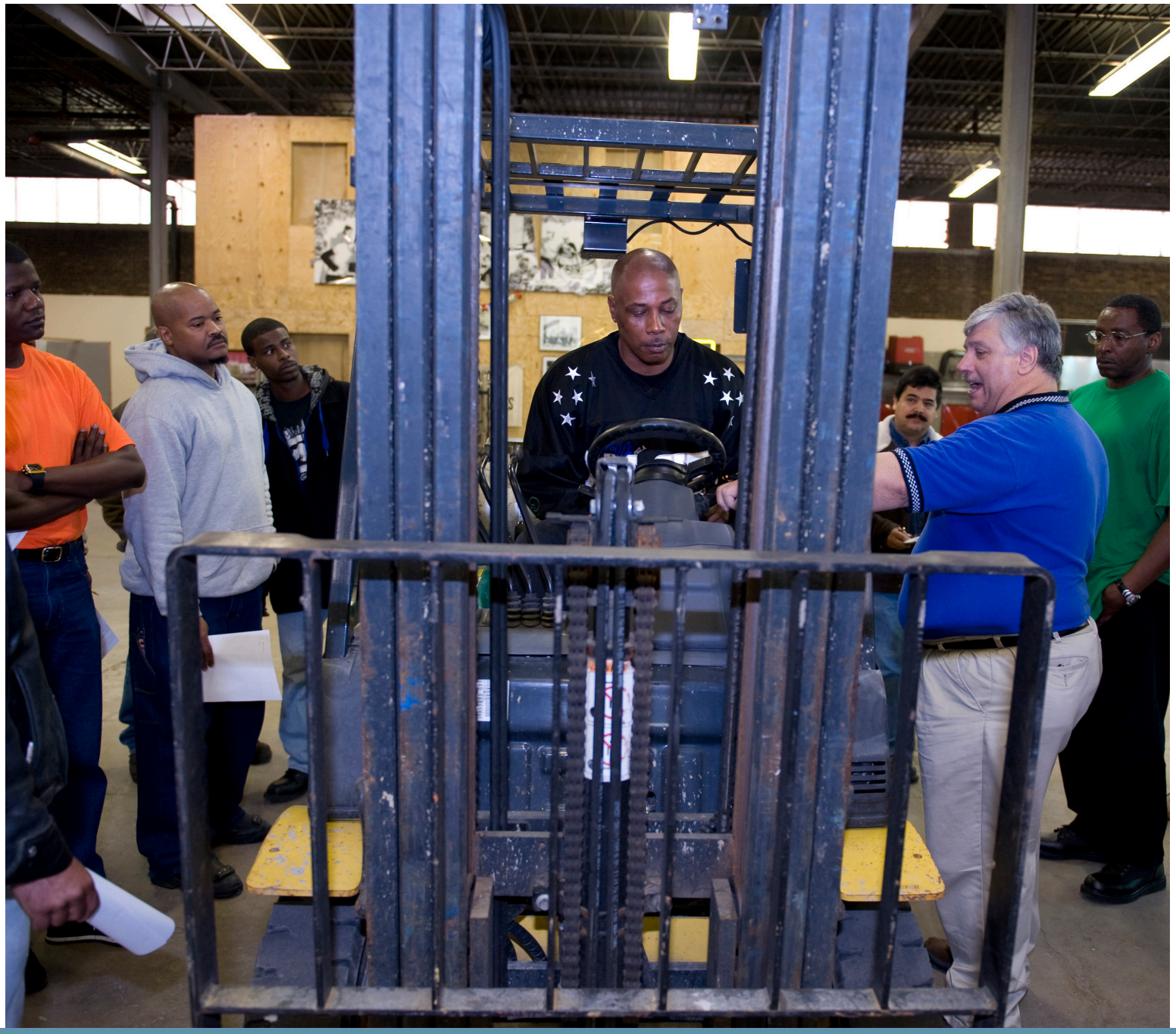

# Making On-the-Job Training Work

## Lessons from the Boeing Manufacturing On-the-Job Training Project

By Deborah Kobes

November 2013

National Fund for Workforce Solutions 2.0

National Fund for Workforce Solutions

The **National Fund for Workforce Solutions** is a philanthropic initiative of more than 400 national and local funders whose goal is advancing the careers of low-wage workers while addressing the skill needs of employers. The National Fund supports regional funding collaboratives in 30 communities across the country that organize industry partnerships, develop a pipeline of skilled workers, and promote business practices and public policies that lead to better career opportunities for our nation's workers and jobseekers. The National Fund gratefully acknowledges its implementation partner, Jobs for the Future, which provides fiscal and operational support services.

**WWW.NFWSOLUTIONS.ORG**

JOBS FOR THE FUTURE

**Jobs for the Future** works with our partners to design and drive the adoption of education and career pathways leading from college readiness to career advancement for those struggling to succeed in today's economy.

