

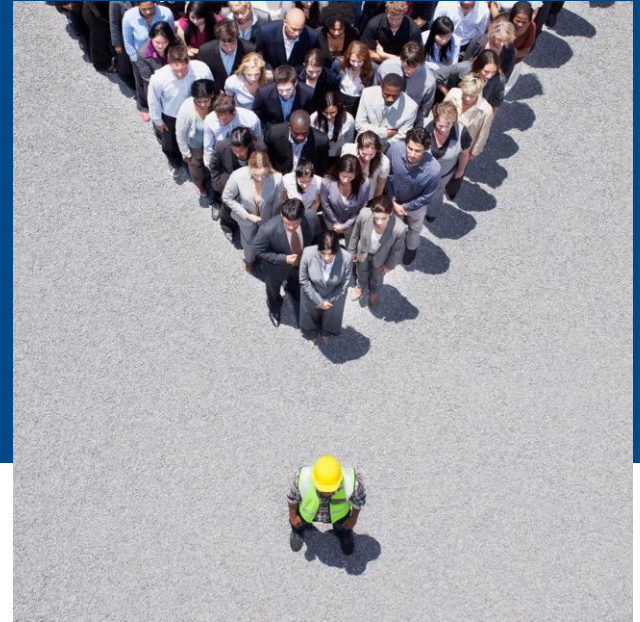
Future of Work Overview



The Office of the
Future of Work

Hello! I am Katherine Keegan.

Director of the Office of the Future of Work
You can find me at katherine.keegan@state.co.us





Office of the Future of Work

- Established in September 2019 through an Executive Order to raise awareness about the impact of the future of work on Colorado's communities and to identify policy and program solutions to create a skilled and resilient workforce and modernize worker protections.
- Key activities:
 - Conducting research to understand future of work trends and their impact
 - Sharing best practices, research, and data with the workforce development system
 - Leading key initiatives
 - Supporting and aligning with related efforts (e.g. Colorado Resiliency Framework, Talent Pipeline Report)
 - Informing legislature and other stakeholders
- Key initiatives:
 - State Apprenticeship Agency
 - Digital Literacy and Inclusion Initiative



What is the “future of work”

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

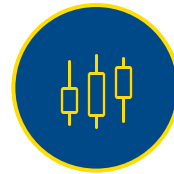
Four Forces at Work



Globalization



**Demographic
Shifts**



**Technological
Advances**



**Market
Forces**



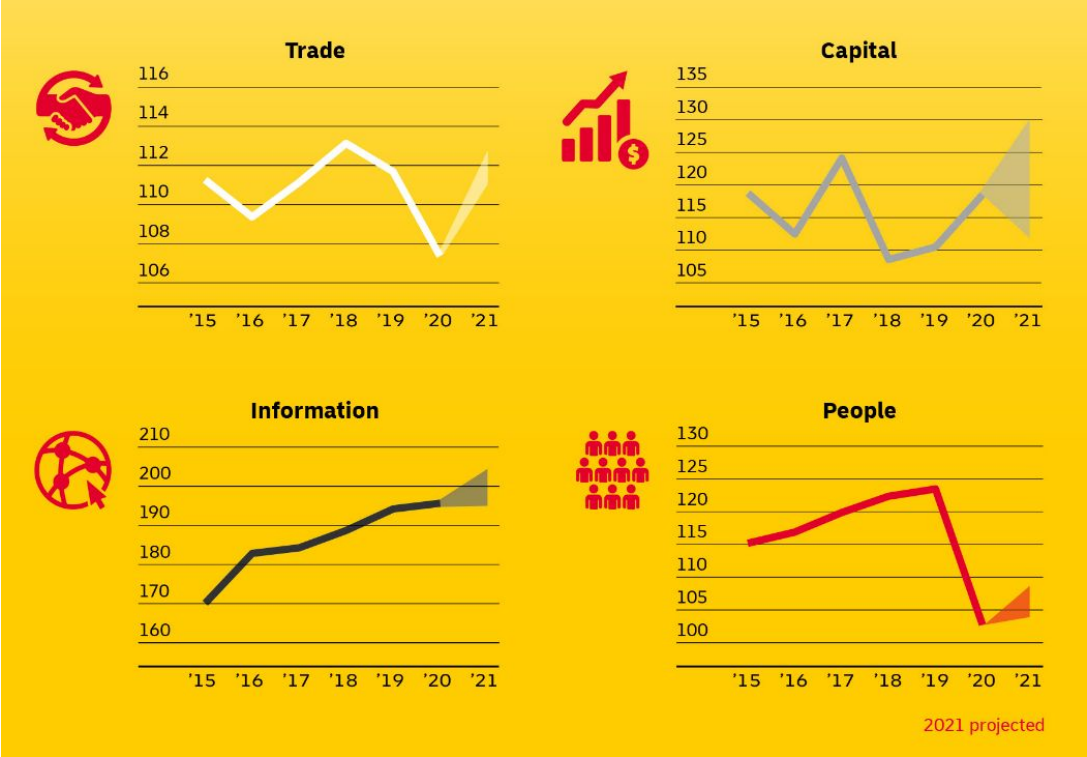


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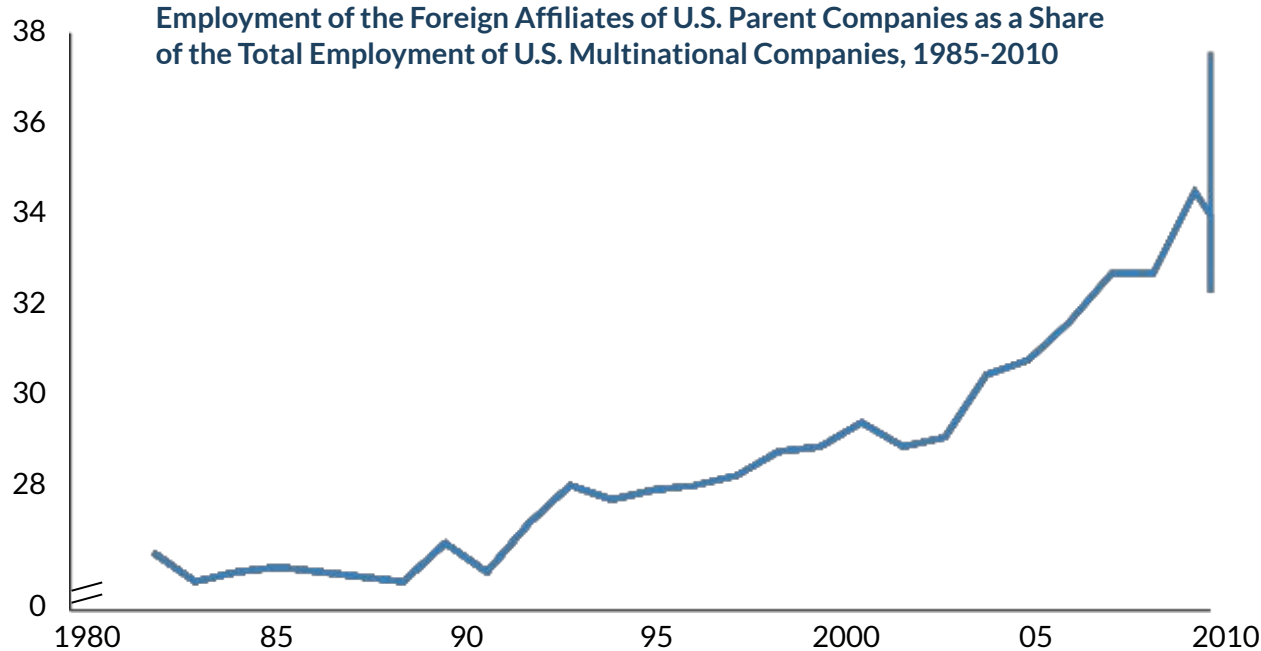
Globalization & Market Forces

