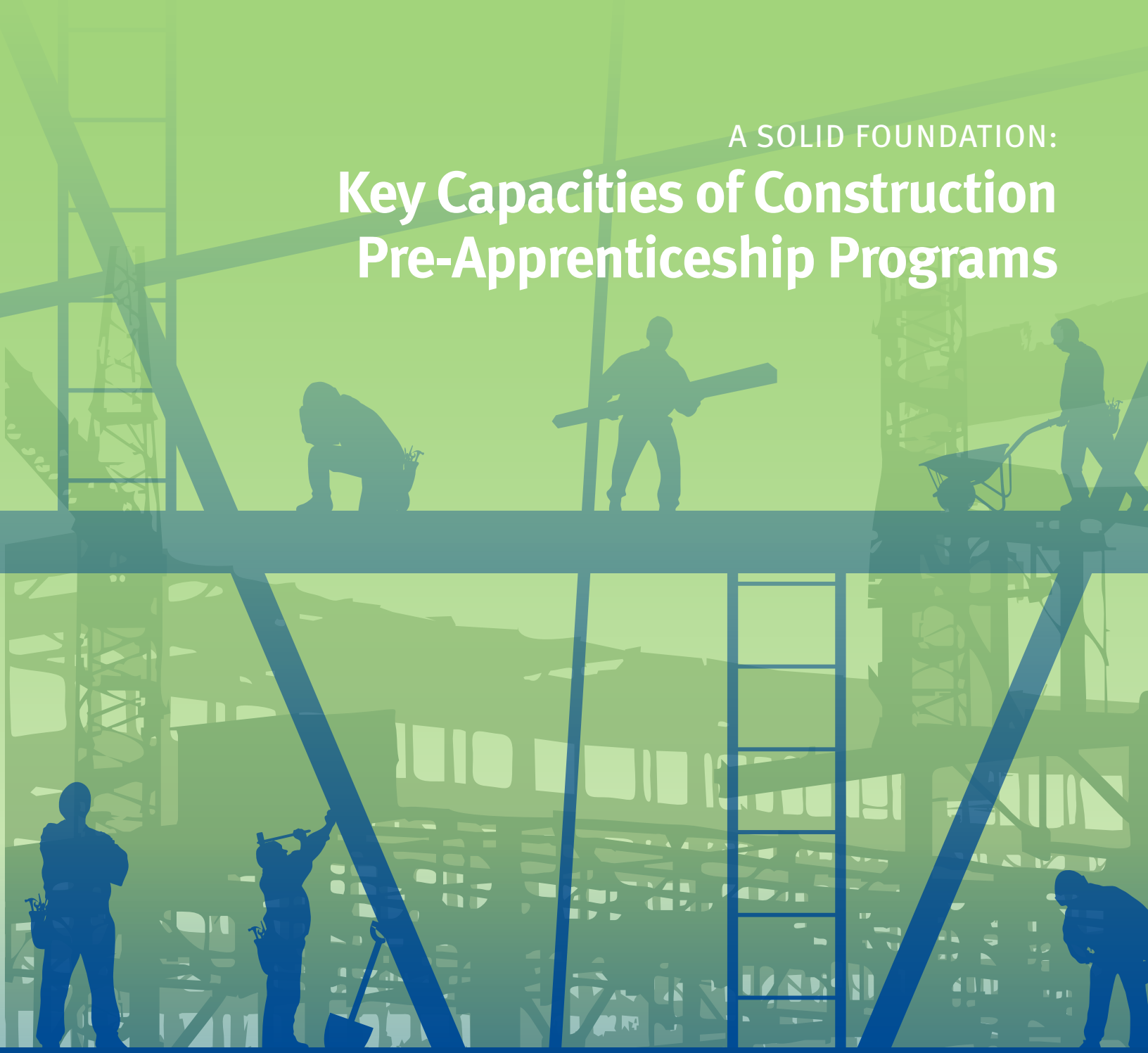

A SOLID FOUNDATION:

Key Capacities of Construction Pre-Apprenticeship Programs

MATT HELMER, AMY BLAIR AND ALLISON GERBER

THE ASPEN INSTITUTE

WSI
Workforce Strategies Initiative

This publication was made possible by a grant from the Annie E. Casey Foundation.

2012 by Workforce Strategies Initiative, a program of the Aspen Institute

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Acknowledgments

This project and report were made possible through the generous support of the Annie E. Casey Foundation. In particular, the authors would like to thank Bob Giloth, vice president of the Center for Family Economic Success and Community Access program at the Casey Foundation, for his insights, support and guidance. This project would not be possible without the participation of the local workforce leaders and pre-apprenticeship program leaders and staff who helped plan, coordinate and organize our visits to four cities. We would especially like to thank Connie Ashbrook, John Gardner, Lynn Knox, Earl Buford, Rhandi Berth, Jason Perkins-Cohen, Kate McShane-Oeming, Yoland Rivera and, Rich Pearson, and the rest of the staff at JumpStart, WRTP/BIG STEP, the Hartford Jobs Funnel and Oregon Tradeswomen. We would also like to thank the numerous representatives from industry associations, unions and construction contractors who gave us their time and participation as well as the workers, pre-apprenticeship trainees and others who participated in interviews or focus groups. Finally, we would like to thank our colleague, Maureen Conway, executive director of the Aspen Institute Workforce Strategies Initiative, for her thoughtful input into this research and publication.

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Executive Summary

Construction jobs provide low-income adults opportunities to enter the middle class. However, the path to quality construction jobs, including apprenticeships, is often difficult for those unfamiliar with the industry. While some workers struggle to build the skills, experience and knowledge necessary to enter and advance in a construction career, industry representatives – including contractors, unions and associations – must diversify and improve the skills of their workforce to meet current demand, bid competitively on new construction projects, and replace skilled-trades people scheduled to retire.

In many labor markets, construction pre-apprenticeship training programs – which train people for entry-level construction jobs and are often led by community-based organizations, community colleges, local government, industry groups, unions and others – directly grapple with these challenges. During the past three years, the Aspen Institute Workforce Strategies Initiative (AspenWSI) has studied how construction pre-apprenticeship programs connect low-income adults to construction careers and help construction employers find the diverse, skilled workforce needed to be successful. During our most recent research, we conducted site visits to pre-apprenticeship programs in Baltimore, Md.; Milwaukee, Wis.; Portland, Ore.; and Hartford, Conn., to better understand how these four programs relate to and partner with industry and other public and private stakeholders in their regional economies. Key findings about pre-apprenticeship programs from this research include:

- The programs help new workers navigate employment in the industry. Programs help workers move from job to job in order to advance in the industry and prepare them for periods of unemployment in a seasonal and cyclical industry where jobs are often short-term.
- Programs consider a variety of outcomes for their participants, including placement into Registered Apprenticeship, other construction-related jobs and additional construction training, as well as non-construction-related jobs and education programs. This reflects programs' desire to meet the needs of diverse workers, as well as employers, and to respond to changes in economic conditions, skill needs and employment opportunities in their local labor markets. Apprenticeship offers workers paid on-the-job learning, academic instruction, advanced skills that reflect their sponsoring employers' specific needs and a clear path to building advanced skills in the construction trades. But, it is only one of several outcomes considered by pre-apprenticeship programs because apprenticeship is not a good fit for all workers and the number of apprenticeship slots is very small, relative to overall employment.
- Successful programs build and maintain vast industry networks that include relationships with individual businesses or contractors, joint apprenticeship training committee representatives, union and trade association leaders, project owners, and public officials involved in managing public infrastructure or construction projects. These relationships help programs forecast industry demand, stay attuned to changes in the skills needed and locate job opportunities for their participants even during a poor economy.
- Program staff members with construction industry expertise or experience help build these relationships and help ensure that the screening, assessment, training and supports provided to participants align with industry needs.

Our site visits also illuminated a number of issues that programs face, including performance measurements that are out of alignment with program strategies, labor market and industry conditions, as well as worker and business needs. Resources to build industry relationships and staff expertise are not widely available, and programs face challenges providing long-term supports to workers. There also is concern about what is thought to be an increasing number of

apprentices not finishing their programs. To help more construction pre-apprenticeship programs overcome these challenges, we suggest the following to workforce development leaders, investors and policymakers:

- Set performance measures that account for programs' overall goals, participant and industry needs, and labor market realities. Too often, programs are judged solely on the number of apprenticeship placements they make when, in fact, they are meeting a wide range of industry and worker needs through placement into other job and training opportunities.
- Consider the unique aspects and context of the construction industry when setting performance measures for pre-apprenticeship programs. The design of employment retention measures in particular deserves consideration given the cyclical nature of the industry, in which periods of unemployment are the norm.
- Support programs' efforts to build industry networks and to develop and retain staff with a deep understanding of the construction sector.
- Provide programs with resources to implement long-term participant engagement strategies to help ensure workers are attaching to the labor market and advancing in their careers.
- Continue to build knowledge about challenges to apprenticeship retention and solutions.

If these recommendations are implemented, more pre-apprenticeship programs will have the necessary capacities, resources and flexibility needed to help low-income, minority and female workers locate and retain construction careers. And the programs will better help local construction employers obtain the skilled workforce they need to help drive growth in their local labor markets.

Introduction

A visitor walking down to the riverfront in Portland, Oregon and looking out across the Willamette River cannot help but notice the barges and cranes being used to construct a new bridge that will expand the city's light rail MAX system. In Maryland, gaze out the window of a train passing through East Baltimore and you may see orange hard hats bobbing and weaving in and out of the new homes and commercial buildings under construction near Johns Hopkins University Hospital. Drive through Milwaukee and you will likely pass through the Marquette Interchange, the crossroads of four major highways and the result of one of the largest construction projects in Wisconsin history. Looking up, you will see City Hall's newly renovated tower piercing the skyline. From a plane soon to land in Hartford, a visitor can look down and watch workers on rooftops, installing solar panels on that Connecticut city's public buildings. The United States has a long history in construction that continues today as buildings are weatherized, sewer and water lines are replaced, historic sites are renovated, roads are maintained, airports are modernized, and homes are constructed.

In all of our cities, the construction industry and its workforce make up a vital piece of the local economy. While the construction industry struggles in the wake of the recent recession, its decline is not expected to be permanent. Current estimates suggest that the United States needs to invest $2 trillion to repair its aging infrastructure.[1] And, while the promised new reality of "green jobs" eludes many, it is increasingly evident that across the construction industry, processes and materials are "greening." At least some new "green" employment opportunities are available and more are predicted. A study by Booz Allen Hamilton conducted for the U.S. Green Building Council suggests that new green construction projects will support 3.3 million construction workers between 2009 and 2013, an increase from 1 million between 2000 and 2008.[2]

Although our current economic climate may not show it, economic and labor force projections indicate that demand for workers with construction skills will rebound and increase. Because most construction work, by its nature, must currently be done on-site, this employment cannot be outsourced to other countries. The aging of our construction workforce likely means additional job opportunities for workers entering this industry. In 2008, the average age of a

BOX 1: A NOTE ON THE TERM "PRE-APPRENTICESHIP"

Pre-apprenticeship program is the term most commonly used to describe workforce development programs that prepare people, particularly low-income individuals and non-traditional construction workers such as women and minorities, to enter the construction trades. While the term pre-apprenticeship connotes that these programs' goal is to connect their participants to the Registered Apprenticeship system, in reality, apprenticeship is only one of the goals pursued. Pre-apprenticeship programs teach the skills that a worker needs to qualify for apprenticeship, but the job opportunities available to program graduates vary from labor market to labor market. In general, pre-apprenticeship programs strive to match graduates to the best available opportunity for which they are qualified. As a result, programs may connect their graduates to a range of entry points and job opportunities in the construction sector, across different market segments and specialty trades, or other education and training opportunities, as appropriate. The experience of participating in a pre-apprenticeship program also helps trainees make better-informed decisions about whether a career in construction is right for them. Programs counsel trainees about the demands of apprenticeship and construction employment and help them assess whether this is the right type of work for them.