**WWW.JFF.ORG**

## ABOUT THE AUTHOR

**Deborah Kobes** is a senior project manager with Jobs for the Future's Building Economic Opportunity Group. She helps manage JFF's work in the green economy, providing technical assistance and coaching to workforce partnerships that recruit, train, place, retain, and advance new and incumbent workers in key industry sectors. Her work focuses primarily on expanding access to and success in construction trades and manufacturing careers. Kobes has also managed the Boeing On-the-Job Training Project for the National Fund for Workforce Solutions.

Before joining JFF, Kobes was project director and the first employee of the Emerald Cities Collaborative, a partnership of diverse organizations united around the goal of greening cities in ways that further high-quality job creation, equity, and democracy. She has also held research positions or fellowships at MIT, the Brookings Institution, and the Urban Institute. Kobes has a Ph.D. in urban political economy and governance from MIT and a Bachelor's degree in civil engineering with architecture from Princeton University.

## ACKNOWLEDGMENTS

This brief draws on lessons from the Boeing Manufacturing On-the-Job Training Project funded by The Boeing Company. Additional support for the project evaluation was provided by Grantmakers for Effective Organizations. Special thanks to all of the program participants and employers who provided their reflections, as well as to funding collaborative staff in Cincinnati, Dan River, Greenville, Hartford, Philadelphia, Kansas, Pennsylvania, and Seattle for their ongoing feedback throughout the project. The comments at the "Results and Learning from the Boeing On-the-Job Training Project" session on June 11, 2013, at the National Fund for Workforce Solutions' annual conference are also greatly appreciated.

PHOTOGRAPH courtesy of Opportunity Chicago's manufacturing sector program

# TABLE OF CONTENTS

# EXECUTIVE SUMMARY

The need to build a more robust workforce development pipeline is evident in the hundreds of thousands of job openings in our nation's advanced manufacturing industry. Rapid technological change has created a severe skills gap, compounded by a pending wave of retirements due to the aging of the workforce. These challenges are particularly problematic for small manufacturers, whose limited resources and tight production schedules make it difficult to recruit and train new workers. Larger firms can more easily entice skilled workers with higher salaries and career advancement opportunities. These companies also recognize that an industry-wide system to support training would generate higher-quality suppliers and maintain a pool of more highly skilled employees.

Investment in industry-driven on-the-job training (OJT) can be an effective workforce development strategy in this economy. Employers participating in on-the-job training benefit from financial incentives when they bring on employees to teach trainees the skills they need to succeed in specific positions at the firm. There is an expectation that these employers will keep successful trainees as permanent workers at the completion of the training. This brief explores one promising OJT model: the Boeing Manufacturing On-the-Job Training Project, funded by The Boeing Company and managed by the National Fund for Workforce Solutions.

The Boeing OJT project demonstrates that a well-designed OJT initiative can be valuable for both workers and employers. The project provided insight into the best uses of on-the-job training within the workforce development system, as well as recommendations for which design elements are most likely to help programs succeed. Results show that the OJT model is well suited for creating career advancement opportunities for entry-level employees, as well as for helping workforce development partnerships build relationships with employers.

Between the summer of 2012 and the spring of 2013, the Boeing OJT project placed 101 unemployed workers into training at 39 advanced manufacturing companies. Eight regional workforce industry partnerships provided employers with 50-percent wage subsidies during training periods of 10 to 15 weeks. At the end of training, employers retained 91 workers. Employers and employees overwhelmingly found the program beneficial, reporting high levels of satisfaction with the training experiences and the skills acquired.

The project provided the opportunity to analyze on-the-job training in action and identify ideas for improving the effectiveness of OJT programs in general. The National Fund, whose mission is to help low-wage workers and low-skilled, unemployed adults gain the skills they need to secure family-supporting careers, also gleaned important lessons about how to use on-the-job training to better support this population in diverse economic sectors. The following are the three key lessons learned from the project about the role of on-the-job training in workforce development:

- On-the-job training is well suited to customize training to the employer's specific needs, while creating career advancement opportunities for entry-level workers.
- OJT programs must include clear employer incentives to consider low-skilled candidates—and to hire newly trained workers—in order to serve as an effective job-placement strategy for low-skilled, unemployed adults.
- Creating OJT initiatives helps workforce development programs strengthen existing partnerships with employers and build new employer relationships.

Initial results show promise and warrant further exploration to determine how on-the-job training can be designed to provide the greatest possible benefit to employers and workers. The Boeing project provided comprehensive training, but served a relatively small

number of workers and focused on a particular economic context. Regional and industry variation will affect program needs and opportunities. Improving job placement levels will require specific elements to ensure greater success. To more fully realize the benefits of on-the-job training in the manufacturing sector, workforce partnerships should strive to:

- Focus on how to increase career opportunities for low-skilled, low-wage workers.
- Reduce bureaucratic processes and reporting requirements to encourage greater participation from manufacturing employers.
- Ensure planning and execution leads to programs that are focused on the quality and depth of training.
- Incorporate industry-recognized credentials into OJT programs, while allowing employers flexibility in designing their own training.
- Expand traditional OJT models beyond new hires to include incumbent entry-level workers.
- Support employer training strategies and professional development for supervisors.