Extended supply chains
Supply and demand, trade shifts, and government priorities
Growth of on-demand economy and contingent workforce

Globalization



Globalization

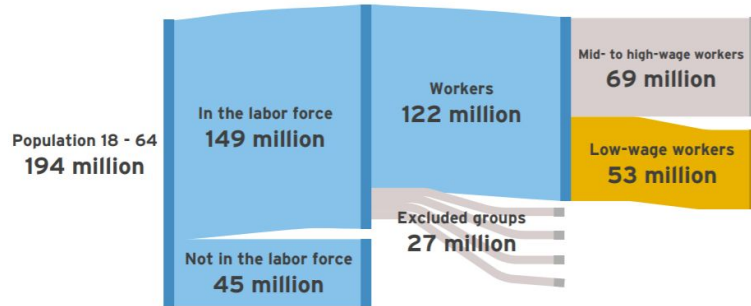


With occasional pull-backs, the outsourcing of jobs by US companies has grown over the past 30 years.

A significant percentage of these jobs have been focused in the manufacturing, customer support, and related functions

Low-wage work across the U.S.

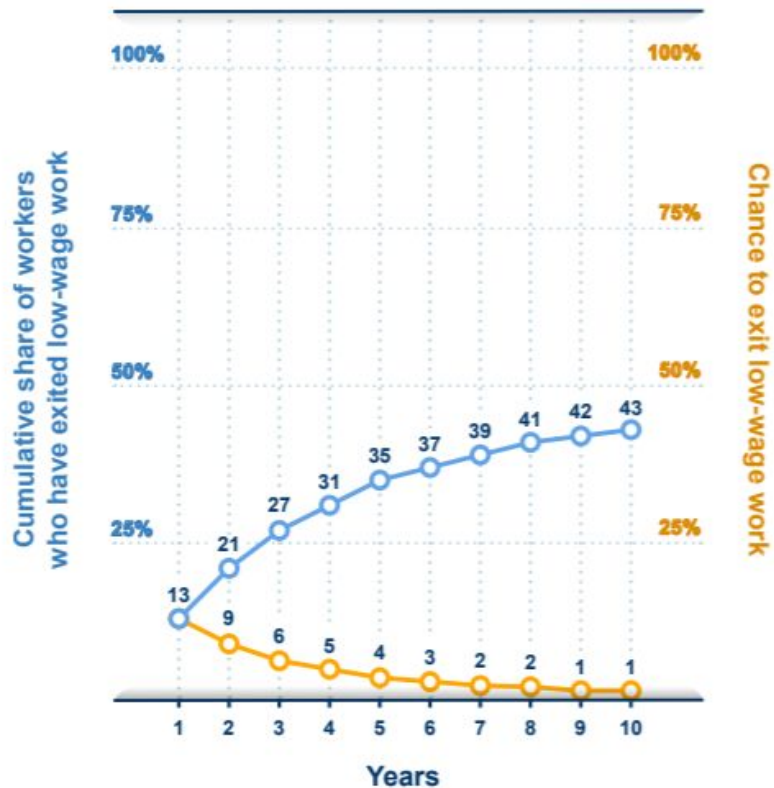
Illustration of how we identified low-wage workers



Source: Brookings analysis of 2012-2016 American Community Survey 5-year Public Use Microdata Samples

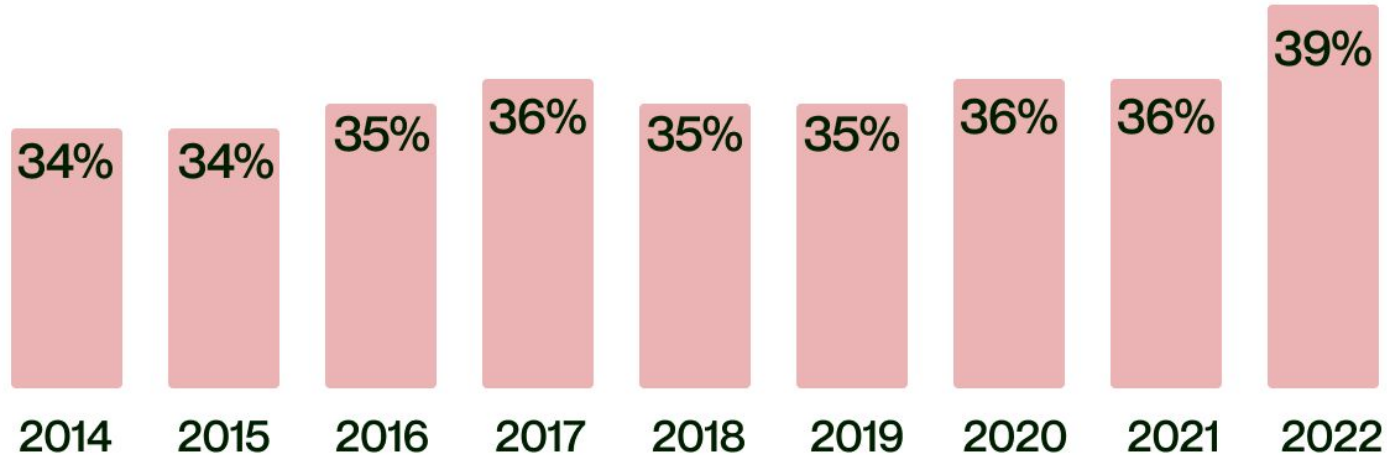
	Percentage of low-wage workers	Percentage change in jobs	Percentage change in earnings	Median annual earnings 2017
<i>Boulder</i>	43%	13.10%	-5.30%	\$32,689
<i>Colorado Springs</i>	46%	12.70%	-4.70%	\$34,806
<i>Denver-Aurora-Lakewood</i>	40%	19.90%	-3.80%	\$37,633
<i>Fort Collins</i>	46%	23.60%	-16.60%	\$30,420
<i>Grand Junction</i>	47%	-2.80%	-8.00%	\$31,639
<i>Greeley</i>	46%	31.90%	5.00%	\$32,324
<i>Pueblo</i>	47%	7.10%	-1.90%	\$31,744

