



**NATIONAL
SKILLS
COALITION**

Every worker. Every industry.
A strong economy.

Digital Skills in Connecticut:

New Data on Employer Demand & What it Means for New Federal Funding

Amanda Bergson-Shilcock
Campaign for Working CT meeting
August 17, 2023



Today's conversation

- What *new federal funding* is coming to Connecticut to support digital skills?
- What do we know about the *demand for digital skills* among Connecticut employers?
- How can workforce development practitioners, advocates, and policymakers *take action*?



About National Skills Coalition:

Our vision

- ▶ Jobs that require skills training are the backbone of our economy.
- ▶ National Skills Coalition fights for a national commitment to inclusive, high-quality skills training so that more people have access to a better life, and more local businesses see sustained growth.



**NATIONAL
SKILLS
COALITION**

Every worker. Every industry.
A strong economy.

What new federal funding is coming to Connecticut to support digital skills?



Federal infrastructure legislation passed in 2021 is investing billions in broadband & digital equity.



The Infrastructure Investment and Jobs Act (IIJA) included:

- **\$2.75 billion** nationwide for the Digital Equity Act
- **\$42.5 billion** nationwide for the Broadband Equity, Access, and Deployment (BEAD) program

*This funding is being overseen by the US Commerce Department's **National Telecommunications and Information Administration (NTIA)**.*



Let's talk about the first source of federal funds: The Digital Equity Act



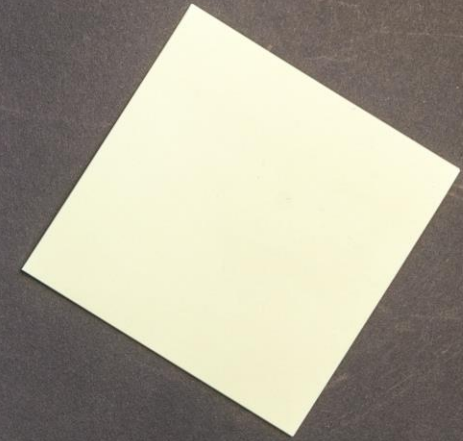
There are two types of DE Act funding:

- **Formula funding** that will automatically go to state agencies before being distributed down to the local level (*total of \$1.44 billion nationwide over 5 years*)
- Federal discretionary **competitive grants** that states and other eligible entities can apply for (*total of \$1.25 billion nationwide over 5 years*)



Digital Equity Act funding timeline (*anticipated*)

- **Right now:** The Connecticut Commission for Educational Technology is engaged in its 12-month Digital Equity **planning process**. The planning process is required to engage a broad array of stakeholders, and states are also required to post their draft plans for a 30-day public comment period
- **Late 2023:** CT will submit its 5-year Digital Equity Plan to NTIA
- **Early 2024:** NTIA releases *formula funds* to states (“Digital Equity Capacity Grants”)
- **Slightly later in 2024:** NOFO released for *competitive grants* to states and other eligible entities (“Digital Equity Competitive Grants”)



How can you start to prepare?



Familiarize yourself with key terms in the Digital Equity Act

- Covered populations
- Eligible entities
- Eligible activities



Digital Equity Act covered populations:

- Individuals in a household with ***income below 150 percent of poverty*** level
- ***Aging*** individuals
- ***Incarcerated*** individuals (*other than individuals who are incarcerated in a Federal correctional facility*)
- ***Veterans***
- Individuals with ***disabilities***
- Individuals with a language barrier, including individuals who are ***English learners***; and have ***low levels of literacy***;
- Individuals who are members of a ***racial or ethnic minority*** group; and
- Individuals who primarily reside in a ***rural*** area



Who is eligible to apply for federal DE competitive grants?

Entities eligible to apply directly to the federal government:

- A political subdivision, agency, or instrumentality of a State
- An Indian Tribe, an Alaska Native entity, or a Native Hawaiian organization
- A foundation, corporation, institution, or association that is a not-for-profit entity and not a school
- A community anchor institution
- A local educational agency
- **An entity that carries out a workforce development program**
- A partnership between any of the preceding entities
- A partnership between any of the preceding entities and an entity that the Assistant Secretary determines to be in the public interest; and is not a school (*Cannot be or have been an administering entity under the DE Capacity Grant Program*)



What types of services can be provided with DE funding?