[1] Jonathan Miller, *Infrastructure 2011: A Strategic Priority* (Washington, D.C.: Urban Land Institute, 2011), http://www.uli.org/ResearchAndPublications/PolicyPracticePriorityAreas/Infrastructure/~/media/Documents/ResearchAndPublications/Reports/Infrastructure/Infrastructure2011.ashx (accessed July 16, 2011).

[2] Booz Allen Hamilton, *Green Jobs Study* (Washington, D.C.: U.S. Green Building Council, 2011), http://www.usgbc.org/ShowFile.aspx?DocumentID=6435 (accessed July 16, 2011).

construction worker was 40.4 years, more than four years older than the construction worker average age in 1985. More than 40 percent of today's construction workers are baby boomers born between 1946 and 1964.[3] As these workers age and retire, the industry will need new skilled construction trades workers to replace them. Finally, demand for entry-level workers in construction will continue. In order to be competitive, contractors bidding on construction projects generally make cost estimates that assume that a certain number of hours or percentage of work will be assigned to entry-level workers who earn less than more experienced workers, hence lowering labor costs.

Entry- and mid-level construction work presents real opportunities for low-income adults. The wages and opportunities that the construction industry provides have long supported the middle class in the United States. Construction employment opportunities are especially relevant today given the recession's impact on our low-income population. The Center for Labor Market Studies, a research unit of Northeastern University in Boston, found that low-income workers face much higher levels of unemployment and underemployment during the recession than those in higher income brackets.[4] Today's low-income workers are also tomorrow's workers. Investments in developing the skills of today's workers should occur alongside investments in constructing and maintaining our nation's infrastructure and built environment.

For more than a decade, the Aspen Institute's Workforce Strategies Initiative has been committed to finding better strategies that help our nation's low-income population connect to better education, employment and economic opportunities. Our research has found that workforce development strategies that target a specific industry or set of occupations are effective and help low-income individuals gain footing in today's economy. Sector-specific workforce strategies also help businesses find the skilled workers they need. Over the last two years, AspenWSI has been studying programs, often referred to as "pre-apprenticeship" programs, that prepare individuals for entry-level jobs in the construction trades.

BOX 2: REGISTERED APPRENTICESHIP PROGRAMS

Registered Apprenticeships are typically sponsored by local employers, trade associations, and/or joint employer and labor groups, which assist apprentices with placement in a job. Registered Apprenticeships often provide better than average wages and benefits as well as a clear career pathway and process by which they can advance. Under the supervision of journey-level craft persons, apprentices participate in a structured program, which combines classroom and applied, on the-job learning. The classroom training is often paid for by the apprenticeship sponsor. During the three- to five-year apprenticeship period, apprentices earn progressively higher wages as they work to acquire industry-recognized skills and, ultimately, their Apprenticeship Completion Certificate and journeyperson status. The Certificate is a portable, marketable credential, which is recognized by companies throughout the United States and Canada. Registered Apprenticeships are regulated and governed under Federal Law by the U.S. Department of Labor (DOL) as a result of the National Apprenticeship, or Fitzgerald Act, of 1937. Minimum standards around Registered Apprenticeship program quality are set by DOL as part of the National Apprenticeship System, and quality assurance assessments occur through either the department or a recognized state apprenticeship agency.

U.S. Department of Labor, Employment and Training Administration, *Apprenticeship Programs, Labor Standards for the Registration of Apprenticeship,* U.S. Code of Federal Regulations, 29 CFR Part 29 (amended October 29, 2008).

[3] Laura Welch, "The Aging Worker in the U.S. Construction Industry," *Occupational Health and Safety Magazine*, March 1, 2010, http://ohsonline.com/articles/2010/03/01/the-aging-worker.aspx?sc_lang=en (accessed July 16, 2011).

[4] Andrew Sum, Ishwar Khatiwada, Allison Beard and Sheila Palma, *Labor Underutilization Impacts of the Great Recession of 2007-2009: Variations in Labor Underutilization Problems Across Age, Gender, Race-Ethnic, Educational Attainment and Occupational Groups in the U.S., 2009 Fourth Quarter* (Boston: Center for Labor Market Studies, Northeastern University, March 2010), http://www.northeastern.edu/clms/wp-content/uploads/Labor_Underutilization_Impacts_of_Great_Recession_of_20072009.pdf (accessed July 20, 2011).

In this paper, we build on previous research by examining how construction pre-apprenticeship programs in four cities interact with and navigate their regional labor markets on behalf of program participants. By exploring how programs operate and interact with other stakeholders in their labor market including industry, funders, government, other training organizations and workers, we hope to provide a better understanding of how pre-apprenticeship programs connect to industry on a regional scale and fulfill a wide-range of industry needs for new skilled workers. Importantly, we also shed light on how programs help their trainees navigate their local labor market to find ongoing education opportunities, quality jobs and advancement opportunities in the construction industry. And, we identify challenges and offer possible solutions.

We begin this report with an overview of the research that informs it. We describe the construction industry using national-level and local-level data about the four cities where we conducted in-depth site visits to learn more about pre-apprenticeship program operations on the ground. From there, we discuss the types of challenges that construction workers face in the industry. We describe the types of outcomes that pre-apprenticeship programs target for their participants and why this is critical for understanding the nature of pre-apprenticeship programs. The report then describes how the four profiled programs work with industry including how they build industry networks and knowledge to inform their work as well as how industry perceives the value of pre-apprenticeship programs' services. We go on to discuss how programs' industry networks and knowledge are used to benefit the workers they serve and conclude with recommendations for program operators, investors, and policymakers about how to better build and support pre-apprenticeship efforts.

Research Informing This Publication

This publication highlights findings from structured site visits to learn about four construction pre-apprenticeship programs. It also draws from and expands upon previous research conducted by AspenWSI on construction pre-apprenticeship programs, including a national survey and structured telephone interviews with program leaders. In 2009, AspenWSI fielded a nationwide survey of construction pre-apprenticeship programs to better understand how they prepare and train individuals for careers in the construction trades. Our survey sought to learn about programs designed to work with low-income individuals and populations that have traditionally been underserved in the construction labor force, including ethnic and racial minorities as well as women. The survey generated 260 responses from pre-apprenticeship programs across the country and addressed a wide variety of questions related to the populations that these programs serve, the education and support services they provide, program funding, apprenticeship placement rates and program challenges.[5]

During analysis of survey responses, AspenWSI researchers found that some programs reported higher job and apprenticeship placement rates for hard-to-serve populations than we saw as the norm across all programs. To learn more about those programs, AspenWSI conducted telephone interviews with leaders of 25 such programs and published a summary and analysis of program leaders' views and experiences regarding program design, industry relationships, green construction and public policy.[6]

Through these interviews, we found that while many programs worked with a small set of industry partners, a few described connections to broader networks of construction employers in their regional labor market. AspenWSI selected four of these programs with larger industry networks for further investigation. We wanted to understand better how programs build and leverage extensive relationships in order to connect low-income individuals to careers in the construction industry. These four programs are the subject of this report and are described in Box 3 below.

BOX 3: REGIONAL APPROACHES TO COLLABORATION TO PREPARE LOW-INCOME INDIVIDUALS FOR CAREERS IN THE CONSTRUCTION SECTOR

Portland, Oregon: Oregon Tradeswomen, Inc. (OTI) is a locally recognized leader with long experience in construction trades, and our research focused on this organization. However, we also were interested in Portland's other pre-apprenticeship programs, including YouthBuild Portland, Constructing Hope and the Evening Trades Apprenticeship Program, which along with Oregon Tradeswomen, work with specific participant constituencies including women, minorities, youth and ex-offenders seeking entry into the construction trades. In the last few years, the Economic Opportunities Initiative, a project of the City of Portland and Construction Apprenticeship and Workforce Solutions, a workforce intermediary led by the local Workforce Investment Board, has worked to build pre-apprenticeship programs' capacities and to better align these programs' efforts in order to serve Portland's construction industry and low-income populations on a larger scale.

Points of Research Interest: *Potential for organizing the industry relationships of a network of constituency-oriented nonprofits; pilot of city-wide weatherization project; working with both union and non-union employers.*

continued on next page ››

[5] See Maureen Conway and Allison Gerber, *Construction Pre-Apprenticeship Programs: Results from a National Survey* (Washington, D.C.: The Aspen Institute/Workforce Strategies Initiative, July 2009), available from http://www.aspenwsi.org/publications/09-007.pdf; Internet.

[6] See Maureen Conway, Allison Gerber, and Matt Helmer. *Construction Pre-Apprenticeship Programs: Interviews with Field Leaders* (Washington, D.C.: The Aspen Institute Workforce Strategies Initiative, Summer 2010), available from http://aspenwsi.org/publications/10-014.pdf; Internet.

Baltimore, Maryland: JumpStart, a 13-week pre-apprenticeship program founded by the Job Opportunities Task Force, a local advocacy and research organization, builds its employer network and places individuals in employment primarily through a relationship with a non-union trade association, the Associated Builders and Contractors. JumpStart partners with local community-based organizations such as Catholic Charities and Vehicles for Change to provide support services to participants. At the same time, JumpStart's position within a policy advocacy organization helps bring attention and action on policy issues that affect employment opportunities. For example, like many pre-apprenticeship program operators, JumpStart staff quickly learned the importance of having a valid driver's license for employment in the construction trades. But when staff learned that Maryland's license requirements were much more difficult for low-income adults to meet than those of most other states, Job Opportunities Task Force staff quickly talked to legislators about the issue, the challenge it presents to workers and how it could be changed. The Maryland Senate recently passed a bill addressing these concerns, and Job Opportunities Task Force staff members are hopeful that it will pass both houses.

Points of Research Interest: *Potential to operate a program and engage in related policy advocacy to enhance ability to improve client outcomes; working with primarily non-union employers.*

Hartford, Connecticut: The Hartford Jobs Funnel, a community-based program, "funnels" participants into the region's job training system to gain specific construction skills and trade-related certifications from a variety of training providers. The Jobs Funnel, which began as a community organizing strategy, relies on a network of community-based partners to provide support services to participants and matches participants to relevant in-demand pre-apprenticeship and construction skills training offered by several training providers. Its administrative home is now the local Workforce Investment Board, which officially employs the Jobs Funnel's small staff. However, the Jobs Funnel is guided by a multi-stakeholder committee that includes industry, service providers, local government and philanthropy.

Points of Research Interest: *Ability to offer "on-demand" training in response to industry needs; ability to build on existing capacity of other organizations and maintain a diverse stakeholder coalition over time; working with both union and non-union employers.*

***Milwaukee, Wisconsin*:** The Wisconsin Regional Training Partnership (WRTP/BIG STEP) is a nonprofit organization that grew out of a labor-management partnership and operates a series of construction and pre-apprenticeship skills trainings, while relying on community-based partners to provide participants with supportive services. WRTP/BIG STEP serves as a centralized workforce intermediary that connects its strong industry partners, mostly on the union side, with the public workforce system, community-based organizations and other training providers.

Points of Research Interest: *Strong ties to the industry's union side; offers "on demand" and incumbent worker training in response to industry needs; ability to "crosswalk" training participants into other sectors such as manufacturing.*

These four sites were selected not only because they have extensive industry relationships but also because they reflect diversity in terms of location, population served, industry relationships (including union and non-union markets and employers), and service strategies. During site visits to these four cities, AspenWSI researchers interviewed pre-apprenticeship program staff, local government officials, state apprenticeship office representatives, leaders of unions and industry associations, general contractors and subcontractors, representatives from Workforce Investment Boards, and philanthropic supporters of programs. We also conducted focus groups with current and former program participants. Pre-apprenticeship program leaders provided documentation describing their funding, job and apprenticeship placement information, industry forecasting strategies, and training schedules.