A worker's chances of leaving low-wage work fall dramatically for each additional year on the job



The proportion of freelancers has risen to an all-time high since tracking began in 2014

Proportion of Freelancers
(% calculated out of total U.S. workers)





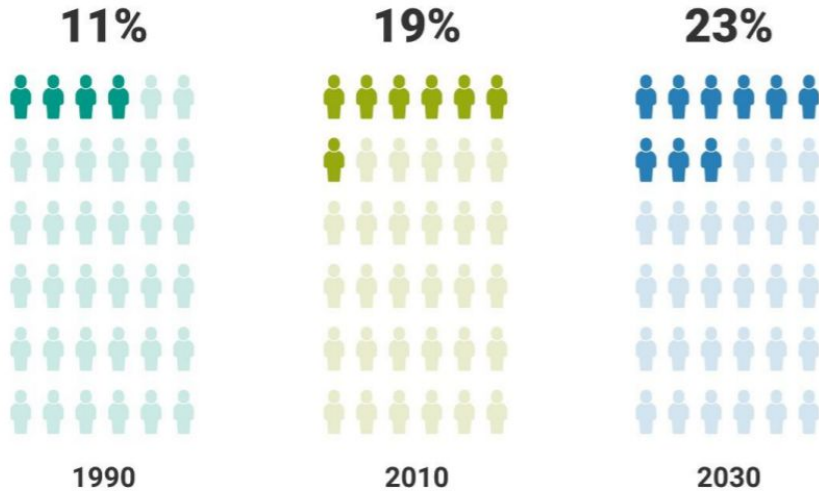
02

Demographic Shifts

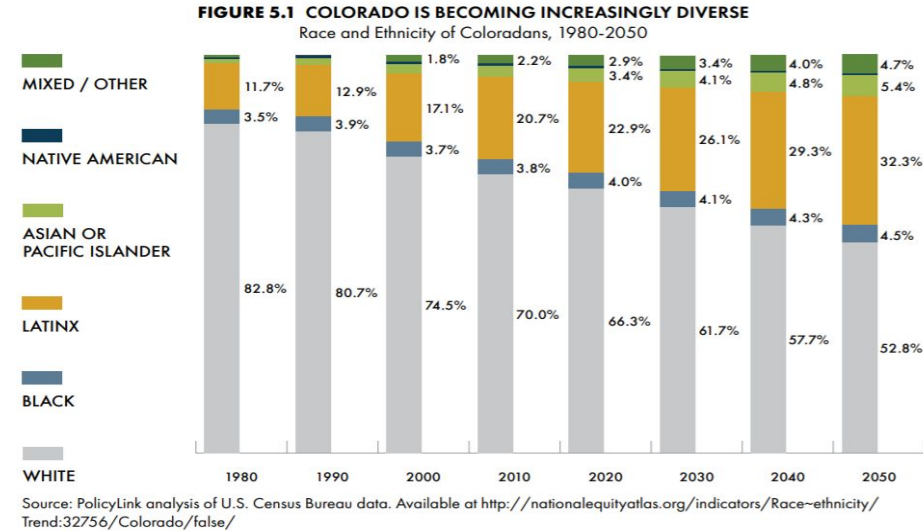
Age & Diversifying

Colorado (and the U.S.) is Aging & Diversifying

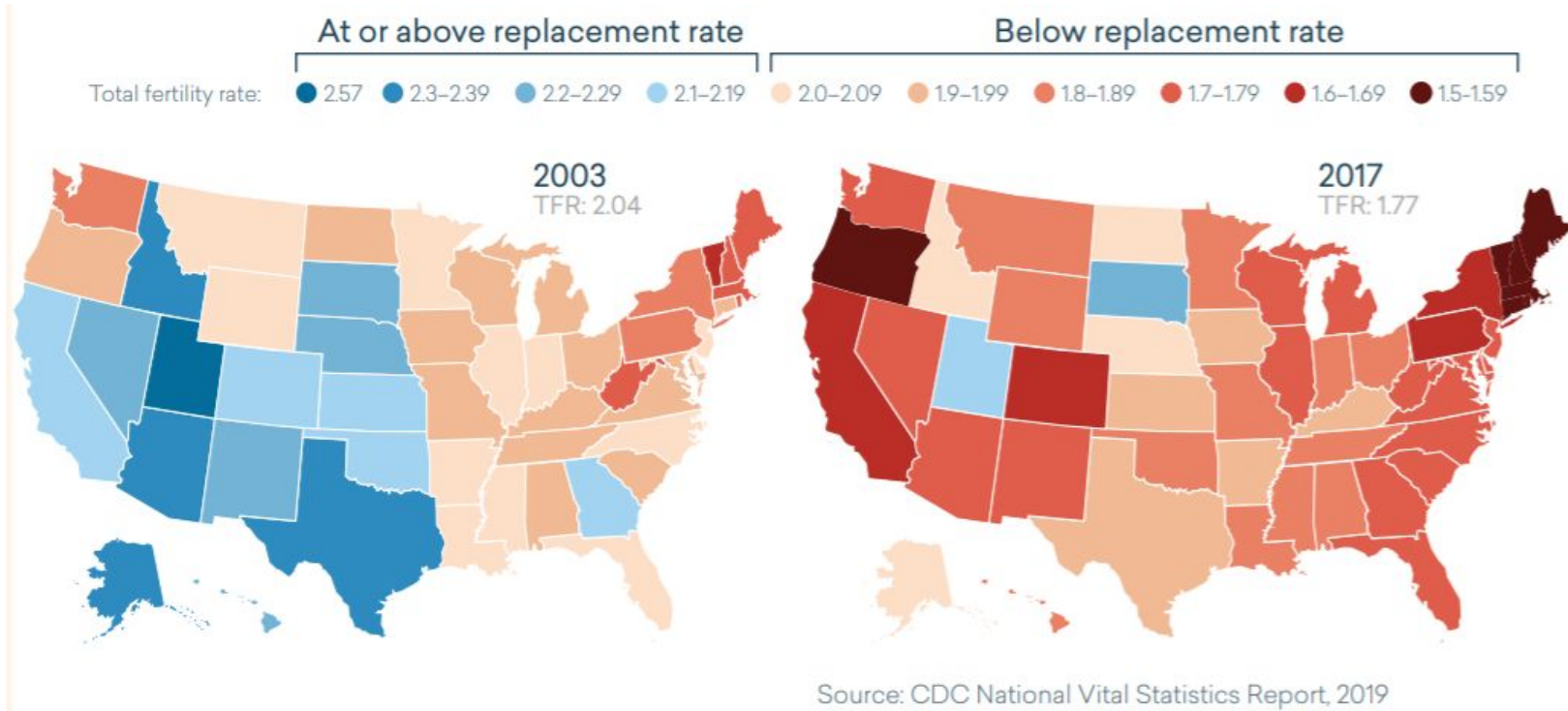
Percentage of labor force 55+



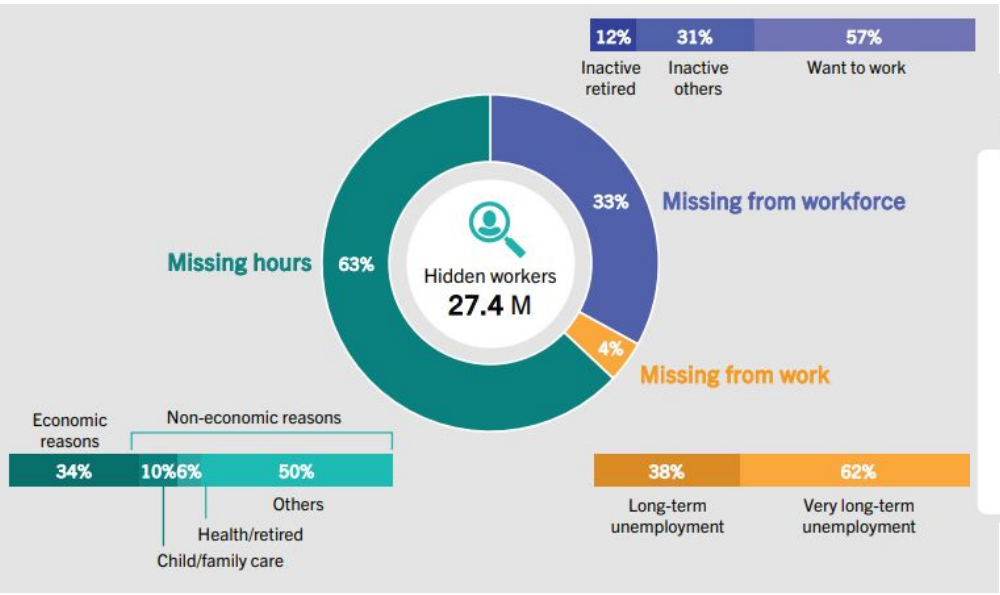
Colorado is diversifying



Demographic Drought



Hidden Workers



-
- Carers of children
 - Carers of adults/older people
 - Veterans
 - Refugees/asylum seekers
 - Immigrants
 - People from less advantaged backgrounds (e.g., low-income households, from care homes, those whose parents are not employed)
 - People with mental health challenges
 - People with developmental/neurodiversity challenges
 - People with a physical disability
 - People with history of substance/alcohol abuse
 - People who were previously incarcerated
 - Retirees/post-working age population who could work
 - Young people not in education, employment or training (NEETs)
 - Relocating partners and spouses (move to new city/new country)