Entities receiving federal competitive grants must engage in at least one of these activities:

- (i) To develop and implement digital inclusion activities that benefit covered populations.
- (ii) To facilitate the adoption of broadband by covered populations in order to provide educational and employment opportunities to those populations.
- (iii) To implement, consistent with the purposes of this title— **(I) training programs for covered populations that cover basic, advanced, and applied skills; or (II) other workforce development programs.**
- (iv) To make available equipment, instrumentation, networking capability, hardware and software, or digital network technology for broadband services to covered populations at low or no cost.
- (v) To construct, upgrade, expend, or operate new or existing public access computing centers for covered populations through community anchor institutions.
- (vi) To undertake any other project and activity that the Assistant Secretary finds to be consistent with the purposes for which the Program is established.



The Digital Equity Act defines key terms

- **DIGITAL INCLUSION** (A) means the activities that are necessary to ensure that all individuals in the United States have access to, and the use of, affordable information and communication technologies, such as: (i) reliable fixed and wireless broadband internet service; (ii) internet-enabled devices that meet the needs of the user; and (iii) applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration; and (B) includes— **(i) obtaining access to digital literacy training**; (ii) the provision of quality technical support; and (iii) obtaining basic awareness of measures to ensure online privacy and cybersecurity.
- **DIGITAL LITERACY** means the skills associated with using technology to enable users to find, evaluate, organize, create, and communicate information.



Now let's talk about BEAD, which provides funding for states to:

1. Bring broadband (high-speed) internet to **unserved** people who don't have any internet access right now
2. Bring broadband to **under-served** people who have only slow internet access right now
3. Bring broadband to **Community Anchor Institutions** (including schools, libraries, hospitals, higher education institutions, and others)
4. Spend on other “non-deployment” broadband-related activities, **including workforce development**



Connecticut will get \$144 million in
BEAD funds.





Yes, states can spend BEAD money on things other than laying fiber

- States' **primary spending will be on “last-mile deployment”** to get broadband to un/underserved residents and Community Anchor Institutions.
- **This** last-mile money can be used for (among many other uses):
 - Training for cybersecurity professionals who will be working on BEAD-funded networks
 - Workforce development, including Registered Apprenticeships and pre-apprenticeships, and community college and/or vocational training for broadband-related occupations to support deployment, maintenance and upgrades



If states still have money left over after “last mile” deployment...

- All states have **the right to spend BEAD money on other purposes** as long as they have a plan for getting service to un/underserved residents and Community Anchor Institutions. *(They don't have to have completed all of the activities in their plan, they just have to have a clear plan.)*



Some ways states can spend their non-deployment money:

- Digital literacy/upskilling (from beginner to advanced)
- Computer science, coding, and cybersecurity education programs
- Implementation of Digital Equity plans (*supplementing but not duplicating or supplanting DE Act funds*)
- Broadband sign-up assistance and programs that provide technology support
- Multi-lingual outreach to support adoption and digital literacy
- Prisoner education to promote pre-release digital literacy, job skills, online job-acquisition skills, etc.
- Digital navigators

Non-exhaustive list. See [BEAD Notice of Funding Opportunity](#) (NOFO) for details.



Connecticut already got **\$5M** for BEAD planning

- Right now, CT's broadband office is in the midst of developing the state's 5-year BEAD **Action Plan**
- This plan is due to the US Commerce Dept's NTIA in **late 2023** (*exact deadlines vary by state*)
- After the Action Plan, Connecticut must submit an **Initial Proposal** and then a **Final Proposal** to NTIA detailing how funds are being spent



BEAD planning is being led by the Connecticut Office of Telecommunications and Broadband.





Connecticut's BEAD Action Plan must:

- Include strategies to ensure an available and highly skilled workforce...**including plans to attract, retain or transition the skilled workforce** needed to achieve the plan's goals, including describing the involvement and partnerships of sub-grantees, contractors, and subcontractors with:
 - Existing in-house skills training programs, unions and worker organizations, community colleges and public school districts;
 - supportive services providers;
 - Registered Apprenticeship programs and other labor-management training programs;
 - or other quality workforce training providers.



FINALLY
FINISHED

**What happens
once the 5-year
Action Plan has
been submitted
to the feds?**



Connecticut will need to submit an Initial Proposal to NTIA, and then...

- States have to use a **competitive process** to dispense funding
- States are allowed to give extra weight to grant applicants who have **enforceable commitments** related to **equitable workforce development** and job quality objectives
- Projects funded under BEAD have a **25% match requirement**, which can be met using \$ from business, nonprofit, philanthropic, or local/state government sources. In general, federal money *cannot* be used for the match, with a few exceptions such as CARES and ARPA
- **In-kind** matching is fine (doesn't have to be cash)



Let's take a pause.



