

# Workforce Primary Strategy 1: Program Design



*Program Design sets the approach, goals and areas of focus for the program. It sets out how the work will be accomplished and is a powerful way to articulate both the strategy for the work and the stakeholders involved in its development. Competitive BIL and IRA grant submissions require an articulation of how the funding will be used, and the design for the workforce development programming will directly demonstrate the specific model and its associated investments.*

Program design includes five substrategies. Use the links below to jump directly to the strategy of interest.

Program Design Substrategies		
<a href="#">1a - Earn and Learn Models</a>	Apprenticeship, pre-apprenticeship, and subsidized on-the-job training (OJT)	JQ Principles: Earnings, Schedules, Environment and Culture
<a href="#">1b - Occupational Skill Development</a>	Two- or four-year degrees, K-12 dual enrollment, career technical education, credentials and micro credentials	JQ Principles: Learning and Development
<a href="#">1c - Essential Skill Development</a>	English language skills, digital literacy, customer service, problem solving, empathy, collaboration, emotional intelligence, communication, creative & critical thinking, collaboration, dependability and resourcefulness	JQ Principles: Learning and Development, Purpose and Meaning
<a href="#">1d - Supportive Services</a>	Food, shelter, physical/mental health support, childcare, stipends/ cash aid, certifications/materials, transportation, and other population-specific needs (e.g., English language, expungement)	JQ Principles: Benefits
<a href="#">1e - Business Support</a>	Subsidies, tax or other incentives and access to capital, incubators, business process evaluation and feasibility studies	JQ Principles: Environment and Culture

## 1a - Earn and Learn Models

Earn and learn models such as apprenticeship, pre-apprenticeship and on-the-job training are developed in close coordination with industry councils and individual employers. Workforce boards, the K-12 system, community colleges and other trade schools can also be important partners in designing these approaches to ensure recruitment of underrepresented individuals and inclusion of the necessary supports for success. These models can be vital pathways out of poverty for underserved individuals, as well as critical training mechanisms to address burgeoning infrastructure labor needs.<sup>1</sup> These models create highly skilled employees while reducing turnover costs, increasing productivity and establishing a more diverse and inclusive workforce. Using IRA and BIL funds, cities may incentivize employers to hire apprentices from existing trade programs or may work with local education, workforce and employer partners to design new registered apprenticeship and pre-apprenticeship programs which will meet the anticipated need for talent. Learn more about IRA apprenticeship requirements [here](#) and learn more about local and economic hiring provisions, including apprenticeship and pre-apprenticeship [here](#).

### Key Features

Key features of workforce development earn and learn models often include:

- **In Demand:** A strong connection to critical skills such as those in the construction trade (carpentry, electricity, plumbing, welding, or heavy equipment operating and green techniques), civil engineering, water resource management and sustainable building practices, broadband installation, advanced manufacturing, as well as emerging technologies such as automation.
- **Partnership:** Strategic partnerships between employers and educators to combine classroom instruction with field experience, offering the individual technical and essential skill acquisition opportunities while gaining exposure to organizational culture, leadership and workplace expectations. This reduces a skills-mismatch between what the employer needs and what the education program provides, saving both student and employer valuable time and money on retraining.
- **Earnings:** Earn and learn models provide the opportunity for employers to quickly benefit from apprenticeship or on-the-job trainee contributions while the individual begins to generate a living. This reduces tradeoffs between an individual advancing their education and earning an income to cover basic costs. It can also reduce hiring costs for the company as they have a chance to test out the individual's skill and fit directly during the training program.
- **Flexibility:** Earn and learn models can be paired with additional supportive services such as mental health support, childcare subsidies and transportation to ensure the individual has a successful transition into the work-based experience. Such support may need to be ramped up or down over the course of the individual's journey and may be provided or paid for by different sources including government subsidies, philanthropic support, or employers as the individual transitions from training into full-time employment.

<sup>1</sup> [National Skills Coalition Report on Unprecedented Opportunity: Meeting the Workforce Demands of New Clean Energy, Manufacturing, and Infrastructure Investments](#)

- **Equity and Good Jobs:** Apprenticeships and other on-the-job training models linked to careers in the construction, advanced manufacturing and climate spaces provide a clear pathway to a good job with future economic mobility and are ideal offerings to address the systemic issues that many underserved communities have faced in entering the workforce. When such roles are further linked to organized labor, this can help to address hiring bias and pay inequity through union labor agreements, project labor agreement and beyond. When coupled with city policies such as local hire or community benefits agreements, these earn and learn models ensure that the benefits from the infrastructure and climate investments will at least partially remain in the communities where the projects are.

## Ways to Explore Earn and Learn Models

In considering these models, cities do not need to start from scratch. There are three key ways cities might think about this work or the purposes of their proposal:

- **Leverage and Expand Existing Local Programs:** Connect with the local workforce board, and its employer and union partners, to understand which programs in construction, manufacturing and green energy are working and where infrastructure funding might be used to expand the number of available seats for participants, create new recruiting pathways to target underserved communities or adapt curriculum to incorporate specific green skills.
- **Take Advantage of State or Local Partnerships:** Work with your board to tap into existing partnerships such as DOL's with Job Corps for electric vehicles, or programs like [California's High Road Training Partnerships](#), to bring the existing program to your area.
- **Create New Programs in Partnership with Workforce Development:** Partner with your workforce board, and their employer and community college partnerships, to prioritize developing new apprenticeships in fields where there is a gap. Apprenticeship programs may be created to meet the needs of one or more employers and must be certified either by the state or the Department of Labor. A community college or workforce board can take the lead on course development and certification, working closely with an employer partner.

## Tactical Ways to Use the Infrastructure Investments for Earn and Learn Models

The BIL and IRA investments are a prime opportunity to apply such models because of the massive talent needs in construction, manufacturing, broadband and climate industries. Cities can include the development or expansion of such models in their funding proposals and plans in a number of ways:

- **Allocate a portion of the proposed grant funds to identify specific skills needed** for upcoming infrastructure projects and corresponding program design to provide them. For example, BIL allows states greater flexibility in using funds from four programs within the Fixing America's Surface Transportation Act (FAST Act) for developing or expanding apprenticeship programs. These programs include:
  - National Highway Performance Program (NHPP)
  - Surface Transportation Block Grant Program (STBGP)
  - National Highway Freight Program (NHFP)
  - Congestion Mitigation and Air Quality Improvement Program (CMAQ)

