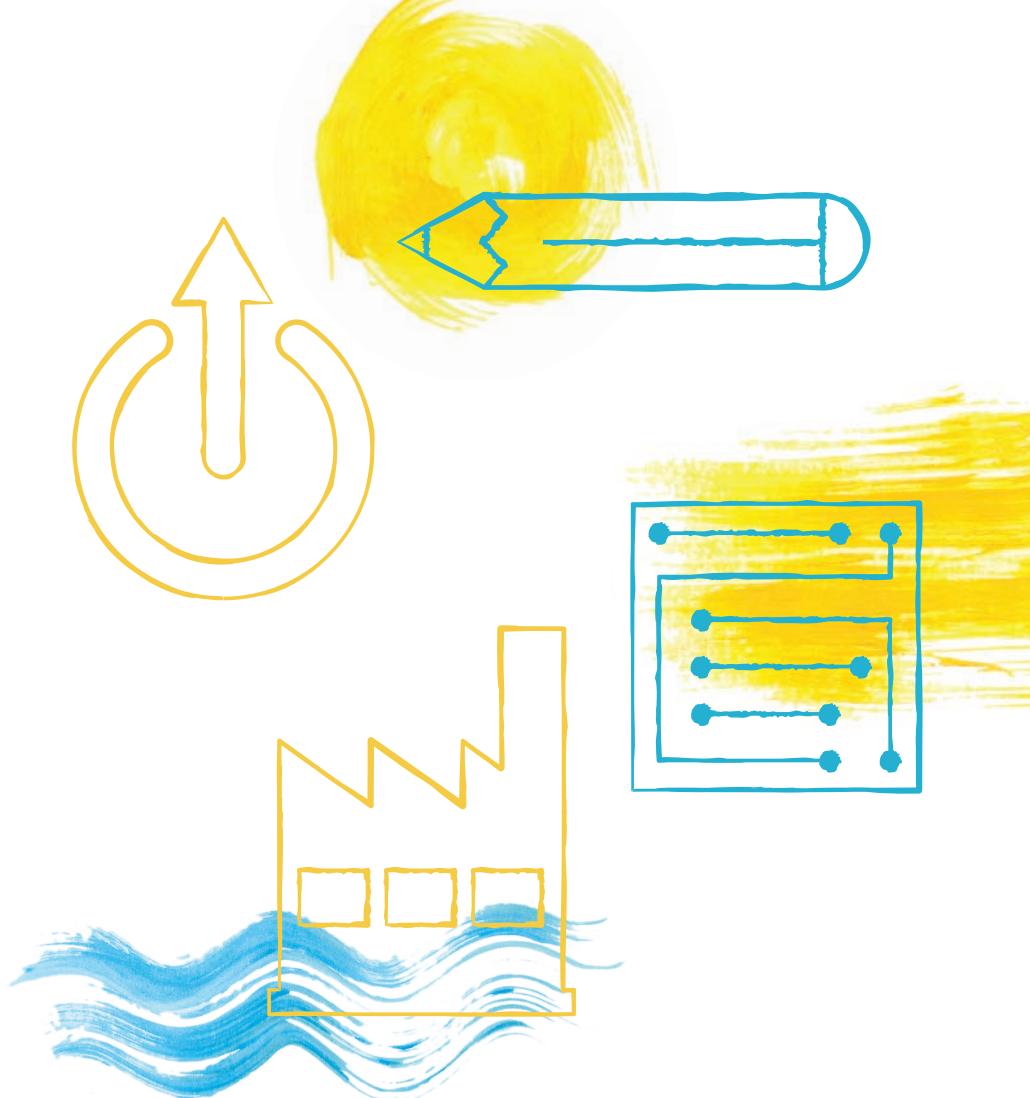


**LLSC**



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# Connecting Local People to the Prosperity of Place

Workforce Development Meets  
Industrial Revitalization

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New Lab, Brooklyn Navy Yard

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# Executive Summary

Manufacturing remains a vital part of the American economy, employing 12.75 million workers and generating broader spillover effects throughout the economy.<sup>1</sup> At the same time, the nature of manufacturing is shifting with the introduction of advanced technologies and the growth of the maker movement.<sup>2</sup>

The viability of this evolving manufacturing sector depends on the availability of industrial sites and conditions that allow manufacturers to operate efficiently and profitably. It also depends on the availability of adequate labor. In recent years a growing number of manufacturing jobs throughout the country have gone unfilled,<sup>3</sup> representing a lost opportunity for businesses that can't take advantage of economic growth and for longtime city residents who might access these growing manufacturing jobs.

Multiple local, state, and federal agencies have led the way in recognizing the opportunity that manufacturing jobs can provide, and a number of city-specific initiatives to promote industrial districts have taken hold in recent years. Despite local efforts to promote manufacturing and industrial districts, there have been few policy explorations of how to integrate district revitalization with local workforce development efforts. How can these investments in industrial districts be linked to programs designed to train low-income residents of surrounding communities, so as to ensure they have access to local jobs?