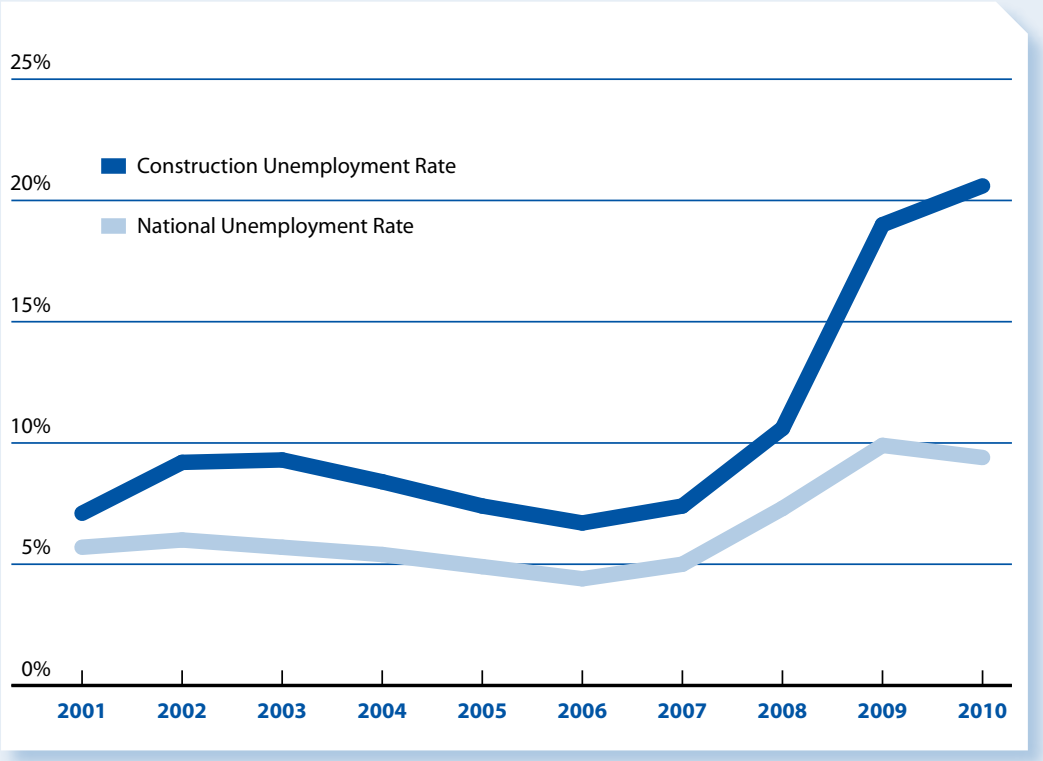
In April 2011, AspenWSI convened a day-long meeting in Washington, D.C. Representatives from the public sector, philanthropy, labor, academia and local workforce development programs interested in the construction industry, apprenticeship, pre-apprenticeship and related issues participated. Topics discussed included how pre-apprenticeship programs and funders think about job quality and outcomes, the size of apprenticeship relative to the total construction labor market, issues associated with apprenticeship retention, approaches that programs use to forecast employment demand, and the structure of the non-union side of the construction labor market. Discussion and recommendations from this meeting also inform this report.

National Construction Industry Context

Despite the recent economic downturn, construction is an integral part of the U.S. employment picture. In March 2011, nearly 5.5 million people were employed nationwide in construction-related occupations. But, at the same time, the unemployment rate for this industry was 20 percent – more than twice the 8.5 percent unemployment rate for construction-related occupations recorded in March 2006.[7]

Unemployment in the construction industry has, at least over the past decade, been consistently higher than the overall national unemployment rate. In addition to being cyclical, construction industry employment is often seasonal, and many jobs are temporary. Thus, even in good times, short spells of unemployment occur as workers move from job to job, naturally leading to a higher unemployment rate for the industry. Nonetheless, the construction industry was particularly hard hit by the recent recession, and the industry's current unemployment rate far surpasses unemployment among the entire U.S. labor force. Figure 1 shows how unemployment in construction compares to general unemployment in the past decade.

FIGURE 1: UNEMPLOYMENT RATE BY YEAR



U.S. Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey, http://bls.gov/cps/ (accessed Aug. 8, 2011).

Although employment challenges persist in the industry, the U.S. Bureau of Labor Statistics projects that the number of construction-related jobs will increase by 19 percent by 2018. This is much higher than the 11 percent growth that the bureau projects for all industries during this

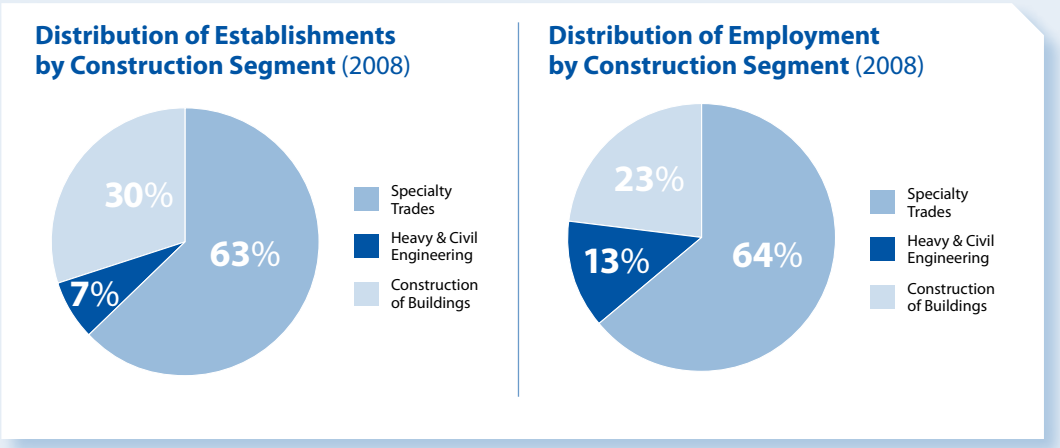
[7] U.S. Bureau of Labor Statistics, U.S. Department of Labor, Current Employment Statistics, http://www.bls.gov/ces/ (accessed July 23, 2011).

period.[8] In addition, as noted previously, the construction labor force is aging. Large numbers of workers will retire and need to be replaced in the next decade.

The U.S. Bureau of Labor Statistics divides the nation's construction industry into three primary segments: building construction contractors, heavy and civil engineering contractors, and specialty trade contractors. Each segment is further divided into sub-segments. For example, building construction contractors focus on residential, commercial or industrial buildings. Heavy and civil engineering construction contractors build highways, bridges, sewers and other infrastructure. Specialty trade contractors specialize in fields such as carpentry, painting, plumbing and electrical work, and are involved in all types of construction projects.

Construction industry companies are predominately specialty trade contractors. In 2008, the nation's 557,000 specialty trade contractors represented almost two-thirds of the construction industry's firms. Another 269,700 firms were building construction contractors. And 57,600 were heavy and civil engineering construction or highway contractors.[9] The charts below show how construction industry companies and employment are distributed across the three segments.[10]

FIGURE 2: DISTRIBUTIONS BY CONSTRUCTION SEGMENT



U.S. Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries,* 2010-11 Edition. http://www.bls.gov/oco/cg/ (accessed July 25, 2011).

In addition to the 7.2 million workers employed by construction establishments across these three main segments in 2008, the U.S. Bureau of Labor Statistics estimates that millions more are employed in construction occupations for other types of firms. An estimated 1.8 million individuals are self-employed and work in the construction industry performing work directly for property owners or acting as contractors on small jobs such as building additions, remodeling and maintenance projects. Additional construction workers, particularly those employed in specialty trades, are employed by firms categorized in other sectors such as manufacturing or transportation. For example, less than 50 percent of carpet, floor and tile installers, as well as painters and paperhangers, are employed by construction sector firms. Construction sector firms employ only between 50 and 70 percent of electricians, brick and stonemasons, glaziers, and carpenters. Other

[8] U.S. Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries*, 2010-11 Edition, http://www.bls.gov/oco/cg/ (accessed July 25, 2011).

[9] Ibid.

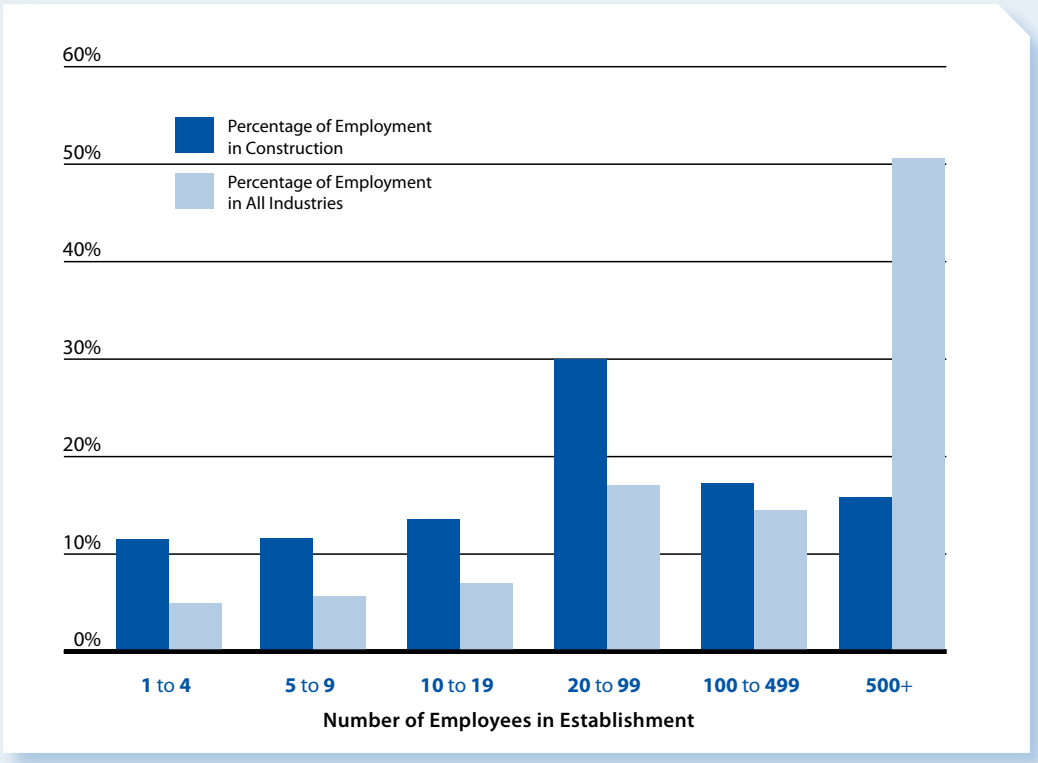
[10] U.S. Bureau of Labor Statistics, U.S. Department of Labor, Quarterly Census of Wage and Earnings, http://www.bls.gov/cew/ (accessed Aug. 10, 2011).

sectors that employ large numbers of construction workers include not only manufacturing and transportation, but also communication, utilities, real estate and wholesale and retail trade.