- Blend BIL/IRA grants and WIOA, SNAP and TANF to create pathways for underserved individuals into [manufacturing](#) and [construction](#) careers through local apprenticeships and pre-apprenticeships which include necessary wraparound services. For example, take advantage of the allowable portion of [Broadband Equity Access and Deployment \(BEAD\)](#) funds for last-mile broadband deployment projects that can be used for broadband training or Buses and Bus Facilities/Low or No Emissions competitive grants and pair it with WIOA to cover transportation or Supplemental Nutrition Assistance Program Employment and Training (SNAP E&T) or Temporary Assistance for Needy Families (TANF).
- Dedicate a percentage of the grant to partnering with community colleges or vocational schools and high schools to deliver the necessary training for emerging fields. For example, use funds to work with community colleges on incorporating the 20-hour training course from the Electric Vehicle Infrastructure Training Program into existing apprenticeship curriculum to equip electricians and other career paths for careers with electric vehicles.
- Coordinate with state leadership to include requirements to dedicate a portion of funding to earn and learn models in the five-year Human Capital Plan. Such plans are encouraged but not required by BIL to forecast the immediate and long-term workforce needs that will be addressed through transportation and public infrastructure investments.
- Build in time and budget to conduct community listening sessions to understand worker perceptions, access to and interest in work-based learning models. These can also help in crafting customized marketing and outreach approaches in alignment with equity action plans, as well as executive orders aimed at making apprenticeships more accessible and inclusive.<sup>2</sup> This is also aligned with BIL's overall emphasis on public participation in the planning and development of infrastructure projects so they address the needs of the communities they serve.
- Embed disaggregated data collection and analysis into all grant proposals and plans to better understand who is impacted by a given project and identify gaps in representation and participation. This includes reporting not only who successfully enters a job but also who enrolls in training and completes an apprenticeship, pre-apprenticeship or other earn and learn model. This is directly aligned with BIL's emphasis on the importance of data collection and reporting about how infrastructure investments impact equity and job quality. It is also aligned with [Executive Order 14091: Further Advancing Racial Equity and Support for Underserved Communities](#) which encourages robust data disaggregation.
- Infuse requirements for high-quality training into city-funded programs with the aim of preventing and addressing possible harassment and discrimination and creating a more inclusive workplace culture. For example, "[Oregon Metro requires that all levels of workers on a job site participate in ongoing training focused on bystander interventions aimed at reducing sexual and racial harassment and bullying.](#)"

2 [Executive Order 14039: Scaling and Expanding the Use of Registered Apprenticeships in Industries and the Federal Government and Promoting Labor-Management Forums](#) and inclusive [Executive Order 13985: Advancing Racial Equity and Support for Underserved Communities Through the Federal Government](#)

**Resources for Designing an Earn and Learn Model as Part of Your Funding Pursuit**

<p>Pre-Apprenticeships</p>	<ul style="list-style-type: none"> <li>• <a href="#">Pre-Apprenticeship Program Registration</a></li> <li>• <a href="#">Explore Pre-Apprenticeship</a></li> <li>• <a href="#">Principles for High Quality Pre-Apprenticeship</a></li> <li>• <a href="#">Building a Statewide System for High Road Pre-Apprenticeship: Lessons from the California Clean Energy Jobs Act</a></li> <li>• <a href="#">Youth Build</a></li> </ul>
<p>Apprenticeships</p>	<ul style="list-style-type: none"> <li>• <a href="#">A Quick-Start Toolkit, Building Registered Apprenticeship Programs</a></li> <li>• <a href="#">Building and Growing Apprenticeships with Equity in Mind</a></li> <li>• <a href="#">Registered Apprenticeships, A Toolkit for Small and Medium-Sized Employers</a></li> <li>• <a href="#">High Road Construction Careers</a></li> <li>• <a href="#">Apprenticeship is a Win-Win for Workers and Employers</a></li> <li>• <a href="#">Legislation, Regulations and Guidance</a></li> <li>• <a href="#">Building Systems For Success: Key Considerations For Youth Apprenticeship System Design</a></li> <li>• <a href="#">Apprenticeship Equality Opportunity Employment Toolkit</a></li> <li>• <a href="#">Advancing Apprenticeship: Opportunities For States And Business To Create And Expand Registered Apprenticeship Programs</a></li> </ul>
<p>On-the-Job Training</p>	<ul style="list-style-type: none"> <li>• <a href="#">Guide to Good Practices for On-the-Job Training</a></li> <li>• <a href="#">On-the-job training: building a program that works</a></li> <li>• <a href="#">On the Job Training Guidance - Example from California</a></li> </ul>

**Recent BIL/IRA Examples**

**Phoenix, AZ: PHX Cultural Corridor** ↗

The city of Phoenix received funding to create a “Cultural Corridor” that will reconnect several disadvantaged communities near the city’s international airport to downtown Phoenix. The PHX Cultural Corridor will be maintained by Phoenix’s Street Maintenance Division, which has a maintenance worker [apprenticeship program](#). This program, a partnership between the City of Phoenix Street Transportation Department and Laborers' International Union of North America (LIUNA), Local 777, offers a competitive starting salary, regular wage increases, on-the-job training and certifications, and a non-competitive promotion upon successful completion of the program.

**Madison, WI: Wisconsin Electrical Apprenticeship & Training** ↗

The organization, jointly sponsored by the Wisconsin Chapter of the National Electrical Contractors Association and Local Unions, delivers electrical apprenticeships, which combine structured on-the-job training with related classroom instruction. Apprenticeships provide a complete education in all aspects of the craft, and training extends beyond the specific skills required by any one employer. Successful trainees will be staffed on many BIL- and IRA-funded projects requiring electrical expertise.

### [San Bernardino, CA: Brightline West High-Speed Intercity Passenger Rail System - High Desert Stations Project](#) ↗

The San Bernardino County Transportation Authority (SBCTA), in partnership with [Brightline West](#), has been awarded a \$25 million federal grant to build stations in Victor Valley and Hesperia for the high-speed rail line between Las Vegas and Rancho Cucamonga. Brightline West plans to partner with educational institutions on pre-apprenticeship programs and other workforce pipelines that will support union partners during construction and on career pathways to good-paying administrative and professional jobs during operations.

See additional examples, organized by [NOFO](#).

## Other Examples from Manufacturing, Construction, Technology and Climate

### [Santa Fe, NM: Fab Hub Lab](#) ↗

The Hub offers a registered apprenticeship for an additive manufacturing technician. The one-year program will provide on-the-job training for workers at the company's Santa Fe location and lead to full-time employment operating a range of 3D printing machines. In addition, the education component of the new apprenticeship will utilize New Collar Network Digital Badge micro-certifications developed partially through funding from America Makes.

### [St. Peters, MO: Zumwalt Apprenticeships](#) ↗

The Fort Zumwalt Apprenticeship Program offers courses that include: Industrial Tech, Business, FACS, Healthcare, IT, etc. Applicants who have completed the course will be asked to interview at a local business partner for the apprenticeship position they have selected. If hired, the applicant will be registered with the USDOL Recognized Apprenticeship Program, and complete the requirements set forth by the program. Minimum hours of on-the-job training is 2,000 hours.

