THE OFFICE OF THE FUTURE OF WORK

2023 ANNUAL REPORT

DECEMBER 2023

CDLE

The Office of the
Future of Work

The Office of the Future of Work (OFW) was established through Executive Order B-2019-009 and codified through SB23-051 to raise awareness and identify policy and program solutions that prepare all Coloradans for the future of work. The OFW's vision is a future where all Coloradan workers have access to education and skill training that is connected to meaningful and sustainable employment.

Please note that the State operates on a fiscal year that begins July 1st of each year. While this report primarily focuses on the calendar year (January 2023 - December 2023), some of the information and data included in this report may be more reflective of the fiscal year calendars (July 2022 - June 2023, July 2023 - June 2024).

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INTRODUCTION

As a result of globalization, technological advances, market forces, and demographic shifts the world of work is changing at a rapid pace, leaving many wondering if we are ready to face the transformations tomorrow's economy will bring. That's why the Office of the Future of Work (OFW) was created by an [Executive Order from Governor Jared Polis](#) on September 4, 2019 and codified into law in March 2023 through [SB23-051: Conforming Workforce Development Statutes](#). Housed within the Colorado Department of Labor and Employment (CDLE), the OFW serves as the central point of contact for the State's effort to understand, prepare for, and develop effective policy and programmatic solutions to respond to the changing economy and raise awareness about the future of work. The OFW, led by the CDLE executive director, must submit a report to the Governor with recommendations for potential policy initiatives at least once per calendar year. The OFW's vision is a future where all Coloradan workers have access to meaningful and sustainable employment.

This fourth annual report provides an update on the future of work trends explored in its previous reports. It then provides an update on the OFW activities and an overview of the policy and programmatic priorities in the next year.

Definition of **Future of Work**

The future of work refers to the impact of globalization, market forces, technological advances, and demographic shifts on the work we do and how we do it.

FORCES SHAPING THE FUTURE OF WORK

The OFW works to understand the impact of globalization, market forces, technological advances and demographic shifts, and identify policy and program solutions that mitigate their negative impact on the economy. In this section we'll provide an update on the impact of these forces; highlight related reports, datasets, and resources to dive deeper into each; and finish with the guiding questions for the OFW's work based on these trends.

DEMOGRAPHIC SHIFTS

The future of work in Colorado cannot be separated from its future workforce. Three overarching trends continue to shape Colorado's labor force. First, Colorado's rapidly aging population[1] who are retiring at high rates and, if they seek work, face barriers like age discrimination and bias in hiring.[2] In the United States, by 2034, people 65 and older will outnumber those younger than 18; already one in three workers is at least 50 years old.

» Explore data on older workers from AARP

» View A Playbook for the Inclusive Hiring of Later-Career Workers from The Burning Glass Institute

Younger people of color make up the fastest growing portion of Colorado's labor force, and are entering workforce development, education systems, and employment systems that historically result in inequitable outcomes.[3]

» Explore the Diverging employment pathways among young adults report from The Brookings Institution

Declining birth rate and lower labor force participation require new strategies from employers and workforce development to connect with previously untapped talent pools who have or can learn the skills they need.[4]

» Explore the Hidden Workers: Untapped Talent report from Harvard Business School's Managing the Future of Work

» Explore Hidden Workers: Part-Time Potential report from Harvard Business School's Managing the Future of Work

Additional, in depth data surrounding these demographic shifts were covered in our previous annual reports, are updated in the 2023 Colorado Talent Pipeline Report's section on Supply, and can be found on the Colorado Talent Dashboard. Workforce development programs can use these trends to better design and engage different populations and connect them into quality employment.

GLOBALIZATION & MARKET FORCES

Globalization is generally used to describe the increasing internationalization of markets for goods and services, the means of production and supply chains, financial systems, competition, corporations, technology and industries.[5] In 2023, DHL released the 2022 Global Connectedness Index which provides an overview of the flow of capital, people, information, and trade across the globe. Their data indicates that global flows have largely returned to pre-pandemic levels, with growth in e-commerce and information flows in particular. In Colorado, outsourcing as a result of globalization has specifically impacted the Legal Services and Supportive Services industries, reducing workforce challenges in those sectors.[6]

The growth rate of international internet traffic doubled in 2020 as in-person interactions were replaced by online activity, and it continued growing at 20% to 30% per year in 2021 and 2022. More than twice as much data crossed national borders in 2022 compared to 2019.[7]

Despite predictions that COVID-19 and increased regional conflict would result in increased regionalization of markets, data suggests this has not occurred for trade, capital, and information flows; however, the flow of people across regions has not accelerated at the same rate.[8] This speaks to a larger gap in globalization trends that is impacting workforce shortages: barriers to migration.[9] As Colorado's employers struggle to find talent, the state's Office of New Americans works to connect skilled New Americans with opportunities in quality jobs. As an example, the Global Talent Task Force was established to explore how the state might better leverage the skills of foreign-trained workers in order to address workforce shortages.

» Learn more about the Office of New Americans efforts in their 2023 Annual Report.

» Explore the DHL Global Connectedness Index and Country Profiles.

» Explore the Colorado Business Economic Outlook 2024 from the University of Colorado Boulder Leeds School of Business.

Market forces refer to the shifts in supply and demand, trade, and government priorities that impact the economy. One result of market forces since the 1980s, is the expansion of low-wage work which was exacerbated by the COVID-19 pandemic's outsized impact on people in low-wage jobs. In previous OFW reports, we used a Brookings Institution report that leveraged 2017 Census Data to map the scale of the low-wage workforce across the United States and Colorado metro areas. In 2023, WorkRise published new data that dives into the low wage workforce using the 2023 Annual Social and Economic Supplement of the U.S. Census Bureau's Current Population Survey. They found that about 30 million workers, or a quarter of the total labor force, aged 25-54 are in low wage jobs (making around $21.99/hour or $45,000 or less).[10]

Through this research, they found that:

» Women make up more than half of the low-wage workforce

» Black, Latinx, and Indigenous as well as younger workers are overrepresented among low wage workers

» 77 percent of the low-wage workers have a high school diploma or less

» Low-wage workers are more likely to work in service industries and industries that rely on manual labor

In Colorado, 24.9 percent of the workforce is in a low wage job, making less than $50,440/year. According to the MIT Living Wage Calculator, the living wage for a family of three with two adults—one working—and one child in Colorado is $58,885/year. Industries with the highest share of low-wage workers in Colorado include Agriculture, forestry, fishing, and hunting (51%), Accommodation and food services (48%), and Other services, except public administration (41%).