The OJT model, when well designed and implemented, carries potentially significant benefits to employers and employees, as well as to the cultivation of a highly skilled labor force for the future.

# INTRODUCTION

The need to build a more robust workforce development pipeline is evident in the hundreds of thousands of job openings in our nation's advanced manufacturing industry. Despite high unemployment around the country, manufacturing has strong and growing demand for workers. The rate of job openings in the manufacturing industry is five times that of the private sector as a whole.[1] By 2015, the shortfall of skilled factory workers could increase to three million.[2] The aging of the workforce, which is leading to a pending wave of retirements, is a key factor. But rapid technological change across the industry has created a skills gap in all age groups. Some employees need additional training just to keep their jobs. Prospective hires require specialized training just to get in the door for an interview.

These challenges are particularly problematic for small manufacturers, whose limited resources and tight production schedules make it difficult to recruit and train new workers. Larger firms can more easily entice skilled workers with higher salaries and career advancement opportunities. Yet these companies recognize that an industry-wide system to support training would benefit all manufacturers, by developing higher-quality suppliers and maintaining a pool of more highly skilled employees.

Forming industry partnerships with community colleges and other workforce development providers to meet the needs of specific economic sectors has proven to be an effective strategy for narrowing the skills gap. On-the-job training (OJT) can be a particularly helpful partnership model in this economy. Employers participating in on-the-job training benefit from financial incentives when they bring on employees to teach trainees the skills they need to succeed in specific positions at the firm. There is an expectation that these employers will keep successful trainees as permanent workers at the completion of the training. The idea of on-the-job training is as old as work itself. But the severity of the skills gap is prompting a reconsideration of its value to workforce development and encouraging evaluation of the features that lead to success.

This brief explores one promising OJT model: the Boeing Manufacturing On-the-Job Training Project, funded by The Boeing Company and piloted by the National Fund for Workforce Solutions. This project, which ran from 2012 to 2013, demonstrates that a well-designed OJT initiative can simultaneously meet the needs of both workers and employers. The results provided insight into the best uses of on-the-job training within the workforce development system, along with recommendations for program design elements to help OJT efforts succeed. In particular, the Boeing project shows that the OJT model is well suited to creating career advancement opportunities for entry-level employees, as well as helping workforce development partnerships build relationships with employers.

The brief is based on the information and insights gathered during the 10-month Boeing OJT project and feedback and outcomes data collected from participants. The first section provides an overview of the OJT model and how on-the-job training is typically integrated into the nation's workforce development system. Section two describes the Boeing OJT project and explores the benefits for employers and employees. The third section highlights lessons learned from the Boeing project about the most effective uses of on-the-job training within the workforce development system and the most effective ways to design OJT programs for unemployed adults

[1] U.S. Bureau of Labor Statistics, data for 2009 to 2011.

[2] The Society of Manufacturing Engineers, cited in "Want Jobs? Try Advanced Manufacturing" by Thomas A. Hemphill and Mark J. Perry, May 8, 2013, in *The American: The Journal of the American Enterprise Institute*, retrieved online: http://www.american.com/archive/2013/may/want-jobs-try-advanced-manufacturing

and incumbent workers, whether low-skilled or more experienced. The final section recommends specific steps that employers and workforce developers can take to fully realize the potential benefits of on-the-job training in manufacturing and ensure greater success for all.

# I. THE ON-THE-JOB TRAINING MODEL

The OJT model offers incentives to businesses for hiring workers who do not initially meet their skill requirements but show potential to learn on the job. OJT programs provide participating companies with financial incentives for this training. Providing the training at work facilitates truly customized instruction, helping to produce prospective employees with excellent skill matches for their positions. The program is structured with the expectation that companies will keep their training graduates as permanent employees, as they have already been investing in their growth.

Under most OJT programs, employers receive a partial subsidy for a predetermined amount of time that covers each employee's training period. Employers typically bear all of the training costs but receive a subsidy of 50 to 90 percent for the wages of OJT participants during the training period. Subsidy amounts depend on employer size; smaller companies receive larger subsidies. Companies with fewer than 50 employees receive the most.

On-the-job training is integrated into the nation's workforce development system through both private entities and public agencies funded by the federal Workforce Investment Act. For example, Connecticut's guidelines for publicly funded on-the-job training state that the purpose is "to provide the consumer with work experience and/or specific skills in order to 'level the playing field' so that s/he may secure competitive employment."[3] This approach can be especially helpful to unemployed individuals, by getting them back to work quickly and enabling them to earn a salary while they receive the training they need. However, the paperwork required to access public OJT funds discourages many employers from participating in these programs.

Yet on-the-job training can be popular across the spectrum of workforce development stakeholders. It offers something for everyone: employers gain a cost-effective way to meet their specialized labor needs, workers gain an opportunity to receive free education—with a paycheck—to advance their careers, and training providers gain a strategy to help individuals boost their skills and build relationships with employers.

