religion, gender, age, and countries of origin can elicit biases in seeking and retaining employment.

In 2018 in Colorado, there were more than 557,000 documented immigrants, which is about a 9.8% share of Colorado's population. Of that population, there were 36,444 immigrant entrepreneurs and 102,298 employees at immigrant-owned firms.²¹ Overall in 2018, there were 356,044 New Americans in the labor force or armed forces, 10,000 were unemployed, and 191,000 were not in the labor force.²²

Individuals with Disabilities

In 2018, it was estimated that around 11,000 persons living with disabilities were not working but actively looking for employment, and the employment rate of people ages 21 to 64 with disabilities in Colorado was

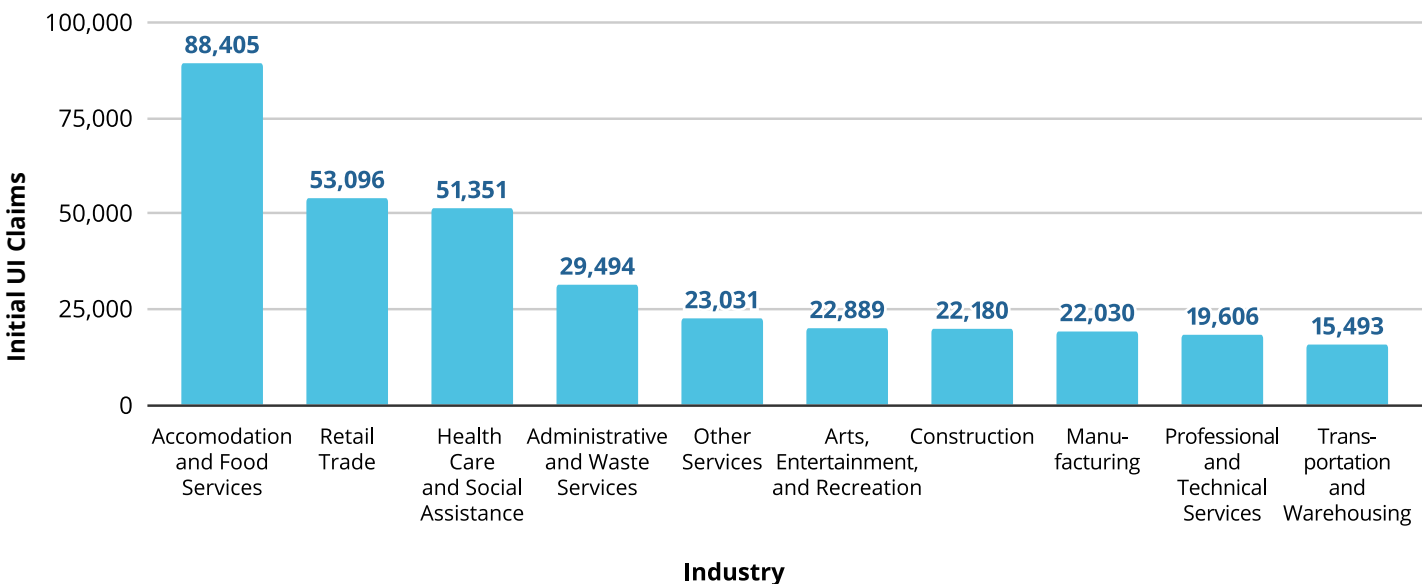
48.3%. Individuals with a hearing disability had the highest employment rate at 61.9% followed by those who have a visual disability at 53.6%.²³

COVID-19 Employment Data

As a result of the onset of the COVID-19 pandemic in March 2020, there have been industry and occupation disruptions. Initial unemployment insurance (UI) claims from the week of March 15, 2020, through the week of Sept. 12, 2020, by industry and occupation were used for the following analysis. An initial claim is a claim filed to establish benefit eligibility. Initial claims are considered a reliable leading indicator of economic activity. Additionally, industry-level data does not include claims where the industry is unknown or not available, leading to different totals between industry and major occupational group.

Figure 10 details the initial UI claims by industry in Colorado. The accommodation and food service industry have 21.3% of the share of total claims (88,405 claims), followed by retail trade at 12.8% (53,096 claims) and health care and social assistance at 12.3% (51,351 claims). These data are in line with the closure of restaurants and retailers in the beginning stages of the pandemic. The industry with the lowest initial claims was utilities (e.g., electric power, natural gas, steam supply, water supply, and sewage removal) at 190 claims.¹

Figure 10
Colorado Initial UI Claims by Industry (March-September 2020)

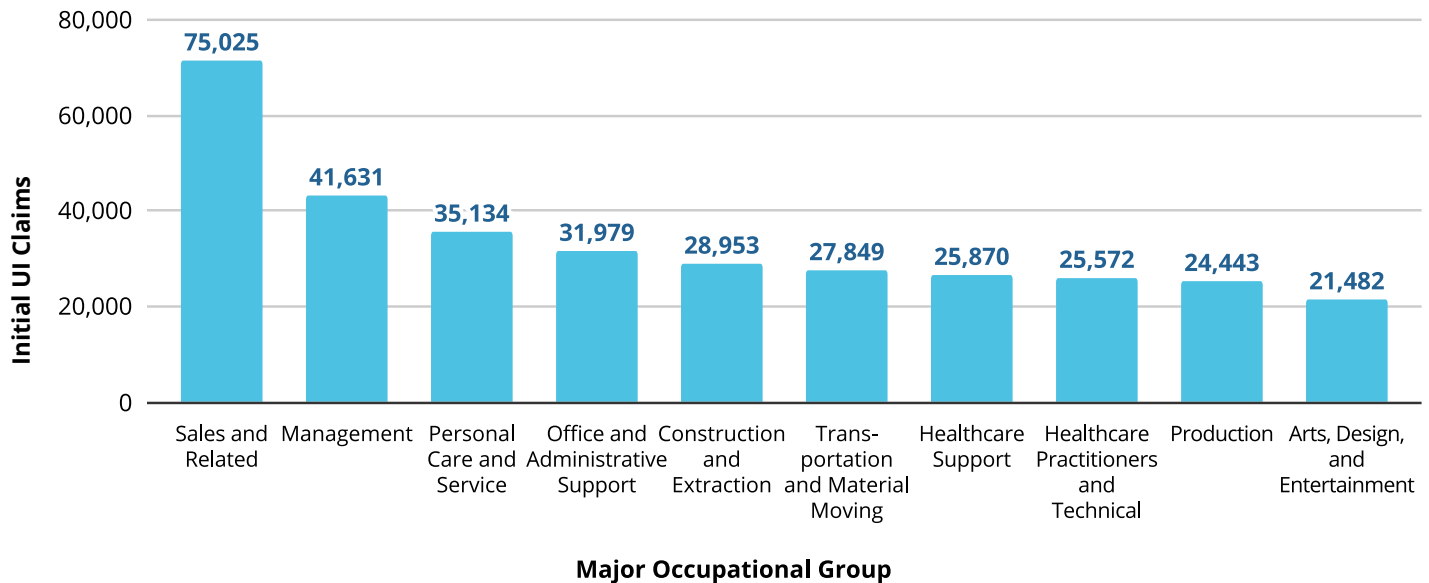


Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

The initial UI claims by major occupational group (Figure 11) tell a similar story in that food preparation and serving occupations have a 19.8% share (109,865 claims) of the total initial claims, followed by sales and related at 13.5% (75,025 claims) and management at 7.5% (41,631 claims).¹

Figure 11

Colorado Initial UI Claims by Major Occupational Group (March-September 2020)



Source: Colorado Department of Labor and Employment: Office of Labor Market Information¹

Continued claims (i.e., claims made by workers who have previously filed to continue benefits) trends from March 7, 2020, through the week of Sept. 19, 2020 indicate that accommodation and food services, retail trade, and health care and social assistance had the highest frequency, but are starting to drop. These drops can be correlated with the easing of restrictions throughout the state, allowing individuals in these industries to return to work (e.g., servers, retail sales associates, dentists).

Accommodation and food services, retail trade, and administrative and waste services industries have the highest frequency of continued UI claims from the week of March 7, 2020, through the week of Sept. 19, 2020. Although some industries represent a smaller percentage in total continued claims, they may have a higher share of jobs within the industry that are filing. Looking at the total percentage of each industry that on average continues to claim unemployment insurance, 13% of the arts, entertainment, and recreation industry and 12% of the mining industry have filed continued UI claims.¹

COVID-19 Unemployment Inferences

It is difficult to determine the impact of COVID-19 on specific segments of the population due to data collection methods and timeframes. Looking at unemployment rates in August 2019 through July 2020 captures some of the impacts from COVID-19, but because the majority of the data is pre-pandemic, it does not capture the full impact. Thus, only inferences can be made in how the pandemic is fully impacting different groups in Colorado.

Table 16
Colorado Unemployment Rate by Age Group
(August 2019-July 2020)

Age Group	Unemployment Rate
16-19	14.6%
20-24	11.5%
25-34	5.2%
35-44	4.7%
45-54	4.9%
55-64	3.2%
65+	3.7%

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Table 17
Colorado Unemployment Rate by Educational Attainment
(August 2019-July 2020)*

Highest Level of Education Attainment	Unemployment Rate
Less than a high school diploma	7.5%
High school graduates, no college**	4.8%
Some college or associate degree	5.7%
Bachelor's degree and higher***	3.5%

*Unemployment rate by educational attainment of non-institutional population ages 25+

**Includes persons with a high school diploma or equivalent

***Includes persons with bachelor's, master's, professional and doctoral degrees

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

Table 18
Colorado Unemployment Rate by Gender Identity and Race and Ethnicity*
(August 2019-July 2020)

Gender Identity, Race	Unemployment Rate
Male, White	5.0%
Female, White	5.8%
Male, Black or African American	0.9%
Female, Black or African American	12.9%
Male, Hispanic and Latinx	8.1%
Female, Hispanic and Latinx	8%

*Unemployment rate by sex and race of civilian non-institutional population ages 16+

Source: Current Population Survey; U.S. Bureau of Labor Statistics⁴

INDUSTRY AND OCCUPATION SUPPLY ANALYSIS

This section will drill down another level to identify what industries and occupations different groups of people are working in and the automation potential of those jobs. Especially in relation to COVID-19 response, analyzing where different groups of people are working will connect data to a narrative and aid in the development of targeted strategies concerning equity.