**NATIONAL
SKILLS
COALITION**

Every worker. Every industry.
A strong economy.

What do we know about the demand for digital skills among Connecticut employers?



The **digital divide** isn't just about broadband or hardware – it's also about **skills**.



People often enroll in digital skills classes to get a job or get a better job.





**So we decided
to research
employers'
demand for
digital skills.**





New research report: *Closing the Digital Skill Divide*

- Our project looked at **millions of online job ads** posted during calendar year 2021
- Data was initially collected and standardized by Lightcast (*formerly Emsi Burning Glass*)
- Further analysis was carried out by NSC in collaboration with the Federal Reserve Bank of Atlanta (FRBA)

The opinions expressed in the report reflect those of the authors and do not necessarily reflect those of the Federal Reserve System or the Federal Reserve Bank of Atlanta.



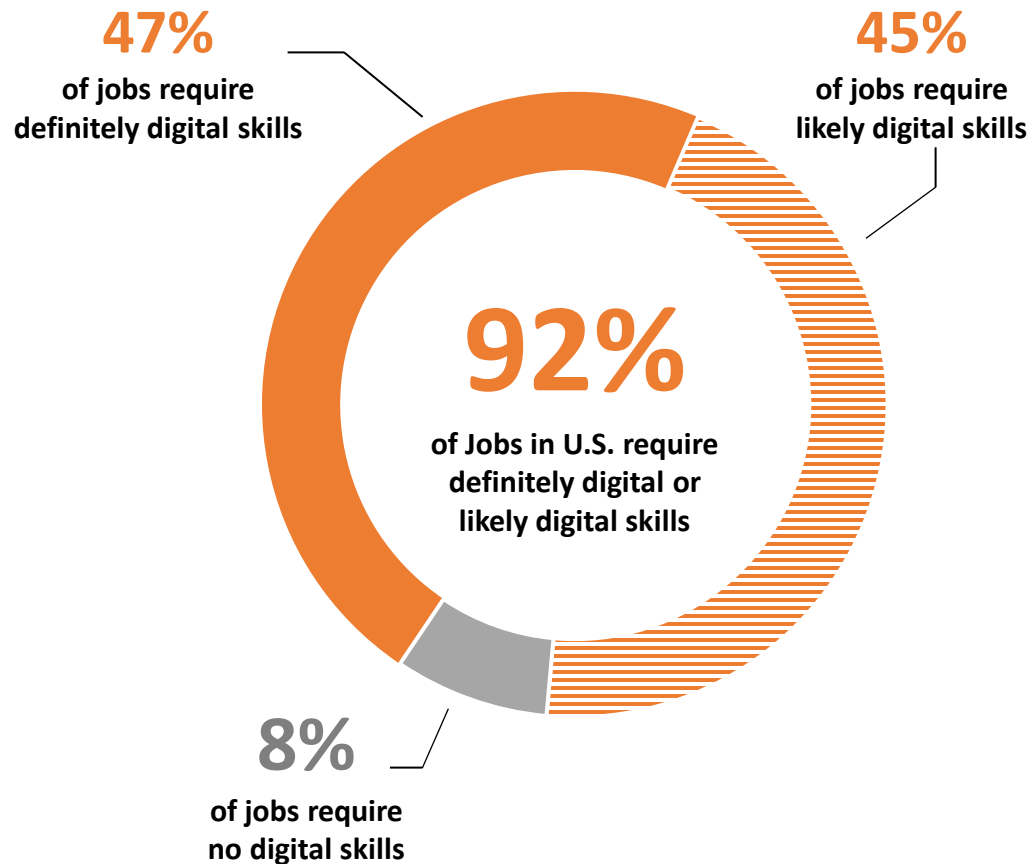
We analyzed 43 million job ads

- Ads were posted online in 2021
- The average ad sought **8 skills**
- We hand-coded skills to understand which ones were definitely digital, likely digital, or not digital