### SNAPSHOT: OJT IN ACTION

*Hill Aerosystems, Inc.*

**"I tell everyone I hire—'I'm looking to train you, retain you, and retire you out of my company." For Phil Moller, the human resource manager for Hill Aerosystems in Washington state, on-the-job training supports his goal to hire workers who can remain with the firm throughout their career. The major challenge for his company is finding training opportunities that fit the company's needs, while allowing workers to improve their skills and grow as they work. Hill Aerosystems' OJT program is able to meet company needs, because the core skills targeted have already been identified by the company's production supervisors. Ultimately, Moller hopes that OJT trainees will eventually become the new generation of OJT trainers.**

[3] State of Connecticut, Department of Social Services. "Appendix B, Guidance for On-the-Job Training" Policy Manual. 2011. Available online: http://www.ct.gov/brs/lib/brs/manual/appendixb/OJTGuidance.pdf

# II. BENEFITS FOR EMPLOYERS AND EMPLOYEES

With support from The Boeing Company, the National Fund for Workforce Solutions developed a pilot OJT program to address the employment needs of the manufacturing sector. The Boeing Manufacturing On-the-Job Training Project aimed to encourage manufacturers to bring on new employees and then train them for positions that would enhance their prospects for long-term employment. The National Fund, which coordinates a network of regional funding collaboratives in 30 communities across the country, selected well-managed manufacturing partnerships to implement the program and test the value of OJT within the industry. In addition to serving program participants, the project was intended to help workforce partnerships learn how to design effective training programs to better serve low-income workers.

Between the summer of 2012 and the spring of 2013, the Boeing OJT project placed 101 unemployed adults into on-the-job training at 39 advanced manufacturing companies across the country. In 8 regions, from Seattle to South Carolina, workforce industry partnerships provided employers with 50-percent wage subsidies during training periods of 10 to 15 weeks. At the completion of training, employers retained 91 workers for permanent positions. The average employee income rose slightly from $14.37 per hour during training to $14.86 per hour within a few months following training. In all, employers received subsidies totaling nearly $274,000 for trainee wages, and they matched that amount toward training-period wages.

To explore the impact of the Boeing OJT project and ideas for improvement, the National Fund collected

### FAST FACTS: BOEING MANUFACTURING ON-THE-JOB TRAINING PROJECT, 2012-2013

**Overview**

- **101 unemployed adults placed in on-the-job training**
- **39 companies participated**
- **training lasted 10 to 15 weeks**

**Successes**

- **91 workers hired permanently following training**
- **average income during training: $14.37/hour**
- **average income within a few months after training: $14.86/hour**

**Costs and Subsidies**

- **100 percent training costs covered by companies**
- **50 percent wage subsidies during training provided by regional industry partnerships**

## FAST FACTS: BOEING OJT PROJECT PARTICIPANTS

**Coordinator**

> **National Fund for Workforce Solutions**

**Funder**

> **The Boeing Company**

**Regional Funding Collaboratives:**

> **Dan River Region Collaborative (Virginia)**
> **Greenville Region Workforce Collaborative (South Carolina)**
> **Job Opportunity Investment Network (Philadelphia, Pennsylvania)**
> **Partners for a Competitive Workforce (Ohio, Kentucky, and Indiana)**
> **The Pennsylvania Fund for Workforce Solutions (Statewide in Pennsylvania)**
> **Preparation for Advanced Career Employment System (Wichita, Kansas)**
> **SkillUp Washington (Seattle)**
> **Workforce Solutions Collaborative of Metro Hartford (Connecticut)**

feedback from employers and employees. All 39 employers completed reports, and both employer partners and employee participants were surveyed, with about 40 percent of each group responding.

Employers viewed their experiences positively and agreed that pay subsidies during the training period provided a strong incentive to participate. Half of the employers specifically cited their appreciation for funding to support their training needs. However, they also appreciated the opportunity to improve the quality of the training they provide to their workers. One employer indicated that the project made it easier to document and formalize the training process. Another used the project to make permanent improvements to its training offerings, calling it a "great opportunity to kick-start an apprenticeship program that we had been discussing for a while."

The training funded through the Boeing OJT project also helped manufacturers to cultivate a high-quality labor force, employers reported. "The aerospace industry is losing many talented machinists/sheet metal workers," noted one employer. "OJT programs allow us, the employer, the opportunity to work with these [training] programs to bring the skill back into the industry."

Employers and their employees were enthusiastic about the opportunities that on-the-job training creates for workers and both groups were pleased with the project's results. They found that OJT positioned workers to succeed at their jobs:

> **96 percent** of employers reported that the OJT workers met or exceeded their expectations.
> **92 percent** of employees said they were "good" or better at their job after completing their training.
> **About 40 percent** of these employees considered themselves "great" and **40 percent** "very good" at their work.

Employers and employees also agreed that the OJT project prepared the new hires for even more opportunities in their workplace in the future. For a Seattle employer, for example, the greatest benefit was "company loyalty, as a new hire feels that we are invested in his personal development."

The employees recognized the value of the company's investment in their training. After completing training, almost all of the workers received feedback that reinforced its value to their careers. One employee described "constant praise from coworkers, mentors, and management on the improvements I've made since starting." Another said, "One operator has referred to me as the best assistant of four, and I am the new guy."