Explore the MIT Living Wage Calculator for Colorado

**Explore the Interactive Map of Low Wage Work from WorkRise**

Another trend resulting from market forces, is the increase in the independent or gig workforce. According to McKinsey's 2022 American Opportunity Survey, 36 percent of employed respondents (58 million Americans) identify as independent workers.[11] Meanwhile, the Upwork Research Institute's 2023 survey of freelance workers found that 38 percent (64 million) Americans performed freelance work in the last year.[12] Both reports found that younger people were more likely to participate in independent work. Additional research released this year suggests as many as 15 percent of all workers are independent contractors with many miscoded on standard household surveys that assess employment.[13] Young, less-educated, people of color, multiple job holders, and those with low hours are more likely to be in independent contractor roles.[14] Though we know this segment of the workforce is growing, there is a significant challenge in securing accurate data on size, makeup, and earnings of the independent contractor workforce at the national or state level. Without data or reach it is difficult to understand the nature of the independent workforce and build policies and programs to address their needs. In 2022, The Workers Lab and the Aspen Institute Future of Work Initiative launched the Gig Worker Learning Project to learn from gig workers about their experience in order to build a more robust data set for policymakers, organizations, and researchers to build upon.

» [Read the Gig Worker Learning Project Phase One Report from The Workers Lab](#)
» [Read What is the Gig Economy from McKinsey & Company](#)

As a result of these impacts, workforce development efforts should prioritize low-wage workers, unemployed workers, and workers in industries at risk of displacement to facilitate their transition to sustainable occupations. These efforts should include supportive services to remove barriers, data and coaching to guide career planning. Ongoing efforts to improve job quality for critical service occupations are necessary as well to reduce the number of low-wage positions in the labor market. Modernizing worker protections and benefits such as establishing more portable benefits would support low wage workers as well as individuals performing work as independent contractors.

» Explore the American Opportunity Index from the Burning Glass Institute which measures how well businesses maximize their internal talent to drive corporate performance and the growth of their employees.

» Explore What Works: Ten Education, Training, and Work-Based Pathway Changes That Lead to Good Jobs report from Georgetown University's Center on Education and the Workforce

» Explore STARs Insights: Insight and strategies to build an inclusive and sustainable workforce by recognizing the skills and potential of individuals Skilled Through Alternative Routes (STARs) from Opportunity at Work

» Explore the After Everything Projections of Jobs, Education, and Training Requirements through 2031 report from Georgetown University's Center on Education and the Workforce

» Explore the Workforce Almanac from the Harvard Kennedy School Project on Workforce which maps the workforce development sector across the U.S.
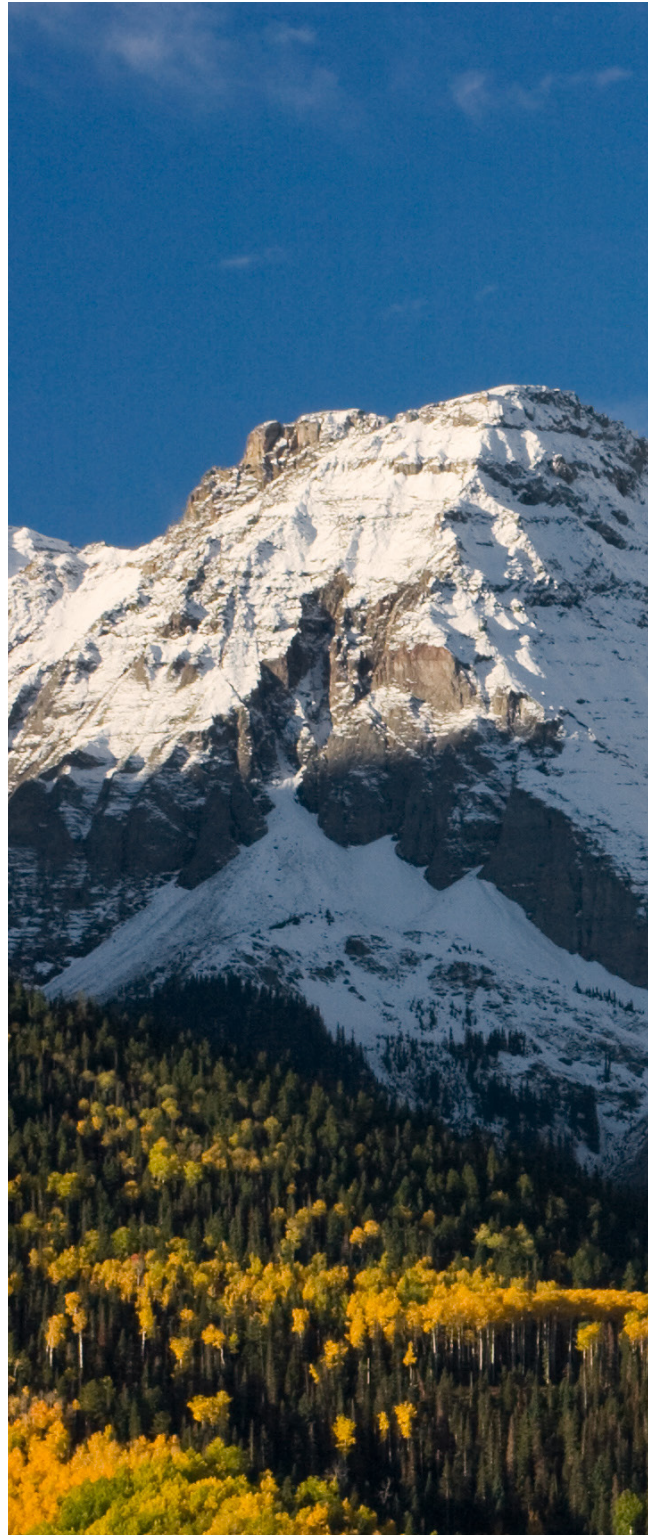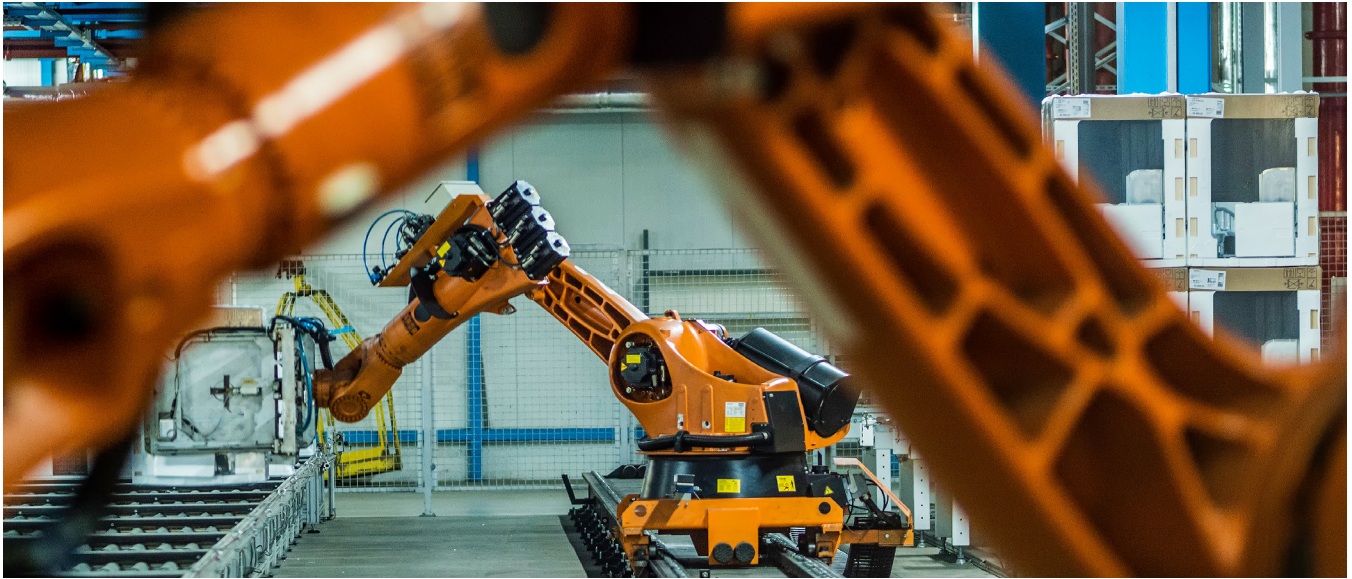
TECHNOLOGICAL ADVANCES

While there are numerous technologies shaping the future of work, the OFW focuses primarily on automation, artificial intelligence, and digitalization.