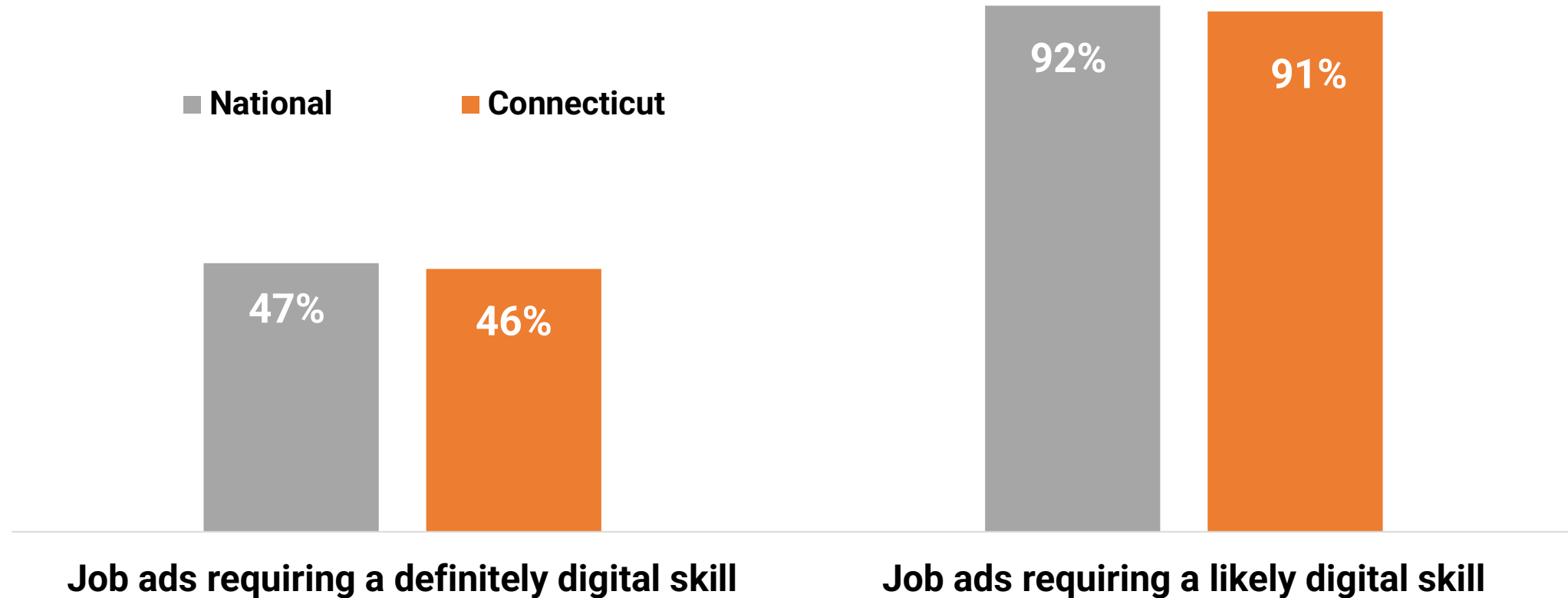
Virtually all of today's jobs require digital skills



- **Definitely** digital: Microsoft Excel; Python language
- **Likely** digital: Bookkeeping; survey design
- **Not** digital: Ironing; changing diapers; problem-solving



Connecticut employers are close to the national average in requiring digital skills





Every industry needs digital skills

- The percent of job ads requiring digital skills ranges from **77%** to **99%** depending on industry sector
- This includes industries not always spotlighted in tech discussions, such as **manufacturing** (93%), **construction** (91%), **utilities** (91%) and **accommodation and food services** (85%).

Let's take a look at some real-life digital skills...



Construction workers using mobile apps to submit work-order changes.



Welders using collaborative robots (“cobots”) in advanced manufacturing.

Photo credit: Smooth Robotics



Medical office staff supporting telehealth patients.

Greenhouse workers using plant sensor technology.





Food processing plant workers using a human-machine interface (HMI) to manage robots.



Aerospace workers using augmented reality.



Photo credit: Airbus



The bottom line:
Even entry-level positions now
require digital skills.





Jobs that require very little work experience still need digital skills

Amount of work experience required	Percentage of job ads requiring <u>likely</u> digital skill	Percentage of job ads requiring <u>definitely</u> digital skill
0-2 years	95%	49%
3-5 years	98%	71%
6-8 years	99%	81%
9+ years	98%	75%



Jobs that require limited education nevertheless need digital skills

Educational credential required	Percentage of job ads requiring <u>likely</u> digital skill	Percentage of job ads requiring <u>definitely</u> digital skill
High school diploma	94%	46%
Associate's degree	97%	47%
Bachelor's degree	99%	74%
Master's degree	97%	46%
Ph.D.	97%	39%