Who Works Where: Race/Ethnicity and Occupation

An occupation is the kind of work an individual does to earn a living (e.g., accountant, manager, etc.). In 2019, Black or African American workers had a higher representation in military (13% of the occupation), healthcare support (9%), transportation and material moving (8%), and protective service (7%) occupations.² These occupational groups have a median annual salary of \$36,532² and an average automation potential of 50.7% (medium percent of tasks).¹⁶

Looking at where a majority of each demographic group works, an estimated 44.3% of Black or African American workers are employed in office and administrative support, transportation and material moving, food preparation and serving related, and sales and related occupational groups. These occupational groups have a median annual wage of \$35,816² and an average automation potential of 66.3% (medium).¹⁶

The same approach was used to look at Hispanic and Latinx and white workers. In 2019, Hispanic and Latinx workers had a higher representation in farming, fishing, and forestry (43% of the occupation), building and grounds cleaning and maintenance (36%), construction and extraction (30%), and production (27%) occupations.² These occupational groups have a median annual salary of \$34,029² and an average automation potential of 54.1% (medium).¹⁶

However, an estimated 41.7% of Hispanic and Latinx workers are employed in food preparation and serving related, office and administrative support, construction and extraction, and transportation and material moving occupations. These occupational groups have a median annual wage of \$37,888² and an average automation potential of 69.3% (medium).¹⁶

In 2019, white workers had a higher representation in legal (85%), management (82%), architecture and engineering (82%), and life, physical, and social science (82%) occupations.² These occupational groups have a median annual salary of \$87,896 and an average automation potential of 23% (low).¹⁶

An estimated 39% of white workers are employed in office and administrative support, sales and related, business and financial operations, and food preparation and serving related occupations.² These occupational groups have a median annual wage of \$37,821² and an average automation potential of 50.6% (medium).¹⁶ White workers typically work in occupations with a higher median annual salary and lower risk of automation than other demographic groups. In general, occupations with lower wages are at the most at risk for automation.¹⁶

Who Works Where: Race/Ethnicity and Industry

Using a similar approach to the occupational analysis, an analysis of industry composition was completed. Industry is the type of activity at a person's place of work (e.g., manufacturing, utilities, etc.).

The top five industries that Black or African American workers are employed in are transportation and warehousing (10% of the industry), administrative and support and waste management and remediation services (8%), health care and social assistance (6%), accommodation and food services (5%), and government (5%).²

The top five industries that Hispanic and Latinx workers are employed in are construction (27% of the industry), agriculture, forestry, fishing and hunting (27%), administrative and support and waste management and remediation services (26%), accommodation and food services (23%), and manufacturing (22%).²

The top five industries that white workers are employed in are utilities (84% of the industry), professional, scientific, and technical services (83%), arts, entertainment, and recreation (81%), educational services (80%), and information (78%).²

Apprenticeships

Apprenticeships can be found woven throughout various industries and occupations and warrant demographic analysis. A registered apprenticeship provides an industry-driven, high-quality career pathway where employers can develop and prepare their future workforce, and individuals can obtain paid work experience, classroom instruction, and a portable, nationally-recognized credential. As of August 2020, there were 5,894 USDOL registered apprentices in active programs in Colorado.

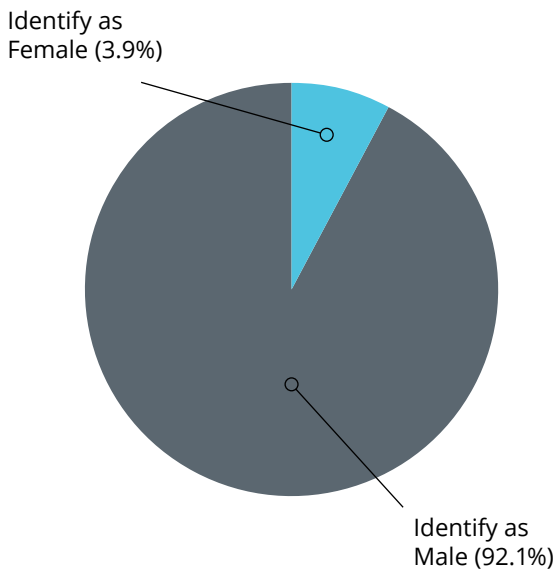
A majority of apprentices identified as white (57%) and male (92.1%). USDOL registered apprenticeships have decreased by nearly 1,000 since the same time point in 2019. This difference could be due to fluctuation in cohort cycles, delayed enrollment because of COVID-19, or an apprentice class could have just graduated. The cause of the decline can only be inferred and not confirmed because the data is pulled at a single point in time each year. More robust analyses would have to be conducted to confidently understand this decrease.

Since 2015, the demographics of apprentices are still diversifying, with 7.9% identifying as female (compared to 6.9% in 2019 and 5% in 2015) and 29% identifying as Hispanic and Latinx (compared to 26% in 2019 and 25% in 2015). These data reflect USDOL registered apprentices only and may not count all apprenticeship activities and programs currently happening in the state, as these programs and efforts have been expanding. Apprenticeship programs throughout the state will be discussed in more detail in the strategies section.

Apprenticeships and Top Jobs

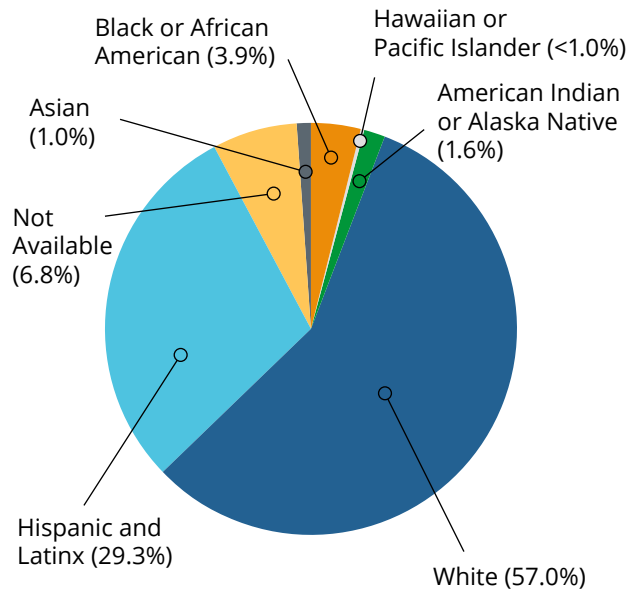
In August 2020, 86% of the active registered apprenticeships aligned with this year's Top Jobs. Of those that aligned with the Top Jobs, 87% fell into the construction and extraction major occupational group, heavily represented in the trades (e.g., electrician, carpenter).²⁴

Figure 12
USDOL Active Registered Apprenticeship Participation by Gender Identity



Source: Colorado Department of Labor and Employment²⁴

Figure 13
USDOL Active Registered Apprenticeship Participation by Race/Ethnicity



Source: Colorado Department of Labor and Employment²⁴

WORKFORCE FACTORS

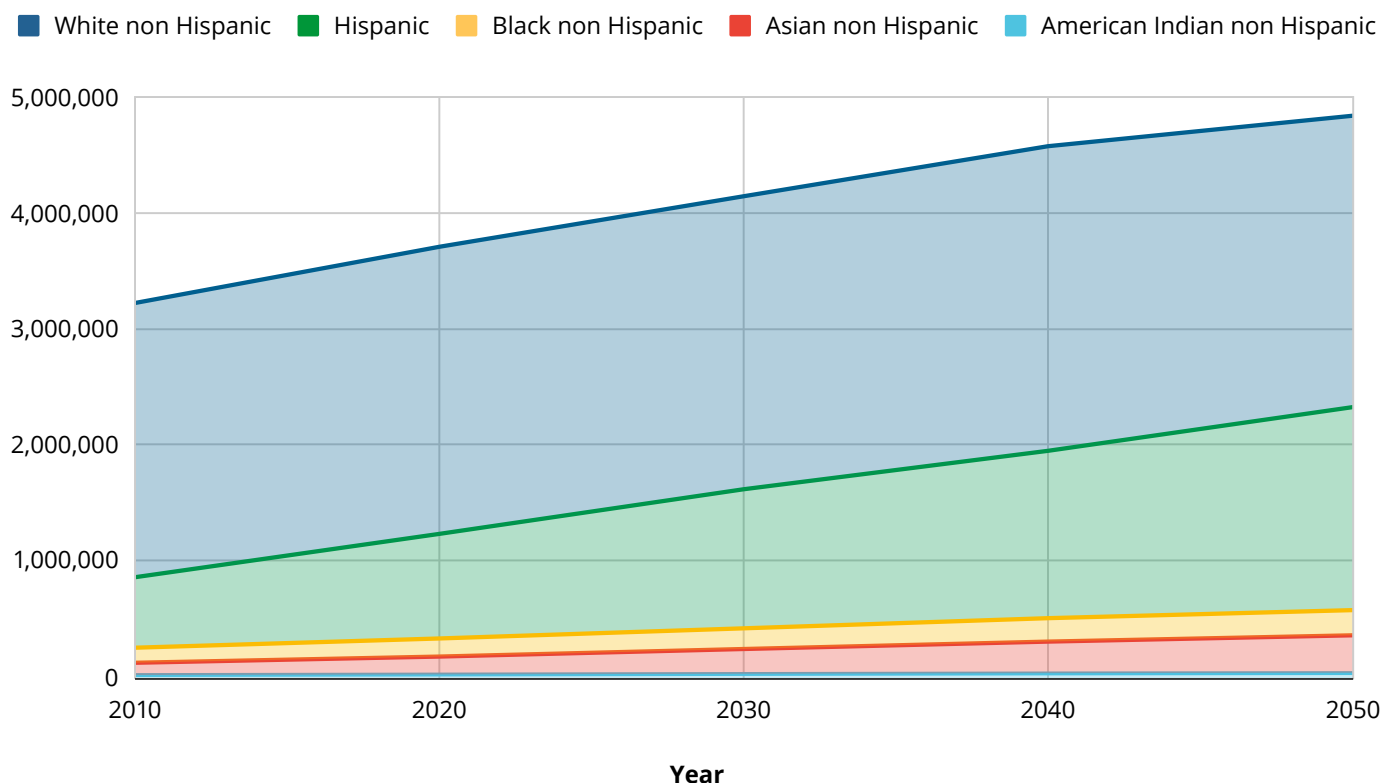
Colorado is navigating multiple circumstances impacting the supply and demand for talent. One circumstance on the forefront, regardless of the presence of a pandemic, is credential attainment and its expansion beyond traditional pathways.