The successes of the Boeing OJT workers translated into a positive view of the program: 90 percent of employee participants reported they were "very satisfied" or "satisfied" with the program. The same share indicated that the skills they learned were "very relevant" to their jobs.

The advice of program participants to potential candidates for on-the-job training reflected the value they placed on the program. Many recommended asking many questions, taking the opportunity to learn as much as possible, and always paying attention. Such comments included: "It is a great, fast way to pick up skills," and "The program is awesome, but expect to learn a lot."

Perhaps most telling, two-thirds of the workers reported being "very satisfied" with their jobs and their employers after completing the OJT program.

The praise for the Boeing project, and for on-the-job training generally, extended to training providers, as well. In all eight cities, the workforce partnerships and regional funding collaboratives participating in the Boeing project expressed interest in raising funds for similar efforts. Some were already expanding their OJT programs. Preparation for Advanced Career Employment System (PACES), a National Fund regional collaborative in Wichita, Kansas, had not offered on-the-job training before this project. Between the end of its Boeing OJT program and spring 2013, PACES expanded on-the-job training programs in the region and placed 32 workers with 5 employers, including 4 new employers. Once employers gained awareness of the OJT model, they wanted to incorporate it into their hiring process.

## SNAPSHOT: OJT IN ACTION

*Teri Weber, CNC Machinist*

**Teri Weber, age 40, lives in Wichita, Kansas, and has only a high school diploma. She had been unemployed since 2009 when she was laid off from her job as a shipping clerk at a manufacturing company. Her lack of credentials and limited skills prevented her from finding permanent employment. As a single mother, Weber worked part time in the retail industry, relying on food stamps to help feed herself and her child. Through the funding collaborative PACES, Weber earned a CNC milling certificate from Wichita Area Technical College and was placed with TECT Aerospace as a CNC machinist in training. During 12 weeks of on-the-job training, she earned $12.51 per hour. Upon completing the training, she was hired for a permanent machinist position and received a raise to $13.76 per hour. Today, Teri enjoys her job and no longer depends on food stamps.**

# III. THE ROLE OF ON-THE-JOB TRAINING IN WORKFORCE DEVELOPMENT

The Boeing OJT project provided the opportunity to analyze on-the-job training in action and glean important lessons about effective ways to use this approach as part of the broader workforce development system. The following are the three key lessons learned from the project about the role of on-the-job training in workforce development:

- On-the-job training is well suited to customize training to the employer's specific needs, while creating career advancement opportunities for entry-level workers.
- OJT programs must include clear employer incentives to consider low-skilled candidates—and to hire newly trained workers—in order to serve as an effective job-placement strategy for low-skilled, unemployed adults.
- Creating OJT initiatives helps workforce development programs strengthen existing partnerships with employers and build new employer relationships.

Historically, OJT programs have been focused on placing disadvantaged workers into jobs, as a method for adjusting or expanding hiring. However, the experiences of the partners in the Boeing project provide evidence that employers—at least in manufacturing—use on-the-job training more as a career advancement strategy. They train workers who could obtain entry-level employment on their own and prepare them for career growth at their company.

The value of on-the-job training to facilitating career advancement is clear in how employers used the Boeing OJT project and in wage data for training participants. Almost half of the employers used the project's OJT funds to expand their existing training. A few employers indicated that they would have provided even more training had additional funds been available.

As part of the project's OJT model, all of the participating employers developed customized training that matched the skills they needed. In addition, each prepared an individual training plan that laid out the skills each worker would receive over the course of several months. Employers made these plans available to the workforce partnerships, and participants received in-depth training, positioning them for advancement at these firms.

The boost to workers' careers began at the start of training and showed signs of improvement relatively quickly. About 80 percent of participants received at least as much pay as at their last place of employment, including 45 percent who earned more than at their last job. Their average training-period wages were $14.37 per hour. However, the wage benefits had a larger impact than initially apparent for two reasons. First, many participants were unemployed immediately before joining the project, creating a gap between their OJT wages and any previous wage income. Second, two-thirds of OJT participants worked more than 40 hours per week. Overtime incomes were greater than the reported baseline wages, resulting in participants having higher earnings than their hourly wages suggest.

The wage benefits of the Boeing program came not just in the initial placement, but also from advancement after the project's completion. Over one-third of participants received a raise shortly after completing their training. Average hourly wages increased by 49 cents to $14.86 within a few months after the training.

Employers and training participants saw these gains as only the beginning of career growth. A Cincinnati employer described on-the-job training as a chance "to develop employees and promote from within." In Philadelphia, an employer previously had difficulty identifying high-quality entry-level workers who could grow into the firm's skilled labor needs. The wage subsidy enabled that firm to offer higher entry-level wages than before and therefore attract workers with greater potential. This employer combined this improved recruitment approach with customized training. Soon after the new employees completed on-the-job training, the firm promoted some of them to career-track positions with potential to earn relatively high salaries.

Program participants similarly saw on-the-job training as a springboard to more promising career advancement. As a Seattle worker reported, the experience "provided a great base to continue a career path."