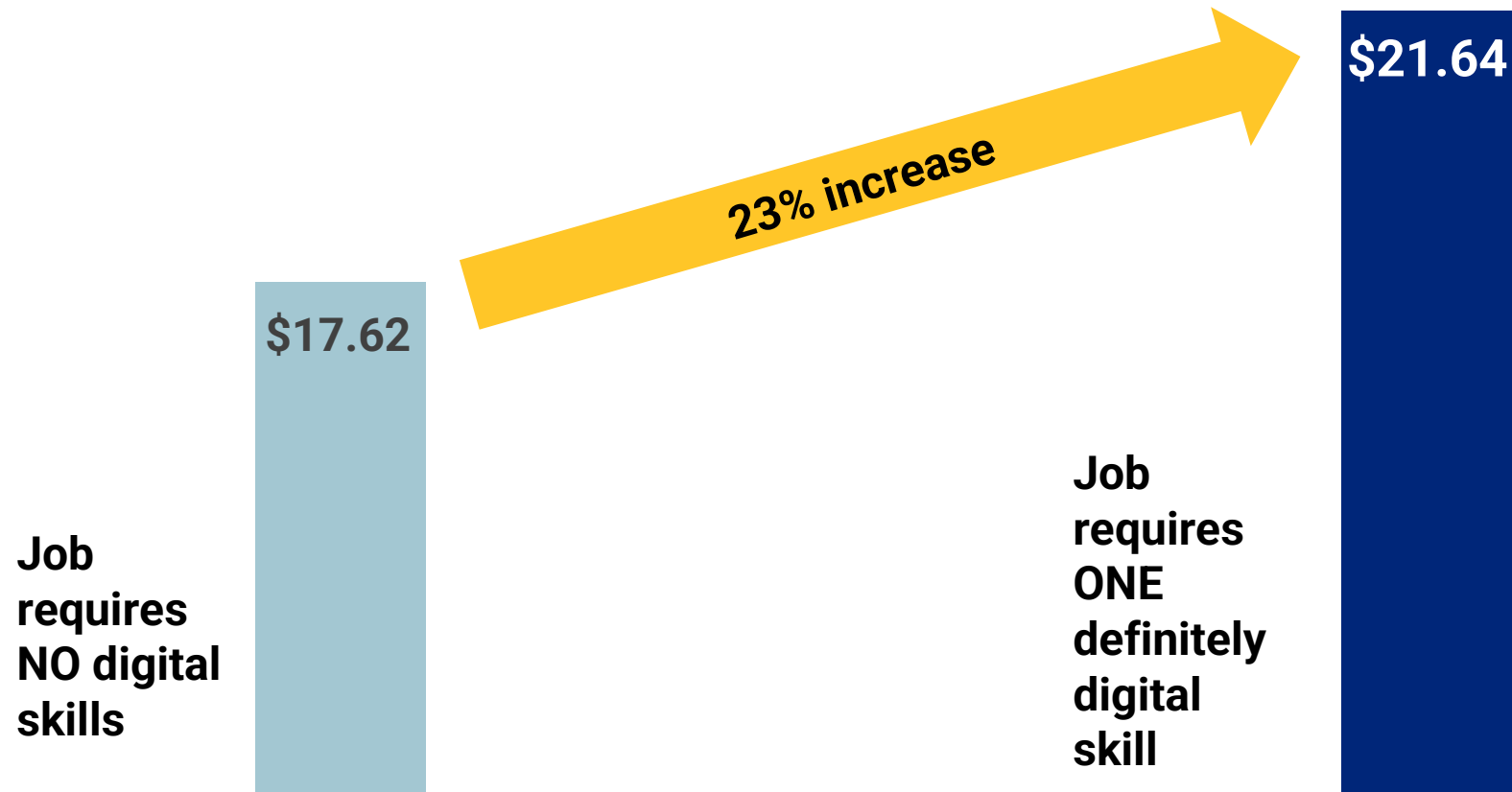
Counter-intuitive but true:

Younger workers need to develop digital skills too!





Jobs that require digital skills pay more



*Note: Numbers shown are median hourly wages. People who qualify for jobs that require even one digital skill can earn an average of 23 percent more than those working in jobs requiring no digital skills – an increase of \$8,000 per year for an individual full-time worker. Data shown are national data. For details, see full report: **Closing the Digital Skill Divide** (National Skills Coalition, 2023.)*