A majority of Colorado's Top Jobs require education beyond high school. However, current attainment rates show gaps between demographic groups (see Figure 9 on page 22), and the rates for groups such as Hispanic and Latinx and Black or African American Coloradans suggest our supply does not match our demand for talent with postsecondary education, with a postsecondary attainment rate of 29.9% for the Hispanic and Latinx population and 41.3% for the Black or African American population.

In addition, moving forward Colorado's labor market will become increasingly dependent on a diverse talent pipeline. By 2050, it is projected that 36% of Colorado's 18 to 64 year old population will be Hispanic, compared to 23.5% projected in 2020 (see Figure 14). Elevating various strategies to ensure all Coloradans receive the education and training they need to successfully participate in the labor force will be pivotal over the next 30 years.

Figure 14

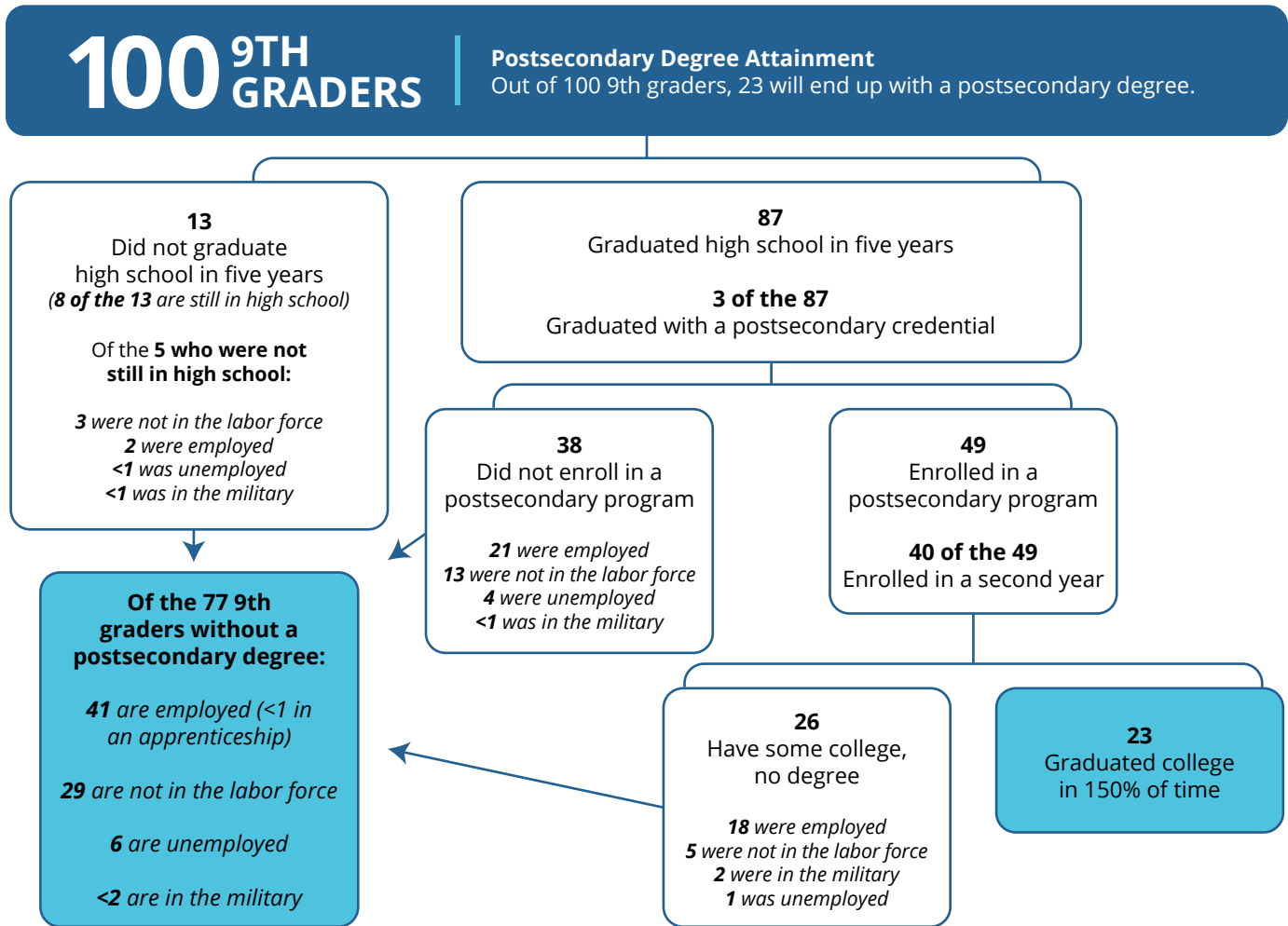
Colorado Population Projection by Race: 2010 - 2050 (Ages 18-64)



Source: State Demography Office at the Department of Local Affairs¹⁷

Figure 15 shows the current progression of 100 9th graders in Colorado if the rates stayed consistent with our most current data. The figure also depicts what happens to those who do not complete a postsecondary degree.

Figure 15
The K-12 Through College Pipeline in Colorado



Source: Colorado Department of Higher Education. Numbers are approximate based on available data.¹⁸


As mentioned in previous Talent Pipeline Reports, there is a need to expand our idea of higher education beyond associate, bachelor's, and graduate degrees to capture the full scope of education and training throughout Colorado.

Individuals still are enrolling and completing two- and four-year postsecondary education programs, but a majority of 9th graders are taking paths such as apprenticeships, certifications, and military routes after high school. All these pathways allow for the development of the necessary skills to meet industry demand and succeed in the workforce. Building out our understanding of what each of these pathways entails and their outcomes will help us develop policies and strategies (e.g., skills-based hiring and promotion) as well as increase awareness for groups of people who may have barriers to traditional pathways into the workforce (i.e., two and four-year degrees). The saying goes, "out of sight, out of mind," and it is time to bring these pathways to mind by elevating their visibility. The strategies section of the report will discuss current initiatives and strategies in Colorado.



03

**STRATEGIES
TO ALIGN
SUPPLY WITH
INDUSTRY
DEMAND FOR
ECONOMIC
RECOVERY**



Strengthening demand-driven collaboration across business, education, economic development, and workforce is more important than ever to address the fast-paced changes currently happening in our economy and workforce. Cross-functional collaboration increases the ability to address the complexities facing the talent development ecosystem and allows us to maximize the use of resources and develop and scale successful strategies.

EQUITY

Colorado experiences persistent inequities in our talent development system that have been amplified by the pandemic. The increasing calls for racial justice underscore the need to address these challenges that undercut our competitiveness as a state and prevent us from being a Colorado that works for us all.

Talent Equity Agenda

The [Talent Equity Agenda](#),²⁵ published by the CWDC, is a holistic effort aimed at raising awareness, identifying shared opportunities for strategic action, targeting resources, and measuring progress to address equity gaps and intersecting disparities impacting our current and future workforce. The agenda was informed by stakeholders in the TalentFOUND network across the state and was released on Sept. 30, 2020. The agenda focuses on racial equity disparities, and identifies strategies to address the disparities and indicators to measure progress in the following areas:

- Career Navigation and Advancement
- Closing the Digital Divide
- Postsecondary Credential Attainment
- Unemployment
- Equitable Hiring, Compensation, and Promotion

Progress updates on the Talent Equity Agenda will be provided in future Talent Pipeline Reports.

DEMAND SIDE STRATEGIES

Public-private Partnerships

In Colorado, sector partnerships provide a shared table for coordinated strategies aligned with industry demand. These regional, public-private partnerships bring business leaders together within a specific industry to collaborate with public partners in education, economic development, workforce, and community organizations.

Colorado is a national leader in advancing the Next Gen Sector Partnerships model. Since 2007, more than 30 industry-driven, regional sector partnerships have been launched with new efforts targeted at the development of partnerships in the transportation, energy, education, and retail, hospitality, and food and beverage sectors (see [Appendix D](#) for the 2020 Sector Strategies update).

Sector strategies are a key talent development approach to strengthening critical industries in Colorado. These partnerships give industry leaders the opportunity to communicate with public partners about the necessary knowledge, skills, and abilities for the current and future workforce. This two-way communication between industry and public partners helps to develop accurate and efficient education and training programs and hiring practices.

The education consultant role shared between the CWDC and Colorado Department of Education, established by HB 15-1170, aids local school districts in improving postsecondary outcomes of students. The role assists in developing demand-driven career pathway programs that equip students with the skills needed in the Colorado labor market, aligning education programs with the needs of industry (see [Appendix E](#) for the 2019-2020 HB 15-1170 PWR Coordinator update).

Skilled Worker Outreach, Recruitment, and Key Training (WORK) Act

The WORK Act is a public-private collaboration with the purpose to increase awareness, enrollment, and completion of training programs to expand the skilled workforce. Eight grantees were awarded \$3,169,859.59 for the performance period of October 2019 through May 31, 2021. Grantees use the funds to support outreach and recruitment efforts for the training programs.

The WORK Act awarded nearly \$13 million since its inception in 2015 and more than 5,000 of the training completers are employed.

The WORK Act facilitated:

- **Industry partnership and sustainability:** Grantees strengthened existing partnerships and engaged them to provide additional support, such as an improved training space.
- **Programs expanding to new communities:** Grantees expanded their successful programs to additional locations and exposed new Colorado communities and diverse populations to the greater opportunities.
- **Curriculum enhancement:** Grantees responded to industry needs by enhancing curriculum and expanding emphasis on soft skills such as conflict resolution.
- **Leveraging marketing funds for sustainability:** Efforts produced high-quality marketing materials, including functional, attractive websites, and program branding. These marketing efforts elevated programs and gained credibility in the community. Two grantees chose to partner to leverage marketing funds, increasing the sustainability of their outreach efforts.
- **Grantee and state employment:** 100+ recruiters/navigators/administrators employed by grantees, including program graduates now working for the organization.