» **Automation** is the use of technology to reduce the level of human activity needed to complete a particular task by replacing or augmenting labor.[15]

» **Artificial intelligence** refers to computer systems that are able to perform tasks that normally require human intelligence such as visual perception and speech recognition, allowing for non-human decision making, process management, and analysis.[16]

  » **Generative AI**, like ChatGPT, describes algorithms that can be used to create new content, including audio, code, images, text, simulations, and videos.[17]

  » **Machine Learning** is a type of artificial intelligence. Through machine learning, practitioners develop artificial intelligence through models that can "learn" from data patterns without human direction.[18]

» **Digitalization** is the use of technologies to change or update business operational processes in order to optimize a variety of communication, management, design, and logistical tasks.[19]

With the introduction of OpenAI's ChatGPT in late 2022, conversations around AI adoption have increased significantly as more people are being exposed to advanced technology like this for the first time.[20] Throughout 2023, people across regions, industries, and seniority levels were already using generative AI tools.[21] As a result of AI, 80 percent of the U.S. workforce could have at least 10 percent of their work tasks affected; another study found that on average 30 percent of current work hours could be automated.[22] The reality is that AI is already and will continue to change the allocation of tasks among workers, with some studies finding that more than 12 million job transitions may occur by 2030.[23] Unlike automation, which impacted more "blue collar" workers, AI is expected to impact all industries and occupations. This crosscutting impact can be leveraged to support system-wide changes in how we teach, adopt, and build technology tools to maximize human potential in the workplace.

Figure 1

Share of respondents reporting that their organization is regularly using generative AI in given function, %[24]

Table alternative for Figure 1: Share of respondents reporting that their organization is regularly using generative AI in given function, %
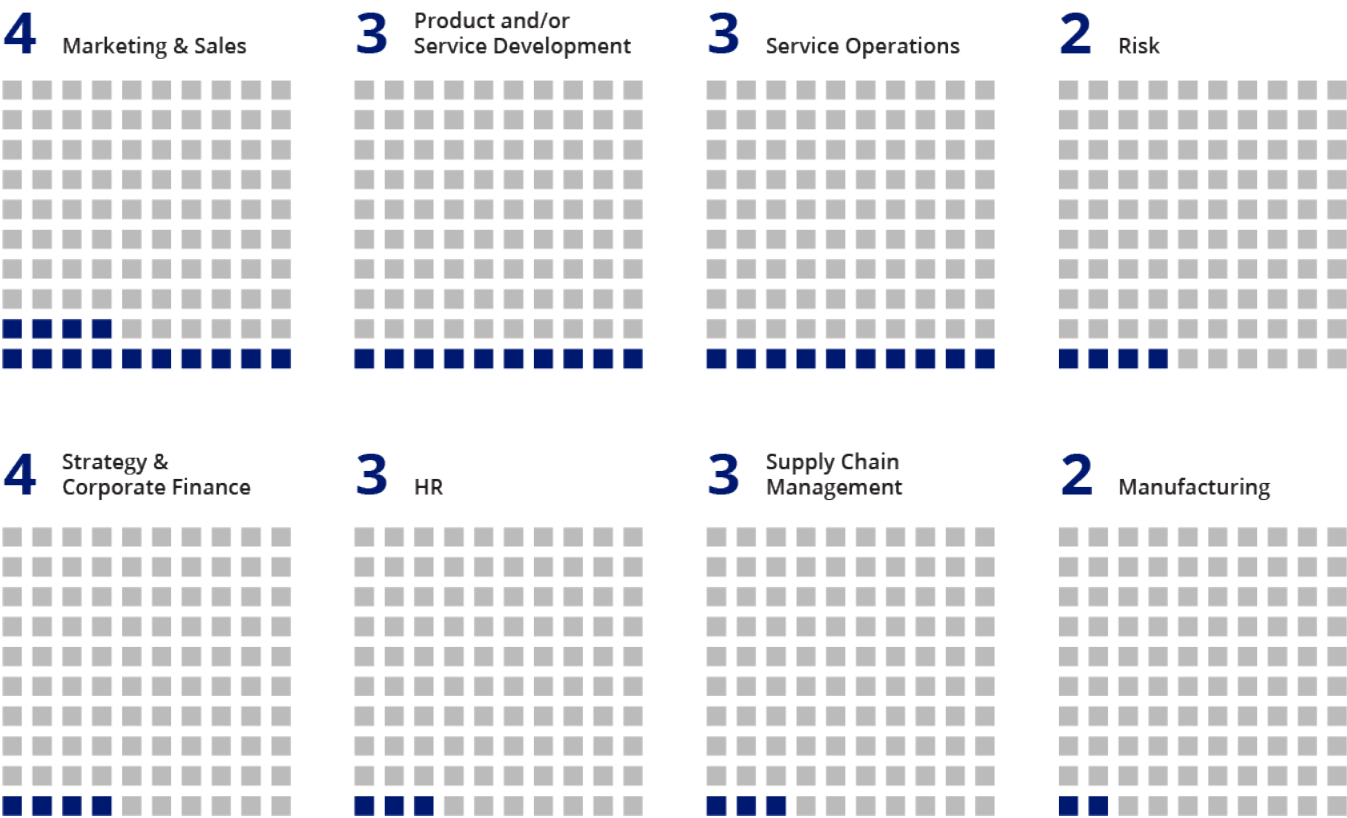
Beyond AI and automation, the demand for basic digital skills are high in almost every occupation including entry level and frontline occupations.[25] Workers that qualify for jobs that require even one digital skill can earn an average of 23 percent more than in a job requiring no digital skills and moving from a job requiring no digital skills to one requiring at least three can increase pay by an average of 45 percent.[26]

Figure 2

Amount of jobs that require digital skills [27]