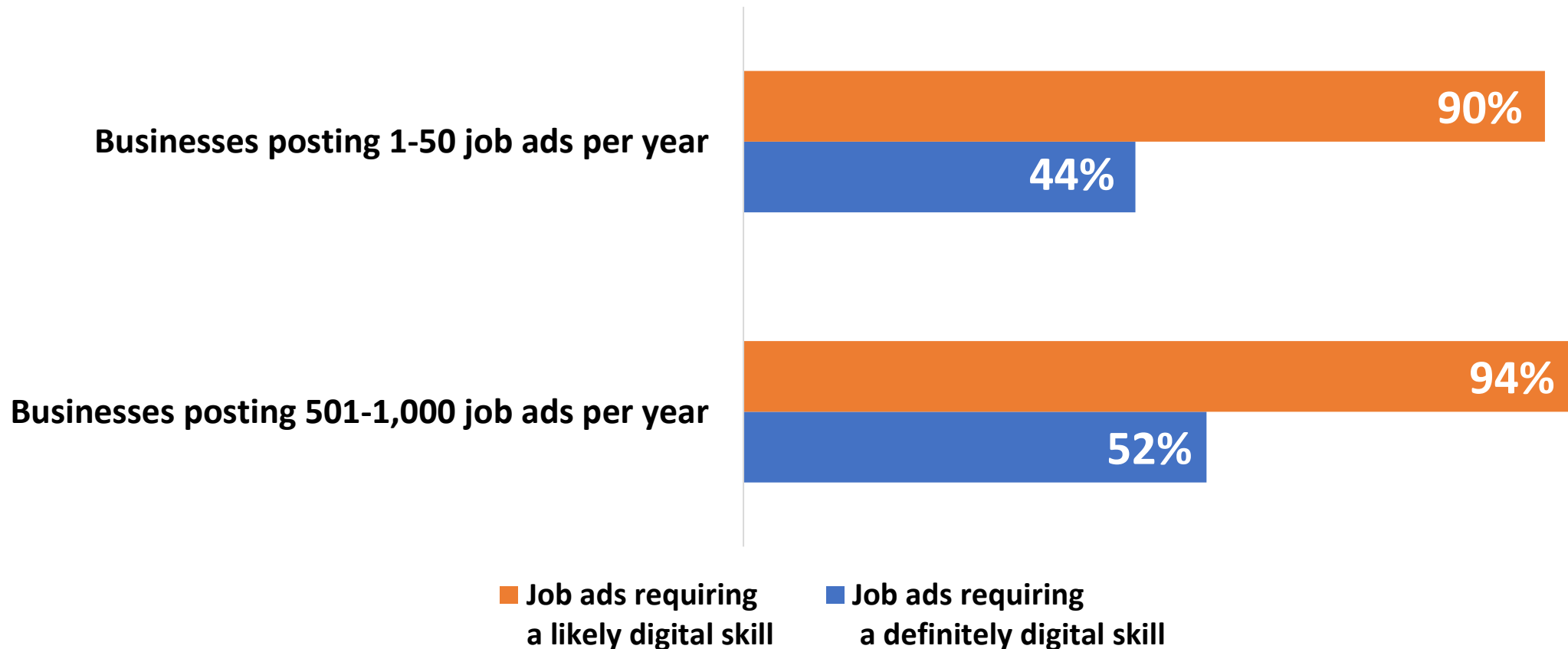
Higher pay leads to greater economic vitality for Connecticut

- Workers who earn higher wages by moving to a job that requires one digital skill will typically **contribute more** in tax revenue.
- Depending on the household size and composition, this amount could range from **\$1,982** to **\$3,964** per year in federal tax revenue, plus additional state and local taxes.

Note: Example calculated via taxsim.app: an interactive US Individual Income Tax simulator.