### [Oakland County, MI: Oakland County Michigan Works!](#) ↗

The program partners with employers to launch registered apprenticeship programs. [Apprenticeships](#) combine classroom study with paid, on-the-job training under the supervision of a journey-level craftsperson or trade professional as a mentor. [Many apprenticeships](#) are in the building trades and manufacturing fields (e.g., carpenter and machinist), and also available in health care, social services, education, law enforcement, child care development, and new emerging sectors, including information technology, energy, telecommunications and others.

### [Teaneck, NJ: Cognizant](#) ↗

Cognizant partners with Central Piedmont Community College in Charlotte, North Carolina, to offer a tuition-free, unpaid pre-apprenticeship Java Training program designed to bridge the skills gap from non-technical to software developer. The training consists of 12 weeks of remote learning with self-directed exercises, projects and homework plus real-time instructor-led online training. After completing the training, participants may go on to a paid apprenticeship with Cognizant as a full-stack developer.



**Charlotte, NC: Charlotte Water** ↗

Charlotte Water launched its first Water Apprenticeship in June 2018, and soon thereafter, launched its Pipeline Academy programs. These specially crafted programs seek to develop and support a pipeline of future workers with the skills and abilities needed to fill entry-level positions in water/wastewater or similar industries.

**New York, NY: Pathways to an Inclusive Economy - An Action Plan for Young Adult Career Success** ↗

New York City received \$1.7 million from USDOL's Building Pathways to Infrastructure Jobs Grant for New York City Department of Youth and Community Development (DYCD) and the Metropolitan Transit Authority (MTA) to pilot a new electrical pre-apprenticeship for 50 out-of-school and out-of-work young adults, partnering with Commonpoint Queens, LaGuardia Community College, Queensborough Community College, and the Consortium for Worker Education. The city has placed 400 DOE students into apprenticeships since the announcement of a partnership between [DOE, CareerWise New York, and NY Jobs CEO Council](#).

**Evidence Base for Earn and Learn Models**

There is evidence both from the US and abroad indicating the apprenticeship programs executed in accordance with existing standards for classroom and on-the-job training hours produce higher earnings for individuals and other benefits to society.

- [Off to a Good Start: Jobs for Youth](#) by the Organization for Economic Cooperation and Development
- [The Benefits and Costs of Apprenticeship](#) by Case Western Reserve and the Department of Commerce
- [An Effectiveness Assessment and Cost-Benefit Analysis of Registered Apprenticeship in 10 States](#) by Mathematica
- [Evaluation of Registered apprenticeship training in the U.S. construction industry](#) by Glover, R. W., & Bilginsoy, C.
- [Handbook of Economies of Education, Apprenticeship](#) by Stefan C. Wolter and Paul Ryan
- [Evaluation of the American Apprenticeship Initiative](#) (AAI) by US Department of Labor
- [Is apprenticeship better? A review of the economic evidence](#) by Paul Ryan
- [A Program Evaluation of an Apprenticeship Program using Stufflebeam's CIPP Model](#) by To, Oai C.

## 1b - Occupational Skill Development

Occupational skill development is focused on delivering the knowledge and abilities an individual needs to perform a specific job or enter a particular profession. It may be delivered alone, such as through a single course at a high school or community college, or may be integrated into a more robust earn and learn model, such as those outlined in 1a. When provided alone, outside of an apprenticeship model, it focuses on classroom learning and does not include paid work-based experience. It may also be paired with credential or licensure attainment activities such as standardized testing, as is the case under the Workforce Innovation Opportunity Act’s (WIOA) Eligible Training Provider List programs which all must result in an industry-recognized credential.

BIL and IRA investments are creating the need for not only new skills such as clean energy technology, electrical vehicle charging and sustainable construction practices, but a rapid expansion and upskilling around cyber security, data analysis and project management. To meet the needs of existing employers, attract new investment to the local area and provide viable economic mobility pathways to its citizens, cities will need to use BIL and IRA funding proposals and plans to invest in occupational skill models that are agile and responsive. Achieving this will require building partnerships with not only traditional four-year institutions but community colleges, for- and nonprofit training providers and the K–12 system. It will be especially crucial to consider early exposure opportunities for K–12 students to prepare them for the rapidly evolving opportunities in these new and growing fields through a blend of apprenticeship, pre-apprenticeship and dual enrollment approaches.<sup>3</sup> Early workforce development, extending to embedding core skills such as computer science, technology, and engineering into school curriculum and leveraging after-school programming,<sup>4</sup> is part of the skills pathway necessary to equal access to infrastructure and climate jobs, all of which require digital literacy in the current age.<sup>5</sup>

### Key Features

Common occupational skill development approaches include the following and may be delivered by a variety of different educational partners:

<p><b>Career Awareness and Readiness</b></p>	<p>Mechanisms to help individuals, particularly K–12 students, explore their career interests and learning options such as career guidance, career fairs, site visits, mentoring programs and career pathway maps. Early exposure to emerging green career pathways in K–12 education, for example, not only encourages innovation<sup>6</sup> but helps to diversify the green energy sector<sup>7</sup> so that communities most affected by climate change are involved in creating an equitable transition to green energy. For example, the <a href="#">Build Your Future program</a> by the City of Seattle aims to introduce high school students to the diverse career opportunities available in the construction industry. Similarly, its <a href="#">Green Jobs Pipeline program</a> includes a comprehensive career readiness program specifically focused on green careers. Similarly, Washington, DC’s <a href="#">Urban Alliance</a> provides high school seniors with an intensive work readiness and skills development curriculum, a paid nine-month internship; and one-on-one coaching and mentoring to remove barriers for BIPOC students.</p>
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3 <https://www.americanprogress.org/article/k-12-education-is-vital-to-success-of-biden-administrations-investment-agenda/> and <https://www.americanprogress.org/article/quality-education-every-child/>

4 [Afterschool Programs](#)

5 [Closing the Digital Skill Divide](#)

6 [Who Becomes an Inventor in America? The Importance of Exposure to Innovation](#)

7 [Barriers in Career Exploration - What evidence exists on how some education practices may create barriers to equity and access in students' career exploration and development?](#)