Table alternative for Figure 2: Amount of jobs that require digital skills, %

8%
likely require
digital skills

45%
likely require
digital skills

47%
likely require
digital skills

ACROSS INDUSTRIES,
92%
OF JOBS REQUIRE
DIGITAL SKILLS
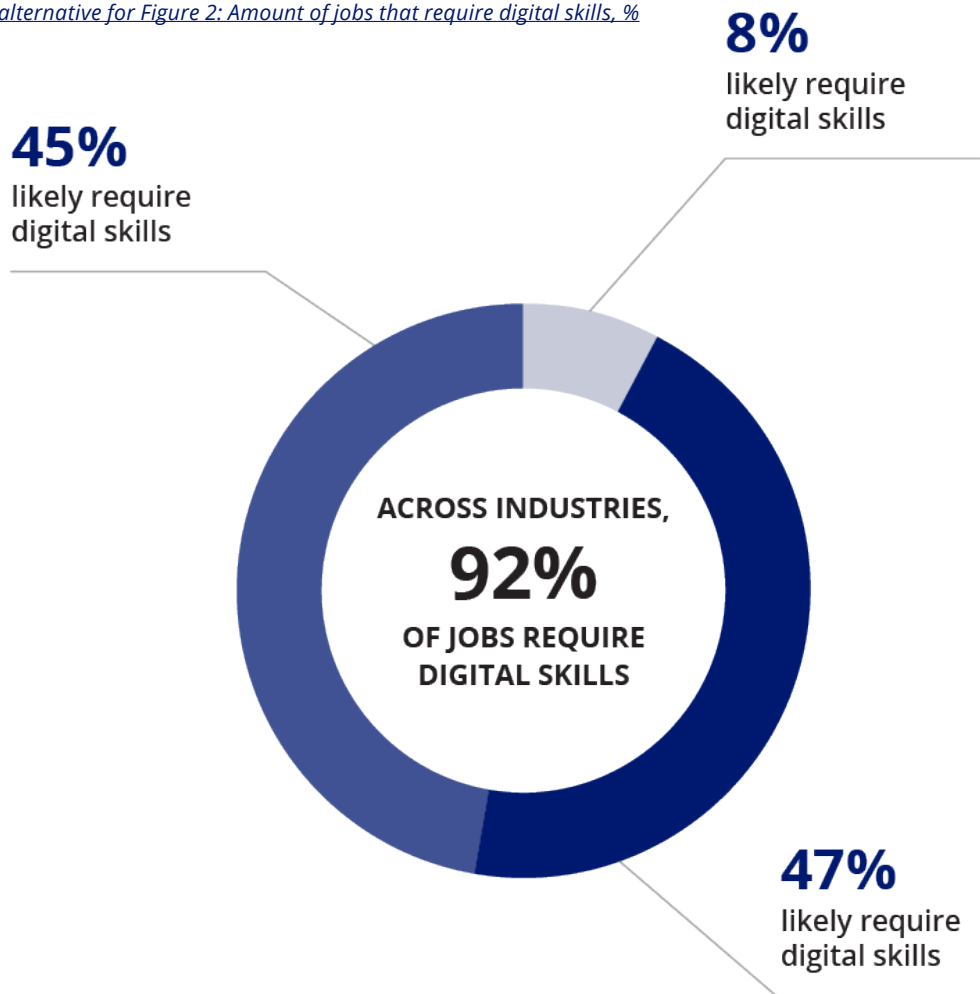
To address these rapid transformations, and create a path forward, The Center for Artificial Intelligence & The Future of Work at Jobs for the Future developed three tools. These include:

An AI-Ready Workforce Framework organizes skills/tasks that are part of many in-demand jobs by how AI may impact them.

An AI-Transformation Profiles looks at the importance of skills in addition to AI's impact when applied to specific in-demand industries and occupations. This allows for more targeted planning based on the specific roles.

A Readiness Blueprint which identifies recommendations and strategies for policymakers, employers, and training/education providers to prepare for these transitions.

The OFW will use these tools alongside the creation of the Digital Access Plan which assesses the digital divide in Colorado, to address the continuum of technological transformation in Colorado.

» Explore The AI-Ready Workforce tools from Jobs for the Future's (JFF) Center for Artificial Intelligence & the Future of Work

» Explore the What is AI? and the What is Generative AI? Explainers from McKinsey & Company.

» Read the November 2023 Future of Work Report: AI at Work from LinkedIn

» Read The state of AI in 2023: Generative AI's Breakout Year report from McKinsey & Company.

» Read the Closing the Digital Skill Divide report from the National Skills Coalition.

OFW'S GUIDING QUESTIONS

The OFW continues to refine its guiding questions as new research emerges. These questions shape the policies, programs, and research that the OFW conducts. In this updated list of five guiding questions for the work ahead, we have emphasized the importance of proactively preparing for transitions in skills, jobs, and industries as a result of technology.

1 How can we reduce the number of low-wage jobs in the economy, and make transitions from low-wage jobs to better pathways more viable?

2 How can we support workers, employers, and institutions leverage technology to its fullest potential?

3 How do we reach untapped talent pools and better connect them to quality training and employment? How can we better understand alternative work arrangements and their role in a modern worker's career?

4 How do we increase career-connected learning and access to high quality training for all workers?

5 How can we close the digital divide for all Coloradans so they can fully participate in a digital world?

OFW PURPOSE

Per SB23-051 which codified the Office, OFW's purpose is to:

» Identify opportunities for Colorado's communities to transition effectively to emerging industries and, where appropriate, consult with the just transition office and other state agencies to align such efforts.

» Ensure the inclusion of key stakeholders from all sectors and engage partnerships across public and private sectors, including industry, academia, employers, employees, nonprofit organizations, and government.

» Host, organize, and convene task forces, summits and other appropriate meetings with diverse stakeholders, designed to improve the state's understanding of the social and economic impacts of the changing nature of work.

» Explore ways that the state can prepare for current and future impacts, including through the modernization of worker benefits and protections, the development of a skilled and resilient workforce through coordination of Registered Apprenticeship Programs (RAPs) in Colorado, and the identification of new policy and program solutions.

» As funding allows, undertake studies, research, and factual reports to gather insight and to formulate and present recommendations to the governor, state agencies, and the general assembly related to issues of concern and importance to Colorado's future workforce.

OFW APPROACH

In order to achieve this purpose the OFW identified key areas of exploration based on the OFW's examination of the forces shaping the future of work as well as feedback from thought leaders, state agency partners, and stakeholders.

These areas, which are described in more detail on the OFW's website, are:

Modernizing Worker Protections and Benefits:

Worker protections and the social safety net need to be modernized to address the fissuring workplace, to ensure all types of workers are protected and have access to a living wage as work continues to evolve.

Transformation Preparation:

Disruption to workplaces and the economy will continue as the future of work forces reshape the nature of work. The OFW will build awareness of these transformations and equip workers, businesses, and communities across the state with tools and strategies to effectively understand what the future of work means for them and how to effectively prepare for transitions that the future brings.

Supporting Historically Excluded Populations:

The OFW works to understand the impact of the future of work on historically excluded populations, and realign government programs to better prepare them for success in the future of work.

