

To: State broadband offices
From: Jake Varn and Harrison Frye, The Pew Charitable Trusts
Date: July 21, 2023

Subject: Workforce Development Memo

The following memo contains updated information on how state and territory broadband offices can address workforce capacity demands to meet broadband deployment needs under the Broadband Equity, Access, and Deployment (BEAD) program and other programs.

Workforce development plans

The funds currently flowing to states from the federal government for broadband expansion have created a pivotal opportunity to address the digital divide, but workforce shortfalls for the construction and maintenance of broadband networks run the risk of delaying projects and keeping people disconnected. Congress anticipated this challenge and, through the Infrastructure Investment and Jobs Act (IIJA), charged state broadband offices with identifying broadband workforce shortages and creating plans to address them.

The National Telecommunications and Information Administration (NTIA) issued guidance on how it will assess compliance with Congress' mandate. This memo provides an overview of national broadband workforce needs, federal compliance requirements for states, considerations for planning, and examples of implementation.

Key highlights

- Investments in workforce development will be needed to achieve the scale and speed of broadband deployment promised by BEAD.
- Creating a workforce plan and ensuring compliance with labor standards are requirements for states and territories as part of the IIJA BEAD program.
- NTIA outlined options for how states may build upon those requirements to enhance their efforts. Official guidance is clear that states may either:
 - Use planning and grant dollars from their BEAD allocations to support these efforts.
 - Incentivize private sector partners to incorporate specific workforce components or programs into their projects (e.g., participate in a state-supported training/apprenticeship program or offer child care services).
- Broadband offices should look to partners in state agencies for guidance on existing efforts and on how BEAD workforce initiatives may complement them.

Why workforce development matters

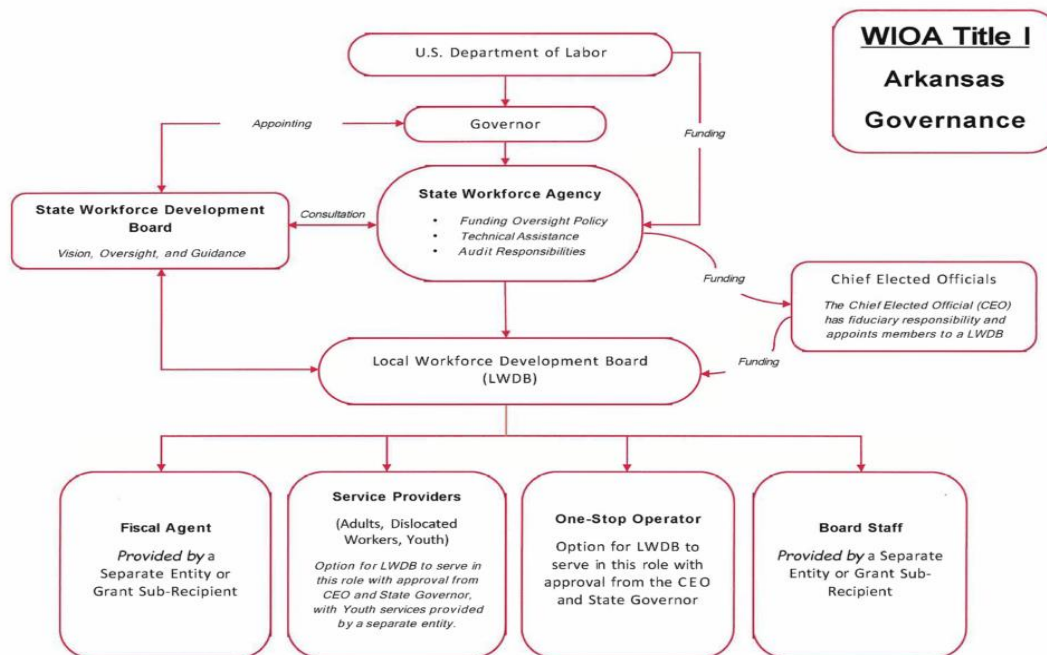
Over the past decade, the telecommunications workforce [has been shrinking](#)—from 850,000 in 2013 to 655,000 in 2023. The U.S. Department of Commerce estimates that IIJA could create up to [200,000 jobs](#) for the construction and support of broadband networks. As it exists now, the broadband workforce is

not prepared to handle the influx in demand that IJA funds will create nationwide. The Fiber Broadband Association [similarly projects](#) that 205,000 fiber-optic technicians will be needed over the next five years to meet the demand. Workforce shortfalls also tend to fall hardest on [areas most in need of deployment](#), including disconnected rural and Tribal communities. A well-trained and diverse workforce will be crucial to ensuring that future broadband projects can be built in a timely manner and to prevent delays in service to unserved and underserved communities.