Construction sector employees typically work for private-sector firms, but public construction investments contribute significantly to the overall U.S. investment in construction projects. Of the nearly $788 billion in U.S. construction spending in 2010, 38.2 percent involved spending on large public projects such as schools, airports and highways.[11]

The construction industry is dominated by small firms. According to the U.S. Census Bureau's Statistics of Small Businesses, 23.1 percent of construction workers worked for firms with fewer than 10 employees in 2008 and 66.7 percent worked for firms with fewer than 100 workers. This differs dramatically from the experience of workers across all sectors of the U.S. economy. In 2008, only 10.7 percent of all U.S. workers in the private sector were employed by firms with fewer than 10 employees and 34.8 percent worked for firms with fewer than 100 workers. While a substantial number of construction workers do work for large firms (about one-third are employed by firms with 100 or more employees), this is considerably different from the U.S. economy as a whole, where 65.1 percent of all workers are employed by large firms.[12]

FIGURE 3: PRIVATE SECTOR EMPLOYMENT BY ESTABLISHMENT SIZE CONSTRUCTION SECTOR AND TOTAL U.S. EMPLOYMENT 2008



U.S. Census Bureau. Statistics of U.S. Businesses (2008). http://www.census.gov/econ/susb/ (accessed Oct. 25, 2011)

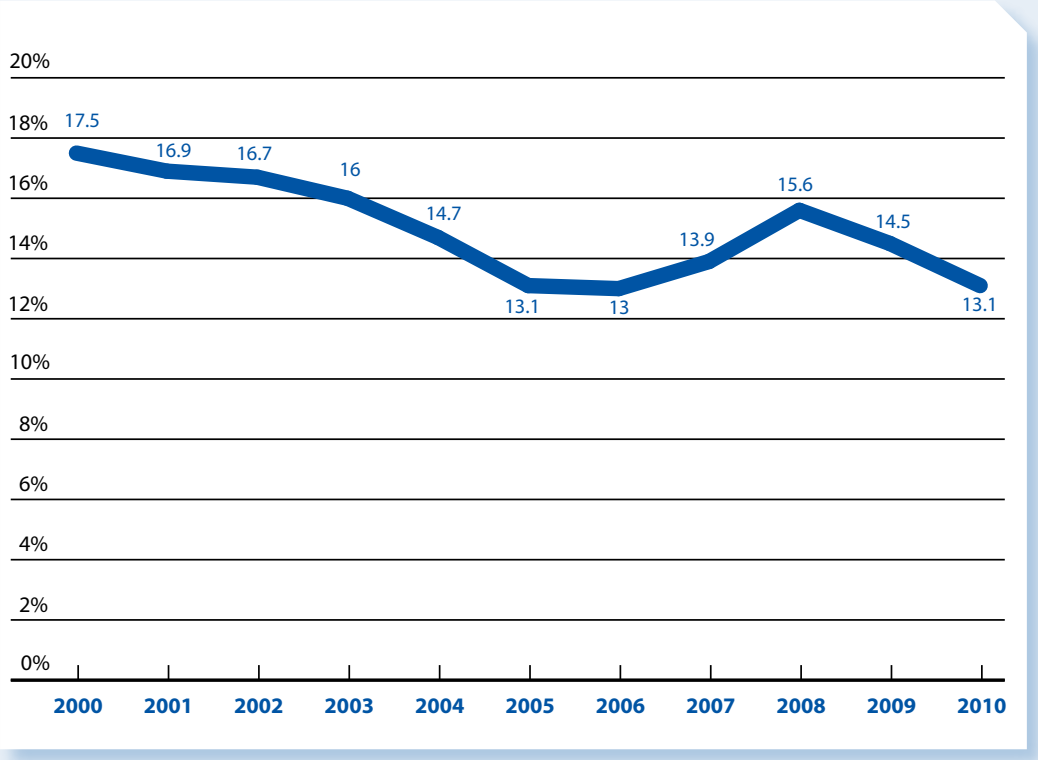
[11] U.S Census Bureau, Construction Spending, http://www.census.gov/const/www/c30index.html (accessed Aug. 11, 2011).

[12] U.S. Census Bureau. Statistics of U.S. Businesses (2008), http://www.census.gov/econ/susb/ (accessed Oct. 25, 2011).

The construction industry includes a diverse set of very unique skilled trades and occupations. Carpenters build and repair many different types of structures and fixtures made from wood, metal and other materials. Glaziers select, cut, install, replace and remove glass on everything from windows to shower doors. Laborers do a variety of tasks, from excavation to the sweeping necessary to prepare and clean construction job sites. Pipefitters install and repair complex pipe systems in buildings' heating, cooling and plumbing infrastructure. The U.S. Department of Labor has identified 19 construction trades occupations.[13] Workers across these 19 trades are required to have different and highly specialized skills, will experience a variety of working conditions, need varying amounts of physical strength to do their work, may need advanced math skills or excellent hand-eye coordination, and earn a wide range of salaries.

The different construction occupations and trades are represented by many different unions. Misconceptions exist, however, about the rate of unionization in the construction industry, which many people believe, incorrectly, to be very high. Although union density varies greatly across cities and regions, nationwide in 2010, only 13.1 percent of construction workers were union members, and, like many other industries, construction has seen a decline in the rate of unionization.[14]

FIGURE 4: NATIONAL UNION MEMBERSHIP RATES IN CONSTRUCTION, 2000-2010



U.S. Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey. http://www.bls.gov/cps/ (accessed July 12, 2011).

[13] U.S. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook*, 2010-11 Edition, http://www.bls.gov/oco/ (accessed July 10, 2011).

[14] U.S. Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey, http://www.bls.gov/cps/ (accessed July 12, 2011).

Construction work is characterized as physically demanding, occurring in difficult conditions and producing poor job security. Workers must navigate moves between jobs as projects reach different stages in the construction process, and periods of unemployment are the norm. Construction work also can be hazardous, and adherence to safety standards by all people working on a job site is critical to any worker's health and safety. Workers need significant training in safe work practices and safety standards in order to remain safe on the job. Unions play important roles in negotiating wages and benefits for their member workers, monitoring the safety of the work environment and in providing the skills training needed by construction contractors who employ workers.

Construction employees engaged in the industry's public and commercial segments tend to be much more unionized than those working in residential construction, where there is very little union involvement. This situation is reflected in the unionization rates of various trades. Ironworkers, highway maintenance workers and sheet metal workers are more unionized, with unionization rates of 61, 35 and 32 percent, respectively. Roofers and painters are less unionized – with only 9 and 6 percent, respectively, being union members.[15]

Workers in construction earned a median of $19.15 per hour in 2010, compared to the national median of $16.27 per hour for all U.S. workers.[16] Construction workers who were members of unions earned a median of $1,051 per week in 2010, compared to $692 for non-union construction workers.[17] Wages across occupations – whether union or non-union – vary dramatically, with workers such as laborers and painters earning far less than the median, and workers such as ironworkers, electricians and heavy equipment operators earning more.

Unions play an outsize role in organizing, managing and providing training programs for construction apprentices. From 1995 to 2003, approximately 70 percent of apprentices in construction were enrolled in union-affiliated, joint labor-management programs. This data, compiled by the U.S. Department of Labor's Office of Apprenticeship Training, Employer and Labor Services, includes information from 31 states for which data were available.[18] Though unions represent a relatively small proportion of construction workers, a higher number of construction apprentices are union members than non-union.

Apprentices represent a very small share of employment in the construction sector. The roughly 215,000 construction apprentices represented approximately 3 percent of the construction workforce in 2010. The U.S. Department of Labor recently reported that nearly 430,000 individuals participated in state and federally-approved apprenticeship programs in 2010. Approximately half of these were construction apprentices.[19] Analysis of community college-based apprenticeship programs suggests that there may be between 500,000 and 1 million individuals enrolled in unofficial apprenticeship programs not registered with the government (including construction and non-construction trades).[20] Even if we assume that many of these "hidden apprentices" are in the building trades, apprenticeship opportunities represent a small proportion of total employment in construction nationwide.

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[15] The Center for Construction Research and Training, *The Construction Chart Book, 4th Edition* (Silver Spring, Md.: The Center for Construction Research and Training, published with support from the National Institute for Occupational Safety and Health grant number OH008307, 2008), http://www.cpwr.com/ (accessed Aug. 4, 2011).

[16] Bureau of Labor Statistics, U.S. Department of Labor, Occupational Employment Statistics, http://www.bls.gov/oes/ (accessed July 23, 2011).

[17] Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey, http://www.bls.gov/cps/ (accessed July 12, 2011).

[18] *Construction Chart Book*, http://www.cpwr.com/ (accessed Aug. 4, 2011).

[19] David Altstadt, *Improving Access to Apprenticeship: Strengthening State Policies and Practices* (Chevy Chase, Md.: Working Poor Families Project, Summer 2011), http://www.workingpoorfamilies.org/pdfs/WPFP_PolicyBrief_Summer2011.pdf (accessed Aug. 11, 2011).

[20] Robert I. Lerman, *Training Tomorrow's Workforce: Community College and Apprenticeship as Collaborative Routes to Rewarding Careers* (Washington, D.C.: The Center for American Progress, 2009), http://www.urban.org/publications/1001360.html (accessed Aug, 12, 2011).

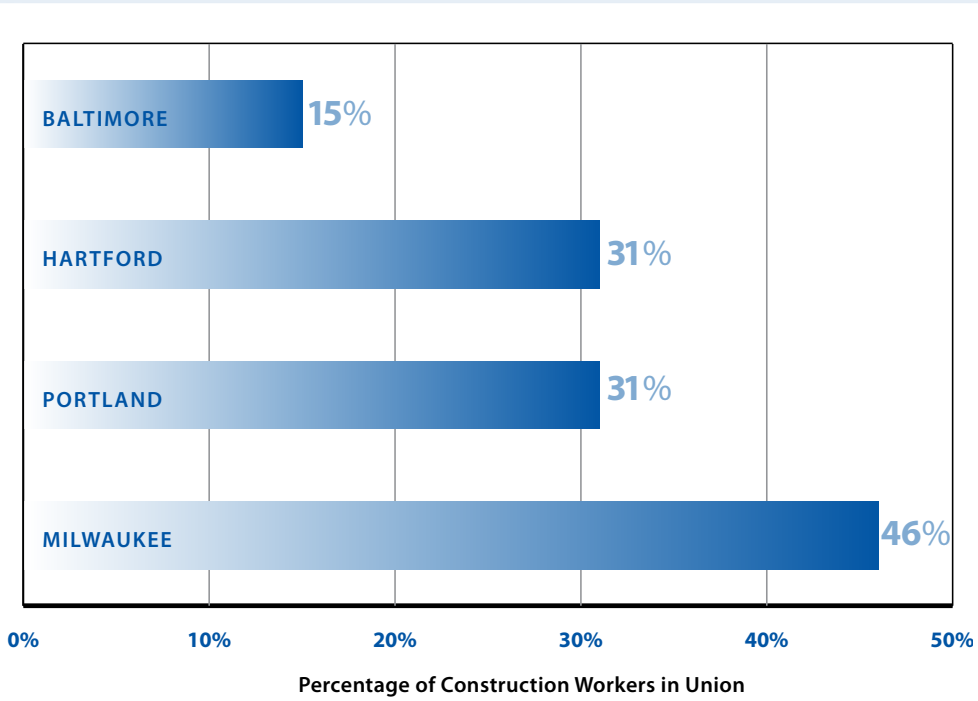
Regional Construction Industry Context

The construction industry varies significantly by region. Different infrastructure needs and investments, disparate public policies, varying union density, and other factors unique to a particular labor market all affect how a construction industry and workforce look from city to city.

A local construction industry's makeup is influenced greatly by its political environment. Within any metropolitan area, there may be several counties, a number of city or town governments, and dozens of special purpose political and taxation districts for schools, ports, transportation systems, utilities, etc. Each of these governments and districts is likely to have different construction stakeholders, regulations, workforce issues and employment opportunities. As a result, the range of engagement and knowledge that pre-apprenticeship program leaders need to successfully navigate the local political terrain can be formidable.

Across the four cities we visited, historical rates of unionization in the construction labor force vary significantly. Milwaukee had the highest historical unionization rate between 1983 and 2000 (46 percent), Baltimore had the lowest (15 percent).[21] Data covering the same time period for the entire U.S. construction industry is not available, but for purposes of rough comparison, the U.S. construction unionization rate in 2010 was 13 percent.[22]

FIGURE 5: HISTORICAL UNIONIZATION RATES IN CONSTRUCTION (1983-2000)



Joseph Gyourko and Alexander Saiz, *Urban Decline and Housing Reinvestment: The Role of Construction Costs and the Supply Side* (Philadelphia: Federal Reserve Bank of Philadelphia Working Paper No. 03-9, 2003). http://realestate.wharton.upenn.edu/newsletter/Urban_Decline.pdf (accessed May 30, 2011).

[21] The U.S. Bureau of Labor Statistics does not publish city-level data detailing union membership by sector. Data for the four metropolitan areas comes from: Joseph Gyourko and Alexander Saiz, *Urban Decline and Housing Reinvestment: The Role of Construction Costs and the Supply Side* (Philadelphia: Federal Reserve Bank of Philadelphia Working Paper No. 03-9, 2003), http://realestate.wharton.upenn.edu/newsletter/Urban_Decline.pdf (accessed May 30, 2011).

[22] U.S. Bureau of Labor Statistics, U.S. Department of Labor, Current Population Survey, http://www.bls.gov/cps/ (accessed July 12, 2011).