These areas of exploration represent the overall efforts to guide the work of the OFW, while the specific projects of the OFW will fall within these areas. In addition to these overall areas of exploration the OFW defined three key considerations as part of its work:

Acknowledging regional diversity	Focusing on the needs of left behind Coloradans	Building policy and programs with the end user in mind

With these areas of exploration and considerations, the OFW:

Conducts research to understand future of work trends and their impact	Shares best practices, research, and data with the workforce development system
Supports and aligns with related efforts (e.g. Colorado Resiliency Framework)	Informs the legislature and other stakeholders.

Additionally, the OFW leads two key initiatives for the state: *Apprenticeship Colorado (the State Apprenticeship Agency)* and the state's *Digital Equity, Literacy and Inclusion initiatives*.

OFW STRUCTURE

The OFW has three work units which include the Apprenticeship Colorado, Organizational Services, and FOW Labs (see Figure 3). Organizational Services consists of staff members that support the cross-cutting operational and administrative functions of the OFW. FOW Labs refers to projects and initiatives the OFW conducts that may result in their own work units within the OFW or at other organizations (e.g. pilots that move to other divisions or departments), or may sunset upon their completion (e.g. research projects). FOW Labs aims to be an incubator for projects so that the OFW can have the flexibility to explore emerging trends, respond to legislative or other partner research/pilot requests, and consider the most appropriate next step for each new effort.

Within Apprenticeship Colorado, there are three teams:

» **The Quality Assurance Team** is responsible for ensuring compliance of all RAPs with state and federal regulations.

» **The Program Development Team** is responsible for developing new and expanding existing RAPs and providing technical assistance to apprenticeship partners, including intermediaries.

» **The Access Team** is responsible for connecting RAP sponsors to talent and resources to implement inclusive programs; building awareness of apprenticeship opportunities in Colorado; reducing the cost of apprenticeship for the job seeker, sponsor, employer; and measuring equitable access and success in apprenticeships for all Coloradans.

The OFW's organizational chart can be viewed in the figure below or in full in Appendix A.

Figure 3
OFW's Organizational Chart [28]
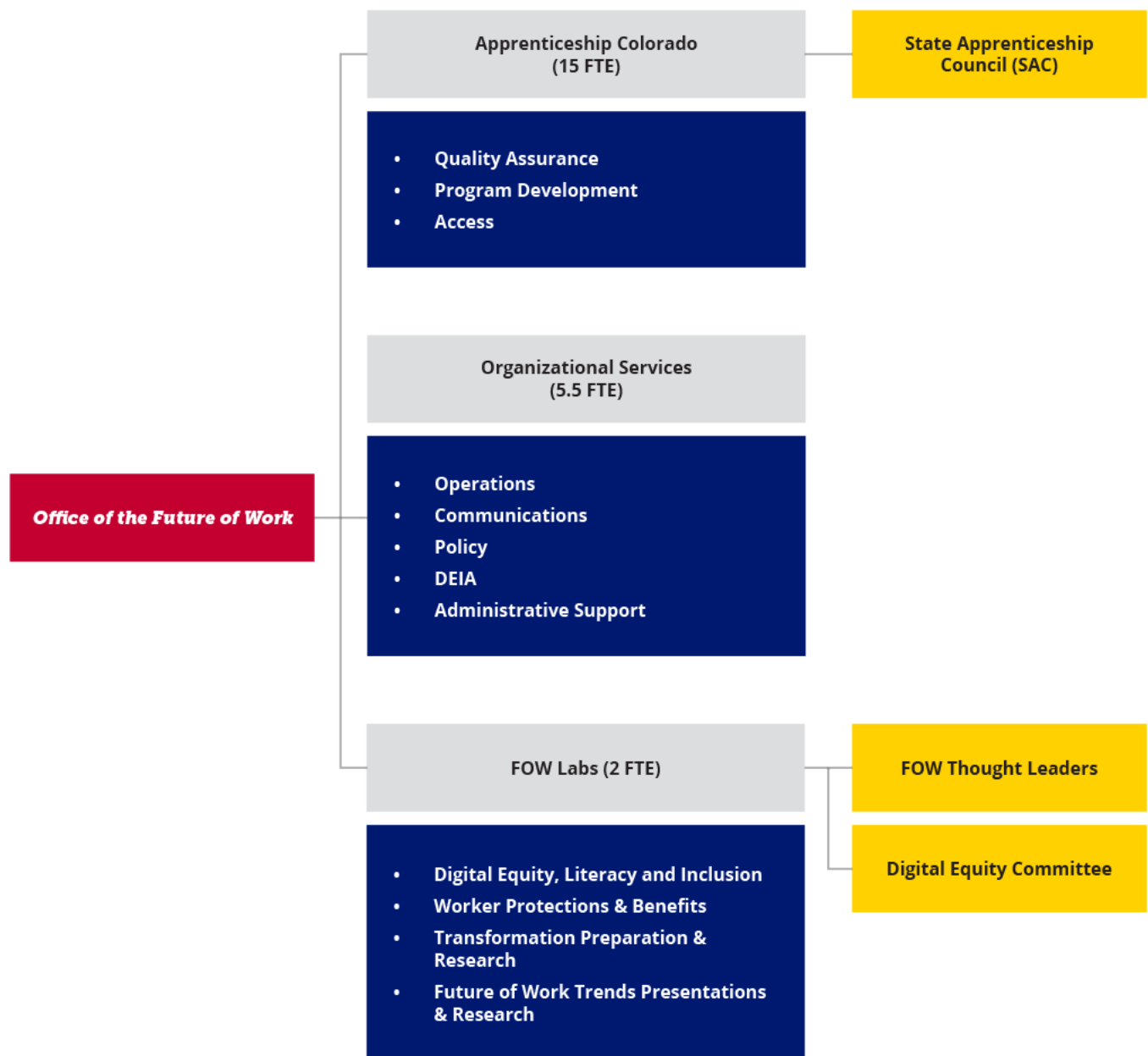
2023 OFW ACCOMPLISHMENTS & 2024 PLANS

2023 was a busy year for the OFW with the addition of seven team members, recognition of Apprenticeship Colorado as the State Apprenticeship Agency, creation of the state's first Digital Access Plan, launch of a Digital Navigator Corps, and a legislative session that resulted in six bills impacting OFW, including one that codified the OFW in state law. The team also worked to connect with Coloradans and provide funding to support the expansion of apprenticeship and digital equity resulting in more than 150 presentations to over 7,800 Coloradans, and more than one million dollars awarded to partners.

This section dives deeper into the OFW's major activities and highlights in 2023 for each work area; status of the 2023 goals set; and the goals for 2024. Where applicable, it includes reference to CDLE's department-wide Wildly Important Goals.