See [Appendix F](#) for the annual WORK Act report, supplemented by program success stories.

Skills-based Hiring

Skills-based hiring, which has been a focus in previous years' Talent Pipeline Reports, allows industries to be more specific about their hiring needs and cast a wider net for filling jobs. This approach allows for a more diverse candidate pool in the hiring process by including individuals who may have acquired the knowledge, skills, and abilities to successfully perform the job through avenues other than postsecondary education, and who may have self-selected out otherwise.

Employers and job seekers benefit from skills-based hiring because there is a direct identification of what is necessary to perform successfully on the job. This reduces potential educational attainment barriers for applicants and allows for reduced bias in hiring procedures by removing irrelevant information and providing a direct description of skills developed through education, training, and past experiences. The selection of the right employees is the foundation for employee performance; thus, the hiring process should choose those best qualified for the job.

As a state, we've set a goal of increasing the adoption of skills-based job descriptions and hiring by employers from 5% to 10%. Success towards this goal will be reported on the [Governor's dashboard](#), which tracks progress towards high-priority goals for the Polis administration. During the first quarter state fiscal year 2021, an additional 303 employers adopted skills-based practices.

Location-neutral Jobs

Another strategy that has been elevated due to the pandemic is location-neutral jobs. As noted in the 2019 Talent Pipeline Report, globally, workers typically favored flexible or remote working opportunities.²⁶ This was a finding that preceded our current circumstance of a widespread pandemic that resulted in most of the workforce either working from home or being furloughed or laid off.

Deloitte conducted a 'pulse' survey to attempt to understand how 17- to 37-year-olds were handling the workplace pre- and post-COVID-19. The survey found that as of May 2020, more than half of the employed respondents (globally) worked remotely. Of those respondents, 45% said they never worked remotely prior to the pandemic. Furthermore, more than 60% of the respondents indicated that they would like the option to work remotely post-pandemic.

More broadly, a Gartner survey found that nearly two-thirds of workers shifted to remote work as a result of the pandemic. The survey also found that 74% of chief financial officers intend to shift at least 5% of employees to remote work permanently.²⁷ In addition to the desire to work remotely, employees benefit by saving time and money on commuting and having increased job flexibility and engagement. Employer benefits include increased productivity, reduced absenteeism and turnover, and lower real estate costs.²⁸ While not all jobs can be location-neutral or remote, there are benefits to allowing workers the flexibility and opportunity to work remotely when feasible.

The book "End of Jobs" by Taylor Pearson defines that the total capacity for remote work is 42% of the total labor force. The current rate amidst COVID-19 is 40%.²⁹ In Colorado from March 2020 through August 2020, there were more than 29,500 unique job postings that were classified as 'remote.' Job postings are fluctuating compared to the same timeframe last year, but August 2020 yielded 1,700 more 'remote' job postings than August 2019.²

Table 19 shows the top five posted job postings classified as 'remote' from March 2020 through September 2020. Computer and mathematical and customer service occupations top the list. Additionally, the professional, scientific, and technical services industry (e.g., legal advice and representation; accounting, bookkeeping, and payroll services) had the most remote job postings in the same timeframe. Most of these jobs require technical training and expertise, further supporting the need for upskilling and reskilling to fit our current talent pipeline needs.

Table 19

Top 5 Posted Remote Occupations

(March-September 2020)

Occupation (SOC)	Unique Postings
Software Developers and Software Quality Assurance Analysts and Testers	2,870
Insurance Sales Agents	2,298
Customer Service Representatives	1,566
Computer Occupations, All Other	1,072
Marketing Managers	953

Source: EMSI 2020.4 Data²

Tables 20 and 21 list the top five essential and technical skills associated with job postings that are classified as remote. For the most part, essential skills are similar to those of all occupations, but call center, agile methodology, and scripting technical skills show up in remote occupations in place of merchandising, auditing, and restaurant operations.

Table 20

Top 5 Essential Skills for Remote Occupations
(March-September 2020)

Essential Skill	Frequency in Job Postings
Communications	33%
Sales	30%
Management	21%
Customer Service	21%
Leadership	16%

Source: EMSI 2020.4 Data²

Table 21

Top 5 Technical Skills for Remote Occupations
(March-September 2020)

Technical Skills	Frequency in Job Postings
Accounting	9%
Selling Techniques	8%
Call Centers	8%
Agile Methodology	6%
Scripting	5%

Source: EMSI 2020.4 Data²

As companies shift and adjust to the 'new normal' it is anticipated that 'normal' will include more part- or full-time remote or flexible work opportunities.

Remote Work Initiative

The nature of work is changing. The growing use of technology requires new skills as new occupations and innovations emerge and long-standing occupations evolve to meet the growing demand. To ensure Coloradans are prepared for this evolution, the CWDC is teaming up with the Office of Economic Development and International

Trade (OEDIT), the Economic Development Council of Colorado (EDCC), and the Office of the Future of Work (CDLE) to launch a remote work initiative.

This multi-tiered initiative will equip workers with the skills needed to succeed in remote work environments. It will help strengthen Colorado's ability to attract businesses, secure talent, and retain a location-neutral workforce. The initiative will include a remote work certification, technical assistance to help businesses and remote workers more easily connect, incentives for businesses to hire remote workers, and support for communities to enhance the necessary infrastructure for a remote workforce. The initiative will be especially beneficial in rural Colorado communities to help connect workers and businesses located anywhere in the state.

The Location Neutral Employment Program

OEDIT recently launched the Location Neutral Employment Program that targets location-neutral jobs and rewards the placement of those jobs in locations outside of Colorado's traditional urban corridors. By linking these flexible location jobs with rural communities that seek economic partners, we spread economic prosperity throughout our state while leveraging rural Colorado's exceptional quality of life in the talent attraction process.

[The Location Neutral Employment \(LONE\) Incentive](#) provides companies that will be approved for a [Job Growth Incentive Tax Credit \(JGIC\)](#) with an additional cash incentive for each remote worker employed in an eligible rural county outside the county where the JGIC project is based. The additional performance-based cash incentive for remote workers is a [Strategic Fund Job Growth Incentive \(SFJGI\)](#).

The incentive term of the SFJGI cash portion of the LONE incentive is five consecutive years with one payment at the end of that term, while the JGIC portion of the incentive has an eight-year term and is paid annually.

Modeling a location neutral practice, CDLE is establishing a state policy that will allow business services staff around the state to accept job orders for independent contractor openings. These types of jobs are often location neutral or remote opportunities, so this policy shift will support placement of individuals into these jobs and normalize such practice.

Equitable Hiring Practices

Selection or recruitment procedures, when done correctly, may mitigate adverse impact and disparate treatment (i.e., intentional discrimination). Adverse impact is the differences between demographically different individuals or groups with regard to the outcome of some selection procedure or process.³⁰ In short, this means that there are group differences (e.g., race/ethnicity, gender, age) if one group has a more favorable outcome from the selection or recruitment procedure.

Certain methods can be implemented to avoid or limit disparate treatment and adverse impact. For example, stripping identifying information from resumes may reduce discrimination based on gender, race/ethnicity, or other demographic factors. Significant research has found that even when the quality of the resume was accounted for, Black or African American sounding names had 50% lower call back rates for interviews compared to white sounding names.³¹ The same pattern of discrimination was found for Arab and Latino sounding names.³² Other examples of equitable hiring practices include skills-based hiring and structured interviews, which is also a predictor of job performance.

Unstructured vs. Structured Interviews

Interviewers in unstructured interviews do not have a consistent, specific set of questions to ask the candidate; they do not have an anchored response scale to score the respondent. Managers like to use this method because they want to build rapport with the candidate and are more confident in their “gut” feelings and decision-making skills.³³ Unstructured interviews allow for implicit biases or overt discrimination to remain unchecked and are not valid predictors of job performance.

Structured interviews, however, are much better. Interview questions are typically developed from a job analysis, usually only focus on the narrow scope of the essential job tasks and skills, have the same questions for every applicant, have anchored scales for every question, and are scored.³⁰ Multiple raters and rating justification (i.e., explanation) based on behaviors are additional steps that can be incorporated into the interview process to average out overly critical or lenient ratings as well as create accountability for those rating a candidate. **Structured interviews and skills-based hiring work hand-in-hand and aid in reducing discrimination and adverse impact by standardizing the process³⁰ and focusing on the critical skills necessary for successfully completing job tasks.**

Business Resources

The key to quality jobs is strong and thriving businesses. Now more than ever it is critical that we support our businesses. Supporting the growth and development of businesses helps keep and grow jobs across Colorado. The following section highlights funding and program opportunities for businesses throughout the state.

Energize Colorado Gap Fund

Through OEDIT, the [Energize Colorado Gap Fund](#) will provide more than \$31 million in small business loans and grants to boost small business enterprises that are the economic engines throughout the state. Sole proprietors, businesses, and nonprofits with less than 25 full-time employees can apply for up to a \$15,000 grant and a \$20,000 loan for a possible combined total of \$35,000 in financial assistance.

Colorado’s Enterprise Zone (EZ) Program

The [Colorado Enterprise Zone \(EZ\) Program](#) is designed to promote a business-friendly environment in economically distressed areas by offering state income tax credits that incentivize businesses to locate and develop in these areas and nonprofit organizations to assist with the needs of these communities.

The private sector business activity encouraged by these income tax incentives brings job opportunities and capital investment to economically distressed areas. The private investment results in tax revenue for school districts, cities, counties, and the state, outweighing the costs of the tax credits granted.

OEDIT’s website provides a list of all [funding and incentive programs](#).

Work Opportunity Tax Credit

The Work Opportunity Tax Credit (WOTC) is a federal tax credit incentive for employers who hire individuals belonging to specific priority groups. WOTC certified over \$67 million in tax credits to Colorado employers in FY19-20.