A 2022 [study from the Brookings Institution](#) grouped broadband jobs in the following categories: construction, installation and maintenance, machinery, customer service, and cloud support. These roles require a range of technical and physical skills, as well as project management and interpersonal skills, but do not necessarily require specialized training or college degrees. Additionally, research indicates that many of these jobs are “feeder occupations”—roles in which individuals can easily learn additional skills or retrain into a skill-adjacent, and often more lucrative, role. For example, an insulation worker could be retrained to become an electrical substation repairer.

Across industries, states and territories play a critical role in workforce development, serving as a catalyst between federal funding and local workforce development boards. The [Workforce Innovation and Opportunity Act of 2014](#) (WIOA) requires states to align their core workforce development priorities with the needs of job seekers and employers in four-year action plans and provides significant funding for state and local programs. These resources, and other state and local efforts, will be fundamental to meeting the broadband workforce needs that each state and territory will face.

Sample Workforce Development Governance Chart



Source: Arkansas Division of Workforce Services, [Arkansas Workforce Development Board](#) (2023)

Components of workforce plans

As detailed in the BEAD Notice of Funding Opportunity (NOFO), states and territories are required to incorporate workforce planning efforts into their five-year action plans and their initial proposals. In the five-year action plans, states must demonstrate how their broadband plans align with other existing, non-broadband workforce strategies that the state has created and must also detail how the state aims to guarantee that an available and highly skilled workforce will exist to ensure that projects can be completed without disruption while maintaining strong labor standards. The initial proposals from states and territories will have to take this one step further and provide specific details on how deployment funds may be used for workforce development and training programs. NTIA's [workforce planning guide](#) identifies four main components for workforce plans to make sure that states are able to build a well-trained workforce while also ensuring that opportunities are equitable and federal labor laws are complied with.

1. *Ensure compliance with federal labor and employment laws, including for the administering entity and all subgrantees.*
2. *Support the growth of a skilled workforce* that will construct broadband in the near term for BEAD-funded projects and ensure operation and growth of the networks in the future. Approaches for creating a highly skilled workforce can include creating or using apprenticeship programs, setting standards for credentialing, and ensuring that subgrantees offer jobs that exceed prevailing wages.
3. *Build equitable talent pipelines, including considering targeting specific populations for recruitment and skill improvement initiatives.* To help support a diverse workforce, states can consider promoting pre-apprenticeship programs and removing barriers to entry such as unnecessary degree requirements and limitations on hiring formerly incarcerated individuals. States and territories will be expected to explain their commitment to supporting a diverse workforce, detail their strategies for ensuring equitable opportunities, and provide demographic information for subgrantee awarded projects. Directing funding, or creating allowable expenditures by subgrantees on supportive workforce benefits such as child care, can directly facilitate the recruitment and retention of a more diverse and inclusive workforce.
4. *Advance contracting practices to ensure compliance with NOFO requirements and open opportunities to small and minority-owned businesses.* Contractors and subcontractors play a critical role in the broadband construction process and are therefore also part of this workforce. Subsequently, these contracted groups will be subject to the same BEAD workforce plan standards as the administering entity, and the groups will be considered by NTIA when reviewing a state or territory's five-year action plan, initial proposal, and final proposal.

Section 2 of the NTIA Workforce Planning Guide specifies eligible uses of funds within each of those four categories, as well as recommendations for enhancements to projects, including establishing dedicated apprenticeship programs, using project labor agreements, and removing limitations on employment to previously incarcerated individuals.

Strategies for workforce planning and program development.

Meeting the requisite workforce development needs and federal requirements will require clear goals and a dedicated strategy that can be executed quickly. But state and territory broadband offices have several assets they can leverage, including partners within state government, funding to incentivize

behavior, and strong relationships with internet service providers (ISPs). NTIA recommends that states follow a workforce planning process, which should be completed alongside the five-year action plan and the initial and final proposals. Recommended steps include:

Form a workforce team: Broadband offices should form and leverage a workforce team from across relevant state agencies. A workforce team can outline the responsibilities associated with developing workforce plans and identify other relevant state resources that are contributing to workforce planning across state and federal programs.