Small businesses also need workers with digital skills

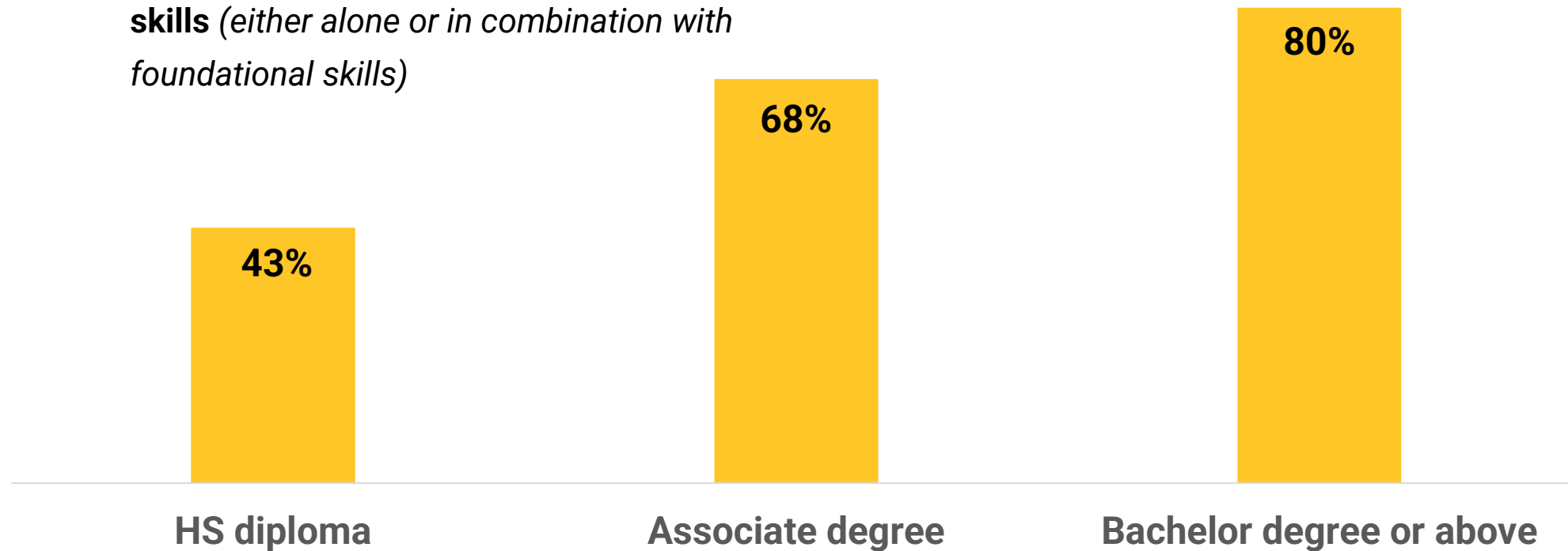


*Note: National data. For details, see full report: **Closing the Digital Skill Divide** (National Skills Coalition, 2023.) The dataset used for this analysis does not directly measure the size of a company, so we inferred firm size based on the volume of job ads posted by the company in a year.*



Workers need *both* foundational and industry-specific digital skills

■ Job ads requiring industry-specific digital skills (either alone or in combination with foundational skills)



Note: National data. Numbers reflect percentage of jobs requiring an industry-specific digital skill within the subset of jobs that require at least one definitely digital skill. Percentages would be even higher if including jobs with only likely digital skills.

**That was a big wave of data!
Let's pause for a moment.**





**NATIONAL
SKILLS
COALITION**

Every worker. Every industry.
A strong economy.

**How can education and workforce advocates
take action now?**

1. Participate in public comments for BEAD Action Planning and State Digital Equity Planning.





2. Advocate for investment in digital skill-building strategies that work well:



More details in the full report:
www.tinyurl.com/BoostingDL

- ▶ **Industry sector partnerships** between educational institutions and employers
- ▶ **Contextualized** and integrated learning
- ▶ **Industry-recognized credentials** that are **portable** and **stackable**



3. Create or expand broadband apprenticeship programs and other “earn and learn” opportunities that allow workers to upskill without debt.



4. Establish industry partnerships for broadband workforce development, and support their capacity to engage in equity-advancing practices.