SUPPLY SIDE STRATEGIES

My Colorado Journey

In July 2019, Colorado released [My Colorado Journey](#), which connects job seekers and students to careers, education planning, and support resources through a guided process that drives action and goal completion. It is a free state resource that maps out the outcomes, goals, and steps needed to accomplish career and education milestones. Increasing the number of users and the number of goals and tasks completed by those users on the platform will help increase career and education and training awareness and knowledge to Coloradans, allowing them to make informed career decisions that are right for them.

Job seekers can personalize their career planning and map out steps to accomplish career goals. Students can explore education and training opportunities tailored to their interests and goals. Professional users, defined as individuals who provide educational and/or career counseling, can use the platform alongside their clients to ensure there is support throughout their career, education, and training journey.

The CWDC is statutorily required to report the total number of unique users of the platform; the percentages of users of the platform who are new and returning users; data on the trainings held for users of the platform, the number of participants in the trainings, and the outreach activities undertaken to inform people of the platform and the trainings; and the number of users on the platform who provide education and career counseling and related services.

Outreach activities focused on webinars targeting professionals in schools, workforce centers, and county offices. Weekly invitational emails were distributed encouraging people to register. In-person training events were held in the first six months of the fiscal year. Campaigns were conducted in October and May for Colorado Applies Month and Decision Day. [Informative web pages](#) were also developed to raise awareness and educate people about the platform. Based on surveys of training attendees, 82% of respondents indicated that, based upon what they learned in the webinar, they would begin using My Colorado Journey.

"I work with adult learners in a local GED program and our mission is to help people not only obtain their GED but proceed forward with gainful employment. That path is often interwoven with other needs such as education or services that are barriers, but with the MCJ tool users can address those issues and seek assistance in overcoming them. It's a one stop shop and as I become familiar with MCJ I can work with the students to help and encourage them to complete their steps and goals."
— Training Attendee

The usage of the platform from January through June 2020 can be seen in Table 22.

Table 22

My Colorado Journey Usage

(Jan. 1, 2020 - June 30, 2020)

MCJ Usage Jan. - June 2020	
Total unique users	18,651
Average percentage of monthly users who are new users	79%
Average percentage of monthly users who are returning users	21%
Total professional users	420
Total trainings held	34
Total participants trained	623

Upskilling and Reskilling

Upskilling and reskilling are essential for an agile workforce. This has been pivotal in the past but has been made even more apparent by the sudden shift in demand for digital skills for the remote workforce and the need to reskill and upskill those who were displaced by COVID-19 into different industries (e.g., retail, hospitality, food and beverage). Additional local, state, and federal investments for workforce development, specifically for upskilling and reskilling, will be vital for economic recovery from the COVID-19 pandemic.

Lives Empowered

On Dec. 4, 2018, the CWDC became the first state government entity to receive a \$4 million dollar investment from Walmart to support workforce development through the Lives Empowered initiative. The CWDC is regranting the funding to support local and regional communities to launch retail sector partnerships committed to piloting upskilling training for incumbent retail workers. Once the pilot is complete, the development of a statewide model for upskilling will provide lessons for other communities and industries committed to increasing economic mobility and skill development for frontline workers, many of whom have the skills to move up but are hindered from doing so because they lack the education or credentials required.

Colorado Works Subsidized Training and Employment Program (CW STEP)

In May 2017, the Colorado legislature passed Senate Bill 17-292 authorizing the Colorado Department of Human Services (CDHS) to create a subsidized employment program for recipients of Colorado Works basic cash assistance using \$12 million in TANF funds over three fiscal years. For the implementation of this grant, CDHS partnered with CDLE, leveraging the agency's expertise in grant coordination, monitoring, and technical assistance. The program requires, and thrives on, close partnership between local TANF and workforce case managers who braid funding and resources to provide a constellation of supportive services to aid customers in gaining and maintaining employment.

CW STEP gave low-income job seekers who struggle with barriers such as homelessness, domestic violence, involvement with the justice system, and trauma a second chance to demonstrate their skills, grit, and determination to both themselves and to the businesses in their community who employ them. CW STEP placed these resilient individuals in paid internships, apprenticeships, transitional jobs, and on-the-job training experiences, including concurrent training and essential work supports like transportation, clothing, and tools. While each agency has experimented with offering these experiences in the past, CW STEP codified and streamlined the process for connecting shared customers to these opportunities while streamlining the customer experience across multiple government programs.

Due to the historic difficulty of connecting this population to employment, CW STEP set an initial goal of placing 445 individuals into subsidized training and employment experiences and having 35% of those individuals find unsubsidized employment at the end of their experience. With the dedication of the CW STEP team, local grantees, and the participants themselves, 983 customers were placed in subsidized employment, and 44% obtained unsubsidized employment when they exited the program. Additionally, 568 employers provided work experiences to participants. These employers ranged from small to large businesses and encompassed the private sector, nonprofits, and government agencies.

The program was funded for 30 months, ending on June 30, 2020, due to budget concerns. CW STEP was recognized by the National Association of State Workforce Agencies (NASWA) with the Pinnacle of Workforce Development Award in January 2020 and received an Honorable Mention for the Tom Clements Award for Better Government in October 2019.

Career Conversations Trainings and Framework

The Colorado Career Conversations initiative was a response to Colorado's Education Leadership Council (ELC) recommendation, "ensure all schools have sufficient resources to provide robust and effective college and career counseling services." The initiative is a partnership with the Colorado Community College System (CCCS), Colorado Department of Education (CDE), CDHE, CDLE, and CWDC that provided \$1.5 million over the 2019-2020 fiscal year to support and train coaches, counselors, and advisers around the evidence-based practices in career advising.

The goal of the training was to engage advising professionals from K-12, adult education programs, higher education, and workforce centers to have a similar way of advising Coloradans for a career. In turn, this will help support our state's capacity in career advising, which

is important for students entering careers, adults mid-career, and other workers throughout job transitions.

This first-of-its-kind effort in Colorado provided the following training outcomes:

- 148 trainings across Colorado with trainings in every workforce region, 63% of K-12 districts, and 80% of Colorado's public institutions of higher education
- 2,607 advising professionals participated in career conversations training, both in-person and online
- 96% of attendees were highly satisfied with the training, materials, and resources provided
- A train-the-trainer model equipped 64 trainers to offer workshops across Colorado

The training will continue into the future through an online training module where advising professionals can earn certification hours.



Source: Colorado Department of Education

Digital Literacy and Inclusion

As previously mentioned, demand for jobs requiring medium and high digital skills has increased, with 77% of all jobs requiring digital skills and 84% of small businesses using at least one digital platform as of 2020.³⁴ For people to find opportunity in the future of work, three key digital inequities must be addressed:

- Access to affordable, high-speed internet
- Access to affordable, web-enabled technology
- Access to relevant, high-quality, and effective training and support for digital skill development

The Office of the Future of Work, in partnership with the Colorado Broadband Office, community stakeholders, state and municipal partners, and others are researching digital literacy and the programmatic, technological, and educational infrastructure required to ensure all Coloradans are prepared to participate in the future of work. The Office of the Future of Work will complete a study to:

- Assess current and future demands for digital skills in Colorado's growing industries, building on the Talent Pipeline Report.
- Conduct a landscape analysis of digital literacy frameworks and core competencies from national research and local service providers, and develop a taxonomy of digital literacy competencies for Colorado.
- Conduct a landscape analysis of existing digital literacy programs and credentials and how digital skill-building efforts are woven into existing upskilling programs and policies.
- Develop strategies to address any gaps in digital literacy programming to meet demand leveraging the education and workforce development ecosystem, including nonprofit providers with expertise in serving individuals with barriers.
- Identify policy and program interventions to promote digital literacy instruction and access in education and workforce development programs.
- Provide recommendations for additional actions to further the work, including funding streams, strategic partnerships, and potential legislation.

Postsecondary Credential Attainment

National Skills Coalition's (NSC) 2020 Quality Postsecondary Credential Policy Academy

Industry-recognized credentials fall into the quality non-degree credential category. Interest in non-degree pathways has increased over the last year according to a Strada Public Viewpoint: COVID-19 Work and Education Survey. In 2020, 68% of respondents interested in enrolling in education expressed a preference for non-degree pathways, a 12% increase from 2019.³⁵ Thus, there is a need to understand and communicate the value of non-degree credentials, in addition to tracking the attainment of these credentials in a manner that supports federal reporting requirements under the Workforce Innovation and Opportunity Act.

Recently, NSC worked with 12 states to develop a definition of quality non-degree credential. Although Colorado was not one of the original 12 states that developed this definition, Colorado's higher education leadership was part of the second round of states asked to vet this work. The resulting definition and recommendations provide a starting point for helping Colorado expand its own understanding of the value of non-degree credentials in the state. NSC's 18-month Quality Postsecondary Credential Policy Academy is designed to help states:

- Develop a process for identifying quality non-degree credentials.
- Identify and advance a policy agenda supporting increased attainment of non-degree credentials.
- Implement a data system to track access and completion of non-degree credentials.

A cross-agency group is being convened quarterly to achieve the goals listed above. The group is currently working on defining quality non-degree credentials. This involves the identification of data sources that would allow us to count the credentials and examine the outcomes. The next steps include finalizing a process in which credentials are identified, evaluated, and classified as a quality non-degree credential. Once the process is finalized, the group will begin to draft any relevant policies to help facilitate the implementation. The academy is set to conclude May 2021.

Non-degree credentials provide an alternative pathway to education and training that may have less barriers than traditional education. Identifying quality non-degree credentials is valuable for students and job seekers, especially in underserved groups (e.g., people of color, those with disabilities), in finding education and training that lead to careers with good employment and wage outcomes.³⁶

Affordability

In 2017, CDHE and the Colorado Commission on Higher Education updated the state's master plan, [Colorado Rises, Advancing Education and Training Development](#).³⁷ This plan calls for a goal of 66% statewide postsecondary attainment of Coloradans 25 to 34 years old by 2025. CDE also shares this goal.