## Connecting Low-skilled Workers to Manufacturing Careers

The value of on-the-job training as a career advancement strategy does not automatically mean that it is an effective strategy for connecting low-skilled, disadvantaged adults to the manufacturing workforce. Indeed, on-the-job training should be designed with explicit incentives for employers to hire low-skilled adults. The Boeing OJT project did not build in such incentives. In turn, the manufacturing employers involved consistently expressed that the program did not affect their hiring choices. Four out of five employers hired the same number of workers as they would have without the OJT funding, and three out of four employers said they hired the same individuals they otherwise would have (with a focus on education level, manufacturing experience, and general work experience). Only one of the 16 employer respondents hired a candidate with less overall work experience than the usual hires. It is possible, however, that once employers had experience working with employees and workforce partnerships that they might hire disadvantaged adults for on-the-job training.

Half of the workforce partnerships believed that their success in the Boeing project was due, in part, to the central role of employers in recruitment and hiring. Philadelphia employers valued this involvement in the process and contrasted it to on-the-job training administered through the Workforce Investment Act and the publicly funded workforce system. The Workforce Solutions Collaborative of Metro Hartford in Connecticut looked beyond the aerospace industry, which requires workers to enter with higher skill levels, because the employers would not adjust their hiring requirements for program participants.

Employers' desire to select their preferred candidates for the OJT project is evident in the background of workers hired through the project. Only one-fourth of the employers used the project to hire workers with less manufacturing experience than they would otherwise consider. This translated into four out of five trainees entering the program with some manufacturing experience. Demographically, the candidates also looked like the existing manufacturing workforce: About 70 percent were white, 88 percent were male, and half had at least some college experience. Nor did the workers need significant special assistance or supports beyond the training—none cited any barriers to succeeding at work (e.g., transportation or child care needs). Unlike many training programs focused on disadvantaged workers, case management was not part of the Boeing project.

While on-the-job training as structured in this project was not an ideal strategy for increasing job placement of low-skilled adults, OJT programs generally still may offer opportunities for placing disadvantaged workers in jobs. The Greenville Region Workforce Collaborative in South Carolina placed participants from its existing manufacturing training programs, which serve low-skilled workers, into OJT programs based on strong relationships it had previously developed with employers. These companies trusted that the workforce partnership would identify high-quality candidates who matched their needs. This type of relationship

building allows employers to feel ownership of their employment decisions, while also facilitating the match of existing training program participants to new job opportunities.

The collaboratives of Metro Hartford and the Pennsylvania Fund for Workforce Solutions also reported that they might have been able to place more training participants from their existing manufacturing programs into on-the-job training if the project were longer. In such cases, they suggested, they would have been able to respond to employer needs as opportunities arose.

In addition to building relationships with employers, workforce developers can use other ways to increase opportunities for their targeted populations, such as the long-term unemployed, by integrating specific employer incentives directly into the program. Requiring that candidates fit a certain profile might limit the number of employers who choose to participate in the program, but would maximize the impact for those who do participate.

For example, the Dan River Region Collaborative in Virginia is developing a next-generation version of the Boeing OJT project that balances the goals of supporting underserved populations and maintaining employer interest. They plan to offer wage reimbursements on a sliding scale, so that employers who want to use their regular hiring process or train incumbent workers can participate in on-the-job training and receive a wage subsidy below 50 percent. If an employer hires a candidate through one of the local One-Stop Career Centers, which were created as part of the Workforce Investment Act, wage subsidies would be substantially above 50 percent.

Workforce development practitioners seeking to help low-skilled disadvantaged workers should also incorporate on-the-job training into a broader strategy. For example, workforce partnerships can provide occupational training that includes industry-recognized credentials for individuals prior to seeking OJT placements. This will help position their participants as valuable entry-level employees that employers want to hire. Workforce partnerships can also look beyond the manufacturing sector. Just as the partnership in Hartford focused on manufacturing subsectors that required lower entry-level skills than aerospace, employers in other sectors may be open to hiring lower-skilled workers for OJT programs.

### SNAPSHOT: OJT IN ACTION

*Laszlo Gador, Machinist*

**After Laszlo Gador, an experienced CNC machinist in Hartford, Connecticut, lost his job, he had difficulty finding a new one. Gador enrolled in Asnuntuck Community College's Machine Technology Program to upgrade his manufacturing skills. He then participated in the Connecticut Manufacturing Job Match, sponsored by the ADVANCE Manufacturing Partnership, a workforce partnership led by the Connecticut Center for Advanced Technology (CCAT). Only jobseekers with the skills and experience sought by employers were invited to attend, yet Gador was still unsuccessful. However, once Gador enrolled in CCAT's on-the-job training program, an advanced manufacturing company hired Gador from over 200 applicants as an operator/machinist. Gador completed the training program in October 2012, and the company, ATI Ladish Machining, retained him as a regular employee. Gador stated in an email: "This position has only become possible as a direct result of CCAT [and the OJT program]; that is a fact . . . I had no clue how hard it is today to find a job." Gador currently earns $17 per hour.**

## Creating and Advancing Employer Partnerships

On-the-job training can play an important role in improving and strengthening the partnerships that are

central to an effective workforce development system. Training providers and employers often have one-way relationships: The training organization asks employers for industry information or assistance in program design. However, an OJT program also can benefit these partnerships, providing deeper engagement with employers, facilitating a better understanding of the employers' workforce skill needs, and targeting funding to support these training activities.