Because of varying union density, fluctuating economic conditions that affect overall construction employment, and disparate state policies to support apprenticeship, the number of apprenticeship positions varies by city and over time. As noted earlier, union apprenticeships are greater in number than non-union apprenticeships. Thus, areas with higher union employment density can be expected to have more apprenticeship opportunities than areas with low union employment density. In addition, cities and states vary in how they regulate, manage and encourage the growth and use of an apprenticeship system.

Challenges for Job Seekers and Workers in the Construction Industry

The construction industry can be very difficult for job seekers and workers to navigate – both at the entry-level and as people seek to move up a career ladder. Box 4, below, briefly summarizes some of the challenges described by pre-apprenticeship program leaders and new construction workers during our research. Pre-apprenticeship programs serve as a compass for workers and job seekers, helping them identify their directions and adjust their courses as they encounter many of these challenges.

BOX 4: CHALLENGES FOR JOB SEEKERS AND WORKERS IN THE CONSTRUCTION INDUSTRY

- Understanding the range of occupations within the sector, as well as the associated skill requirements, working conditions and other characteristics, so they can make informed choices about which opportunities to pursue.
- Determining what skills are in demand in the labor market and finding a path to obtain those skills.
- Finding job openings in a market full of small employers who often hire by word of mouth or through networks to which workers do not have access.
- Developing a career path that builds skills, experience and networks that promote career advancement.
- Obtaining a driver's license and a reliable form of transportation that allows a worker to travel to distant job sites and sometimes multiple job sites during the same day.
- Understanding how the apprenticeship system works for various trades. This includes both the application process and how to obtain work that builds the diversity of skills required to advance to journeyperson status.
- Developing a budget and financial plan that is appropriate for managing the periods of unemployment typical of work in the construction industry.
- Adjusting to the culture of the industry. Hazing is common, and minorities and females are typically underrepresented on job sites.
- Juggling the intensive work and study schedule of an apprenticeship.

Pre-Apprenticeship Participant Outcomes

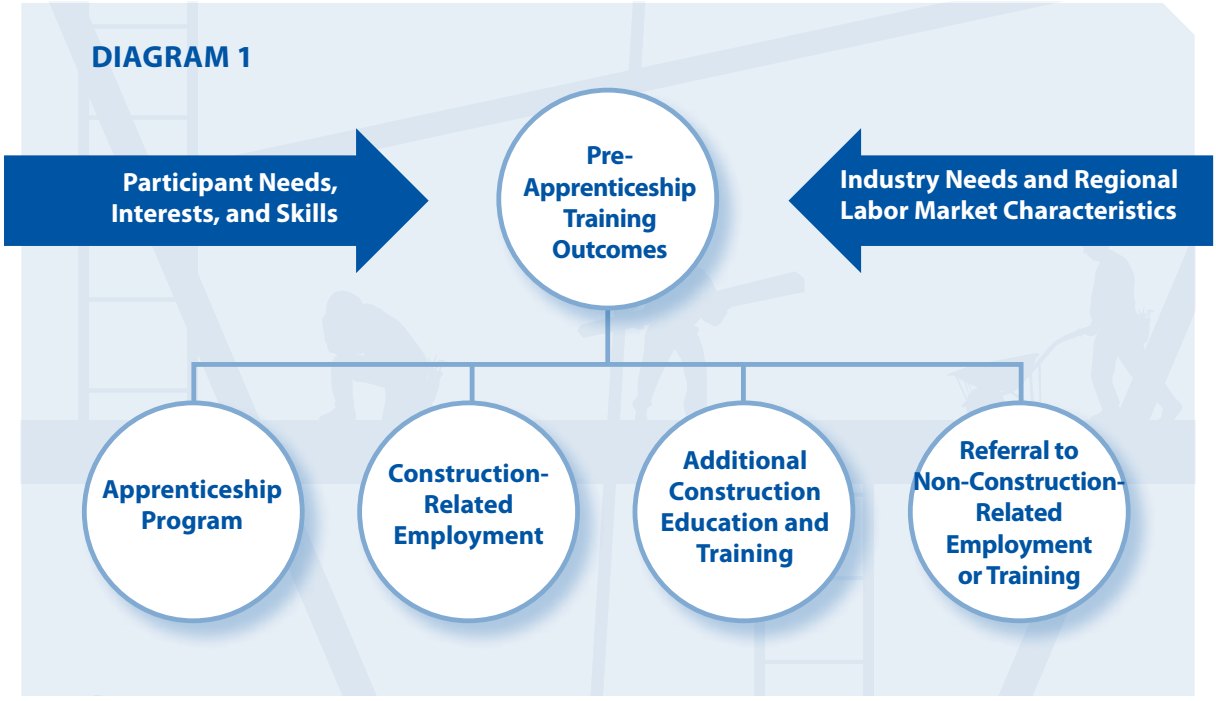
Pre-apprenticeship programs connect their graduates to a range of labor market and educational opportunities. These include placement in Registered Apprenticeship, other types of construction-related jobs, and additional construction-related training, as well as placement into non-construction-related jobs and education programs. One of the things we explored in our research was the specific mix of job and educational opportunities that programs target on behalf of graduates, why they target these outcomes, and how they define a quality outcome.

Program leaders describe their participants as arriving at pre-apprenticeship programs with a variety of needs, skill levels and interests. At the same time, programs work to respond to current industry demand, and at any given time, local construction industry projects may offer very different employment opportunities. As a result, pre-apprenticeship programs target a set of employment and educational outcomes, one of which is apprenticeship, to meet a variety of participant and industry needs and to remain flexible within the dynamics of the economy and local construction labor market.

While the specifics vary, two guiding principles for conducting their work were frequently mentioned by program leaders: (1) Match a candidate with the best employment or education opportunity available to him or her in the current environment, and (2) Never recommend a candidate for a position with an employer unless he or she is truly prepared to succeed. These principles can occasionally cause difficult conversations with trainees about why they have not been recommended for a particular position or with employers about why the best candidates may have been steered to other opportunities. But in general, program leaders say that clearly and consistently applying these principles builds their reputation as a quality service provider among both employers and potential trainees.

As shown in Diagram 1, below, participants in pre-apprenticeship programs generally achieve one of four outcomes. These include apprenticeship, construction-related employment, additional construction education or training opportunities, or a referral to a non-construction-related employment or training opportunity. Participants' outcomes can be influenced by a range of factors, including their needs, interests and skills. Industry needs and the makeup of the regional construction labor market, including union density, also can influence what outcomes pre-apprenticeship programs target for their participants. Following the diagram, we discuss each outcome and offer examples of how labor market characteristics, industry needs, and participants' needs, interests and skills influence the outcomes achieved by individuals in these training programs.

DIAGRAM 1



APPRENTICESHIP PLACEMENTS

Many program leaders and staff members we interviewed reported that placing participants in apprenticeship is one of their top goals. Apprenticeships offer their participants the opportunity to "learn and earn" simultaneously and can set participants on more defined career tracks that provide formal assistance navigating a variety of employment opportunities to build appropriate skills and experiences. However, in reality, the number of Registered Apprenticeship positions is extremely limited. This was the case in the four cities we visited, where programs reported an extremely low availability of Registered Apprenticeship slots in their community. Even where there is high union density, many union apprenticeship programs have either stopped accepting new apprentices or cut back on the number of apprentices they accept as a result of so many journeypersons and apprentices being out of work due to current economic conditions. For example, the number of newly registered construction apprentices in Wisconsin declined from 2,367 in 2000 to 894 by 2010.[23]

It is also important to note that, regardless of availability, apprenticeship may not be an appropriate placement for some program graduates. Apprenticeship often requires a commitment of three to five years. Throughout this period, apprentices often must work during the day and attend classes at night. This can pose significant scheduling challenges for many graduates – especially those with families. By the end of a pre-apprenticeship program, some graduates may be uncertain if a construction career is a good fit. The pre-apprenticeship program's ability to appropriately assess and screen individuals, as well as provide them with tailored career guidance, is a service to participants and industry partners.

CONSTRUCTION-RELATED JOB PLACEMENTS

When apprenticeship opportunities are not available or when apprenticeship is not a good fit for graduates, pre-apprenticeship programs work to place participants in construction-related jobs. The range of construction-related jobs is wide. Participants may be placed in positions such as helpers, general laborers, solar panel installers, weatherization technicians, road workers, material handlers, flaggers or welders. Some participants are placed in jobs that, while they are not on a construction work site, require related skills. These include placements in warehouses driving forklifts, in manufacturing operating heavy equipment or welding, or in retail establishments such as Home Depot where knowledge of construction tools and practices is essential. For some pre-apprenticeship program graduates, this first placement is "a foot in the door." It can provide an opportunity to build experience and a resume, as well as to earn a paycheck until a better job opens up. Sometimes this initial job is a stepping stone to an apprenticeship. As Connie Ashbrook, executive director of Oregon Tradeswomen, noted, "Probably 10-15 percent of our graduates start out in non-apprenticeship positions and then move up to apprenticeship in six months to two years." Pre-apprenticeship programs may stick with participants through three or four jobs until a participant can navigate the industry independently or until the participant gets the job he or she desires.

ADDITIONAL EDUCATION AND TRAINING OPPORTUNITIES IN CONSTRUCTION

For some pre-apprenticeship participants, entering employment immediately after completing the pre-apprenticeship program may not be the desired outcome. Program leaders who serve both youth and adults described participants who needed or wanted additional training or education after pre-apprenticeship training.

[23] State of Wisconsin Department of Workforce Development. *Apprenticeship Data and Statistics* (2011), http://dwd.wisconsin.gov/apprenticeship/statistics_data.htm (accessed Dec. 5, 2011).

For youth participating in pre-apprenticeship programs such as YouthBuild or Job Corps, the U.S. Department of Labor's free education and training program, construction training and work are often just one aspect of their experience. They may take classes in other areas as they work toward their GED or high school diploma. Some go on to college to pursue an education and career outside of construction, as described in the next section. However, some also enroll in additional construction skills training or another pre-apprenticeship program. For example, in Milwaukee, WRTP/BIG STEP works with YouthBuild participants to continue to build their skills through additional construction-related training beyond the YouthBuild pre-apprenticeship program. This additional training makes them better qualified for quality construction jobs and apprenticeship opportunities.

Adults in pre-apprenticeship also may pursue additional training after pre-apprenticeship. One Oregon Tradeswomen graduate described going to a technical school after pre-apprenticeship training in order to learn how to weld and to better compete for the job she wanted. In Baltimore, JumpStart offered a "JumpStart Two" course for program graduates who could not find employment during the height of the recession. The course offered more specialized training in plumbing, electrical and carpentry skills, and built upon the initial pre-apprenticeship course. At WRTP/BIG STEP and the Hartford Jobs Funnel, program leaders and staff described a process in which participants can complete one training course and then be funneled to another in order to obtain additional or more specialized skills that help them better compete for employment or apprenticeship slots.

REFERRAL TO NON-CONSTRUCTION RELATED EMPLOYMENT OR TRAINING

For some participants, the construction industry is not a good fit for their interests, skills or needs. Programs try to identify these participants early in the process, before pre-apprenticeship training occurs, when possible. Some trainees, however, have little previous work experience, have no personal contacts in the industry, or in other ways, lack the experience and knowledge to make an informed choice about whether the industry is a good fit. In some cases, participants may complete training and even get an initial job in the industry before realizing that construction work is not for them. Pre-apprenticeship programs often work with an individual before training, after training, or after a job placement to make referrals to employment or educational opportunities in another industry sector when this seems most appropriate. As noted above, youth programs in particular may help participants transition to a college degree or certificate program that is not related to construction.

In short, the mix of outcomes that pre-apprenticeship programs target includes apprenticeship, construction-related employment and additional education or training opportunities. In some instances, participants are referred to other non-construction related training or employment. The exact mix of outcomes varies from program to program and is driven by available apprenticeship slots, employment opportunity, and participant needs and goals. For instance, some programs may place higher percentages of workers in apprenticeships than others. In addition, it is important to understand that pre-apprenticeship programs, when resources permit, work over the long term with participants. So, they may help some participants find construction-related work, take additional classes, and ultimately earn a coveted apprentice slot. Determining the appropriate outcomes for a particular program requires an understanding of the characteristics of the program's participants, which industry partners a program works with, the availability of apprenticeship slots, and the local labor market's economic conditions.