In 2019, CDHE developed [The Roadmap to Containing College Costs and Making College Affordable](#).³⁸ The roadmap identifies that for the state to meet its workforce needs, all Coloradans must have access to affordable postsecondary education. Aligned with CDHE's Master Plan, the four goals outlined in the roadmap are: 1) increase credential completion; 2) ease equity gaps; 3) improve student success; and 4) commit to affordability and innovation. Strategies include identifying and counting quality credentials of value (e.g., NSC policy academy), restructuring degree programs to include work-based learning experiences and awarding credit for prior work and learning experiences, expanding student eligibility for financial assistance programs ([HB 19-1196](#)), and innovating and changing how higher education is delivered (e.g., unbundling degrees, stackable credentials, industry partnerships). Many of these strategies embody learning through work and attempt to elevate those opportunities across Colorado.

In the spring of 2020, the [Colorado Opportunity Scholarship Initiative \(COSI\)](#) awarded additional grants to support COVID-19 displaced workers. The two-year grants began in July 2020 with an annual award of approximately \$75,000. The funds must be used to hire or modify an existing position to provide programming/services in specific focus areas that will support students in accessing higher education, successful persistence, completion, and transitioning to the workforce.

Each grant sets specific goals within the two-year timeline (2020-2022), including:

- Enrollment - Targeted enrollment of displaced workers.
- Persistence - Continued enrollment each semester.
- Completion - 150 credential or degree completions within the two-year grant timeline.

The grant requires applicants to prioritize new or re-engaged students who have lost their jobs due to COVID-19. The students must enroll and complete, within the grant term, a certification or degree program that aligns with Colorado Top Jobs.

Prior to the displaced worker support, COSI awarded six grants in spring 2020. The two-year grants will each support 900 credential or degree completions in total. In the first five years, \$47 million has been awarded (leveraging \$28 million in additional local and private dollars) to serve more than 75,000 students across its programs. Internal studies using the latest available data (2018-2019) show most COSI students enrolled in the Community Partner Program Grant (CPP) program persist at rates up to 19% higher than their peers from similar socioeconomic and ethnic backgrounds. Also, as of spring 2019, 1,869 students supported by COSI community partner programs had completed a postsecondary degree.

The Equity Champions Coalition (ECC)

The Equity Champions Coalition (ECC) was formed to advance statewide policy and inform higher education support and services for Colorado's most vulnerable students aimed at removing educational completion gaps in the state by race, ethnicity, and income. The ECC is producing a report based on data, research, and a needs assessment that will be released in early December 2020. The report includes:

- A vision framework, identifying an equitable education system and what it includes
- Principles of a world-class education system to help achieve that vision
- Practical improvement strategies that align to these principles as a guide to ongoing activities over the time period of the coalition
- Measures of success and accountability structures to promote enrollment, persistence, completion against equity gaps

The ECC will work alongside CDHE to guide the implementation of high-impact strategies across institutions, collaborate on best practices, collect and analyze data, and identify necessary work to continue to close gaps.

Early Childhood Education

Governor Polis' Bold Goals include a priority to ensure that all Coloradans have access to opportunities for quality, life-long education connected to the future of work. One aspect of that priority is to increase the net recruitment of new early childhood professionals qualified to educate children from birth to age five from 23,700 to 24,300 in fiscal year 2020-2021. Successful completion of this goal will support Colorado's economy on several levels over multiple generations.

Expanding the state's early childhood workforce will help ensure that families have the child care they need for when they are working or in training or education. It will also increase job opportunities for people seeking careers in early childhood care and education and support the future workforce by providing young children with job skills through quality early learning experiences.

Leading indicators for this goal include:

- Increasing the number of individuals earning an early childhood educator credential by about 15%
- Increasing the number of people with an endorsement in an early childhood education-related area by 2%
- Increasing the number of individuals enrolled in a program to qualify for an early childhood licensure endorsement by 50

Early Credential Completion

Dual enrollment programs (i.e., Concurrent Enrollment, P-TECH, ASCENT) help merge education and industry and fast track credential completion for high school students at no cost for the student.

According to the joint [Pathway to Affordability: Annual Report on Concurrent Enrollment in Colorado](#) produced by CDE and CDHE, 50,416 students took at least one dual enrollment course during the 2018-2019 academic year, a 9.2% increase from the previous academic year. Concurrent Enrollment (CE) is the most utilized dual enrollment program in Colorado, with 34,519 students enrolled (68.5% of dual enrollment participants).

More students of color took advantage of CE classes in the 2018-19 academic year. CE participation grew by 15% among African American and Black students, 12.1% among Hispanic and Latinx students, 11.3% among Asian students, and 10.5% among students who identify as more than one race or ethnicity.

Through CE or Accelerating Students Through Concurrent Enrollment (ASCENT) programs, 3,116 students earned some type of postsecondary credential while in high school, a 13% increase over the last year.³⁹

Early credential completion is an avenue through which students can attain postsecondary credentials earlier and cheaper, thus resulting in tuition savings and possibly expediting their entry into the workforce.

Recent research supported by the U.S. Department of Education's Institute of Education Sciences and the Colorado Evaluation and Action Lab show that while controlling for several factors (e.g., 9th grade test scores, free or reduced lunch eligibility, race/ethnicity, gender, English language learner status), students who attempted one or more Concurrent Enrollment credits in high school were more likely to continue to college within one year following high school graduation (77%) than those who did not (52%). Findings reveal those who took Concurrent Enrollment and continued to postsecondary education were significantly more likely to earn a two-year degree within two years of graduating from high school (13% vs. 5%), a four-year degree within four years (26% vs. 16%), and a four-year degree within three years (1.6% to 0.5%) compared to students who did not participate.⁴⁰

Colorado's Concurrent Enrollment students had higher workforce earnings after five years (\$15,767.45 vs. \$14,377.98) than those who did not take college courses in high school. Concurrent Enrollment improved the odds of college entrance, success, and earnings by similar amounts regardless of student income, ethnicity, gender, or 9th grade reading test scores.

Career Development Incentive Program (CDIP)

One way for high school students to gain career competencies is to obtain an industry-recognized credential. The [Career Development Incentive Program \(CDIP\)](#) provides financial incentives for school districts to promote students in grades 9-12 to complete qualified industry-recognized credentials (e.g., internships, residencies, pre-apprenticeship or apprenticeship, Advanced Placement courses). Participating districts or charter schools can receive up to \$1,000 for each student who completes one of the qualified programs successfully. For a list of approved industry-recognized credentials, see [Appendix G](#).

In the 2019-2020 school year there were 53 participating school districts, over 8,900 credentials reported, and \$4.2 million dollars that will be funded. Completing industry-recognized credentials while still in high school helps students save money on education and training post high school and helps them transition into the workforce.

BLURRING THE LINES: CAREER PATHWAYS AND WORK-BASED LEARNING

Career Pathways

Each year in accordance with Colorado HB 15-1274, the CWDC and a coalition of partners from industry, education, training, and state agencies, including the Colorado Community College System (CCCS), work to develop career pathways for in-demand Colorado industries. These pathways expose students and job seekers to careers that are critical within Colorado. Providing knowledge such as job demand, growth over 10 years, salary, and skills necessary allows Coloradans to make long-term career decisions. The 2019-2020 pathway development focused on the behavioral health industry, yielding pathways for counseling, therapy, and social work, psychology and psychiatry, and psychiatric nursing. Pathways are published on [My Colorado Journey](#). See [Appendix H](#) for the 2019-2020 Career Pathways Annual Report.

Transportation: 2020-2021 Sector Development

The CWDC selected transportation as the next industry to undergo career pathway development. In 2020, transportation started in the sector development phase, which invests in the sector to strengthen the capacity to lead and grow the network of regional sector partnerships within the industry. Sector development includes local industry engagement, statewide trade associations, and identifying other shared tables. Sector development is about investing in the sector and strengthening its capacity to lead efforts to address its talent shortages. Currently, there is one transportation sector partnership in Colorado.

Energy: 2020-2021 Career Pathways Systems Development

This year, the energy industry is moving from sector development to career pathway systems development. By June 30, 2021, the career pathways project team will take the work of the sector and integrate it into the development of data sets, career pathway maps, and education, training, and work-based learning opportunities currently available and publish those findings on My Colorado Journey.

Work-based Learning

As Colorado's labor market is evolving and becoming more dependent on more diverse groups, it is imperative that students and job seekers are engaging in learning experiences to help them develop the skills necessary to fill the talent pipeline with qualified individuals. The [Work-based Learning \(WBL\) Continuum](#) categorizes different work-based learning experiences and programs into a spectrum starting with education-coordinated activities (e.g., career counseling) through business-led activities such as apprenticeships. This approach helps education and training systems partner with business to ensure students have appropriate career exposure and develop valuable skills before entering the labor force.

Additionally, providing various pathways into the labor force allows students and job seekers to choose a path that best fits their current life circumstances. With an emphasis on the equitable hiring practice of skills-based job descriptions becoming more prominent, work-based learning is a strategy that clearly communicates those skills needed and skills acquired through education and training.

Work-based learning strategies (e.g., career exposure, apprenticeships) are highlighted in the CWDC's [Talent Equity Agenda](#) (discussed in the Equity section of this report). The agenda makes the case for targeting resources, raising awareness, and accelerating shared strategies to close racial economic disparities in the state and measuring results.

“Changing racial disparities in employment and wage outcomes starts with strengthening the foundation of how effectively Coloradans are exposed to careers and plan their career trajectories. Career exposure and planning is critical for students as they explore colleges and other training opportunities, and it is also a need for adults -- those who are both unemployed and those who are currently in the workforce looking to move up.” — Colorado Talent Equity Agenda²⁷

The Colorado Department of Education Office of Postsecondary and Workforce Readiness, in collaboration with the CWDC, launched a [Work-Based Learning Incubator](#) that takes place from September 2020 through June 2021. This incubator is designed to support the development of work-based learning programs in Colorado schools and districts and share resources and promising practices with K-12 educators. The incubator provides two experiences: 1) a monthly interactive webinar series; and 2) a community of practice.

The Colorado Department of Higher Education (CDHE) endeavors to partner with businesses and institutions in a meaningful, sustainable way to include a work-based learning experience in every program. The goal is to scale this expectation in a way that is feasible for industry to actively engage.