 - People with health problems (temporary, chronic/long-term illness)
 - People without traditional qualifications
 - People without degrees/advanced degrees
 - People without a history of employment
 - Long-term unemployed



03

Technological Transformation

Automation, artificial intelligence, digitalization changing work and requiring new skills and mindsets



Artificial Intelligence

Computer systems able to perform tasks that normally require human intelligence, such as visual perception, speech recognition or decision-making.

Allows for non-human decision-making, some forms of analysis and process management



Automation

Use of technology to reduce the level of human activity needed to complete a particular task by replacing or augmenting labor

Because automation occurs at the task level, it often changes jobs partially rather than eliminating them



Digitalization

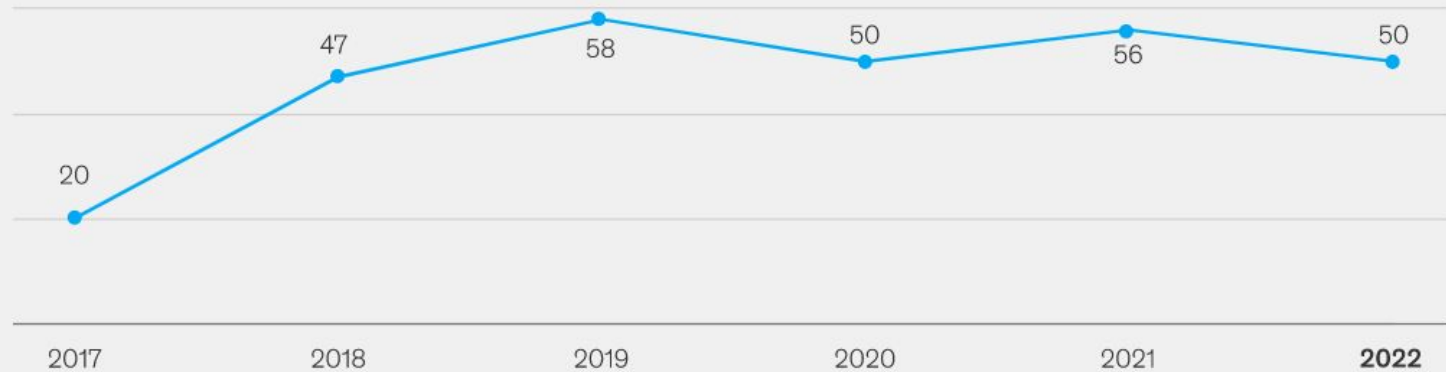
The use of various digital technologies to change/update business or operational processes

Often used to optimize a variety of communication, management, design and logistics tasks (i.e. the use of a GPS tracking system to optimize fleet operations)

State of AI

While AI adoption globally is 2.5× higher today than in 2017, it has leveled off over the past few years.

