The Path Forward
Office of the Future of Work

COLORADO
Department of Labor and Employment
Hello! I am Katherine Keegan.

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# Low-wage work across the U.S.

[Image of how we identified low-wage workers]

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

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

https://www.brookings.edu/research/meet-the-low-wage-workforce/
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)

<table>
<thead>
<tr>
<th>Year</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>34%</td>
</tr>
<tr>
<td>2015</td>
<td>34%</td>
</tr>
<tr>
<td>2016</td>
<td>35%</td>
</tr>
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<td>2017</td>
<td>36%</td>
</tr>
<tr>
<td>2018</td>
<td>35%</td>
</tr>
<tr>
<td>2019</td>
<td>35%</td>
</tr>
<tr>
<td>2020</td>
<td>36%</td>
</tr>
<tr>
<td>2021</td>
<td>36%</td>
</tr>
<tr>
<td>2022</td>
<td>39%</td>
</tr>
</tbody>
</table>

https://www.upwork.com/research/freelance-forward-2022
Demographic Drought

2003
TFR: 2.04

2017
TFR: 1.77

Source: CDC National Vital Statistics Report, 2019

https://www.economicmodeling.com/demographic-drought/
Hidden Workers

- Hidden workers: 27.4 M

- Missing from workforce: 33%
  - Inactive retired: 12%
  - Inactive others: 31%
  - Want to work: 57%

- Economic reasons: 34%
  - Health/retired
  - Child/family care

- Non-economic reasons: 66%
  - Others

- Missing from work: 63%
  - Long-term unemployment: 38%
  - Very long-term unemployment: 62%
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
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)
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.

Digital skills needed for work

ACROSS INDUSTRIES, 92% OF JOBS REQUIRE DIGITAL SKILLS

45% likely require digital skills

47% definitely require digital skills

8% do not require digital skills

Selected industries

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

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.
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
Office of 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
About Apprenticeship Colorado

Apprenticeship Colorado is the State Apprenticeship Agency (SAA) housed in the Office of the Future of Work in the Colorado Department of Labor and Employment that has the responsibility for:

- 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

Other duties as assigned in statute.
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
Apprenticeship Colorado Priorities

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

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

Expansion
Prioritization of in-demand occupations and access to Registered Apprenticeship Programs (RAPs) in all corners of Colorado

Innovation
Development of a leading model built on multi-sector partnerships

Technical assistance for each program

500 new programs over the next 5 years

1:1 DEIA support for each program

Qualified intermediaries, youth apprenticeship, pre-apprenticeship
Digital Equity is required for the future of work.

Digital skills, devices, and access to affordable internet are necessary to work, learn, and fully participate in daily life in the future of work.

The Office of Future of Work leads Colorado’s Digital Literacy and Inclusion Initiative. While the Broadband Office focuses on infrastructure, the Office of Future of Work focuses on adoption.

Digital Equity, Literacy and Inclusion

- 151,000 households in Colorado with no computer
- 64,878 households in Colorado with inconsistent access to the internet for educational purposes
- 1/3 of workers in the U.S. have limited or no digital skills
- 150 million technology-related jobs expected to be added globally over the next five years
Colorado’s Digital Equity Plan

$897,000 to create plan
Planning ends 11/30/2023
Capacity funding expected Q1 2024
$20M expected to fund plan implementation
Implementation period ends 2028
Colorado’s digital equity ecosystem established
Covered Populations

- Individuals who live in covered households
- Veterans
- Aging individuals
- Individuals with a language barrier (i.e. English learners or people with low literacy levels)
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility
- Members of a racial or ethnic minority group
- Individuals with disabilities
- Individuals who primarily reside in a rural area

Graphic: NDIA (digitalinclusion.org)
Planning Funds

Measurable Objectives

- Affordability and availability of broadband
- Accessibility of public resources & services
- Affordability and availability of internet-enabled devices
- Digital literacy
- Cybersecurity
How to get involved

- Join one of our three working groups to contribute to the State Digital Equity Plan
- Learn more about how to partner on our digital navigator work
- Complete the Digital Equity Ecosystem Map
- Provide feedback on our draft workforce plan
Interested in learning more?

- **Apprenticeship**: Reach out to apprenticeship@state.co.us or visit apprenticeship.colorado.gov

- **Digital Equity**: Reach out to digitalequity@state.co.us or visit cdle.colorado.gov/digitalinclusion