Learning About Work

Two examples of learning about work in Colorado are *Curls on the Block* and *Spark Mindset*. Both programs provide hands-on learning and career exposure in the science, technology, engineering, art, and mathematics (STEAM) fields.

Curls on the Block is an enrichment program for girls of all curls and colors to embrace, explore, and empower their natural selves while working to increase engagement, investment, and commitment to careers in STEAM. One session *Curls on the Block* facilitates for participants to make STEM relatable is making flaxseed hair gel while highlighting the benefits of flaxseed, the scientific method to create their own gel, and how to use it. Considering how to provide access in lieu of COVID-19, *Curls on the Block* adapted and created both online courses as well as *Curly Activity Kits* for hands-on experiences. The courses can be found at curlsontheblock.com.

[Spark Mindset](#) offers exposure to cybersecurity for middle and high school students—particularly kids of color and girls—by providing opportunities to engage with cybersecurity professionals and credentials in the field of cybersecurity. The program creates opportunities for economic mobility by increasing the number of kids of color and girls who find their way into a predominantly white and male-dominated rapidly growing tech field.

Spark Mindset uses both asynchronous and synchronous learning to prepare middle school students for the high school cybersecurity program's prerequisites, and prepare high school students for the CompTIA Network+

and Security+ certification. In the beginning, the focus is teaching students how to learn and connect in an online environment, building their essential skills.

Learning Through Work

As a state, we must broaden the spectrum of higher education opportunities. This involves multiple strategies including internships and upskilling.

Innovative Industries Internships (III) Program | HB 15-1230

The Innovative Industries Internship program was implemented in 2016 through the end of the state fiscal year 2020. This internship program's purpose is to incentivize businesses in innovative industries to utilize work-based learning efforts. The program provided extensive technical assistance, and employers worked directly with the state program coordinator. The innovative industries include:

- Advanced Manufacturing
- Aerospace
- Bioscience
- Construction
- Electronics
- Energy & Natural Resources
- Engineering
- Information Technology

The program officially ended on June 30, 2020, due to budgetary constraints. The final cycle of the program was cut short and the students were impacted by business and school closures due to the COVID-19 pandemic. The final report (fiscal year 2019-2020) reported the following cumulative outcomes for the program since its implementation (program year 2016-2019):

- 588 internship spots approved
- 537 interns approved
- 484 internships were completed
- 491 businesses participated in the program
 - 400 with under 100 employees
 - 91 with over 100 employees
- The average hourly wage of interns was \$15.68
- 129 interns were hired as a result of the internships

See [Appendix I](#) for the FY 2019-2020 full report.

Learning at Work

Apprenticeships

Colorado has a growing menu of apprenticeship opportunities. Since 2016, CDLE has been [expanding registered apprenticeships](#) to support talent development.

CDLE has partnered with Arapahoe/Douglas Works! to establish an Apprenticeship Hub as part of a broader equity and talent development strategy. The Apprenticeship Hub, funded by the Apprenticeship State Expansion (ASE) and Building Registered Apprenticeship Capacity grants, supports industry by:

- Housing two statewide apprenticeship consultants to walk employers through designing a program and registering with the U.S. Department of Labor
- Streamlining workforce grant administration to support apprentices statewide
- Fostering regional recruitment efforts, removing barriers of 'workforce service area'

In addition to the USDOL registered apprenticeships (see CDLE's [Colorado Registered Apprenticeship Programs Directory](#)), and CareerWise Colorado modern youth apprenticeships, the USDOL recently authorized

[Industry Recognized Apprenticeship Programs](#), which expands authorizing bodies for apprenticeships to support their growth in non-traditional industries. Also new to the apprenticeship ecosystem is the [Colorado Collegiate Apprenticeship Program](#) that is focused on creating a streamlined, efficient, and direct pipeline of trained, qualified talent while working to reimagine modern efficiencies in higher education.

The [Colorado Healthcare Experiential Pathways to Success \(CO-HELPS\) program](#) aims to create 5,000 adult healthcare apprenticeships and pre-apprenticeships between July 2019 and July 2023. In partnership with CDHE, CDLE, and CWDC, CCCS colleges, Emily Griffith Technical College, Aims Community College, and Colorado State University will work with business and industry to design a curriculum that meets the needs of today's growing healthcare system. Initial industry partners include Centura Health, Colorado Rural Health Center, HealthONE, Kaiser Permanente, National Healthcareer Association, and UCHHealth.

The [CO-TECH IT and Cybersecurity apprenticeship program](#) will make high-wage, high-demand IT occupations accessible to 1,600 adults statewide, regardless of previous education, by primarily investing grant funds in program development, launch, implementation, and scaling.

SPOTLIGHT

CAÑON CITY COLLEGIATE NURSING APPRENTICESHIP

Pueblo Community College (PCC) is partnering with the Colorado Center for Nursing Excellence in launching a federally registered nurse residency apprenticeship program, the first in Colorado. The 12-month program is designed to provide the nurse resident with an opportunity to transition into the role of a professional nurse under the guidance and support of a preceptor, nurse educators, and program facilitators. The entire program is built for online delivery.

The program will support newly hired graduate nurses as they transition to their first professional nursing position. Residency programs focus on building critical thinking and decision-making skills, reducing burnout, developing clinical leadership, and incorporating research into nursing practice by utilizing evidence-based best practice information.

The model will have a rolling admission, which means a newly licensed graduate nurse can be enrolled by their participating employer at any given time.

Many of PCC's facilities and practices are small rural hospitals that cannot provide a 12-month residency program due to a lack of resources, funding, and support. The program's mission is to provide a professional and affordable onboarding experience for newly licensed nurses that will give them a foundation of support and education and a desire to make nursing a lifelong commitment to excellent patient care within their communities.



04

WORKFORCE RESPONSE AND RETURN ON INVESTMENT

COVID-19 RESPONSE

Since the onset of the pandemic CDLE and the workforce system across the state has been hard at work to help job seekers and employers, address the ever-changing policies and resources, and manage the massive influx of unemployment insurance claims associated with a previously unknown virus that disrupted most of the workforce. Communication, information, and awareness have been vital throughout the progression of this pandemic. As a result, dashboards, websites, and committees have been developed in an attempt to centralize and distribute information and resources in easily accessible places.

Multiple dashboards have been created to help track COVID-19 cases throughout the state. The Colorado Department of Public Health and Environment (CDPHE) and the Colorado State Emergency Operations Center (CSEOP) provide the [Colorado COVID-19 Data](#) dashboard that visualizes cases, demographics, and hospital data and is updated daily. Another resource is the Colorado State Demography Office's [COVID-19 Map Series](#) that geographically visualizes COVID-19 cases, impacted job sectors, the social vulnerability index, unemployment claims, group quarters and hospitals, and traffic counts throughout Colorado.

Another result of the COVID-19 pandemic is [SB20-205: Sick Leave for Employees](#) that was signed into law by Governor Polis in July. The bill requires all employers in the state, regardless of size, to provide each of their employees paid sick leave for reasons related to the pandemic through Dec. 31, 2020. Employers will be required to provide paid sick leave starting Jan. 1, 2020, for employers of 16 or more employees, and Jan. 1, 2022, for all employers. This act gives groups of people who have never had paid sick leave before (e.g., servers, retail salespersons) the benefit of staying home while sick, caring for a family member, or obtaining preventative medical care, in part aiding in preventing any unnecessary spread of illness and setting a new precedent of employee benefits that had previously not been available.

Governor's Council on Economic Stabilization and Growth (CESG)

The mission of the [Governor's Council on Economic Stabilization and Growth](#) was to bring together industry experts from the private sector, organizations representing workings across the state, and public sector elected officials and leaders to develop strategies to put people back to work and get Colorado's economy moving again. The council identified a three-phased plan for economic recovery: 1) relief, 2) restart, and 3) recovery.

Relief efforts included advocacy for federal relief and ease of restrictions; promotion of business resources; support for small businesses, nonprofits, and independent contractors; and providing guidance to local governments and businesses. Restart efforts included the ease of executive regulations, the clarification of executive orders and provided guidance, examined core industry impact, and assistance with business recovery planning. The recovery phase aimed to provide one-on-one business consulting, workshops, training, and public/private financial support, provide COVID-19 testing, and boost telecommunications initiatives.

Although the council is no longer ongoing, they also considered budget stabilization, revenue impacts, impacts on Colorado's core industries, global supply chains, and tax policy.

AUXILIARY SERVICES TO SUPPORT THE PURSUIT OF EDUCATION AND TRAINING

Giving people the resources to achieve their own success is necessary when thinking about how to upskill and educate Coloradans. COVID-19 has amplified challenges such as child care, transportation, illness or injury, and job loss. Services that provide behavioral health resources, child care, and financial assistance and reduce educational barriers will help Coloradans navigate through the uncertain future.

Workforce Innovation Opportunity Act (WIOA): Title I Programs

The federal Workforce Innovation Opportunity Act (WIOA) funds programs that provide employment services, education, and training to re-enter the workforce. These programs focus on employment and reemployment services for youth and adults who have not been in the labor force, are unemployed, underemployed, special populations, veterans, incumbent workers, and those in the gig economy. These programs are delivered through county- and state-run workforce centers as well as other locations. WIOA also funds supportive services to enable individuals to persist in education and training programs.

However, as federal workforce funding has been cut steadily over the last decade, it has become increasingly difficult to support large numbers of job seekers through this program. Colorado's WIOA funding has declined more than 30% in the last five years alone.

Collectively, these programs deliver robust services for individuals most in need of support to obtain training, complete their high school equivalency degree, or discover how disability and work can co-exist. Specifically, 313,370 job seekers utilized the public workforce system in 2019, 63.2% of job seekers were successfully employed, and 64.5% successfully retained employment one year later. In addition to job seekers, in 2019, 9,045 businesses were served by the public workforce system and 441,647 jobs were posted. In 2018, over \$435 million in wages were returned to the economy from Wagner-Peyser registrants.