APPRENTICESHIP COLORADO
(STATE APPRENTICESHIP AGENCY)

Areas of Exploration: Transformation Preparation; Support for Historically Excluded Populations

In an economy transformed by technological advances and demographic shifts, there's a need to build new pathways into quality employment. RAPs help workers gain skills and education while earning a paycheck, and ensure that employers have a reliable workforce pipeline to ensure their long-term success. The OFW houses Apprenticeship Colorado which is responsible for:

Serving as the primary point of contact with the United States Department of Labor's (USDOL) Office of Apprenticeship concerning apprentices and RAPs

Accelerating new apprenticeship program growth and assist in promotion and development

Registering and overseeing apprenticeship programs

Providing technical assistance to current and prospective Sponsors

Aligning the registered apprenticeship system with Colorado's workforce, education, and economic development priorities

In 2023, Apprenticeship Colorado hit critical milestones to support the expansion of RAPs in the state. Apprenticeship Colorado conducted its first rulemaking to establish state regulations for RAPs, and which resulted in its successful recognition as a State Apprenticeship Agency by the USDOL. The 2023 legislative session resulted in five pieces of legislation related to Apprenticeship Colorado:

» HB23-1212 - The bill directs the OFW to create a two year apprenticeship navigator pilot program with two full-time apprenticeship navigators (Outreach Specialists), with each assigned to a different school district selected by the OFW. The purpose of the program is to increase awareness of RAPs among graduating high school students in the selected school districts. See it featured here.

» HB23-1246 - This bill directs OFW to provide grants to RAPs that provide training in the building and construction trade at no cost to apprentices (grant program). See it featured here.

» SB23-087 - This bill creates an alternative route to teacher licensure through a teacher degree apprenticeship program (apprenticeship program). The apprenticeship program builds on elements of current alternative teacher licensure programs, including a bachelor's degree requirement, training programs approved by the state department of education (CDE), and structured on-the-job training.

» SB23-051 - This bill codified the OFW and solidified the structure and responsibilities of the State Apprenticeship Agency in order to conform with federal regulations.

» SB23-146 - This bill updated the data points that the State Apprenticeship Agency is required to collect for the Apprenticeship Resource Directory in order to align with what is available in the federal apprenticeship database (RAPIDS), and what is feasible for programs to report.

In July 2023, Apprenticeship Colorado was awarded funding through USDOL's State Apprenticeship Expansion Formula grant program. As part of this grant, Apprenticeship Colorado established a Five Year Plan for Apprenticeship Colorado (Appendix B) that will ensure the launch of the State Apprenticeship Agency culminates in a more sustainable, innovative, equitable, accessible and high quality apprenticeship system in Colorado.

A cornerstone of this five year plan is the alignment of state agencies that connect to apprenticeship is alignment of state agencies related to apprenticeship including Colorado Department of Higher Education, Colorado Department of Education, Department of Regulatory Agencies, and the Office of Economic Development and International Trade. As a first step towards this alignment, Colorado was selected to participate in the National Governors Association's Policy Academy to Advance Youth Apprenticeship which will focus on alignment of Colorado's Career and Technical Education with Apprenticeship Colorado.

Governor Polis also doubled down on his In an economy transformed by technological advances and demographic shifts, there's a need to build new pathways into quality employment. RAPs help workers gain skills and education while earning a paycheck, and ensure that employers have a reliable workforce pipeline to ensure their long-term success.

To ensure that Coloradans interested in exploring apprenticeships can find the information they need, Apprenticeship Colorado launched a new website, Apprenticeship Data Dashboard, and an upgraded Apprenticeship Resource Directory. Apprenticeship Colorado worked with employers to produce new videos that promote apprenticeship in New and Emerging Industries. In November 2023, Colorado celebrated Apprenticeship Month and National Apprenticeship week including its sixth annual Apprenticeship Awards which honored 15 individuals and organizations dedicated to advancing apprenticeships.

2023 GOALS

In 2023, Apprenticeship Colorado's goals fell under four categories:

Regulatory Transition: The OFW's key priority in 2023 was to secure recognition from USDOL as a State Apprenticeship Agency by July 1, 2023 per HB21-1007: State Apprenticeship Agency.

2023 Goals	Status
Launch an upgraded Apprenticeship Resource Directory.	**Complete**. In 2023, OFW re-launched the Directory on a new platform. In the first two months of the year we have already had one-third of the visitors that the site saw in all of 2022. CDLE began using Google Analytics in July 2023. Since then, the Directory has had 50,287 visits from 2,871 unique users.
Complete rulemaking for the SAA.	**Complete**. State Apprenticeship Agency Rules, 7 CCR 1108-1 were adopted on May 10, 2023, and effective June 30, 2023
Complete staff hiring and training on USDOL processes and policies for quality assurance, Registered Apprenticeship Partners Information Database System (RAPIDS), Equal Employment and Opportunity, Affirmative Action and technical assistance in preparation for recognition.	**Ongoing**. All staff hiring was complete ahead of the recognition of the State Apprenticeship Agency, and training is ongoing as we continue providing technical assistance to registered apprenticeship sponsors.
Secure SAA recognition from USDOL by July 1, 2023.	**Complete**. On June 5, 2023 USDOL published a bulletin recognizing Colorado as a new State Apprenticeship Agency.

2023 GOALS

Per C.R.S. 8-15.7-103 and C.R.S. 8-15.7-104, the Committee on Apprenticeship in the Building and Construction Trades (CABCT) and the Committee on Apprenticeship in New and Emerging Industries (CANEI) shall provide an annual report to the executive director with apprenticeship data disaggregated by age, race, gender, veteran status, disability, and industry.	**Complete**. This report can be found in Appendix C, and establishes a baseline for Colorado's diversification and expansion goals over the next five years.

Expansion: Expand RAP opportunities to address the needs of high growth industries. Raise employer awareness of the benefits and steps to RAP adoption through in-person and virtual business outreach activities, communications activities, and coordination with Hub and other partners to promote apprenticeship statewide.

2023 Goals	Status
Launch or expand 100 RAPs in 2022/23, with a focus in critical industries. This was a CDLE Wildly Important Goal for 2022/23.	**Complete**. Apprenticeship Colorado submitted 103 apprenticeship programs to USDOL for expansion or registration by June 30, 2023.
Every cabinet-level agency will participate in a RAPs by June 30, 2023. This is in accordance with Governor Polis' Executive Order on Apprenticeships.	**Incomplete (continuing in 2024)**. Though we did not meet the goal of creating an apprenticeship in every cabinet-level agency, Apprenticeship Colorado made significant progress to build a foundation for future success. Key highlights include: » Apprenticeship Colorado partnered with the Council of State Government and Colorado's Department of Personnel and Administration (DPA) to develop a toolkit for building RAPs in state government. » Legislation passed to ensure "State Service Trainees" do not count against Agency headcount and expanded pay ranges for State Services Trainees.

» DPA identified 17 class series in the state personnel system that have no minimum qualifications to ease adoption from state agency partners

» DPA created a substitution for completed RAP to equal 4 years experience/4 year degrees

» DPA partnered with SHRM (Society of Human Resources Management) to build a SHRM sponsored RAP program for HR professionals through DPA/DHR's HR Academy (launching 2024)

Currently there are 12 programs either registered or in development in seven state agencies. In 2023, Governor Polis signed a new executive order that superseded the 2022 Executive Order and requires Apprenticeship Colorado to build at least five new apprenticeship programs in state agencies.

Conduct 1,000 outreach activities regarding apprenticeships to employers/potential sponsors of apprenticeship in priority industries per reporting period by June 30, 2023. This was a CDLE Wildly Important Goal for 2022/23.	**Complete**. Apprenticeship Colorado conducted 1,110 outreach activities to employers/potential sponsors.