The value that workforce partnerships can bring to employers through on-the-job training was evident in the Boeing project. Staff of the Transportation Manufacturing Workforce Partnership in Greenville, South Carolina, noted that they had never previously placed any jobseekers with the three employers participating in this project. Similarly, about half of the employers in several other cities were new to the local manufacturing partnership. In Cincinnati, Ohio, a new employer was so deeply engaged that its representative became the employer chair of the local funding collaborative, Partners for a Competitive Workforce. In Virginia, the Dan River Region Collaborative indicated that this pilot project was a good way to support that region's manufacturing employers, in contrast to more traditional one-way "asks" of employers. In Philadelphia, the Job Opportunity Investment Network—JOIN—used the project to support employers in suburban counties. This flexibility is particularly helpful to JOIN because many of its grants come with geographic restrictions.

By following the National Fund model of addressing employer skills needs and establishing their value up front, workforce partnerships and other training providers can gain credibility with employers and expand upon the OJT relationship to multifaceted employer engagement down the road. This could translate into employers' being more open to providing on-the-job training to new hires recommended by the workforce partnership or hiring workers who have completed a traditional training program without requiring additional training. Employers who trust training providers to add value to their companies are also more likely to take the time to provide input on designing curricula or identifying appropriate credentials. This kind of alignment is critical for building smooth pathways from training into employment and careers.

# IV. RECOMMENDATIONS

The Boeing OJT project provided insights into the best uses of on-the-job training within the workforce development system, along with lessons for new program design elements to promote greater success. This particular project provided comprehensive training, but served a relatively small number of workers and focused on a particular economic context. Regional and industry variation will affect program needs and opportunities. However, the project demonstrated that improving job placement levels requires specific elements. To more fully realize the benefits of on-the-job training in the manufacturing sector, workforce partnerships should strive to:

1. **Focus on how to increase career opportunities for low-skilled, low-income workers.**

In order to make a significant impact on career opportunities for low-skilled, low-income adults, workforce partnerships must better serve both employers and jobseekers, or incumbent workers, with low skills. On-the-job training has clear benefits to both groups. The training provides skills that low-income adults need to succeed in careers, and it enables them to earn while learning. On-the-job training also supports employers by enabling customized training that will help fill their skills gaps. OJT programs are an effective way to convert entry-level employment into advancement within a company.

2. **Reduce bureaucratic processes and reporting requirements to encourage greater participation from manufacturing employers.**

Employers often avoid opportunities to participate in publicly funded on-the-job training because of stringent program requirements and the associated paperwork. Initially, one employer in Kansas declined to participate in the Boeing OJT project because of such concerns. After later agreeing to participate, this employer found that reporting requirements required only short contracts, training plans, and timesheets. Reporting at the end of the program was limited to a brief survey about the employers' experience in the program and participant performance.

Employers also valued that the project design provided the flexibility to select desired participants and tailor the training to their needs. Workforce partnerships should therefore be smart about maximizing flexibility for employers. Another example of the Boeing OJT project's flexibility was allowing the initial grant period to extend to 10 months, enabling the National Fund to identify the project sites and employers with the greatest hiring needs and shift resources accordingly. Two sites indicated they would have placed even more participants if the timeline had been extended further. The longer the timeline, the greater the ability of workforce partnerships to match jobseekers to the qualifications needed by employers as job openings emerge. This long-term commitment to on-the-job training increases the value to employers by ensuring that the wage subsidies are available when they have the greatest training needs.

3. **Ensure planning and execution leads to programs focused on the quality and depth of training.**

Workforce partnerships need to balance the flexibility valued by employers with their own need to ensure worthwhile investments. Workforce partnerships should require documentation of the training plans before engaging OJT participants, screen for training quality, and ensure that the additional training would not have been possible without the funding. As noted, 44 percent of employers in the Boeing OJT program provided more training than they otherwise would have. The extra training included "more exposure to various machine tools and blueprints" and "diversify[ing] the training by including different machines," employers reported. This extra training occurred even without an explicit requirement that employers increase their training. Rather, workforce partnerships used the up-front submission of training plans to ensure that sufficient training was provided.

With an explicit requirement that employers expand existing training, the OJT model can create new opportunities for entry-level workers. Participants suggested that additional exposure to a variety of machines and additional training in computer programming and other technical skills would help them perform better in their jobs and advance their careers. Employers also indicated that some desirable positions, such as CNC operators, require longer periods of training than provided and that up to 26 weeks of on-the-job training would be valuable for preparing workers for these positions.