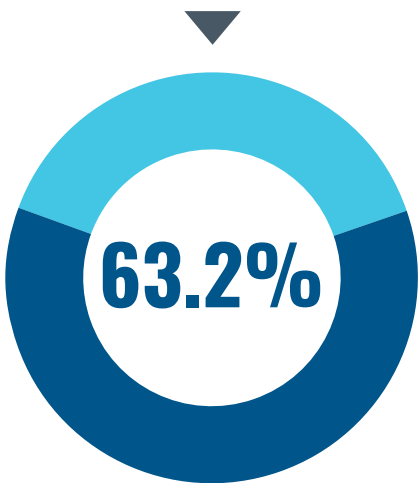
[Appendix J](#) is the full annual report for activities under WIOA during PY 2019. The snapshot on the following page highlights the results of services delivered under Titles I and III of the Act calculated by the Colorado Workforce Intelligence Data Experts (WIDE).

IN COLORADO



313,370

JOB SEEKERS
UTILIZED THE PUBLIC
WORKFORCE SYSTEM
IN PY2019



OF JOB SEEKERS WERE
SUCCESSFULLY EMPLOYED

with **64.5%** successfully
retaining employment
one year later

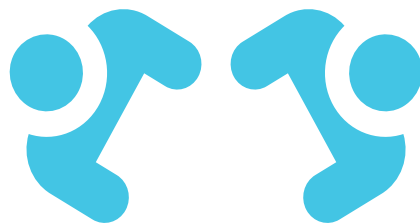
9,045
BUSINESSES

WERE SERVED BY THE PUBLIC
WORKFORCE SYSTEM IN PY2019

441,647 JOBS POSTED



\$453,333,190
IN WAGES RETURNED
TO THE ECONOMY



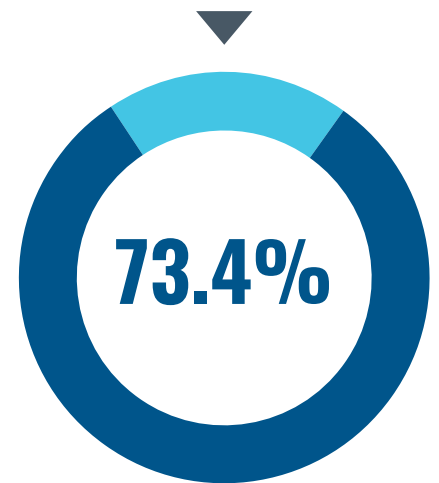
70,835

job seekers received
in-person services through
our statewide network of
workforce centers, such
as resume assistance and
interview skills in PY2019



5,078

INDIVIDUALS WERE
ENROLLED IN MORE
EXTENSIVE TRAINING
PROGRAMS



OF THOSE INDIVIDUALS WERE
SUCCESSFULLY EMPLOYED

with **75.1%** successfully
retaining employment
one year later

A low-angle, upward-looking photograph of several modern skyscrapers. The buildings are constructed with glass and steel, with their facades reflecting the sky and each other. The perspective creates a sense of height and scale. The sky is a clear, vibrant blue, dotted with soft, white clouds. The overall composition is clean and professional, typical of a corporate or architectural presentation.

05

RECOMMENDATIONS

Instead of preparing for the future of work, we are adapting to the future of work that the COVID-19 pandemic has accelerated. As a state, we need to ensure “all boats rise” and provide equitable strategies that fit different circumstances. With record-high unemployment rates and a novel virus whose progression is unpredictable at this point, we must focus on our talent pipeline in order to facilitate an equitable economic recovery that creates more opportunity for prosperity throughout the state.

SUMMARY OF 2019 RECOMMENDATIONS

In the 2019 Talent Pipeline Report, nine strategies were recommended to achieve three priorities:

Priority 1. Enhance access to opportunities for quality, lifelong education connected to the future of work.

Priority 2. Focus resources on enhancing strategies that have already demonstrated results and effectiveness.

Priority 3. Foster an economy that works for everyone.

The budget realities of the 2020 legislative session resulted in two bills passing directly related to these priorities, HB 20-1002 and HB 20-1396. Implementation of these statutes is underway and will be a component of recovery activities moving forward.

[HB 20-1002: College Credit for Work Experience](#) was signed into law by Governor Polis in July 2020. The act requires CDHE to conduct a study concerning awarding academic credit for prior learning within all state institutions of higher education. Implementation plans for determining and awarding academic credit for postsecondary education based on work-related experience will be developed by an existing council within the department.

[HB 20-1396: CWDC Implementation of an Online Career Platform](#) requires CWDC in collaboration with CDHE, CDLE, and CDHS, to implement and maintain a free online platform to provide Coloradans with personalized information to assist them in making career and education planning decisions.

2020 RECOMMENDATIONS

As we enter the 2021 legislative session, state agencies and affiliates of the TalentFOUND network recognize that state funding levels remain below prior levels and that difficult decisions must be made to invest in the most critical programs with the best opportunity for return to the state. Therefore, the recommendations in this year's report look beyond state policy opportunities and outline what is possible to facilitate economic advancements in the coming year, and we are pleased to introduce this plan to the state. This is a collective action plan, developed jointly by state agencies to build upon existing strategies and work in close alignment across sectors to strengthen Colorado.

CO POWER '21

Colorado's Plan for Workforce and Economic Recovery in 2021

Colorado must focus on its talent pipeline in order to facilitate an equitable economic recovery that creates more opportunity for prosperity throughout the state. This collection of strategies, investments, and policy recommendations formulates a bold response to the COVID-19 pandemic that will stimulate growth by stabilizing, accelerating, and preparing all segments of the labor force for the immediate and long-term future.

Each of these actions must be pursued with an intentional and focused approach on equity that examines who benefits and who is left behind by existing structures so that state-supported education, training, and business stabilization programs can provide the foundation for an equitable recovery.

CO POWER '21 is both an action plan and a vision. Execution of these concepts is already underway through existing resources and programming, deploying a combination of state, federal, and private funding. To the extent that additional financial investments in stimulating the economy and promoting recovery become available, this plan presents strategies that are ready to scale quickly and efficiently.

Equity in the Talent Pipeline

In order for Colorado's economy to work for everyone in our state, approaches to education, hiring, and advancement must be re-envisioned. Training and technical assistance for businesses and organizations are being launched to implement the [Talent Equity Agenda](#),²⁵ and resources are available that can guide the design and implementation of programs and initiatives so that they maximize equitable opportunity.

Stabilize

Existing programs and available jobs can be leveraged to mitigate worker displacement in the short-term by using data to identify trends, expose individuals to the best information on career pathways, and invest in what works.

Colorado's existing suite of labor market information tools can be further enhanced by investing in localized forecasting data platforms such as EMSI's Profile Analytics and Skill Shapes and Dunn and Bradstreet, as well as Working Metrics that can identify and benchmark factors of job quality.

As data are obtained, continued investment in providing information to individuals that is consumable and accessible is critical to allow for informed choices by Coloradans. Finally, in order to fully analyze the evidence about existing programs, investments in connections across data sources (e.g., data trusts) are necessary so that accurate conclusions can be drawn and transformative policy decisions can be made.

Accelerate

The TalentFOUND network has a robust infrastructure in place for training and connecting individuals to in-demand jobs and career pathways. The response time to put Coloradans back to work can be advanced through a variety of programs that provide job training with critical wraparound supports and career coaching. Programs and strategies that have demonstrated results include internships, apprenticeships, and supportive services.

Additional investments can enhance growth by incentivizing changes in hiring practices, providing more training funds for local networks to distribute, and streamlining registration and oversight processes through state structures. The existing concepts that have been developed, are in many cases field-tested, and are ready for rapid scale as investments include:

- Dislocated Worker Grants - COResponds and RecoverCO - totaling \$10.6 million
- Work-based learning, including State Apprenticeship Expansion, accelerating grants and incentives, and the Colorado Collegiate Apprenticeship Program
- Rapid Response services for companies laying off workers
- Governor's Coaching Corps
- Skill Advance grants
- Skillful Talent Series training program
- Wraparound support services, such as HB 19-1107

Prepare

As Colorado responds to the immediate talent crisis brought about by COVID-19, we must continue to enhance the mechanisms that will upskill and reskill individuals for the future of work.

Investments and policy that reduce barriers or incentivize participation in these areas will ensure that all Coloradans are equipped to succeed in the emerging economy.

- Affordability of postsecondary education through the identified strategies in the CDHE Master Plan and the Roadmap of Containing College Costs and Making College Affordable.
- Expansion of early childhood education, with emphasis on facility creation within communities and businesses and developing the pipeline of workers.
- Increasing digital access through the Office of the Future of Work's plan to enhance digital literacy and close the divide, which also requires scaling access to broadband.
- Growing Concurrent Enrollment by enabling access for all school districts in the state.
- Credentialing, by completing a state definition and inventory of quality non-degree credentials and promoting the acquisition of those to individuals in both the K-12 and postsecondary education environments.
- Completion, by connecting individuals with some college credit but no degree to the resources necessary to return to education programs.

With an intentional focus on equity, this three-phased approach to stabilize, accelerate, and prepare Colorado's talent pipeline is already underway. It will only be realized through the alignment of agency strategic plans and effective development of partnerships within and across sectors in all areas of our state. **Together, we can emerge from our current economic state with a better Colorado and a future with more opportunity and prosperity for all Coloradans.**



06

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APPENDICES



Appendix A: [Talent Pipeline Policy Success](#)

Appendix B: [Colorado Top Jobs](#)

Appendix C: [Colorado Top Jobs by Region](#)

Appendix D: [2020 Sector Strategies Update](#)

Appendix E: [HB 15-1170 PWR Coordinator Update](#)

Appendix F: [WORK Act Annual Report: FY 2019-2020](#)

Appendix G: [Career Development Incentive Program \(CDIP\) List of Approved Programs – HB 16-1289](#)

Appendix H: [2019-2020 Career Pathways Annual Report – HB 15-1274](#)

Appendix I: [Innovative Industries Internship Program Annual Report: FY 2019-2020](#)

Appendix J: [PY19 WIOA Annual Report](#)

Appendix K: [Colorado Job Demand Visualization](#)

To view the 2020 appendices, visit cfdc.colorado.gov/2020-tpr-appendices

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