<p><b>Contextualized Learning</b></p>	<p>Focused on helping users connect knowledge and skills to real-world situations. Provides the "why" behind the "what" by placing information in a context that is as close to the future employment environment as possible. Often uses active approaches such as team-based learning, case studies or other interactive experiences that build soft skills along the way. Such approaches that incorporate workforce scenarios, connecting them to individual skills and interests (such as through the <a href="#">RIASEC framework</a>), can be incorporated into the K-12 curriculum in age-appropriate ways to prepare the future generation. See how the <a href="#">San Diego workforce board partners with K-12</a> to introduce workforce development into the classroom.</p>
<p><b>Microcredentials</b></p>	<p>Rapid, bite-sized credentials, focused on a narrow and well-defined skill set, that can be quickly acquired such as AI query development, design thinking, data analysis techniques and robot operation. These credentials can be stacked to result in more significant credentials and can often be taken online. Specific knowledge sets around green practices in manufacturing or construction might be delivered as a micro credential to workers already in the field. For example, <a href="#">New York's My Skills, My Future</a> program provides micro credentials to learners through online coursework.</p>
<p><b>Technology-Enabled Approaches</b></p>	<p>Gamification, as well as the use of artificial intelligence (AI) and virtual reality, simulations, and <a href="#">cell phone-based microlearning modules</a> are increasingly important mechanisms to equip individuals with new skills and/or reinforce existing ones. Technology, particularly AI, can make hands-on learning more accessible, reducing the need to make substantial capital investments to bring large or complex technology to an educator's facility. For example, the Alabama Department of Labor is leveraging Virtual Reality (VR) for workforce development in an initiative called <a href="#">Jumpstart AL</a>, which provides an accredited training program through public-private partnerships.</p>
<p><b>Mentoring and Coaching</b></p>	<p>Provides personalized support to the individual and is generally tailored to their needs and educational progress. It's an opportunity to introduce diverse representation which allows individuals to see themselves in the future career. For example, Chicago, Illinois, has embedded mentoring into its <a href="#">Sustainability Hub</a> which equips students for positions in solar installation. Coaching and mentoring will include conflict resolution, financial literacy and basic construction skills like using power tools, soldering and pipe bending.</p>

While BIL and IRA generally don't mandate a specific mechanism for delivering learning, their focus on creating good jobs, preparing the workforce and leaning into innovation and new technologies for infrastructure development will all require workers who are equipped with the specialized skills and the ability to adapt and implement technological advancements as they unfold. While employers will certainly play a large role in this training, as discussed in the section on earn and learn models, universities, community colleges, vocational schools and the K-12 system should also be key partners with both cities and employers by adapting their curriculum to focus on the skills needed for these emerging jobs.

## Ways to Approach Occupational Learning

In considering these models, cities do not need to start from scratch. There are three key ways cities might think about this work for the purposes of their proposal:

- Leverage and Expand Existing Local Programs:** Connect with the local workforce board, and its education partners, to understand what programs and credentials are available through the Eligible Training Provider List and other training partnerships and identify where infrastructure funding might be used to expand the number of available seats for participants, create new recruiting pathways to target underserved communities or adapt curriculum to incorporate specific green skills.

- **Invest in Technology to Bring Training to Workers:** Particularly for emerging skills, work with employers and the workforce boards to use funding as a catalyst for the implementation or expansion of new delivery mechanisms, such as online courses, virtual labs, mobile training classrooms which provide exposure and access to a larger number of individuals.
- **Support Standardization of Credentials and Occupations:** Partner with your workforce board, and their sector partnerships, to set standards for the occupational descriptions, credential and skills language through existing LMI reporting to help workers better understand the connection between training and career.

Cities should include a detailed approach for partnership with educators as part of their proposals and plans. This can include:

- Partnering with local educators, including the K–12 system, and other industry experts to conduct a skills analysis and identify where new programs, credentials and experiential learning are needed to meet the labor demand in manufacturing, construction and climate jobs. For example, in Fort Worth, Texas, the [Gold Seal Programs and Schools of choice](#) program connects employers and the education community to regularly assess needs and embed workforce learning into K–12, community college and other non-traditional pathways.
- Working with the K–12 system to build leadership, communication, problem solving and essential skills into the occupational skills curriculum to prepare students, creating as many touch points as possible between education and the workforce. For example, the [Vicksburg Warren School District](#) in Mississippi and the Chamber of Commerce collaborated on introducing Leader In Me, a leadership and life skill training process, in its schools.
- Infusing job quality considerations, such as worker rights, financial literacy and local worker focused policies, into educational curriculum, at age-appropriate levels, so that students understand and know how to access the resources that exist in their community. As of early 2024, only [21 states](#) had mandated the inclusion of financial literacy courses in high school curriculum.
- Co-developing public awareness campaigns, particularly in underserved communities, to market the new job pathways that BIL is creating. Such campaigns should be developed with trusted communicators and consider cultural norms, language needs and other accessibility considerations so that diverse communities are not excluded.
- Using [broadband investments](#), and partnership with local operators, to bring access points for career awareness into the communities so that lack of technology is not a barrier to participation, particularly in [rural areas and under-resourced communities](#), where studies show there is often limited access and increased cost due to limited competition.<sup>8</sup>
- Targeted engagement with the K–12 education system to equip teachers with the knowledge of new career fields through professional development, learning guides and other tools. For example, [NOAA's Environmental Literacy Grant Program](#) provides funding for professional development programs for educators on environmental science and green careers.
- [Addressing college readiness and access](#) by partnering with the K–12 system on pre-apprenticeship models, Perkins for education expenses and workforce development to deliver supportive services for barrier removal in high demand careers including construction, manufacturing and technology.

8 [Benton Institute for Broadband & Society](#)

## Examples of Occupational Skill Development in Construction, Manufacturing, Technology and Climate

### Hickory, NC: Catawba Valley Furniture Academy ↗

Catawba Valley Furniture Academy at Catawba Valley Community College is a training program designed by local furniture manufacturers to train students for skilled positions in the manufacturing industry including furniture fundamentals, pattern making, manual cutting, automated cutting, sewing and introduction to upholstery. Courses evolve based on employer needs and can take into consideration sustainability and green techniques.

### Huntsville, AL: School for Cyber Technology and Engineering (ASCTE) ↗

Tuition-free magnet school where students come from all over the state to take a curriculum integrating cyber technology and engineering throughout all academic disciplines. ASCTE partners with local high-tech companies including Northrop Grumman, Raytheon, Lockheed Martin, AT&T and NASA.

### Atlanta, GA: Construction Education Foundation of Georgia (CEFGA) ↗

Provides a four-week [Construction Ready training](#) and certification program designed to teach construction and skills training to kickstart a career in the construction industry. The fully funded [20-day training program](#) provides the skills and credentials needed to get a great-paying construction job right away.

### St Joseph, MO: NWMO Regional Youth Apprenticeship Program ↗

The St. Joseph School District acts as the liaison between employer partners and the students eligible for hire. The apprenticeship coordinator oversees the program, which includes aligning with federal requirements; monitoring related classroom instruction; recruiting students; tracking competencies; helping apprenticeship students through graduation and to completion of certification after high school. This program includes occupations like: [welder](#), [CNC operator](#), [industrial maintenance mechanic](#), residential carpentry and [electronics technician](#) among others.