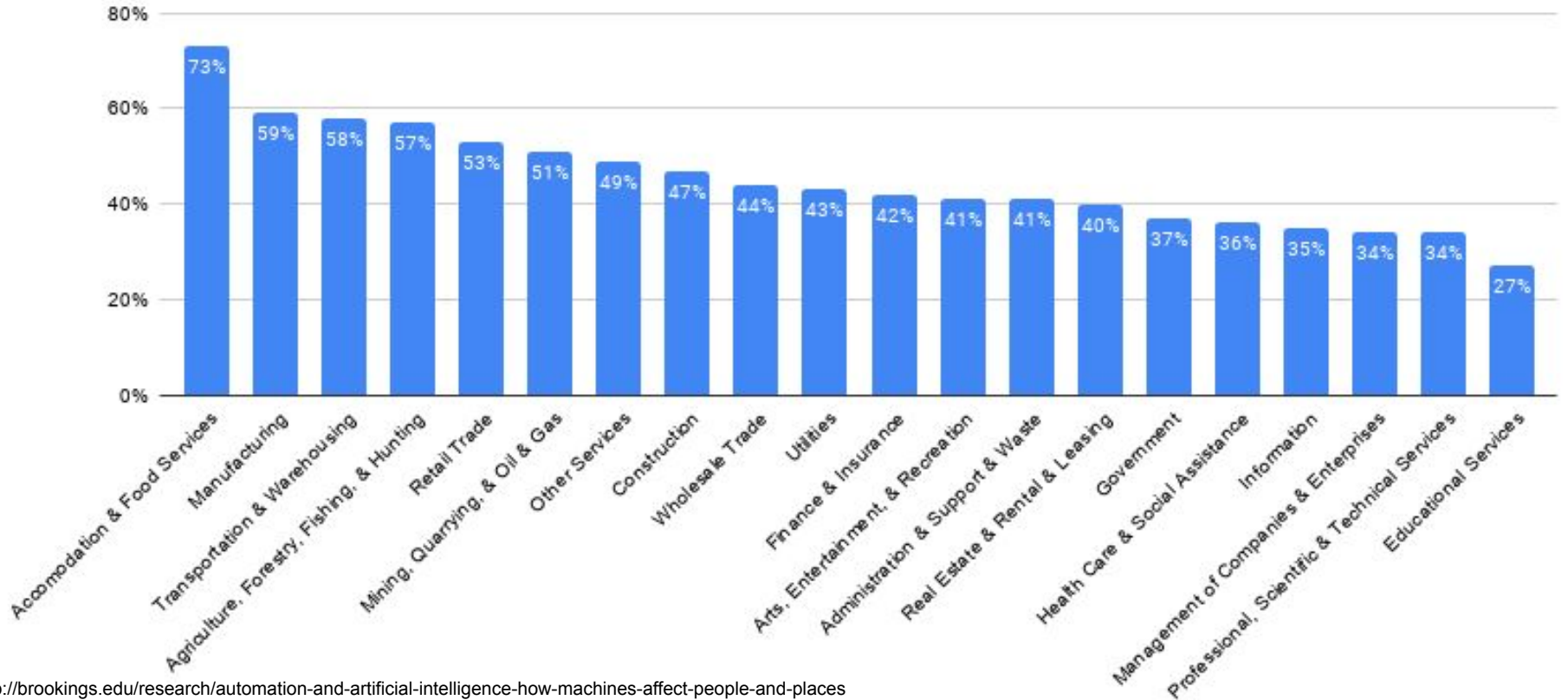
Share of respondents who say their organizations have adopted AI in at least one business unit or function, %



McKinsey & Company

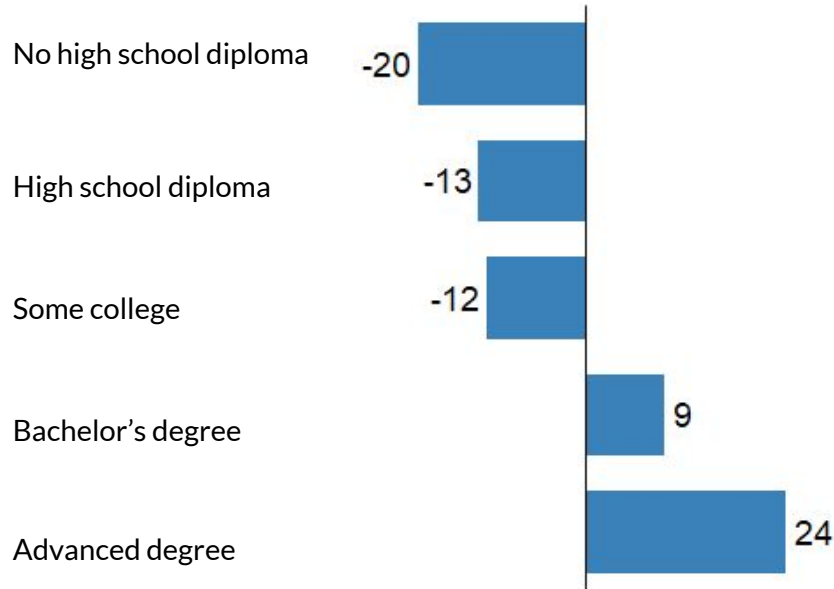
Impact of Technological Advances by Industry

Task automation potential by industry (% of sector)



Automation

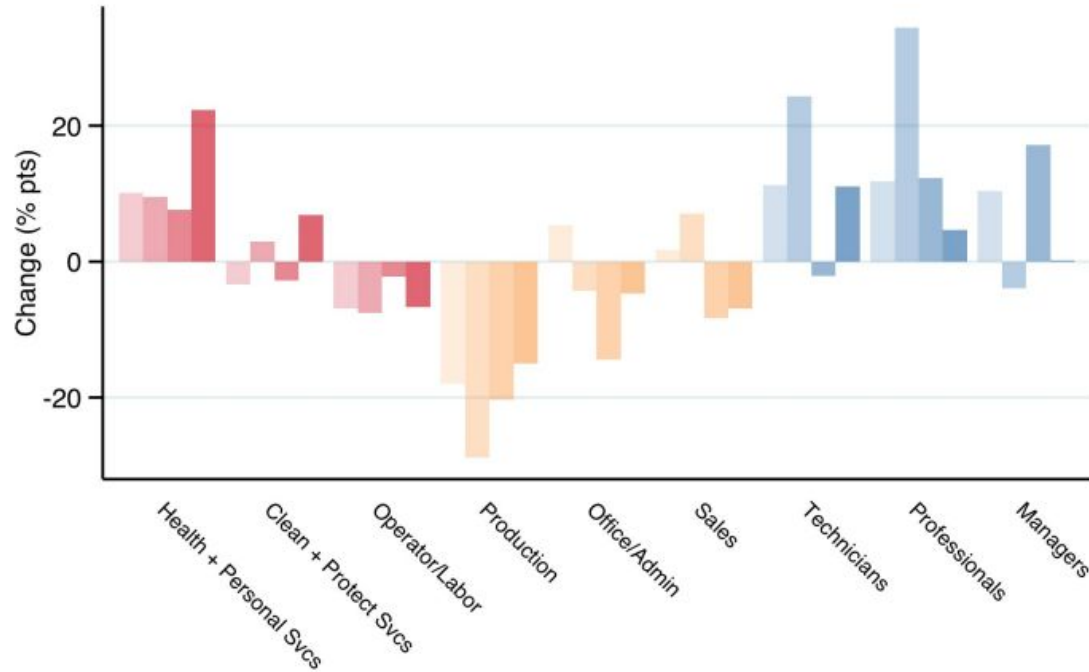
% change in hourly wages by educational background (1979-2018)