Understand the workforce landscape: Broadband offices should analyze broadband workforce needs, inventory existing workforce policies or initiatives, and identify barriers to scale hiring or training to the size necessary for deploying BEAD.

State example: In March 2023, the Public Service Commission of Wisconsin used its BEAD planning funds to issue [BEAD workforce planning grants](#) to two local organizations to support the state’s asset mapping and strategy development.

Work with partners: Broadband offices should engage with partners from federal, state, regional, local, Tribal, and private entities, including businesses, unions, and relevant associations, to gather consensus and promote solutions. This will ensure diverse input, promote consensus, and create a process to address conflicts. Offices should consider partnering with workforce development stakeholders, such as employers or community groups, that have experience creating workforce programs that set specific goals or target specific populations. Such partnerships will help states to quickly and efficiently meet their workforce goals such as reaching out to diverse communities, sharing data, and creating learning opportunities.

State example: In September 2021, the Ohio Governor’s Office of Workforce Transformation and the state’s broadband office, BroadbandOhio, partnered to release “[Strengthening Ohio’s Broadband & 5G Workforce Strategy](#)”—drafted after consultation with a range of stakeholders, including ISPs, industry groups, and two- and four-year colleges—to assess the needs and challenges faced in the state.

Align goals with programs and policy: States and territories should have a clear vision and set obtainable goals for how they plan to support the growth of their available, qualified workforces. To start, states and territories should examine existing goals to judge whether they fit the needs of the BEAD program and otherwise adjust accordingly. Goals should be realistic, measurable, and obtainable and should consider not only what the entity will need for the deployment of the BEAD program but also what it will require to maintain its telecommunications networks in the long term.

NTIA’s workforce guide and past research from [The Pew Charitable Trusts](#) offer additional information and recommendations on how to design an inclusive and meaningful workforce development strategy.

Local example: With a goal of increasing diversity and equity in construction contracting, the city of Portland, Oregon, developed a [community equity and inclusion plan](#), which includes tracking of contractor and subcontractor workforce data; dedicated funding for expanding opportunities for low-income, disadvantaged, minority, and women workers in the construction trade; and enforceable requirements on the hiring and retention practices of awarded contractors. For broadband in particular, the current state of the industry should be taken into consideration when setting goals. Currently, the

broadband construction workforce sees a high degree of turnover and significant gaps in age, gender, and racial diversity.

Identify all available sources of funding: States and territories should pull from additional federal, state, and philanthropic funding sources to support workforce training programs. One opportunity is to work with federally funded job programs such as the WIOA programs, under which governors have [significant discretion](#), to meet their state and territory priorities. Additionally, for broadband offices that are partnering with other offices within the state, there may be additional funding for workforce development from other parts of [IIJA, the CHIPS and Science Act, and the Inflation Reduction Act](#).

Considerations for state leaders

The billions in federal funding for broadband deployment is arriving in states and territories during a period when the telecommunications workforce has been shrinking. Across the country, hundreds of thousands of newly trained workers will be needed to build the networks that BEAD will fund. With only five years to deploy funds and complete projects, state and territory broadband offices need to devote significant time and resources today to develop a strategy to meet this workforce need and launch recruitment and training programs. Connecting with relevant state and territory workforce development agencies is a critical first step for every broadband office.

Historically, isolated workforce development efforts that [fail to align](#) training curriculum with industry needs have fallen short of creating the necessary high-quality jobs. But by leveraging existing resources that align with broader state goals and creating new pipelines to specifically recruit, train, and support the broadband workers who will be needed, broadband offices can ensure that the infrastructure investments they are making in their states and territories are being built, operated, and maintained by their residents.

Additional resources

- NTIA, [Workforce Planning Guide: Guidance for BEAD Program Eligible Entities](#)
- Fiber Broadband Association, [Broadband Workforce Development Guidebook: Workforce for Implementing BEAD and Other Broadband Deployment Programs](#)
- America Achieves, [Creating and Expanding a Diverse Broadband Workforce With Good Jobs and Career Pathways](#)
- National Governors Association, [Leveraging Registered Apprenticeship to Build a Thriving and Inclusive Economy](#)
- National Conference of State Legislatures, [Partnering to Evaluate Workforce Development Programs and Build Evidence Capacity](#)
- U.S. Economic Development Administration, [Planning and Local Technical Assistance Program](#)
- U.S. Department of Labor, Employment and Training Administration, [Workforce Tools, Strategies and Technical Assistance](#)