5. Embed digital skill-building opportunities throughout other programs, such as incumbent worker training.





6. Start planning now to prepare for competitive grant opportunities in 2024.

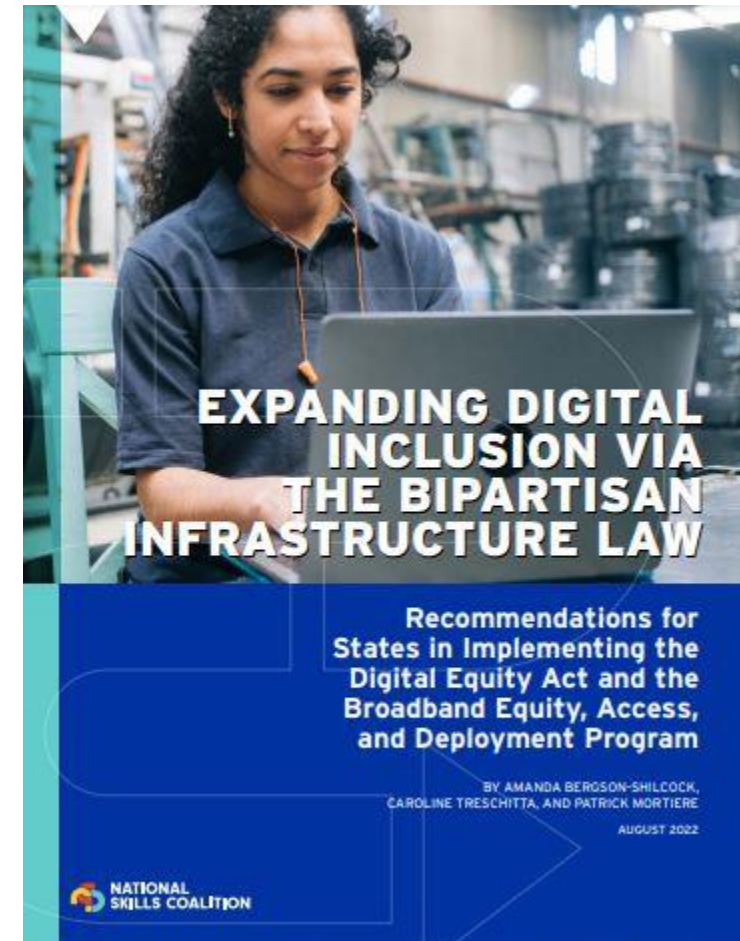


**Time for your
questions!**



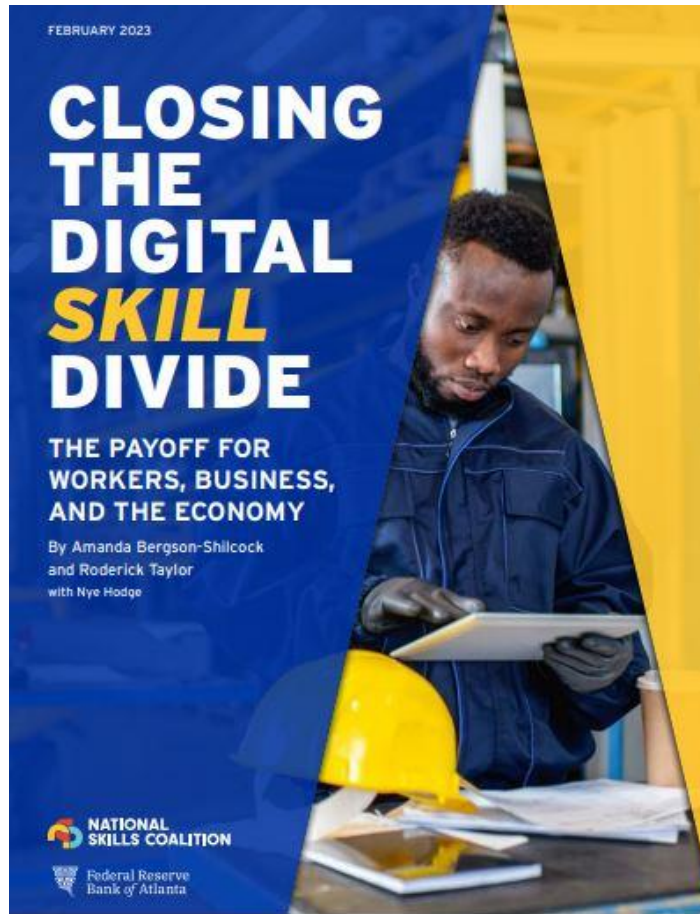
Knowledge to action: Additional resources

- Check out NSC's [Digital Equity Act 101 fact sheet](#)
- NSC's Digital Equity Act and BEAD [recommendations](#) (see *right*) may also be helpful





Full report: *Closing the Digital Skill Divide*



<https://tinyurl.com/DigitalSkillDivide>

The New Landscape of Digital Literacy

How workers' uneven digital skills affect economic mobility and business competitiveness, and what policymakers can do about it.



Full charts and graphs in this data report:
tinyurl.com/NewLandsDL



Sign on to our principles!

A digital skill foundation for all.

All workers need the opportunity to develop broad-based, flexible digital problem-solving skills for current technologies and ongoing technological shifts.

Ongoing upskilling for every worker in every workplace.

Workers in every industry need the opportunity to develop industry- and occupation-specific digital skills to adapt and advance in their careers.

Rapid re-skilling for rapid re-employment.

We need to be ready for sudden disruptions to the labor market or specific industries. Policies should support rapid reskilling so workers can move from one industry to another.

Sign on to our principles: tinyurl.com/DigitalEquityAtWork



Stay in touch

Amanda Bergson-Shilcock

Senior Fellow

215-285-2860 (mobile)

amandabs@nationalskillscoalition.org

Yasmin Fallahkhair

Senior State Network Manager

yasminf@nationalskillscoalition.org