Workers without college degrees have seen significant drops in wages over the past 30-40 years

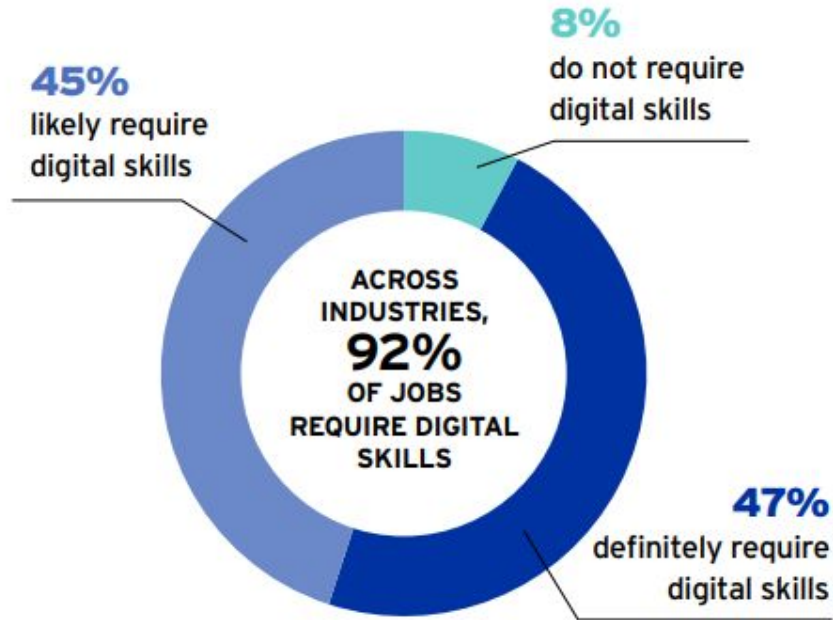
Globalization has played a significant role in this decline as U.S. workers compete with alternative labor sources from around the world

Impact of Technological Advances by Industry



1970-1980 1980-1990 1990-2000 2000-2016

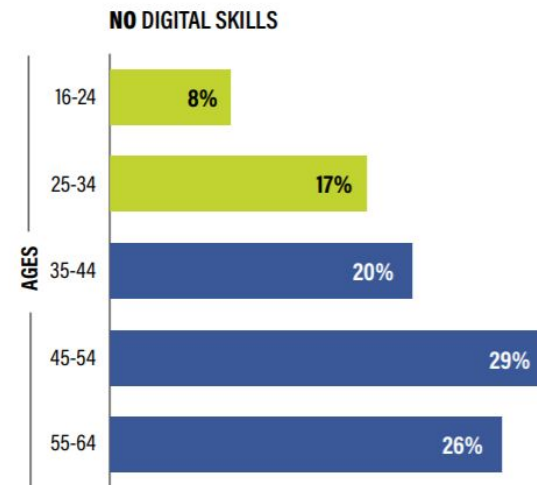
Digital skills needed for work



MSA	Digitalization Score (2018)	Digitalization Score Absolute Change (2008-2018)
Boulder	54.76	2.918
Colorado Springs	51.84	3.947
Denver-Aurora-Lakewood	51.73	4.014
Fort Collins	49.78	4.942
Grand Junction	47.98	5.820
Greeley	47.43	4.067
Pueblo	47.64	5.272

Workers with digital skills

Selected industries ²⁴	Percentage of workers with no digital skills	Percentage of workers with limited digital skills	Combined percentage of workers with limited or no skills*
Construction, transportation and storage	22%	28%	50%
Retail, wholesale, and auto repair	14%	23%	37%
Hospitality and other services	18%	18%	36%
Manufacturing	16%	19%	35%
Administrative and support services; arts, entertainment and recreation	13%	22%	35%
Health and social work	12%	21%	33%
Finance, insurance, and real estate (FIRE)	6%	14%	19%*
Education	5%	11%	15%*

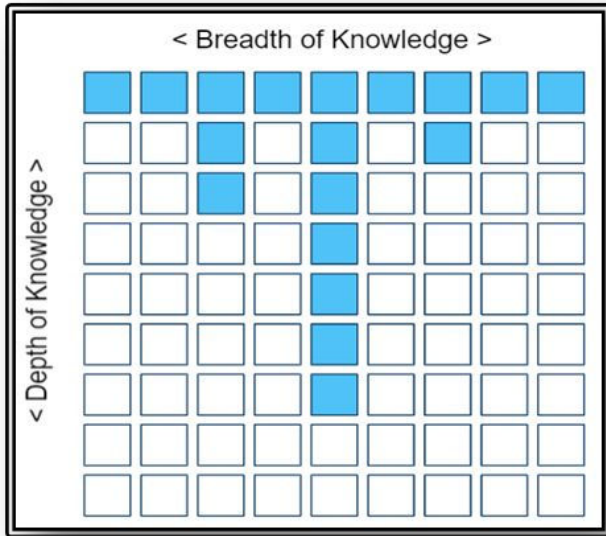




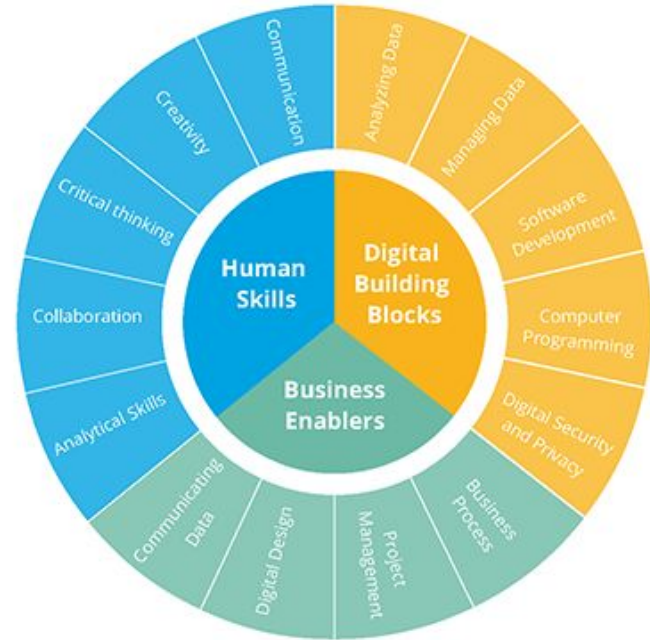
**Skills, mindsets,
and supports to succeed
in the future of work**