## Evidence Base for Occupational Skill Development

While there are a wide variety of workforce development approaches, the data increasingly shows that occupational skill development, delivered as part of a career pathway or paired with supportive services tailored to the needs of the individual, can not only produce better outcomes in terms of persistence and placement but also better position a program to see its outcomes exceed its measured costs.

- [Development of a holistic, participatory process model for manufacturing workforce learning with a plan for implementation and evaluation](#) by Hamstead, Margaret Anna
- [What Makes Workforce Development Program Successful](#) by Elizabeth Weigensberg, Colleen Schlecht, Faith Laken, Robert Goerge, Matthew Stagner, Peter Ballard, and Jan DeCoursey
- [Workforce Development Strategies and Practices](#) by Tom Short and Roger Harris
- [Evaluation of the Linking Innovation, Knowledge, and Employment Program: Final Evaluation Report](#) by the U.S. Department of Labor
- [Evidence on Career Pathways Strategies: Highlights from a Scan of the Research](#) by Maureen Sarna and Tara Adam

## 1c - Essential Skill Development

Essential skills, also called soft skills or job readiness skills, are not occupation specific but generally considered necessary to succeed in the workforce. While some educational programs embed the acquisition of soft skills into their curriculum, particularly if the course work includes any interactive, team or project-based learning, this training is not always sufficient. Skills training may also be provided through topic-specific workshops, online resources, group sessions or personalized mentoring. In addition to traditional skills such as communication, critical thinking, teamwork, conflict management, leadership and emotional intelligence, workers carrying out infrastructure and climate jobs under BIL and related funding will also need core competencies in one or more of the below. While most BIL grants do not call out the acquisition of essential skills directly, they are important to the successful persistence of underserved individuals in a training and employment program. Cities should emphasize the need to provide such skills, in combination with occupational learning and earn and learn models, in their grant proposals and plans by including dedicated time and funding in their budgets for resources such as mentoring, pre-placement seminars and online resources. Cities should also carefully consider where these skills can be built into existing programs, such as the K-12 STEM curriculum, which are onramps to careers so that all students are prepared for the world of work.

### Key Features

Key skills for BIL, IRA and related work include but are not limited to:

- **Digital Literacy:** The rise of technology in infrastructure projects requires an understanding of digital tools and platforms from chat or collaboration tools, online timecards, safety information and complaint processes to project management software, data analysis tools and Building Information Modeling (BIM). A level of digital literacy will cut across all aspects of the work. For example, [San Jose, CA Digital Inclusion and Broadband Strategy](#) envisions a future where all residents and businesses have internet access and the skills needed to participate in and benefit from the digital economy, particularly those who have been historically under-represented or underserved. The city began its digital equity efforts in 2016 after discovering that approximately 100,000 residents were not connected to high-speed, broadband internet. In 2017, the city adopted the Digital Inclusion and Broadband Strategy aiming to close [the digital divide](#) through [public-private partnerships](#).
- **Contextualized English Language:** For English language learners, such as immigrants and refugees, contextualized written, spoken and reading comprehension of English for construction, manufacturing and climate careers will be crucial to their ability to understand and communicate project-related information. The [U.S. The Department of Education's Office of English Language Acquisition](#) and the [National Clearinghouse for English Language Acquisition](#) offer proven techniques to design and deliver such training.
- **Diversity, Equity, Inclusion and Belonging (DEIB):** The ability to create an atmosphere where everyone feels valued and welcome, that their voice is valued and appreciated, and that they are treated equally regardless of their skin color, nation or origin or lived experience is also a crucial skill. See an example of [DEIB resources](#) from workforce organization EmployIndy.
- **Cultural Competency:** The ability to understand, accept and respect the values, beliefs and practices of different cultures will also be increasingly relevant as the diversity of the workforce continues to grow and recent arrivals flow into infrastructure and climate roles.

- **Sustainability:** Understanding sustainable materials, practices, life-cycle costing, and being able to integrate these considerations into project planning and execution.
- **Stakeholder Management/Community Engagement:** Modern BIL and IRA projects involve a wider range of stakeholders, from community groups to government officials and environmental regulators. Strong communication, conflict resolution and negotiation skills will be crucial to enable workers, particularly managers, to achieve and maintain project buy-in from various parties. The focus in BIL of collecting community input particularly from those who have been under-served will require more frequent, in-depth dialogue with community members than in past construction projects.
- **Data Disaggregation:** Analyzing and disaggregating data will be a key part of many BIL- and IRA-created jobs. This includes interpreting data at the demographic level to identify risks, optimize resource allocation, and solve complex problems that arise during the project lifecycle.
- **Agility and Adaptability:** The infrastructure landscape is subject to change due to unforeseen circumstances, budget constraints or evolving regulations. The ability to adapt to these changes, think creatively and find innovative solutions is becoming increasingly valuable.

## Ways to Approach Essential Skill Development

In considering these models, cities do not need to start from scratch. Here are two key ways cities might think about this work for their proposal:

- **Partner with Workforce to Deliver Essential Skills Learning:** Many of the essential skills, from language acquisition to digital literacy and cultural competency, are embedded in existing offerings delivered through job centers and their CBO or community college partners. Training may be provided in a variety of formats based on the content and worker need.
- **Fund Workforce to Expand Delivery or Incorporate New Skills:** Cities can fund workforce development boards to increase the number and types of essential skill offerings, prioritize particular populations, create continual learning resources or develop new models to bring the skill development directly to the worker, using technology or mobile units. Workforce development can leverage their sector partnerships to verify essential skills by sector or key occupations and can utilize their CBO and worker relationships to validate population specific needs.

## Examples of Essential Skill Models

### Lexington, KY: Lexington Public Library ↗

The library serves as a community hub and offers learning spaces where visitors can learn by doing and get hands-on practice with cutting-edge technology at the [Digital Studio](#), [Kloiber Foundation STEAM Lab](#), and Makerspace at their own pace or learn from an expert staff.

### Austin, TX: Austin Free-Net Digital Equity ↗

Austin Free-Net is focused on breaking down barriers to access and education by continuing to manage integral [public access computer labs](#) throughout the city. These public access computer labs offer a variety of [basic digital skills education](#) classes and [workshops](#) in both physical and virtual environments.



**Sudlersville, MD: Immigrant Inclusion** ↗

With recent shifts in immigration, as of 2021 this rural school district had reached 50% enrollment by English learners, virtually all of whom are from Latin families and are native Spanish speakers. Through partnership with the Mid-Atlantic Equity Consortium and the National Center for Families Learning, the city and its K–12 school system built a family engagement approach which includes parent time in the classroom, access to English learning and other educational exposure.

**Seattle, WA: Seattle Public Library's Technology Skills Program** ↗

This program offers technology workshops and resources to enhance digital literacy skills, including: [Digital Learn](#), [Typing Club](#), access to tutorials through [GCF Learn Free](#), [Microsoft Learn](#), and partnership with Washington State Library which offers access to [Certification Exams](#).