Working Within the Industry

For pre-apprenticeship programs to be successful, they must develop and maintain in-depth knowledge of their local industry, as well as relationships with a range of industry-based organizations and many construction employers. The four programs highlighted in this report were selected because they have achieved success and scale in this area. Program leaders described their ability to connect to a continually widening range of industry partners representing different occupations and market segments. We were particularly interested in understanding how these programs develop and leverage these broad-ranging industry relationships.

CREATING AND MANAGING EXTENSIVE EMPLOYER NETWORKS

> "WRTP/BIG STEP is as much a part of the construction industry in Milwaukee as any organization, company or union."
>
> **– UNION LEADER IN MILWAUKEE**

The four pre-apprenticeship programs were described by local industry partners as having strong reputations and being an integral part of their local construction industry. Industry partners noted that these programs understand what industry needs, and the programs' approach to working with industry is respectful and credible. All four programs were reported to have a well-developed understanding of the different trades, occupations, employers, unions and associations, skill requirements, employment application procedures, apprenticeship systems and industry culture. To develop and maintain relevant industry knowledge, programs must develop and maintain multiple layers of relationships with construction contractors, apprenticeship programs, trade associations and unions, all of which offer information about industry trends and skill needs, as well as potential employment opportunities for pre-apprenticeship program graduates.

The four pre-apprenticeship programs use different strategies to develop and manage their industry relationships. Baltimore and Milwaukee have a strong central entity that manages industry relationships for workforce programs that train participants for construction employment. In Baltimore, the JumpStart pre-apprenticeship program contracts with the local Associated Building Contractors, a non-union trade association, to do job development and job placement for pre-apprenticeship students. In Milwaukee, WRTP/BIG STEP operates the Center of Excellence for Skilled Trades & Industry, which serves as a clearinghouse for the assessment, preparation and placement of job-ready candidates in careers in construction and other sectors. The center serves as a single point of contact for construction jobs seekers, for organizations and community partners seeking to place clients into construction training and employment, and for industry partners looking to recruit and hire a skilled, diverse workforce.

The Hartford Jobs Funnel has a less centralized approach since it is not a self-contained organization. The Jobs Funnel is an initiative, and staff members are embedded within other community-based and public workforce agencies. Importantly, the work is guided by a steering committee that includes a range of industry partners representing union and non-union construction, as well as relevant city agencies, community groups, funders and training partners. The Jobs Funnel is very focused on responding to existing demand for workers, so much so that a key question the steering committee addresses annually is whether there continues to be a need for the Jobs Funnel. The steering committee meets regularly to share information about upcoming projects (large and small), the types of skills and numbers of workers likely needed, the availability of skilled laborers, etc. The steering committee plays a critical role in guiding the Jobs Funnel's work and ability to remain abreast of industry trends and demand.

In Portland, each pre-apprenticeship training program provider demonstrated expertise in serving a specific worker constituency that may face barriers in the industry, such as women or

youth. Oregon Tradeswomen, in particular, has a strong reputation among industry stakeholders for providing quality services and training to workers and industry. Each pre-apprenticeship program, operating autonomously, manages its own industry relationships and networks, which, of course, overlap at times. The City of Portland's Economic Opportunity Initiative and the Construction Apprenticeship and Workforce Solutions, managed by the local workforce board, Worksystems, Inc., each play a role in funding and coordinating the work of these program providers. At the time of our visit, the Economic Opportunity Initiative and Worksystems, Inc., were working to better coordinate the efforts of the various pre-apprenticeship programs and facilitate industry engagement and relationships with them.

Pre-apprenticeship programs have used different channels to build and enhance industry networks over time. In Milwaukee, WRTP/BIG STEP has built a strong partnership with local building and construction trades unions. It used union relationships as a foundation to develop new relationships with apprenticeship programs, industry associations and contractors. In Baltimore, JumpStart built its industry network starting with the Associated Builders and Contractors, a non-union trade association. By working with the association, JumpStart has been able to reach and establish credibility with many contractors who are association members. On the other hand, the Hartford Jobs Funnel started initially by working with a few contractors who were trying to satisfy the local hire requirements of a Project Labor Agreement for work on a local convention center that had public financing. Over time, the Jobs Funnel capitalized on its initial successes with these contractors to build relationships with other contractors, as well as area apprenticeship programs, industry associations and unions. Regardless of the approach programs have used, creating a network of employers requires time, attention and resources.

BUILDING DEEP INDUSTRY KNOWLEDGE

Each of the four pre-apprenticeship programs employs staff with deep industry knowledge and construction-related experience. However, not only the relatively few staff members who have worked in the industry have this industry knowledge. From instructor to job developer to administrator, all staff members are involved with building industry relationships and/or leveraging those relationships to help graduates enter and advance in employment in the sector. WRTP/BIG STEP Executive Director Earl Buford clearly acknowledges the fact that industry assessment and navigation work that helps workers enter and advance in the industry [see Box 5] must be performed by staff members who have industry knowledge. Staff must be able to ask industry representatives and partners the right questions. They must be able to interpret and use the information industry stakeholders provide. And, they must know some of the industry stakeholders so they have a relationship base to build upon.

BOX 5: KEEPING INDUSTRY INFORMATION CURRENT

WRTP/BIG STEP combines three different strategies to stay informed about Milwaukee's regional construction market and how that market may be changing. This knowledge is crucial to making adjustments in training and to helping pre-apprenticeship program graduates obtain employment. These strategies include: broad scans of industry needs, assessment of construction projects occurring or scheduled to occur in the region, and tracking the available labor and skills of their participants relative to current and projected work.

Scans for industry needs begin with WRTP/BIG STEP's construction industry advisory committee, which is made up of stakeholders representing a range of perspectives, including construction trade associations, unions, apprenticeship programs and contractors. Committee members provide overviews on what they observe occurring in the construction sector in Milwaukee in real time. To supplement this information, WRTP/BIG STEP field staff talk with a wide range of union and non-union stakeholders, including general contractors, specialty tradesmen and apprenticeship program leaders. The staff meet with employers at many different locations, including construction sites, industry events and training facilities.

Staff leverage these industry and employer networks and consult with public agencies that manage construction and maintenance projects, including the Wisconsin Department of Transportation, the local water and wastewater district, and Milwaukee's Department of Public Works, among others to stay informed about what construction projects are occurring, planned or in the midst of changes.

Finally, WRTP/BIG STEP maintains a database of participants who have been enrolled or participated in a WRTP/BIG STEP training. This database is useful for tracking apprenticeship candidates and other workers in order to help determine whom to refer to specific job openings or to additional training.

USING INDUSTRY NETWORKS TO FORECAST DEMAND AND FIND RELATED EMPLOYMENT OPPORTUNITIES DURING ECONOMIC DOWNTURNS

Deep knowledge of the industry and the types of industry relationships, described previously, also help the pre-apprenticeship programs we visited to forecast demand and respond to changing conditions in their regional construction industry. Though forecasting demand is challenging, a program's ability to accurately determine where openings will be during the next one to six months is crucial to their ability to prepare workers with appropriate skills and meet industry's labor needs.

In our earlier research, pre-apprenticeship program leaders described labor demand forecasting as challenging because public labor market information is often imprecise, in terms of occupations, and based on broad trends with limited usefulness for identifying immediate and specific opportunities. The nature of construction work also complicates program leaders' ability to predict employment opportunity. For example, the complexities of large-scale construction projects, the timing of which can be affected by many environmental factors from interest rates to elections to weather, tend to lead to delays and project modifications. These factors, in turn, impact the number and type of workers a project will need and when they will be needed. The pre-apprenticeship programs we visited described using their networks of industry representatives to stay abreast of different projects' needs as they emerged and changed over time. As described above, WRTP/BIG STEP relies on a mix of approaches, including ground-level engagement with employers and contractors to obtain real-time information about job opportunities as they arise, as well as higher-level conversations with project owners and developers to get the bigger picture and be able to forecast their area's future employment opportunities and skill needs.

This industry engagement strategy also has proved helpful as the construction industry contracted during the economic downturn. Employment opportunities still exist but have been more difficult to find. Established networks and reputations can be keys to finding these opportunities, which may be outside the traditional construction sector. For example, WRTP/BIG STEP has a strong reputation for providing quality training in Milwaukee and its industry networks spill over into sectors other than construction and manufacturing. WRTP/BIG STEP's reputation and networks resulted in the city's forestry department approaching them to help recruit and train new workers. Construction employment opportunities had begun to decrease and WRTP/BIG STEP was looking for additional employment opportunities for its participants. The city and WRTP/BIG STEP joined forces, along with local labor unions, to begin an urban forestry training program. WRTP/BIG STEP's experience in providing customized training in construction and manufacturing, which includes some skills that overlap with urban forestry, such as equipment operation, appealed strongly to the public and industry stakeholders assembling the training program. The program provides six months of paid, hands-on training in tree climbing and pruning, equipment operation and maintenance, tree identification, and safety instruction leading to an industry recognized credential. WRTP/BIG STEP assesses, prepares and places job-ready candidates.

In another example, the Hartford Jobs Funnel, through their work helping low-income, minority residents find jobs in the trades, began to build relationships with local minority and small business associations. This led to work with small solar panel installation companies and other small contractors. The Jobs Funnel successfully placed several participants as solar panel installers with a local contractor working on area homes. When the state began offering incentives encouraging local public buildings to install solar panels, the local contractor was well positioned to grow. And, the Jobs Funnel was well positioned to help fill the contractor's need for more installers. In Portland, Oregon Tradeswomen leveraged its relationships to place participants as weatherization technicians with contractors working on a city-wide weatherization project.

Some pre-apprenticeship programs also reported scaling back on the number of trainees accepted, focusing instead on providing more advanced skills training to recent graduates in order to help them better compete in the job market. Knowing when to pull back on training or shift training to a different skill set in demand is highly contingent upon industry knowledge. And, the ability to alter training as appropriate is a value that the pre-apprenticeship programs we visited bring to their industry partners and trainees.

The Value Pre-Apprenticeship Programs Provide to Industry

The four pre-apprenticeship programs we visited articulated a clear sense of where they can add value to the industry, and industry partners we interviewed confirmed this value again and again. In some cases, contractors view pre-apprenticeship programs as human resources service providers because they conduct outreach, recruitment and screening of potential employees. This provides industry with a pre-screened labor pool that is prepared with the skills and knowledge required for entry-level employment. In many cases, this also allows unions and contractors to hire from communities they have not historically connected with via their traditional recruitment channels. As a Portland union leader stated, "Unions want to diversify, and pre-apprenticeship programs are one avenue for helping them do that."

Programs also may provide supports, such as mentoring or transportation assistance, that help new employees retain employment and, as a result, help employers cut turnover costs. As one Portland construction contractor noted, "Pre-apprenticeship programs stay with their participants and continue to work with them while they're working [for me] to [help them] get driver's licenses and things like that, which helps me as a contractor."

WRTP/BIG STEP thinks carefully about the value it can bring, relative to labor, for each sub-sector of the industry. For example, for contractors, WRTP/BIG STEP provides access to a more flexible workforce. Having predictable access to a qualified pool of available workers helps contractors better compete for projects. In addition, WRTP/BIG STEP helps contractors comply with local hiring requirements or other types of provisions that government agencies have regarding hiring and training on publicly-funded projects. This also helps contractors build good will with local public officials and position themselves well to compete for public projects.

Three of the four cities we visited require that a certain number of local workers and/or apprentices be hired for a public construction project. In these cities, pre-apprenticeship programs have been able to position themselves as trusted partners who can help contractors find labor that meets local hiring requirements and a project's skill needs. In Milwaukee, a local ordinance mandates that public construction projects of a certain size must employ local residents, minorities and women for a set percentage of total construction labor hours. Given

BOX 6: AN EMPLOYER'S EXPERIENCE WITH A PRE-APPRENTICESHIP PROGRAM

Max Windsor and his wife started a general contracting firm, Infinity Contracting, in 2007. Infinity is a subcontractor in areas that include carpentry, electrical and general labor. In 2009, Infinity landed its first large contract through a Base Realignment and Closure Commission (BRAC) project at Fort Meade, Maryland, just south of Baltimore. Max needed new workers. As a member of Associated Builders and Contractors and through his work with the association's minority business development project, Max heard about JumpStart, the Baltimore-based pre-apprenticeship program.