Skills of the Digital Economy

“T-shaped” Workers

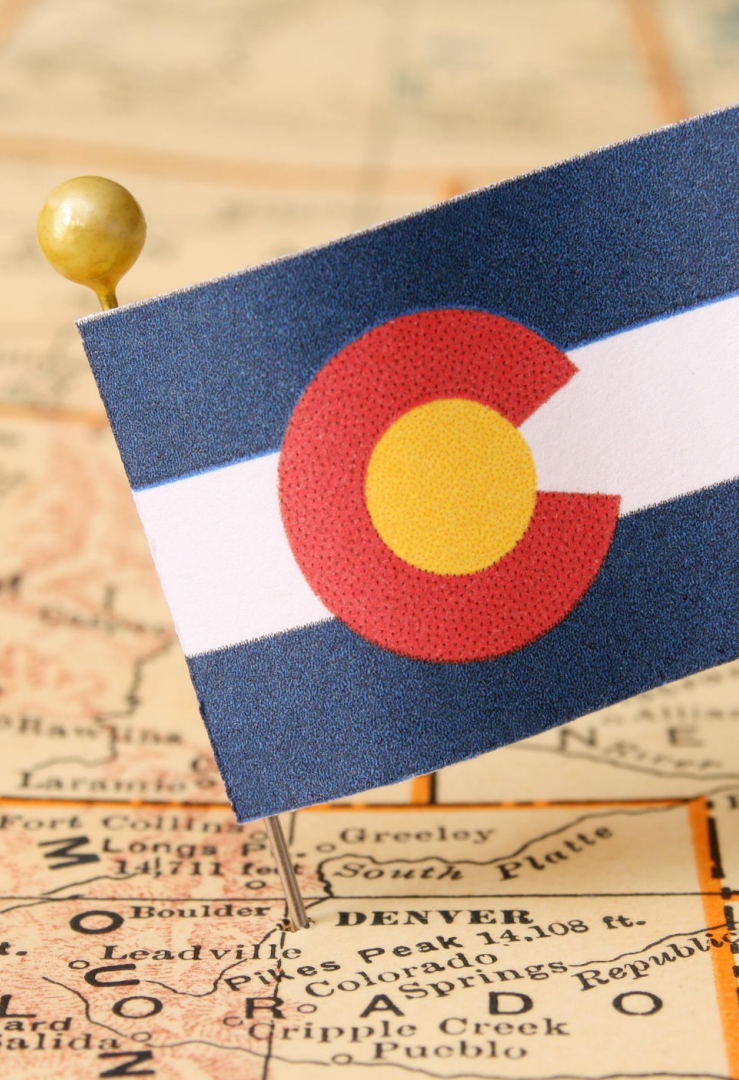


The New Foundational Skills of the Digital Economy



These 14 skills, already in wide demand by employers, command salary premiums and are crucial for workers who want to keep pace with a changing job market.

© Burning Glass Technologies



As a result of these impacts, Colorado must:

- Develop future-ready workers with lifelong learning mindset with digital, human, and business skills
- Create more viable pathways out of low wage work
- Tap into untapped talent pools
- Develop sustainable and strategic talent pipelines

2022/2023 OFW Key Deliverables

Digital Equity, Literacy, & Inclusion

- **Build the State Digital Equity Plan:** As part of the federal Infrastructure Investment and Jobs Act (IIJA), 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.
- **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.
- **Convene:** Convene the Digital Equity Committee, led by the OFOW, to discuss, research, analyze, and draw conclusions concerning digital literacy and inclusion and to provide regular updates to the Broadband Advisory Board concerning such discussions. *In progress!*
- **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 library.



Apprenticeship Colorado (State Apprenticeship Agency)

Work-based learning models, like apprenticeships, build a culture of lifelong learning, allow people to apply skills learned in the classroom to the real world, provide wages and supports, and create access to quality employment.



The OFW works to accelerate high-quality RAPs by:

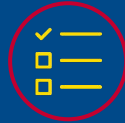
- Working with businesses to build and register RAPs
- Issuing funds to create quality jobs through RAP expansion
- Connecting workers to the resources they need to identify, enter and succeed in apprenticeship
- In July 2023, ensuring compliance of RAPs as the State Apprenticeship Agency

Apprenticeship Colorado Services



Program Development

Customized support for sponsors to build and expand a Registered Apprenticeship Program



Quality Assurance

Technical assistance and support to ensure compliance and delivery of a high quality Registered Apprenticeship Program



Diversity, Equity, Inclusion, & Accessibility

Training and support to develop inclusive practices for Registered Apprenticeship Programs



Post-Registration Support

Referrals to recruitment partners, resources to support apprentices, and more



Funding Opportunities

Funding opportunities to support current apprentices and launch or expand Registered Apprenticeship Programs