**Kansas City, MO: Moka Goodwill** ↗

Goodwill [programs and services](#) are available to their clients at no cost and their trainings include: [essential skills](#), [digital skills](#), [bridge to technology](#), [reentry services](#) and [Ability One](#).

**Evidence Base For Essential Skill Models**

There is a growing evidence base for the importance of providing essential skills, particularly technology, in conjunction with other hard skills such as engineering, construction and project management. Delivery of such skills is particularly successful when structured with real-world scenarios or simulations.

- [Key Skills for the 21st Century, an evidenced-based review](#) by Stephen Lamb, Dr. Quentin Maire and Esther Doecke
- [Information Literacy: Essential Skills for The Information Age](#) by Michael B. Eisenberg
- [Building on Math and Science: The New Essential Skills for the 21st-Century Engineer](#)
- [Building Essential Skills for the Ohio Building and Construction Industry, Final Report](#) by Pritz, Sandra G
- [Improvement of students problem-solving skills through project execution planning in civil engineering and construction management education](#) by Jingxiao Zhang, Haiyan Xie, Hui Li



## 1d - Supportive Services

Access to a robust set of supportive services can mean the difference between an individual successfully completing training, participating in an apprenticeship or entering and remaining in the workforce. While there are a variety of common supportive services provided by workforce, education and human services agencies, each individual is unique, and programs work best when they are customized to respond to the specific life situation of the individual. Supportive services can be critical during a student's K-12 studies, when transitioning into post-secondary studies, apprenticeships, job search or while on the job. The type of services needed and their duration will be very individualized and may be inclusive of both the student or worker and their family, requiring a more holistic, person-centric evaluation to determine needs.<sup>9</sup>

### Key Features

Common supportive services include but are not limited to:

- **Clothing, uniforms or tools for a job site:** Often provided through donations by individuals or local companies during training, may be managed by a nonprofit or a local workforce entity. For some fields with uniform or specific tool requirements, these may be provided directly by an employer or a union.
- **Food assistance:** Generally provided through braiding with SNAP while the individual is in training and/or working toward self-sufficiency. For in-school youth, some support is provided through the K-12 system. In some cases, employers may offer some food assistance while the individual is at work.
- **Housing assistance:** Generally provided through braiding with homelessness services or local agencies responsible for city housing. In rare occasions, may be provided by an employer either as a benefit or as a space in a company-managed property.
- **Transportation assistance:** May be provided through partnership with the local Department of Transportation, rideshare companies or an employer. May also be provided as cash aid to repair a vehicle. For some larger employers with significant facilities in a particular area, the employer may establish contracts for employee transportation from set locations.
- **Legal aid:** Often provided in partnership with local legal aid organizations with particular expertise on the topic. Some employers also offer basic legal services as a benefit to employees.
- **Language translation:** Often provided in partnership with local community-based organizations, particularly immigrant- and refugee-serving organizations. In some cases, technology is also used as a mechanism to translate materials or communications. Larger employers may have in-house language capabilities if they frequently hire from immigrant populations.
- **Books, materials or testing costs for completion of coursework:** Generally provided by the training provider, workforce agency or the employer. May be purchased in bulk or on an individual basis depending on size and delivery mechanism of the training. May be in-kind by an organization, and for employees or union members, often covered through their participation with the union or employer.

<sup>9</sup> [Human-Centered Design for CX](#) and [A Review of Human-Centered Design in Human Services](#)

- **Childcare or dependent care subsidies:** Includes vouchers, navigation and other financial support, often delivered in conjunction with children and family services or local nonprofits such as the YMCA. Some employers also offer onsite or emergency childcare services as a benefit to employees.
- **Cash aid:** Often provided through braiding with TANF; also an allowable WIOA expense through “needs-related payments”<sup>10</sup> for certain individuals.
- **Mental or physical health services:** Often provided through partnerships with health centers, referrals to online mental health providers or subsidized access to insurance through the exchange. For employees, generally included as part of a health insurance package, if available, that is co-paid by the employee and the employer.
- **Career counseling or career exploration:** Often provided through partnership with the K–12 system, community college or adult education. May include population specific navigators such as for immigrants, native populations or opportunity youth who have specific knowledge of the barriers that individuals may face and how to overcome them.
- **Basic skills training:** Generally reading, writing, and math. Often provided through partnership with the K–12 system, community college or adult education through in-person or online mechanisms. Some employers may also offer contextualized English language coursework onsite for immigrant populations.
- **Job search:** Generally includes resume, cover letter and online profiles such as LinkedIn, mock interviews, networking strategies, and navigating the application process. Generally provided by the educator, workforce agency or nonprofit where the individual is receiving case management support. Unions often provide a subset of this support to individuals in the trades.

<sup>10</sup> [20 CFR § 680.930 - What are needs-related payments?](#)

### Ways to Approach Supportive Services

Cities do not need to tackle supportive services on their own and should also consider in their BIL and IRA plans or proposals the leverage opportunities that already exist, both in terms of funding from other sources and the corresponding scaffolding present in their local workforce system to deploy the service. Tactically, supportive services may be provided using a number of mechanisms outlined below.

Mechanism to Provide Supportive Service	Description	Approach
<b>Directly</b>	The service may be provided or paid for by a government, workforce agency or community nonprofit directly, or a gift card or voucher may be given to the individual to use for the purposes of covering the expense. Some workforce or community nonprofits purchase items in bulk for better pricing and may accept donations from corporate entities or individuals that they can repurpose to address felt needs (e.g., suits, work boots).	Cities can provide additional funding to workforce boards to expand the provision of supportive services to BIL- and IRA-funded projects.
<b>Referral</b>	A government, workforce agency or community nonprofit may refer the individual to another agency or nonprofit to receive the supportive service from a partner program such as cash aid through TANF.	Cities can coordinate with workforce development boards to use their existing referral partnerships and pathways to connect BIL- and IRA-funded projects to the appropriate provider.
<b>Co-enrollment</b>	An individual may be enrolled in multiple programs in order to tap into their associated offerings (e.g., enrolling an individual into WIOA, TANF and BIL-funded programs to provide coaching, food services and an apprenticeship).	Cities can require or encourage co-enrollment in other programs to cover their supportive services needs (or eligible individuals).
<b>Employer Reimbursement</b>	Some supportive services may be purchased by an employer, such as uniforms or tools, and then reimbursed by a government grant. This is particularly common for services provided to incumbent workers focused on upskilling or transition.	Cities can work with their workforce boards to structure incentives or refunds, building on existing on-the-job training and customized training models, to provide supportive services to those in work-based learning.
<b>Employer Paid - No Reimbursement</b>	Some employers provide supportive services directly, or through partnerships, to their employees. Common examples are EAP programs, onsite or emergency childcare, and transportation subsidies such as metro cards, in addition to benefits including health care or retirement options.	Cities can consider creating tax incentives or recognition for employers that offer supportive services to their employees.