Equity: Improve diversity, equity, inclusion, and accessibility (DEIA) in participant recruitment (youth, women, people of color, formerly incarcerated individuals, and persons with disabilities) through investment from the IDEA grant and strategies led by the OFW's DEIA Specialist and Career Services Specialist.

2023 Goal	Status

2023 GOALS

1,250 new apprentices by 2025; increase the number of new apprenticeships filled by racial or ethnic minorities by 5%, from 1,256 to 1,319 by June 30, 2023. This was a CDLE Wildly Important Goal for 2022/23.	**Complete**. 1,428 apprentices that identify as a racial or ethnic minority began apprenticeship programs.

Innovation: Leverage existing investments and fill gaps in participants, programs, and industries.

2023 Goals	Status
Launch Round 2 of Scale Up Grants (funds up to $50,000 to launch or expand a RAP)	**Complete**. Over $699,670 has been awarded in grant funds to 14 organizations across the state to support the growth of RAPs. As a result of these grants, 17 employers will adopt the registered apprenticeship model, 12 new apprenticeship programs will be registered, and two current programs will be expanded. Programs will be created and expanded in 16 different industries across the state. Five of these grantees are located in rural regions. Together, these grantees are anticipated to create almost 275 new jobs across the state by June 2025.

2023 GOALS

Distribute 80 Accelerate Apprenticeship Grants (funds of up to $7,500 to encourage employer adoption of registered apprenticeship in the state of Colorado).

Complete. Accelerate Apprenticeship Grants funds were exhausted. As of 9/30/23, all of the 80 Accelerate Apprenticeship grantees continued to register new programs or join existing programs and spend their grant funds during the quarter. So far, this grant opportunity has resulted in 19 new programs, 4 expanded programs, and 46 employers engaged.

2024 GOALS

Quality: Designed for Colorado, integrated into the National Registered Apprenticeship System.

» Successfully transition existing RAPs to Colorado's State Apprenticeship Agency through technical assistance and guidance as evidenced by improved data in RAPIDS

» Launch an updated Apprenticeship Resource Directory with additional data points per SB23-146

» Publish a Certified Contractor List per SB19-196

Expansion: Prioritization of in-demand occupations and access to RAPs in all corners of Colorado.

» Launch or Expand 100 RAPs (this is a CDLE Wildly Important Goal for 2023/24) including

» At least five new programs in state agencies

» 60 percent of new/expanded programs aligned with Colorado's in-demand/priority occupations

» Launch the RAP Construction Grant Program per HB23-1246

Equity: Focused strategies for increased participation and support of underrepresented Coloradans in RAPs.

» Ensure 100% of new, eligible RAPs will receive technical assistance to develop Affirmative Action Plans, be in compliance with EEO (29 CFR 30), and receive supplemental resources to support their diversity, equity, inclusion, and accessibility goals

» Integrate DEIA into program development and quality assurance service delivery

» Develop a career services infrastructure to support access to and completion of RAP by target populations

» Develop state-level reporting for analysis of apprenticeship data on access, completion, wage, and credential attainment

Innovation: Develop policies, programs, and partnerships that ensure the State Apprenticeship Agency is agile, and future ready while reflecting Colorado's needs.

» Define and operationalize Qualified Intermediaries

» Define and operationalize Youth Apprenticeship

» Define and operationalize Pre-Apprenticeship

» Implement HB23-1212 - Outreach Specialists

» Align the registered apprenticeship system with Career and Technical Education

OFW LABS

Raising Awareness and Participation in Aligned Efforts

In 2023, the OFW continued its efforts to raise awareness of the impact of the future of work in Colorado; promote, partner, and align/inform with efforts related to the OFW's areas of exploration. The OFW has partnered with, participated in, and supported efforts of 14 state agencies and offices and eight of the divisions and offices within CDLE as detailed in Appendix D. OFW partnered on three key events to raise awareness of future of work trends hundreds of Coloradans: the Colorado Business Roundtable's Future of Work: Maximizing Human Potential event, as well as the Career Services Summit through the Rocky Mountain Workforce Development Association, and the Attainment Network's Pathways Conference.

Digital Equity, Literacy, and Inclusion

Areas of Exploration: Transformation Preparation; Support for Historically Excluded Populations

Digital skills, devices, and access to affordable internet are necessary to work, learn, and fully participate in daily life in the future of work. With the advances in automation, artificial intelligence and digitalization, it is imperative that we close the digital divide. This is why the OFW houses Colorado's Digital Equity, Literacy, and Inclusion Initiative. The OFW, Colorado Broadband Office, and Office of eHealth Innovation make up the Digital Equity Team which works with partners to ensure all Coloradans have the digital skills, devices, and affordable access to the internet needed for full participation in our society, democracy, and economy.

The two key activities for the Digital Equity, Literacy, and Inclusion Initiative in 2023 were the creation of Colorado's first Digital Access Plan, and the launch of the Digital Navigator Corps.

Digital Access Plan

With the passage of the federal Infrastructure Investment and Jobs Act, every state is required to develop a Digital Equity State Plan (known here as the Digital Access Plan) which measures access to affordable broadband and digital devices as well as digital skill levels and cybersecurity practices for eight covered populations:

Low-income households	Aging populations	Incarcerated individuals	Veterans
People with disabilities	People with language barriers	Racial and ethnic minorities	Rural inhabitants

Within the plan, each state is required to then define measurable objectives that would address the digital divide for these populations.

In November 2022, the OFW received $897,000 in Digital Equity Act planning funds via the Colorado Broadband Office which served as fiscal administrator. Since then, the Digital Equity Team heard from over 15,000 Coloradans through surveys and listening sessions, and invested more than half a million dollars into Colorado community organizations and companies to shape Colorado's first Digital Access Plan which was released for public comment in December 2023. The Digital Access Plan will be submitted to NTIA by March 29, 2024. Once the plan is approved, the State of Colorado expects to receive about $20M in capacity funds from the Digital Equity Act in 2024. The capacity funds will be used to implement the objectives established in the Digital Access Plan.

To support this effort, Colorado was selected as a pilot site for World Education, Inc.'s Transforming Immigrant Digital Equity (TIDE) project. The purpose of the subgrantee place-based pilot site is to build a local ecosystem of partners and stakeholders providing tech-enabled ESOL learning opportunities and support for immigrants and refugees in their area of influence. The OFW focused its participation in the pilot on strategically engaging New Americans in the state's digital equity planning grant and resulted in the case study included in Appendix E.

Digital Navigator Program

The Digital Navigator Program launched in March 2023 with $1.7 million in funding from state legislation, SB 22-140, administered by CDLE and a match from Serve Colorado/ AmeriCorps. Additionally, Comcast has contributed $600,000 for the two-year period of this program. A Request for Applications through Serve Colorado was opened in March 2023. The Learning Source and Loveland Public Library have been selected as grantees, and the first cohort of nearly 30 AmeriCorps member Digital Navigators which began service in Arapahoe, Douglas, Denver, Boulder, Weld, Larimer, Pueblo, Jefferson, and Pitkin counties in Fall 2023/ Winter 2024.