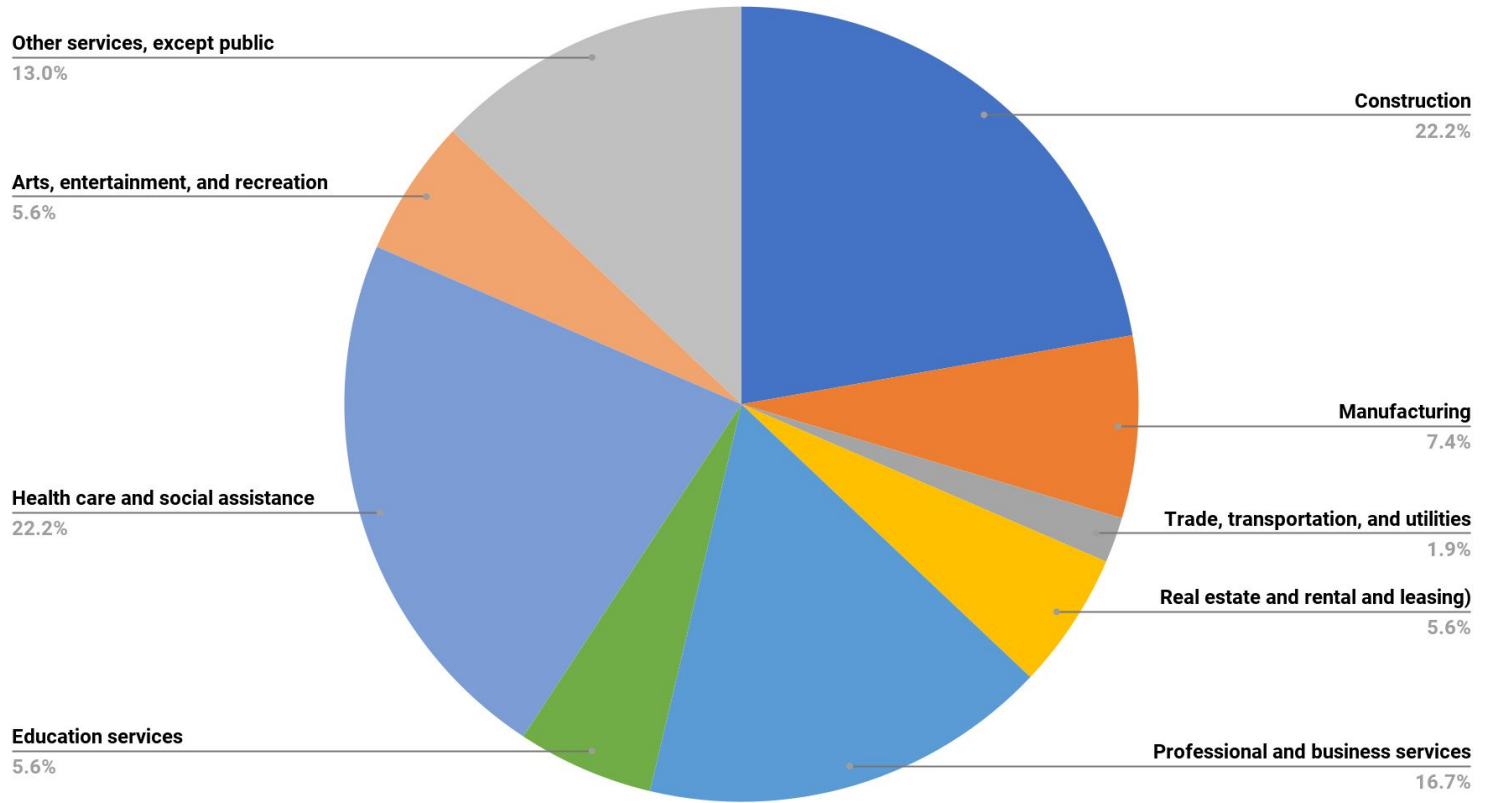
SAA Info Session

Join the Apprenticeship Colorado team for a virtual informational session to learn more about Colorado's transition to a State Apprenticeship Agency (SAA) and ask your questions!

Register to attend the Zoom webinar on April 21 at 11:30 a.m.

[Share Flyer for Info Session](#)

New RAPs by Industry (2022)



Apprenticeship Resources

How do I...?

Find a list of all apprenticeship opportunities in Colorado?	Refer to the Apprenticeship Directory
Help a job seeker find apprenticeship opportunities and potential financial support?	Refer them to the Apprenticeship Interest Form to connect with an Apprenticeship Navigator
Help an employer who is interested in registered apprenticeship?	Refer them to the Apprenticeship Interest Form to connect with an Apprenticeship Consultant
Find funding opportunities from the Office of the Future of Work?	Refer to our website and sign up for our mailing list by selecting “Funding Opportunities”
Reach out to a member of the Office of the Future of Work Apprenticeship Team?	Complete the Apprenticeship Interest Form or email apprenticeship@state.co.us

Scale-Up Grants

Cycle 2 Goes Live April 7!

Scale-Up Grants are competitive awards **of up to \$50,000** that support organizations to **develop or expand** a Registered Apprenticeship Program. The opportunity funds capacity-building projects for current and future Registered Apprenticeship Program employers and sponsors.

- Eligibility entities include **employers and sponsors*** that:
 - Plan to develop and register a new Registered Apprenticeship Program, or
 - Currently offer a Registered Apprenticeship program and plan to expand it
- Applications will go live April 7th and close May 5th
- [Flyer](#)
- Interested applicants can learn more and apply on our [Apprenticeship Colorado Website](#)

Our ask to you: please share this opportunity with your networks. Please contact Bryn Nelson for questions or sample language to share at bryn.nelson@state.co.us

**Please note that Scale-Up Cycle 1 grantees and Accelerate Apprenticeship Grantees are not eligible to apply*

Ways to Partner

Let's Connect!

Apprenticeship Colorado

- Request training or technical assistance on registered apprenticeship (for employers, job seekers, or partner organizations)
- Share funding opportunities (Round 2 of Scale Up Grants coming in April!)
- Join our Monthly Apprenticeship Expansion calls or other events from our calendar

Digital Equity

- Join one of our three working groups
- Share funding opportunity for community-based organizations
- Share the Digital Navigator RFA
- Request a presentation

Leadership Team



[Katherine Keegan](#)

Director, Office of the Future of Work



[Denise Miller](#)

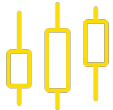
Director, Apprenticeship Colorado

Digital Equity Team



[Melanie Colletti](#)

Digital Equity Manager



Jessie Hawthorn

Digital Navigator Program Administrator

Organizational Services Team



[Courtney Phillips](#)

Operations Manager



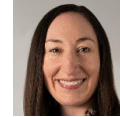
[Cristi Villami](#)

Program Assistant (50% with ONA)



[Dale Reed](#)

Salesforce Administrator (50% with CWDC)



[Kate Anderson](#)

Senior Strategist (50 % with E&T)



[Katie Reidy Buelter](#)

Communications Specialist



[Londell Jackson](#)

DEIA Specialist

[Contact the Office of the Future of Work](#)

Apprenticeship CO - Access Team



[Bryn Nelson](#)

IDEA Grant Coordinator, Access Team Lead



[Charlene Wisler - Howard](#)

Grants Program Assistant



[Drew Grissom](#)

Career Services Specialist

Apprenticeship CO - Quality Assurance Team



[Brad Roller](#)

Quality Assurance Manager



[Joanne Sax](#)

Quality Assurance Specialist



[Katie Reynolds](#)

Quality Assurance Specialist



Coming Soon!

Quality Assurance Specialist

Apprenticeship CO - Specialist Team



[Melissa English](#)

Apprenticeship Specialist Manager



[Jessica Mathis](#)

Apprenticeship Specialist



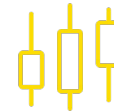
[Dave Beck](#)

Apprenticeship Specialist Apprentice



Coming Soon!

Apprenticeship Specialist



Coming Soon!

Apprenticeship Specialist



Thank you!

Any questions?

Contact Katherine Keegan at
katherine.keegan@state.co.us

Website: <https://cdle.colorado.gov/future-of-work>