4. **Incorporate industry-recognized credentials into OJT programs, while allowing employers flexibility in designing their own training.**

Workforce partnerships can also ensure training quality by incorporating formal credentials into program design. A portable credential can be a powerful asset for workers seeking to advance their careers. A few employers did incorporate industry-recognized credentials into their on-the-job training. About 43 percent of the Boeing project participants indicated they were earning a credential. Of those, about one-third were earning a journeyman status as machinists, another third were being certified as operators or lead operators, and a few were being certified in welding.

5. **Expand traditional OJT model beyond new hires to include incumbent entry-level workers.**

The dual benefits of on-the-job training—career advancement and deeper relationships with employers—are relevant not only to unemployed jobseekers but also to existing entry-level workers interested in advancement. Yet workforce development practitioners most often consider the OJT model and its associated wage subsidies as tools for placing jobseekers in employment. This additional role for on-the-job training supports a workforce development strategy that addresses employer needs to train incumbent workers and provide opportunities for advancement.

Allowing employers to use on-the-job training for both new and incumbent workers recognizes that employers are making a financial investment. While the OJT subsidies in this project were significant, they still required employers to make the significant contribution of a 50 percent match. Many employers are more willing to invest in individuals after they have worked with them, assessed their strengths, and determined that the match would be good. In addition, incumbent workers often have new training needs after being on the job for at least a year and mastering their initial job responsibilities. A program that includes an option for incumbent training helps employers maximize the impact of an OJT program, and it increases the likelihood of retaining employees as they gain skills and advance in their careers. This preference was clear among some employers in the Boeing project. Two Seattle employers used their OJT funds for recent hires rather than new hires, even though that was not part of the original program design.

Responding to this employer need enables workforce partnerships to demonstrate that they understand employer priorities and can be helpful. For this reason, the funding collaboratives in Greenville, Philadelphia, and Dan River each expressed interest in using on-the-job training for incumbent workers or temporary staff. The Dan River Region Collaborative described this use of OJT funds as part of a broader strategy to focus on getting individuals into employment first, rather than training first. That approach would provide participants with immediate income while emphasizing continued training after job placement.

6. **Support employer training strategies and professional development for supervisors.**

Workforce partnerships can improve the effectiveness and value of on-the-job training by providing guidance and professional development to employer supervisors and staff involved in conducting training. Employers need support in order to develop high-quality training programs that are suitably structured, and also to enable supervisors and trainers to balance their OJT responsibilities with their usual responsibilities, including meeting production goals and targets.

While all of the Boeing OJT project employers surveyed indicated that their staff members were fully equipped to supervise the training, supervisors, and staff may not always possess the skills or ability to coach and train, as well as balance their multiple responsibilities. This is particularly true for small companies where opportunities for formal training are limited.

Almost one in four trainees reported they were not "very satisfied" with the training, including 8 percent who were "somewhat dissatisfied" or "dissatisfied." Feedback from trainees also identified other areas for potential improvement: One in five would have preferred receiving an overview of skills at the beginning, and 14 percent wished they had received more information on how they would be evaluated. Workforce partnerships should also support employers in developing training plans, and in selecting and appropriately preparing supervisors and mentors. It might be useful to provide professional development to supervisors and mentors on how to develop training plans, how best to provide clear instructions and constructive feedback to trainers, and how to manage their own time effectively when they take on additional responsibility.

Employers may also need to make adjustments in how they manage regular workload and production goals during OJT periods. One employer in Connecticut experienced pushback from supervisors and trainers because OJT responsibilities slowed down production. Industry partnerships can help with this process through professional development and support to enable employers to address their skill needs without major effects on regular operations.

With the manufacturing industry facing a number of workforce challenges now and in the years ahead, the Boeing Manufacturing On-the-Job Training Project highlights the need for the workforce system to employ new approaches to workforce development to ensure that employers are able to cultivate a high-quality labor force. Results from the Boeing project demonstrate that on-the-job training may hold such a key. "The aerospace industry is losing many talented machinists/sheet metal workers," noted one employer. "OJT programs allow us, the employer, the opportunity to work with these training programs to bring the skill back into the industry."

## SNAPSHOT: OJT IN ACTION

*Miguel Plascencia, Press Operator*

**Global Packaging, a manufacturer of diaper bags, personal care product bags, pet food, and confectionary and bakery bags, participated in the Boeing OJT project through JOIN, a Philadelphia regional funding collaborative. In October 2012, Global Packaging used OJT funds to hire Miguel Plascencia as an entry-level converting operator and provided on-the-job training to make Global products. His aptitude, excellent attendance record, and strong work ethic led to his promotion to the pressroom as a press helper within six months. As a press helper, he has begun a career track that can lead to higher-level positions, such as a press operator, which is considered to be a highly skilled, high-paying career opportunity. The company, which has experienced difficulty in recruiting and retaining entry-level employees, is pleased when it can promote these workers to career-track positions.**

National Fund for
Workforce
Solutions 2.0

TEL 617.728.4446 FAX 617.728.4857
C/O Jobs for the Future
88 Broad Street, 8th Floor, Boston, MA 02110

WWW.NFWSOLUTIONS.ORG