

Investing in Worker Training to Build the Infrastructure Workforce

Policymakers across the political spectrum are calling for federal investment to modernize and repair the nation's roads, bridges, and pipes, while recognizing the strong potential to create infrastructure jobs in the process.¹ Indeed, making a strong investment in the nation's infrastructure is regularly cited as one of the areas with the most potential for [bipartisan](#) collaboration.

Regardless of the direction that a major infrastructure package takes, there is a need to make complementary investments in our workforce, education, and training systems to ensure we build a pipeline of skilled workers and to correct the existing disparities in access to well-paying infrastructure jobs.

The Challenges

As policymakers consider investments in infrastructure with the intent to create good jobs, we must also consider inextricably linked workforce and training challenges:

Infrastructure investments will spur job creation, but not necessarily training creation. With targeted investments, we can incentivize the creation of an adequate supply of effective, accessible training programs. Millions of additional infrastructure jobs would mean millions of good quality jobs with relatively short education requirements. But the current system does not have adequate support or incentives for education providers and employers to create a sufficient supply of trainings to meet the skills needs of several million additional infrastructure jobs.

- Leading infrastructure proposals would create or save about [15 million](#) infrastructure jobs over ten years, including 8 million jobs for workers with a high school diploma or less and about 5 million for people with more than a high school diploma but less than a bachelor's degree.
- Most infrastructure jobs would, however, require some degree of specialized training, particularly given the [accelerating pace of technology](#) and automation across relevant industries, like manufacturing and construction.
- Without attention to the workforce and training needs, many sectors—from the transportation, to construction, to energy—are likely to find an inadequate pipeline of effective training programs and with that, a shortage of qualified workers.

With deliberate reforms to the infrastructure careers pipeline, we can create millions of new jobs, while not replicating long-standing inequities in access to good quality infrastructure careers.

- Large disparities in the pipeline to infrastructure jobs means disparities in access to jobs that offer higher wages than most other jobs for people with [less formal education](#) than a bachelor's degree. At both the 10th and 25th percentiles of wages, infrastructure workers see a wage premium of more than [\\$3 per hour](#) when compared with workers across all occupations.

¹ Infrastructure jobs cover a large segment of the U.S. workforce: in 2019, more than one in ten workers were employed in infrastructure. Concentrated in 91 different occupations, infrastructure jobs go beyond those commonly associated with infrastructure, e.g. plumbers, engineers, construction workers, and telecommunications equipment installers. There are also [large numbers of workers](#) in supportive roles, such as business operations and management in a variety of settings, including engineering firms, utilities, warehouses, and construction sites.

- Infrastructure occupations have long had glaring, persistent demographic gaps. A significantly disproportionate [share of infrastructure workers](#) are white and older than age 45. More than eight in ten infrastructure workers in 2019 were male.

Apprenticeship has great potential to help expand infrastructure pipelines. There is a need to scale both on-ramp programs to apprenticeship and supports that dramatically increase success in apprenticeship.

- Registered Apprenticeship (RA) is a widely recognized, proven strategy to build a pipeline of skilled workers and connect jobseekers, particularly those with less than a bachelor's degree, to higher paying jobs. These programs also tend to lead to bigger wage gains over the course of a career, as compared to very short-term training programs. But access to RA is constrained, in part because too many people lack [support opportunities](#) to prepare for and successfully apply for spots as apprentices.
- Pre-apprenticeship programs (also known as apprenticeship-readiness programs) have been recognized as a strategy to expand the pathways to succeed in apprenticeships, particularly for severely underrepresented groups in the apprenticeship system—namely, women and people of color. We should view pre-apprenticeship programs as critical to expanding the pipeline for underrepresented groups to ultimately enjoy the wage gains and career mobility that apprenticeships connected to infrastructure jobs would offer.
- Critically, funding for pre-apprenticeship programs is limited, due to little funding for the programs and the fact that such programs are not eligible for Pell grants. There is also the reality that even where a pre-apprenticeship program is free, the opportunity cost to participating can be a barrier for low-income workers that are household breadwinners.
- Apprentices earn a paycheck while training, but [affordability challenges](#) still exist, particularly childcare and reliable transportation. This disproportionately limits success in apprenticeship for women and low-income people.

Our workforce system struggles to ensure workers can navigate career and training options. Addressing the navigation challenge is critical to widening the pipeline to good infrastructure jobs. While advancements have been made at the federal and state levels, workers and career counselors are largely unable to access vital information that would help them to identify trainings with strong labor market results and that meet a jobseekers' goals. And in terms of direct career counseling, the federal investment in the public workforce system provides resources to serve just a small fraction of those who could benefit from career advice.

Top Priorities for Building the Infrastructure Workforce

With the aim of building a widely shared recovery, the Markle Foundation has identified three top objectives for reforming the education and training system that should be considered critical complements to any major infrastructure investment.

Goal 1: Build a sufficient supply of high-quality training programs that succeed in preparing workers for infrastructure careers.