In order to address this question, the LISC Research and Evaluation team conducted a series of interviews with industrial district and economic development practitioners, workforce development professionals, advocacy organizations, and city officials throughout the country. This research brief reviews emerging strategies to connect industrial district revitalization to local workforce efforts, before turning to more extensive case studies of work in three districts in New York City and Michigan. The brief concludes with a discussion of policy and practice implications.

## Emerging Strategies

**Using shared spaces as a venue for connecting manufacturing businesses to local community.** Industry City, a large historic industrial complex located in Brooklyn, New York, created Innovation Lab, an integrated employment and entrepreneur-development center whose open events and training opportunities foster links between local residents and the district's technology, creative, and manufacturing companies.

**Engaging employers through branding efforts.** Made in NYC, an organization that includes 1,300 manufacturers, started as a local branding program trying to capitalize on the strength of New York City's brand, but expanded its mission to become a support organization for its members, which has worked to connect youth to manufacturing jobs.

**Exposing youth to career possibilities and training them.** Through the Guilford Apprenticeship Partnership, businesses in Guilford, NC, are partnering with the local community college to establish an apprenticeship program for high school students.

**Engaging employers to develop the right kinds of training curricula.** In Chicago the Business and Career Services (BCS), North Suburban Cook County's One Stop operator, has partnered with manufacturers to develop the training curriculum for a youth internship program to be delivered by local community-based organizations citywide.

## Case Studies

**Brooklyn Navy Yard** supports local hiring by making workforce provision part of a large set of business support services offered to local businesses, sponsoring an internship program that connects local residents to small companies in the yard, and offering favorable leasing rates to companies willing to hire through its own employment center. The yard is in the process of creating a training hub in partnership with the New York City Department of Education meant to offer career and technical education to local high school students.

**Jackson Area Manufacturers Association** links local manufacturers to their potential workforce through the Academy for Manufacturing Careers, a comprehensive set of interconnected workforce programs ranging from adult specialized training (U.S. Department of Labor-registered apprenticeship and certificate programs) to summer camps and after-school programs that give kids an opportunity to build manufacturing-related skills and explore potential careers.

**Southwest Brooklyn Development Corporation** has built strong relationships with local manufacturers by providing valuable business services such as legal consulting and human resources assistance, and has been able to connect low-income residents of surrounding neighborhoods to jobs in the district through a workforce center it runs in partnership with the New York City Department of Small Business Services.

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Despite local efforts to promote manufacturing and industrial districts, there have been few policy explorations of how to integrate district revitalization with local workforce development efforts.

## Practice and Policy Implications

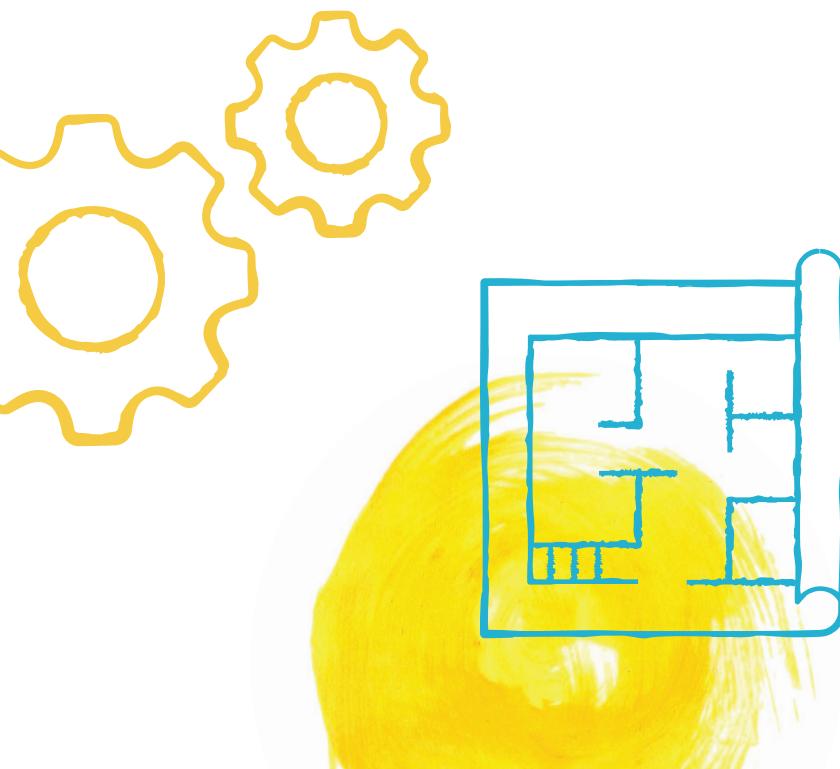
The emerging strategies and more in-depth cases studies described in the report suggest the following implications for practice:

- **Sequencing business support before workforce efforts.** Providing business support services first or in parallel with workforce provision may offer an avenue for community-based organizations to promote local hiring and advocate for job quality and worker advancement.
- **Capitalize on relationships forged around economic development to also benefit workforce development and placement.** Governmental and philanthropic funds administrators could adopt criteria favoring organizations that combine economic development (business services) and workforce training and placement provided in-house or through established partnerships, with a goal to foster collaboration and strengthen neighborhood and district ecosystems.
- **In emerging districts without a robust employer supply, establishing regional alliances may allow local workforce providers to offer broader and better job opportunities for their graduates.** For organizations that work with districts composed of a small number of firms, or firms not large enough to allow worker advancement, broadening the geographic scope of job training and placement programs may expand and improve opportunities for residents.

- **Creating a skills pipeline from youth through young adulthood.** Engaging youth in manufacturing-related activities early on may help to address common misperceptions of manufacturing and create a continuum of exposure and a pathway to more formalized training.
- **Providing integrated service delivery for individuals engaged in training programs and workforce efforts.** Because low-income individuals face many challenges to staying in training programs and retaining their jobs after placement, it is important to consider and address barriers to retention. Individuals have the best outcomes when skills training and employment and career services are bundled with income supports, financial coaching and education, and low-cost financial products that build credit, savings, and assets. This practice is adopted by many LISC-supported Financial Opportunity Centers (FOCs).

Below are policy recommendations that support these practice objectives:

- **A targeted approach to zoning** at the local level may help to protect industrial land uses in hot property markets and allow their integration in a wider variety of neighborhoods in cities with further growth potential.
- **Support more inclusive workforce funding models that incorporate employer engagement, and include foundational skills training in career pathways strategies.** Funding for workforce development at federal, state, and local levels should reflect the full range of work needed to engage employers and connect low-skill residents to manufacturing jobs, an intensiveness of services that is not always possible where funding is tied strictly to job-placement numbers.
- **Fully fund WIOA programs.** With its emphasis on sectoral partnerships and equity, the Workforce Innovation and Opportunity Act (WIOA) can promote connections between low-skill, low-income job seekers and growing manufacturing jobs. But WIOA must be robustly funded and implemented to meet the challenging and resource-intensive requirements described throughout this report.



# 12.75 million

people are employed in the manufacturing industry

## Introduction

Manufacturing remains a vital part of the American economy. Despite job losses suffered during the Great Recession of 2007-2009, the industrial sector has experienced slight but consistent growth, employing 12.75 million workers and generating broader spillover effects throughout the economy.<sup>1</sup> Manufacturing growth, however, has been unevenly distributed across the country. While a broad range of places are experiencing gains, others are losing industry. Since 2012 manufacturing jobs have increased over 22% in the metropolitan areas of Orlando, Miami, and Oakland and Berkeley, but decreased by 20% in Los Angeles-Long Beach, as well as by 10% in Houston.<sup>4</sup> While local industry growth in some areas has been led by the opening and expansion of large companies in those markets, in many cases changes are due to the emergence of small firms.

Indeed, the nature of manufacturing is shifting. The introduction of advanced technologies is allowing businesses to get smaller, more productive, and increasingly diversified. While three-quarters of all manufacturing firms in the country have fewer than 20 employees, output per hour for all workers in the manufacturing sector has increased by more than 2.5 times since 1987.<sup>5</sup> Furthermore, new technologies are fostering the growth of the maker movement and creating new opportunities for a wide range of small, niche, and artisanal manufacturers producing everything from artisanal beers to innovative robotics.

Accordingly, the definition of manufacturing has broadened, so that modern productive industrial land may be occupied by laboratories, flex space, maker spaces, warehouses, or purpose-built manufacturing buildings. But even as the types of manufacturing spaces are diversifying, availability of adequate sites with access to critical infrastructure within or nearby urban centers is limited. In cities across the country, long disinvested industrial districts have been gradually rezoned in response to residential and commercial market pressures. With increased demand from non-industrial uses, especially in districts situated near expanding downtowns and waterfronts, building and land prices have increased, often pricing out manufacturers that cannot afford to match the prices paid by residential or retail developers.<sup>2</sup>

The viability of manufacturing depends on the availability of industrial sites and conditions that allow manufacturers to operate efficiently and profitably and to reinvest. Cities and states can promote manufacturing and industrial district revitalization in myriad ways. Economic development agencies and city planning departments can enact favorable land-use and zoning ordinances, as well as a variety of tax incentives, that encourage new construction or rehab of old industrial sites, helping to create affordable industrial space that lowers manufacturers' operating costs. In addition, cities and states may provide the infrastructure improvements or environmental remediation needed to retrofit old industrial districts, and may offer a variety of business support services from marketing to procurement programs.