In cases where proposed grant budgets may not be sufficient to include or fully cover supportive services, cities should explore braiding of funding with other funding streams such as the WIOA for supplies or transportation, TANF for cash aid, SNAP E&T for food assistance, Innovative Water Infrastructure Workforce Development Grant Program, Reentry Employment Opportunities (REO), Job Corps or YouthBuild for other specialized services. Note that both the [Department of Labor](#) and the [Department of Transportation](#) have detailed supportive services policies that are codified in the Code of Federal Regulations and can be referenced in this work. See [Braiding to Maximize Results](#) for more information.

Cities can leverage several of the BIL and IRA priorities to make the case for the deployment of funds to support supportive services coupled with employment training or apprenticeships, particularly for underserved communities. Cities should emphasize that BIL's commitment to underserved population and a community benefit model will require removing barriers to entry—such as lack of transportation and childcare—in order to achieve equitable outcomes. Some examples of grants that specifically call out supportive services for underserved populations in the successful completion of training and entry into good jobs:

- Low and No Emission and Buses and Bus Facilities (LO-NO)
- Brownfields Remediation Program
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- Environmental and Climate Justice Block Grants (§60201)
- Charging and Fueling Infrastructure (CFI)
- Reconnecting Communities/Neighborhood Access and Equity Grant Program (§60501)
- Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation
- Railroad Crossing Elimination (RCE)
- Airport Terminal Program
- National Highway Performance Program
- Surface Transportation Block Grant Program
- Highway Safety Improvement Program
- Congestion Mitigation and Air Quality Program<sup>11</sup>

While IRA does not seem to specifically call out supportive services, its focus on apprenticeship provides an opportunity to embed services directly connected to the on-the-job experience, such as uniforms, transportation or even childcare, into the apprenticeship itself.

<sup>11</sup> DOT highlights as [allowable](#) and an [important consideration](#) in grants

## Examples of Supportive Services Models in Infrastructure, Technology and Climate Careers

### [New York, NY: Project QUEST](#) ↗

Helps individuals with significant barriers to employment, including those with mental health conditions, gain construction skills and industry-recognized certifications. The program offers supportive services including on-site mental health counseling and referrals for participants facing mental health challenges, as well as books, supplies and certifications, to address these barriers and help participants succeed in the construction industry.

### [San Francisco, CA: CityBuild](#) ↗

Pre-apprenticeship and construction administration training that includes a variety of customized supportive services, including stipends and certifications to increase inclusive participation from the community in the 12–18-week program.

### [Clark County, NV: Care Childcare Expansion](#) ↗

Clark County government is using ARP dollars to make strategic investments into the expansion of childcare facilities across the area that can benefit local workers through a [real estate investment \(REIT\)](#) strategy that could be expanded through the use of infrastructure dollars in other areas to rehabilitate properties and move affordable childcare into underserved neighborhoods.

### [Baltimore, MD: Be More Green](#) ↗

Be More Green Initiative uses an integrated set of strategic partnerships to advance environmental principles, access to green spaces, fresh food and creation of green jobs. Many of the job programs include tools and materials, safety equipment and mentorship to eliminate barriers to participation.

### [Providence, RI: Expansion of After School STEM Programming](#) ↗

Providence created the [Providence After School Alliance](#) to coordinate afterschool programming including administrative and logistical matters such as transportation and meals so that no students are left behind.

## Evidence Base For Supportive Services Models

There is a growing evidence base for the connection of supportive services with improved program completion, credential attainment, credit accumulation and individual earnings.

- [Comprehensive Supportive Services Evaluation: Northeast Resiliency Consortium final evaluation](#) report by Price, D.; Childress, L.; Sedlak, W.; Roach, R.
- [National Evaluation of Student Support Services: Examination of Student Outcomes after Six Years, Final Report](#) by Bradford W. Chaney
- [Linking child care and support services with the school: Pilot evaluation of the school of the 21st century](#) by Matia Finn-Stevenson, Laura Desimone, An-Me Chung
- [Supportive Services in Job Training & Education: A Research Review. Job Training Success](#) by Hess, Cynthia; Mayayeva, Yana; Reichlin, Lindsey; Thakur, Mala
- [Support for career development in youth: Program models and evaluations](#) by Megan A. Mekinda



## 1e - Business Support

The administration<sup>12</sup> set a goal “[of increasing the share of federal contracts going to small disadvantaged businesses \(SDBs\) to 15 percent by 2025—a 50 percent increase from most recent spending levels.](#)” To equip these businesses to compete, as well as attract companies to invest in their local area, cities should include demand-side support in their proposals and plans. Such services will help companies increase their effectiveness and inclusiveness so that all communities benefit from infrastructure and climate initiatives. In their proposals and plans, cities should lean in on the way that BIL prioritizes investments in minority-owned businesses and underinvested areas of the community, brings broadband to rural communities which will support business expansion, invests in the training and equipping of the future workforce, and ultimately positions American markets to be more competitive.

### Key Features

To maximize businesses growth, cities should include supports for small and mid-sized businesses in their proposals and plans, framed as part of the demand side workforce development strategy in the city’s submission:

- **Incubators:** Support for early-stage business growth. May include provision of capital support such as loans or grants
- **Tax credits and bonding:** Credits on taxes or specialized insurance for hiring specific populations
- **Hiring support:** Resume review, job fair hosting, screening, job posting review
- **Incumbent worker training:** Covering a portion of the upskilling cost to retrain existing workers
- **Wage subsidies:** Covering a portion of an individual’s salary for a period of time such as through on-the-job training, internship or pre-apprenticeship
- **Entrepreneurial training:** Free resources on common skills such as marketing, bookkeeping or use of AI for business
- **Feasibility studies / business transformation support:** Providing funding or resources to carry out studies such as transitions to employee ownership or the implementation of automation and associated upskilling of existing workers
- **Regulatory assistance:** Streamlining, helping with navigation or removing compliance requirements
- **Access to Capital:** Loans and grants for small business, startups or businesses investing in historically disadvantaged areas

### Ways to Approach Business Support

In considering these models, cities do not need to start from scratch. There are several ways cities might think about this work for their proposal:

- **Use Existing Networks:** Partnering with the workforce to leverage existing networks, created through business services staff, incumbent worker training, social enterprise and entrepreneurial training (such as that delivered by [REDF](#)), rapid response and layoff aversion to target employers who may require support and understand the gaps that may exist in the market.
- **Build or Scale Available Resources:** Engaging the local Small Business Administration, SHRM chapter or existing business incubator representatives to increase funding to existing programming or expand the scope so that it incorporates evolving skills for the green economy.