Federal policy should incentivize the creation of effective training opportunities to build the pipeline of skilled workers for good quality infrastructure jobs. To do this, we should support collaboration between employers, labor and community partners to create and provide high quality trainings as well as important pathways to those trainings, including pre-apprenticeships and [bridge programs](#) offered by worker-serving organizations. Infrastructure investments will create some short and long-term projects, but we should prioritize training programs that set people up for long-term attachment to a dynamic sector. This means developing skillsets that are foundational as well as driven by demand for skills in an occupation across a sector, not just for one project. Priority strategies to accomplish this include:

- **Provide funding to intermediary organizations to scale sector and regional collaboration in the creation of employer-connected training opportunities.** Such intermediaries could include labor-management partnerships, community-based organizations, unions, and workforce boards. These intermediaries would receive funding from states or from national grants to work with employers in an infrastructure sector (e.g. energy, transportation or telecommunications) in a region and training providers to create effective training programs. This strategy is also useful towards scaling the availability of Registered Apprenticeships and pre-apprenticeships.
 - Supporting these collaborations is simultaneously a strategy to scale work by intermediary organizations (community-based organizations, labor-management partnerships, and workforce boards) that work in a sector or region to improve the quality of existing jobs and expand the adoption of practices that reduce bias in hiring.
- **Support employers and unions in providing training opportunities to new and incumbent workers when that training is connected to good quality jobs.** Help businesses and union training programs with the costs of developing training programs and paying workers while participating in trainings, when that training is connected to good quality jobs and is substantial. Additionally, we should explore programs that help offset the costs for small and medium-sized businesses of working with third-party organizations to design and deliver training. We could also support the availability of training that small and medium-sized employers create and deliver to their employees.

Goal 2: Ensure access to skills development opportunities by addressing affordability and other common barriers to completing training programs.

We need to make sure that the populations hit hardest by wage stagnation and displacement have the financial means to participate in effective trainings that lead to infrastructure careers. Priority strategies towards accomplishing this include:

- **Provide funding support to cover tuition and other common barriers to completing training programs:** A new dedicated funding system should be developed to guarantee that all low-wage and unemployed workers can pay for effective education and training programs. This funding should have greater generosity than is currently available through Pell or funding in the public workforce system for training. This would essentially be a training account given to all unemployed and low-wage workers for any program that gets people good jobs at family supporting wages.

This funding should have flexibility built in:

- **Programs should be able to cover pre-apprenticeship and effective trainings run by community-based organizations and unions,** in addition to effective training programs offered through traditional education providers.
- **Funding should be allowed to cover non-tuition costs:** While tuition costs often account for the largest expense of taking a training, the cost of supportive services that are essential to participate and complete a program – such as transportation and childcare – are too often insurmountable barriers for low-income people. There is also the reality that many adult learners are household breadwinners and cannot afford to reduce work hours, reducing their household's income.

This funding should have accountability measures built in:

- **Large funding amounts should only be available for programs that can show positive wage gains for participants:** Any new training grants should be tied to a program's record of raising the wages of its participants and helping them secure jobs. Because the support would only be eligible for effective programs, the funding could cover a larger share of costs. This component is also geared towards ensuring that recipients of the funding realize genuine economic mobility. Very short-term training programs, like digital skills training or prerequisites for more advanced training, could be eligible for assistance, without meeting the accountability criteria. This would likely be beneficial for some downstream roles created by an infrastructure investment.
- ***A different route: If not providing support directly to students for costs outside of tuition, fund supportive services at education institutions and other touch points for training:*** In the contexts of either tuition-free community college or in the absence of the aforementioned new funding stream that intends to cover non-tuition costs, attention to supportive services would need to be provided in some other way. This could include providing labor-management partnerships and community-based organizations support directly to provide crucial services, like onsite childcare, expanded food pantries, public and gas subsidies, flexible emergency funding for trainee needs, among other supports.

Goal 3: Foster pathways to infrastructure jobs by investing in the information, guidance and support needed to navigate the training and career options and direct people to highly effective trainings.

The public workforce coaching system only has the resources to serve a fraction of those who would benefit from guidance, and jobseekers still lack critical information on the outcomes of relevant training programs. Those who do receive support from the public workforce system will encounter services that prioritize immediate placement into any job—often leading to low-wage jobs—rather than providing the guidance and resources to access quality jobs and the training needed that will provide economic security over the course of a career. Key strategies to address these challenges include:

- **Expand funding to hire and train more career coaches in the federal workforce system.** Ensure career coaches have information and knowledge needed to navigate the changes in the broader economy, including the long-term career opportunities afforded by infrastructure occupations.
- **Expand funding for career navigators and guidance counselors in the K-12 system** with the aim of improving the availability of guidance for young people to pursue infrastructure careers and connect to youth apprenticeship opportunities.
- **Create a new funding stream to support community-based organizations and other entities that provide career services and pre-apprenticeship programs, with an emphasis on reaching populations that historically have limited access to these services**—people of color and low-income communities. In addition to broadly supporting career navigation, this funding should support organizations that provide recruitment, support and guidance for pre-apprenticeship participants.