In November, the OFW also launched the Colorado Digital Navigator Community of Practice to support staff and volunteers who provide digital navigation services in Colorado.

Transformation Preparation for Workers, Employers, and Communities

Areas of Exploration: Transformation Preparation; Support for Historically Excluded Populations, Modernize Worker Protections and Benefits

In the 2023 legislature session, HB23-1074 passed, which directs the OFW to conduct two studies on industry transformation. One study is focused on the oil and gas industry, and how the skills and jobs are evolving as a result of emerging technologies, and the second study will focus on the impact of automation on jobs and skills in Colorado. These studies will be a core part of the 2024 FOW Labs work, and will complement the creation of a Thought Leader Working Group on Future of Work trends shaping the economy.

2023 GOALS

Raising Awareness and Participation in Aligned Efforts

2023 Goal	Status
The OFW will continue its efforts to raise awareness about the future of work through the ongoing publication of articles and resources on the OFW and CDLE websites, hosting convenings and listening sessions throughout the state, and presentations to service providers, businesses, associations, state and local agencies, and other community partners. This includes participation in the Colorado Business Roundtable's second Future of Work event.	**Complete**. In 2023, the OFW gave 153 presentations on the future of work to over 7,800 Coloradans on the future of work, digital equity, and apprenticeship. The OFW has partnered with, participated in, and supported efforts of 14 state agencies and offices and eight of the divisions and offices within CDLE. The OFW partnered with the Colorado Business Roundtable on their Future of Work Event.
Codify the OFW in legislation to ensure that Colorado has the programs and infrastructure to respond to a dynamic economy.	**Complete**. The OFW was codified through SB23-051: Conforming Workforce Development Statutes.
The OFW will build an ongoing Future of Work Thought Leader Working group that is made up of thought leaders from the 2019/20 research groups, participants in the Transatlantic Cities of Tomorrow, and other partners. This group will convene to guide and inform the OFW on the four forces of the future of work, its areas of exploration and current projects. With the Thought Leader working group and other partners, the OFW will hold events on the future of work.	**Incomplete (moved to 2024)**. Though the OFW continued to participate in events and initiatives related to the future of work, due to capacity constraints it did not establish the Thought Leader Working Group. In 2024, OFW is pursuing funding for a staff member to manage the creation of the Thought Leader Working Group and future of work events.

2023 GOALS

Digital Equity, Literacy, and Inclusion

2023 Goals	Status
Build the State Digital Equity Plan: As part of the federal Infrastructure Investment and Jobs Act, the Digital Equity Act dedicates $2.75 billion to establish three grant programs that promote digital inclusion and equity to ensure that all individuals and communities have the skills, technology, and capacity needed to reap the full benefits of our digital economy. The OFW will coordinate the creation of the state's digital equity plan.	**Complete**. The Digital Equity Team heard from over 15,000 Coloradans through surveys and listening sessions, and invested more than half a million dollars into Colorado community organizations and companies to shape Colorado's first Digital Access Plan which was published for public comment on December 15, 2023.
Deploy Digital Navigators: Per SB22-140, the OFW will deploy community-based digital navigators to address digital inequities (access to technology, digital skills, and affordable internet)that prevent people from accessing work-based learning, job-training and employment opportunities.	**Complete**. The Digital Navigator Program launched in March 2023 in partnership with ServeColorado. The Learning Source and Loveland Public Library have been selected as grantees, and the first cohort of nearly 30 AmeriCorps member Digital Navigators.
Convene: The OFW will convene a Digital Equity Committee, Working Group, and State Agency Group to support the creation of the Digital Equity State plan, and ongoing engagement for implementation.	**Complete/Ongoing**. The Digital Equity Committee, Working Group, and State Agency Group met over the course of the calendar year to inform and align the Digital Access Plan.

2023 GOALS

Research & Pilot: Build a digital inclusion workforce development plan which will include data on talent development needs and proposed strategies to ensure Colorado has the talent pipeline in place to build broadband infrastructure and digital skills of Coloradans. Pilot digital tools and best practices with local partners to develop resource libraries. Update Digital Competency Framework and Digital Skill Catalog based on research and feedback from partners. Publish case studies highlighting best practices to build digital equity into service delivery.

Partially Complete. The OFW and Colorado Broadband Office published the [Broadband Workforce plan in November 2023](Appendix G). The OFW did not pilot digital tools or update the Digital Competency Framework or Digital Skills Catalog, and did not publish case studies but these activities are included in strategies for implementation of the Digital Access Plan.

2023 GOALS

Transformation Preparation for Workers, Employers, and Communities

2023 Goals	Status
Digital Transformation for Small & Medium Businesses: The OFW will partner with CUIC to address the current state of small rural businesses relative to their knowledge, access and adoption of emerging digital technologies, that will be critical for them to remain competitive in a rapidly changing marketplace.	**Complete**. The OFW worked with a team from CUIC to explore digital transformation in small rural businesses. An executive summary of their findings can be found in Appendix F.
Independent Contractors Strategy: In 2023, the OFW will work with the legislature, working groups, and others to develop a strategic plan for the OFW's independent contractor and portable benefits work. This plan will guide fundraising, staffing, and the creation of specific deliverables related to the growing independent workforce in Colorado.	**Incomplete (moved to 2024)**. Though the OFW continued to participate in events and initiatives related to the future of work, due to capacity constraints it did not establish a strategic plan. This will be a priority for 2024.
Research on Industries in Transition: The OFW will work to understand how businesses can responsibly prepare workers for displacement or augmentation due to automation and other digital technologies.	**Incomplete (continuing in 2024)**. The OFW did not conduct research in 2023, but through HB23-1074 will be launching a study in early 2024 on the impact of automation on workers.

2024 GOALS

» Continue its efforts to raise awareness about the future of work through the ongoing publication of articles and resources on the OFW and CDLE websites, hosting convenings and listening sessions throughout the state, and presentations to service providers, businesses, associations, state and local agencies, and other community partners

» Expand the Digital Navigator Program in partnership with the Colorado Rural Workforce Consortium and immigrant serving organizations

» Expand Digital Navigator Community of Practice

» Develop plan for Digital Equity Capacity Funds to be released FY 24/25, including the transition of funding from OIT to CDLE

» Implement the Broadband Workforce Plan

» Pilot digital tools and best practices with local partners to develop resource libraries. Update Digital Competency Framework and Digital Skill Catalog based on research and feedback from partners. Publish case studies highlighting best practices to build digital equity into service delivery

» Conduct a study on the impact of automation on Colorado's workforce

» Conduct a study on oil and gas worker job transformation

» Build a thought leadership group and convening strategy to raise awareness about the impact of AI

» Partner with the Colorado Department of Education to update to the 21st Century Skills required by SB08-212 to reflect future of work trends and career-connected learning

» Develop a strategic plan for the OFW's independent contractor and portable benefits work. This plan will guide fundraising, staffing, and the creation of specific deliverables related to the growing independent workforce in Colorado

APPENDICES

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