Max reached out to the program and hired three JumpStart graduates, two of whom still work for Infinity. "Our JumpStart employees, Nick and Charles, get the most compliments out of all our employees," says Max. In 2009, Nick and Charles began working for Infinity by doing basic cleaning and job site preparation tasks. By 2011, they were working on more advanced electrical work. Nick began an electrician's apprenticeship program, and Max hopes Charles will start a flooring/carpentry apprenticeship soon. "Those two have really set the bar high," says Max.

Max, who previously used several methods to hire people, says of JumpStart, "They have my trust. I know they will give me what I need. We will go back to hire from them again."

its strong reputation in the construction industry, WRTP/BIG STEP supports contractors' ability to bid successfully on these projects, to meet local hire requirements and to leverage local hire requirements to create opportunities for new entrants. One industry association leader in Milwaukee commented, "Our contractors are charged with meeting diversity hiring goals on projects. WRTP/BIG STEP is the portal for this to happen." Oregon Tradeswomen, along with the other pre-apprenticeship programs in Portland, also played an important role in ensuring that local residents, including females and minorities, were placed in jobs for Portland's Clean Energy Works project, which weatherized homes throughout the metro area.

> "I was doing the outreach and doing orientations once a month for apprenticeship. There were hundreds of people showing up and most of them weren't good candidates. I was wasting my time so I gave pre-apprenticeship programs a chance and now they do the outreach and screening for me."
>
> **– APPRENTICESHIP COORDINATOR IN PORTLAND**

Helping industry meet local hire requirements not only is a service to industry, but also to other community stakeholders. In Box 7 below, we briefly summarize how pre-apprenticeship programs bring value to philanthropy, other community-based organizations and government agencies operating in their local labor market.

BOX 7: THE VALUE PRE-APPRENTICESHIP PROGRAMS BRING TO OTHER COMMUNITY STAKEHOLDERS

Philanthropy: Local philanthropic funders described how the programs help them achieve their community goals related to alleviating poverty, by linking human capital development to economic development opportunities.

Other Community-Based Organizations: Leaders of nonprofit and human service organizations value the programs' industry expertise and connections, which help increase employment opportunities for the organizations' clients.

Government Agencies: Local government officials and staff described how the programs help them meet local and diversity hire goals. State government officials involved in regulating and monitoring the Registered Apprenticeship system said pre-apprenticeship programs help them develop a more racial- and gender-diverse pipeline of apprentices. Programs also help provide a diverse and qualified workforce for agencies, such as the Department of Transportation and the Environmental Protection Agency, among others.

Using Industry Knowledge and Networks to Help Workers and Job Seekers

The four pre-apprenticeship programs we visited leverage their insider knowledge and construction-industry networks to help prospective workers prepare to enter the industry, choose among available options, take the first steps into construction industry jobs and navigate new career paths. Helping participants succeed in construction means not only understanding industry's opportunities and needs, but also each participant's unique needs, skills and goals. In this way, programs help their participants determine their "fits" for different construction-related job opportunities. In this section, we discuss how programs use their industry knowledge and networks to better serve jobseekers and workers.

SCREENING, ASSESSMENT AND CAREER COUNSELING DRIVEN BY INDUSTRY KNOWLEDGE

The process a pre-apprenticeship program uses to connect individuals to job opportunities begins with a program's ability to screen and assess interested individuals appropriately. Across the four sites we visited, individuals seeking an entry-level opportunity in construction are initially screened for interest in or aptitude for construction before entering the program. Career counseling is also provided to help individuals decide whether construction is an appropriate career choice prior to training. Throughout training, participants receive counseling to help them decide which specific trade to pursue. Each program we visited had a different process for the screening and assessment of individuals.

In Hartford, the Jobs Funnel conducts program orientations every Friday. On average, 15-20 people attend, although the number varies depending on the employment opportunity for which the Jobs Funnel is recruiting. Recruiting occurs through word-of-mouth and by disseminating information about available training through partner community-based organizations and the workforce system. Assessment involves activities designed to determine an individual's career aptitude, as well as the educational and supportive services needed to succeed. Initially, the Jobs Funnel determines whether a participant is a good fit for the industry in terms of interest and aptitude. Staff members administer the Comprehensive Adult Student Assessment Systems test to determine what basic academic skills (reading, writing, math) the individual may need to work on. Staff members also work with an individual to identify any personal barriers that could hamper successful training. Subsequent follow-up activities to address these barriers may last up to a month. For example, individuals who do not demonstrate a high enough level of math proficiency may be referred to a math refresher course.

Participants also meet with a staff person to create an individualized pre-employment plan that identifies up to three trades that are a good fit, based on an individual's background, interests, education level, math skills, transportation plan and other factors. Individuals then participate in a series of workshops on life skills, resume building, interview preparation and safety, including Occupational Safety and Health Administration (OSHA 10) and Hazardous Waste Operations and Emergency Response (HAZWOPER) certifications. Following the workshops, individuals are referred to a pre-apprenticeship program, or in some instances may bypass pre-apprenticeship training to be referred for enrollment into an apprenticeship program if they are qualified and an apprenticeship slot is available. In making this referral, Jobs Funnel staff assess each individual's "fit" with the programs or trades based on staff's understanding of the unique needs and requirements for that occupation.

In some cases, apprenticeship opportunities may not be available or a good fit for an individual. To make this determination, pre-apprenticeship programs rely heavily on their knowledge of the apprenticeship system including what qualities a good apprenticeship candidate possesses. A program's ability to appropriately assess and screen individuals, as well as provide tailored career guidance, is a service to apprenticeship partners who are seeking only qualified, interested and motivated candidates, and to the individuals who have a variety of needs and interests. Hartford Jobs Funnel staff members describe entry into apprenticeship as "highly competitive" and explain

that their role is to help participants understand and meet apprenticeship requirements, when appropriate. But, if a participant isn't prepared or ready for an apprenticeship, program staff members provide guidance on how the participant can find other employment opportunities and/or prepare and successfully reapply when their circumstances or industry opportunity changes. Options may include other employment or skills training. As one union leader in Milwaukee said, "There are a lot of different paths to being a journeyman." Another noted, "There are other jobs beyond apprenticeship. Don't forget about the mix of opportunities that also offer family supporting wages in construction and in manufacturing. " Overall, pre-apprenticeship program staff members know helping students understand that construction is a large industry with a range of occupations and opportunities is important. Program staff members' knowledge of a wide range of occupations, and the interests and skills required for these different occupations, is critical to serving jobseekers and workers effectively.

TRAINING ATTUNED TO THE LABOR MARKET AND INDUSTRY NEEDS

The four programs we studied, to varying degrees, are able to adjust their training and curriculum in response to changes in their local labor markets. Being able to adjust training is critical to helping program graduates and meeting industry's changing skill needs. During our site visits, we saw programs respond to their labor markets in two ways. In Milwaukee and Hartford, pre-apprenticeship training providers worked with industry and community partners to design and provide customized technical training to trainees and incumbent workers. In Portland and Baltimore, programs changed their existing pre-apprenticeship curriculum to meet new demands or conditions as the labor market changed.

WRTP/BIG STEP and the Hartford Jobs Funnel are especially adept at providing customized training for industry. During the recession, WRTP/BIG STEP contracted with the local Laborer's Union to provide training to laid-off apprentices and journeypersons as well as community members in green construction skills. As noted previously, the program also quickly put together customized trainings for employers such as the Urban Forestry program for the City of Milwaukee. In Hartford, the Jobs Funnel adopts a similar strategy and helps coordinate customized training as industry needs arise. Trainings are offered in response to local demand for specific skills, and trainings vary in length, content and other aspects. For example, weatherization training is 40 hours over the course of two weeks. Solar panel installation is 40 hours per week for three weeks, and a general construction pre-apprenticeship program for ironworkers is six weeks. When these training programs are offered varies, depending upon demand in the labor market by employers for workers with different skills. Participants may enroll in a series of trainings, depending on their goals and existing skills, and the Jobs Funnel only refers for employment those trainees that have successfully demonstrated mastery of the competencies taught during training.

Though Oregon Tradeswomen and JumpStart do not provide customized training for individual industry partners, their pre-apprenticeship curricula are adjusted regularly, based upon economic conditions and input from industry partners. During the height of the economic recession, when job placement opportunities decreased, JumpStart ceased its traditional pre-apprenticeship training course and focused on providing additional training to former JumpStart graduates who were unemployed. As we noted previously, this included more specialized training in carpentry, plumbing and electrical skills. Importantly, this training kept participants actively engaged in skill-building and in the industry during their job search. JumpStart staff reported that this additional training made participants more competitive in a tough labor market. More recently, Oregon Tradeswomen added a weatherization skills component to its curriculum. This is designed to equip participants with skills needed to work in new jobs as weatherization technicians on the City of Portland's city-wide energy efficiency project, Clean Energy Works. Oregon Tradeswomen staff reported that several of its participants were placed with contractors working on that project. In these ways, programs' training is flexible and responds quickly to changing local economic conditions, better serving trainees and the industry.

CONNECTION TO A RANGE OF JOB PLACEMENT OPPORTUNITIES THROUGH EMPLOYER NETWORKS

As described earlier, the construction industry provides many opportunities across different market segments and specialty trades. The entry points and pathways that pre-apprenticeship graduates take into and through these different trades and market segments can vary highly from individual to individual and from labor market to labor market. To accommodate this variation successfully, programs must be able to place individuals in a variety of trades, market segments, occupations and, sometimes, in industries outside of construction. As a result, pre-apprenticeship graduates may be placed in jobs ranging from retail sales to warehousing to electrician's helper to laborer's apprentice.

To respond to changes in labor market demand and remain industry-relevant, pre-apprenticeship programs must work constantly on expanding their employer and industry networks. Having a diverse set of employment options is important as the economy fluctuates and changes, especially during economic downturns. As opportunities in the construction market have changed, so too have programs' industry relationships and placement strategies. Analysis of Oregon Tradeswomen's job placements, comparing 69 job placements from mid-2007 to mid-2008 with 69 placements from mid-2010 to mid-2011, illustrates this point. In 2007-2008, the organization placed graduates with 58 different employers; in 2010-2011, it placed graduates with 56 different employers. However, only 10 employers who hired graduates in 2007-2008 also hired graduates in 2010-2011. Between these time periods, Oregon Tradeswomen's network added many employers. Further evidence of the organization's adaptation to the changing job market can be seen in the types of positions participants were placed in during the two time periods. For example, while four graduates went to work as fire tapers in 2007-2008, none did in 2010. No graduates got jobs as weatherization technicians in 2007-2008, but 14 graduates went to work as weatherization technicians in 2010-2011.

A LONG-TERM STRATEGY: SERVING PARTICIPANTS AFTER THEIR INITIAL JOB PLACEMENT

Some pre-apprenticeship graduates are ready for apprenticeship immediately after training. As one pre-apprenticeship program leader noted, "They're ready, they simply need to know where to go apply." But, others need help navigating the construction industry labor market to find their niche. Many participants enter a pre-apprenticeship program with a lackluster resume or lacking appropriate work experience. Some are re-entering the labor market after leaving prison.

Often, pre-apprenticeship participants' initial job after training is a "stepping stone" to the job or trade they really want, as well as to the long-term outcome that programs want for their participants. In interviews with program staff, industry representatives and participants, we learned that most workers, particularly those who are low-income or lack work experience, start their careers in the construction industry by doing menial tasks. They sweep floors, load and unload trucks, or work in a related industry such as manufacturing, warehousing or construction-related retail. Workers with appropriate knowledge and connections may then move into a helper position to get more direct exposure to a specific trade, take additional training, enter an apprenticeship, or start their own business. How well workers build their experiences and skill sets is a major factor in how well they can advance in the construction industry. Pre-apprenticeship programs help participants make these choices, and develop a career path and plan that makes sense for each individual and that is based on the practical realities of the industry.