<sup>12</sup> BIL made the Minority Business Development Agency (MBDA) permanent, created more regional MBDA offices and rural business centers, increased the agency’s grant-making capacity, and supported efforts to provide more business development and industry-focused services.

- **Leaning in on Equity:** To advance equity and inclusion, cities can also partner with their Chamber of Commerce through their [Equality of Opportunity Initiative](#) which is equipping the next generation of black business leaders. Additionally, many boards deliver managerial training on core competencies, including DEIA, as free or low-cost services to support successful placement of their participants, and additional funding could be given to boards, or their partners, to expand the scope of such training.

## Examples of Business Support for Small and Midsize Businesses

### [Chicago, IL: Elevate Contractor and Workforce Development](#) ↗

Elevate Contractor and Workforce Development offers an accelerator program to diversify contractors in areas such as solar or electrification which includes mentoring, professional networking, weekly training on topics such as accounting, branding, marketing, accessing capital, hiring talent, technical skills training, obtaining diversity certifications, and more.

### [Tallahassee, FL: Florida Flex](#) ↗

Florida Flex initiative offers customized employee training grants for new and expanding businesses. This performance-based incentive requires that businesses create new jobs, hire, and train the new employees before any training costs are reimbursed. Special attention is given to businesses in Enterprise Zones.

### [Denver, CO: Elevate Denver](#) ↗

Elevate Denver has been committed to advancing the city's vision for increasing opportunities for small business enterprises (SBE) and women and minority owned business enterprises (M/WBE). Elevate Denver wants to make sure that all local businesses succeed.

### [Beckley, WV: West Virginia Hive](#) ↗

West Virginia Hive provides aspiring or current business owners with technical assistance, business advising and networking to help them successfully grow. The hub also connects businesses to state resources to help fill gaps they may be experiencing.

### [Morgantown, NC: Industrial Commons](#) ↗

Industrial Commons uses a social enterprise model to scale employee-owned social enterprises and industrial cooperatives, and supports frontline workers to build a new southern working class that erases the inequities of generational poverty and builds an economy and future for all.

### [Utah: Toolkit for Building Belonging in the Workplace](#) ↗

The EDCUtah and the Center for Economic Opportunity & Belonging have launched a toolkit to help employers understand how to better include diverse populations, including immigrants, in the workplace.

## Evidence Base For Business Support Models

The evidence base for business support consistently demonstrates that employer subsidies, credits and related support have a positive impact on both the business and the worker. Sample studies include:

- [GAO Assessment of WOTZ Tax Credit](#) by the Government Office of Accountability
- [Growing America Through Entrepreneurship: Final Evaluation of Project Gate](#) by Benus, J.; Shen, T.; Zhang, S.; Chan, M.; Hansen, B.
- [Employment Growth from Public Support of Innovation in Small Firms](#) by Link, A. & Scott, J.
- [Subsidized Employment: A Proven Strategy to Aid an Equitable Economic Recovery](#) by Laura Meyer
- [The Effects of an Employer Subsidy on Employment Outcomes: A Study of the Work Opportunity and Welfare-to-Work Tax Credits](#) by Sarah Hamersma

## Embedding Equity in Program Design

As cities structure programmatic design into their BIL and IRA proposals and plans, equity should be a key consideration. Creating equitable models is critical to truly support underserved individuals by creating pathways to good jobs, supporting small businesses and improving the economic mobility of communities. Important reminders in developing an approach:

- **Examine your data.** Disaggregate your existing labor market, training participation and placement and procurement data to understand where dollars are flowing and which programs will best meet the needs of the community.
- **Pay attention to dangerous narratives, sexism and racism, power dynamics and imbalance** that exist between public and private organizations in decision making, grant making, and engagement practices.
- **Remember to consult with members of communities that have been historically underrepresented** in the government and underserved by, or subject to discrimination in, policies and programs. Use human-centered design principles so that programs are designed with people, not for them. This is a core component of BIL and reinforced in many recent executive orders.
- **Connect the dots to equity policies/requirements** (examples):
  - Equity Action Plans: State Digital Equity Plan submitted to the Department of Commerce that outlines how they will allocate their BEAD grant award and promote digital equity and inclusion.
  - BIL/Justice 40 initiative: 40 percent of the benefits of relevant climate, clean energy, affordable and sustainable housing, clean water, and other investments flow to disadvantaged communities.
  - BIL requires the Secretary of Transportation to conduct a needs assessment that analyzes the education and recruitment of transportation workers, as well as explains the barriers individuals face in seeking employment in the transportation industry.
  - Internet for All includes a strong focus on empowerment and representation, DEIA, job security, as well as working conditions.

## Quick Resources on Embedding Equity in Program Design

- [The Equity in Apprenticeship Initiative](#): This initiative by the Department of Labor offers resources and strategies to promote equity and diversity in apprenticeship programs for the skilled trades.
- [Three Spheres of Equity in Workforce Development](#): An early analysis of equity within good jobs challenge programs from the Economic Development Administration.
- [Building a Diverse Pipeline: A Toolkit for Construction Contractors](#): This toolkit by the National Center for Construction Education and Research offers guidance on creating a more inclusive recruitment process in the construction industry.
- [Dirty Work, Unequal Pay: Black Women in Construction Trades](#): This report by the AAUW explores the experiences of Black women in construction trades and highlights issues of discrimination and enforcement challenges.
- [The Green Jobs Equity Act: A Report by the Environmental Justice Leadership Alliance for People of Color](#): This report advocates for policies to ensure equitable job opportunities in the clean energy sector.
- [Strengthening Diversity and Inclusion in the Clean Energy Workforce](#): This report by the Clean Energy Workforce Alliance offers recommendations for increasing diversity and inclusion in clean energy jobs.
- [Diversity, Equity, and Inclusion in the Building Materials Industry](#): This article from Green Builder magazine discusses challenges and opportunities for promoting equity in the building materials sector.
- [The National Digital Inclusion Alliance](#): This nonprofit organization advocates for policies to promote digital equity and broadband access for all.
- [Broadband for All: A Report by the National Academies of Sciences, Engineering, and Medicine](#): This report examines the state of broadband access in the U.S. and offers recommendations for achieving universal access.
- [Fixing Our Broken Transportation System: How to Make It More Equitable](#): This report by the Brookings Institution examines inequities in the transportation system and proposes solutions for a more equitable future to better support workers.
- [Equity in Transportation: A Primer for Metropolitan Planning Organizations](#): This report by the Federal Highway Administration offers guidance for considering equity in transportation planning.
- [The High Cost of Transportation Burdens: How Transportation Costs Affect Low-Income Households](#): This report by the Center on Budget and Policy Priorities explores the challenges of transportation costs for low-income households.



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