The process of career advancement in the construction industry can be iterative, time-consuming and largely dependent upon an individual's networks, which low-income adults usually lack. Learning how to network into a better job can be challenging. In Portland, Oregon Tradeswomen explicitly teaches networking skills. For workers unfamiliar with the industry and how advancement occurs, the program's knowledge of how the industry works and how a worker can

build appropriate experiences, skills and contacts to advance is especially important for participants after their initial job placement. Programs describe sticking with participants over the long-term to provide this on-going career counseling, additional job search and placement services, as well as industry employment navigation. For example, Hartford Jobs Funnel staff report working with some participants over a period of years as they figure out their path in the industry.

Regardless of where a graduate is placed, new construction workers need help assimilating to the industry. Some need financial assistance to help purchase tools and boots, pay initiation fees, or make ends meet when they are laid off from their first job.

The reality of the industry is that most jobs are temporary, and many are short-term. Faced with their first layoff, many new apprentices drop out of their apprenticeship programs, and new workers, including apprentices and other construction workers, develop fears about the inherent insecurity of employment in the construction industry, as Stephanie in the story below illustrates [see Box 8]. They may start looking for more predictable work, usually outside the industry. Program staff members report helping laid-off graduates by reminding them of the volatility of construction work so they can depersonalize the experience. And, graduates certainly need assistance getting connected to the next job. In Baltimore, JumpStart also focuses heavily on "replacement," i.e., replacing a job lost with a new one. Jason Perkins-Cohen, executive director of Job Opportunities Task Force, which manages JumpStart, said, "The reality in construction is that guys are going to get laid off. It's the nature of the industry. For guys that don't get too much experience before the layoff – getting back on the job can be really tough, and without some support, they're likely to get lost and drop out. Because there are always more people graduating, it's easy to focus on the new guys. Replacement is a huge focus for us. Today [in 2011] I learned that we are replacing a graduate from 2006." During new workers' first period of unemployment, they also may need help financially because they didn't work long enough to set aside savings.

BOX 8: HOW A PRE-APPRENTICESHIP GRADUATE FOUND HER WAY IN THE CONSTRUCTION INDUSTRY

Each year, thousands of women from around Oregon come to Portland for the Women in Construction Trades Career Fair. Over three days, buses of middle and high school girls arrive and join adults attending hands-on activities ranging from learning how to climb a utility pole to operating a piece of heavy machinery. The fair provides opportunities for women of all ages to learn about job and career opportunities in the construction industry.

While attending the fair in 2008, Stephanie, a woman in her late 20s, decided to pursue a career in construction. She had attended the fair for several years, where she learned about the fair's host, Oregon Tradeswomen, and its pre-apprenticeship training. Between 2006 and 2008, Stephanie worked at a grocery store, but she had done some informal construction work and had a strong passion for it. She quit her grocery store job to enter Oregon Tradeswomen's pre-apprenticeship program and completed it in 2008. A few months after graduation, Stephanie joined the Laborers' Union as an apprentice. Initially, Stephanie's work was limited to short-term projects, including working on a county road crew for the summer.

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Eventually the Laborer's Union placed Stephanie on a project at a metal recycling company, working as a laborer. She found herself watching the carpenters on the job site. She thought their work was exciting and better fit her skills and interests. And, over time, the carpenters encouraged Stephanie to become a carpenter. When she decided to transition from the Laborers' to the Carpenters' Union, she had to take a math test. Oregon Tradeswomen helped her prepare for the test, and Stephanie scored a 98 (percent), which put her at the top of the list for entry into the union's apprenticeship program. When Stephanie was accepted into the carpenters' union, she switched from being a laborer to a carpenter on the same job site at the metal recycling company.

In 2008, Stephanie worked pretty steadily as a carpenter's apprentice on a variety of jobs for a large commercial construction firm. But, in late 2009, as the construction industry felt the full brunt of the economic recession, Stephanie was laid off for a short period. "They tell you from the beginning to expect to be unemployed. But, no matter how many times you hear it, it's still scary when it happens to you for the first time," says Stephanie. A few months after she was laid off, she returned to work, this time for a concrete company. She achieved her journey-level status in August 2010. Throughout the early years of her career, Stephanie got help from Oregon Tradeswomen, which assisted not only with skills preparation and navigating application procedures, but also by providing industry tradeswoman mentors.

A lot of the assistance provided to new construction workers relates to cultural assimilation. Program graduates tend to experience a sense of "otherness" when they start work on a job site. They may look different from the other construction workforce, being one of the few faces of color or the only female. Sometimes experienced workers haze or "pick on" new entrants. Program staff members talk to new entrants, in advance, about these kinds of issues. They also help them distinguish between behavior that is rude or inappropriate versus illegal and unsafe. Programs may sponsor conversation groups with former graduates so recent graduates have a forum to talk about their experiences or to find a mentor in their field. In cases of abuse or illegal activity, program staff may address the issue by approaching a union or apprenticeship program directly on behalf of a participant.

During our site visits, representatives of pre-apprenticeship programs, industry and government all noted that while apprenticeship can offer quality placement opportunities, retaining apprentices is a growing concern. There is little information about why apprentices drop out of Registered Apprenticeship programs. Some interviewees expressed concern that attrition among women and minorities is particularly high. This represents a loss not only for the individuals concerned, but also for the unions and employers investing in an apprentice's education. Some pre-apprenticeship programs are experimenting with post-program services to address retention-related issues. WRTP/BIG STEP in Milwaukee received a grant from the Wisconsin Department of Labor to develop a statewide mentoring system for apprentices. In Portland, Oregon Tradeswomen finds mentors, who are often journeywomen, for the apprentices it places. It also offers networking events as a way to create peer support networks. Clearly, long-term strategies are needed to support pre-apprenticeship program graduates so they can successfully acculturate to the industry.

Policy Recommendations

Our site visits and interviews with stakeholders in Portland, Milwaukee, Baltimore and Hartford show that pre-apprenticeship programs in those communities are integral parts of the construction industry. The value that programs bring to workers and their industry partners is evident. The programs we visited, however, face some common challenges that inhibit their ability to be more successful. We conclude this paper by offering some guidance for workforce development leaders, investors and policymakers on how programs such as these can be better supported.

SET PERFORMANCE MEASURES THAT ACCOUNT FOR PROGRAMS' OVERALL GOALS, PARTICIPANT AND INDUSTRY NEEDS, AND LABOR MARKET REALITIES

Pre-apprenticeship programs are sometimes judged solely by the number of graduates they place into apprenticeship. However, apprenticeship placements are usually only one of the outcomes set by programs. Apprenticeship slots typically make up a small proportion of employment opportunities in a construction labor market, particularly in markets with low union density, and apprenticeship training is not a good fit for all workers.

As we have noted, an effective pre-apprenticeship program, one that meets both participant and industry needs, sets a range of employment and education outcomes for participants. These include apprenticeship, construction-related employment, additional construction education or training opportunities, or a referral to a non-construction-related employment or training opportunity. Thoughtful evaluation of programs' effectiveness requires considering this range of outcomes. Different performance measures may be set for each of these outcomes depending on the characteristics of the program's local labor market and the population served.

CONSIDER THE SPECIFIC INDUSTRY WHEN SETTING PERFORMANCE MEASURES

Every industry has unique qualities that drive the characteristics of its employment. In construction, work in the industry is cyclical and project-based and periods of unemployment are normal even in a strong economy. Construction workers (including apprentices, journeypersons and other workers) often find it difficult to coordinate seamless moves from job to job as they complete work on one project and move to another. Even "high-road" construction contractors, those who invest in safety and training for their workers and seek to employ them over the long-term, usually cannot provide uninterrupted employment. Some construction employers, however, lack good intentions when they hire new workers. These "low-road" contractors hire workers for very short periods of time, don't intend to rehire them for future jobs and don't provide training.

In many instances, standard employment retention benchmarks are not useful for documenting and understanding the employment outcomes of pre-apprenticeship program graduates who go to work in construction. Programs need performance measures that are flexible enough to reasonably account for the reality of construction employment, but rigorous enough to promote accountability among workforce service providers. Because good performance may be characterized by a series of short-term jobs, measures must distinguish in other ways between high- and low-quality job placements. A strong understanding of the local construction context – including the employment and training opportunities available to workers – is needed to inform the design of these performance measures.

SUPPORT PROGRAMS' EFFORTS TO BUILD INDUSTRY NETWORKS AND TO DEVELOP AND RETAIN STAFF

The construction labor market is complex. In any given labor market, there may be hundreds, if not thousands, of union and non-union construction businesses employing workers in numerous trades and occupations on constantly changing projects, large and small. To understand the labyrinth of industry opportunity and challenges requires investment of time and resources over the long term.

In the four programs we studied, program staff members are pivotal to the program's operations. Many of the programs' most important staff members – those who work in the field with businesses and industry – have been with these organizations for years. On any given day, staff from these programs can be found on construction job sites talking to contractors, in union halls and joint apprenticeship training facilities meeting with union leaders and apprenticeship coordinators, on the phone with the leaders of large industry associations, or in City Hall with government leaders discussing local or diversity hiring goals on an upcoming public construction project. Program staff's knowledge of the industry is immense and ranges from the skills and qualifications needed for a particular trade to what the current job openings are to what projects are coming up that may provide other opportunities. The networks staff members develop with industry representatives, government leaders and community partners serve these programs in a multitude of ways.

These networks and knowledge take time to develop, often years. In an environment where funding cycles are annual, with support fluctuating from year to year, programs are vulnerable to losing staff members, as well as the capacities and relationships they have developed. Programs with a consistent level of support across multiple years are better able to develop and retain the staff they need in order to be successful in placing individuals and serving industry businesses effectively.

SUPPORT PROGRAMS' EFFORTS TO IMPLEMENT LONG-TERM PARTICIPANT ENGAGEMENT STRATEGIES

For many pre-apprenticeship graduates, an initial job placement is a first step in a longer process. This first job after pre-apprenticeship training, and sometimes the second or even third job, is a building block or stepping stone toward building experiences and networks that allow graduates to navigate the construction industry on their own. Because of this, programs are often engaged with their graduates' post-training for several months, or even longer.

Of the four programs we studied, none have the resources to provide post-graduation services at sufficient scale or intensity. Few of the graduates who could benefit from longer-term structured follow-up and support can be served with existing resources. Yet, it is post-program engagement that is crucial to retention and advancement in the industry, many staff and participants report. Given the resources invested in participant recruitment, screening, training and placement, adding more funds for post-program support would help ensure that training investments are maximized.

CONTINUE TO BUILD KNOWLEDGE ABOUT CHALLENGES TO APPRENTICESHIP RETENTION AND SOLUTIONS

The rate of retention in apprenticeship programs is a growing industry concern. Anecdotal information culled during various components of our research indicates that many apprentices drop out of apprenticeship programs before they reach journeyperson status. The lost investment in an apprentice's training and the industry's loss of developed skills are among many concerns sparked by this trend. Currently, little is understood about what a successful completion rate in apprenticeship is, why some apprentices fail to finish their training, or where those who leave apprenticeship end up in the workforce. Gaining a better understanding of these issues would help policymakers, investors, industry representatives and pre-apprenticeship programs craft additional strategies to support apprentices.

Conclusion

Over the last three years, AspenWSI has embarked on a deep investigation of pre-apprenticeship programs. Results from a national survey, site visits, and interviews with program leaders, participants, industry representatives, government and community stakeholders, and others, demonstrate the great value that these programs can bring to local labor markets. The ability of pre-apprenticeship programs to respond to the needs of industry and industry workers is helping construction businesses lower costs, diversify their workforce, and expand the range of work they are able to do. Pre-apprenticeship programs also help individuals gain skills and find employment that supports them and their families. As the construction sector recovers from the economic downturn, the support and use of pre-apprenticeship program services will be essential for many construction businesses seeking to grow and for many underemployed and unemployed individuals seeking work. In an environment where cuts to job training, including pre-apprenticeship programs, are increasing, policymakers and investors should consider the impact these cuts have not only on workers and the unemployed, but also on businesses that are trying to grow and find qualified workers.

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