The viability of manufacturing also depends on the availability of adequate labor. To support continued growth, manufacturers need access to a skilled workforce. However, in recent years a growing number of manufacturing jobs throughout the country have gone unfilled.<sup>4</sup> The manufacturing skills gap, or talent shortage, is the mismatch between the skills required to meet manufacturing needs and the skills of the workers available to fill those jobs. This unmet demand is a lost opportunity for businesses that can't take advantage of economic growth, and a lost opportunity for the longtime city residents who experience barriers to gaining the skills and social networks needed to access available manufacturing jobs and thus benefit from industry growth.



Mass Avenue Industrial District, Indianapolis

Nevertheless manufacturing is an important industry of opportunity, providing jobs with decent pay and benefits to people with less than a college degree. These jobs typically offer strong wages and can range from highly skilled technical positions to apprenticeships and entry-level jobs for unskilled and semi-skilled workers. With national average hourly earnings of \$27.10, the sector provides a substantially higher wage than fields with similar low barriers to entry like retail (\$18.9) and leisure and hospitality (\$16.07).<sup>4</sup>

Despite local efforts to promote manufacturing and industrial districts, there have been few policy and planning explorations of how to integrate district revitalization with local workforce development efforts. How can these investments in industrial districts be linked to programs designed to train low-income residents of surrounding communities to ensure they have access to local, quality jobs?

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New technologies are fostering the growth of the maker movement and creating new opportunities for a wide range of small, niche, and artisanal manufacturers producing everything from artisanal beers to innovative robotics.

In order to address this question, LISC's Research and Evaluation team conducted a series of interviews with industrial district and economic development practitioners, workforce development professionals, advocacy organizations, and city officials throughout the country.

This brief first reviews emerging strategies to connect industrial district revitalization to local workforce efforts, before turning to more extensive case studies of work in three districts in New York City and Michigan. It continues with a discussion of what helped make these efforts successful and concludes with a discussion of policy and practice implications.

# Why Apply a Place-based Lens to Connecting Workforce and Industry?

Often, national and local conversations about both workforce development and economic development are focused on sectors, such as manufacturing, health care, or logistics. In this report, we seek to show how a place-based lens adds value to practice and policy discussions, for several reasons.

1

While industries within sectors (such as manufacturing) may share many similarities, business needs are often specific to the region, city, and neighborhood. The needs of manufacturers in Detroit may differ extensively from those in New York City, related to the availability and affordability of industrial space, or to infrastructure and workforce needs. Even within cities, businesses in different districts may have distinct needs. For example, in Indianapolis, where LISC has supported revitalization in the North Mass and East Washington Street corridors, manufacturing districts just a few miles apart have specific challenges and opportunities based on local zoning, infrastructure, and transportation issues.

2

A place-based approach to workforce and economic development recognizes both the district and its surrounding neighborhoods as an ecosystem, where businesses, including manufacturers, are part of a broad network of economic and civic organizations that not only co-exist but that may also collaborate through mutually beneficial relationships<sup>7</sup>. Historically, industries were located in cities to be near workforce and consumers. Thus they benefited from city environments where proximity to nearby suppliers or supporting industries generated opportunities for collaboration, innovation, and catalyzed growth.<sup>8</sup> City residents benefited from local industries as they provided stable and accessible jobs. With urban deindustrialization, not just individual manufacturers but the whole network of supporting businesses was severely impacted, and with it the ecosystems that spurred collaboration, innovation, and local job opportunities.<sup>9</sup> Reviving these local synergies is a historically established strategy whose time may have come again.<sup>10</sup>

3

As reinvestment in older industrial districts intensifies, using a place-based lens is a potentially powerful strategy to advance equity. It recognizes that nearby neighborhoods, often communities of color, have historically suffered from deindustrialization and redlining,<sup>11, 12</sup> and seeks to reconnect these places and their communities to the economic benefits generated through district revitalization. This approach attempts to allow local communities greater access to nearby jobs with varied points of entry, and with multiple experience and education requirements.

Finally, many policy decisions related to workforce and economic development are influenced by place-based stakeholders, including community organizations and local elected officials. For example, Workforce Development Boards are often attentive to county or municipal stakeholders, which are in turn influenced by local actors. This means that a good way to ensure that districts receive attention and that incentives align with local needs is to build power at the community level.



Mass Avenue Industrial District,  
Indianapolis

The introduction of advanced technologies is allowing businesses to get smaller, more productive, and increasingly diversified.

# Emerging Strategies

There are several emerging strategies to promote the growth of industrial districts in a way that allows local residents to access new manufacturing jobs and succeed in them. These include strategies that:

- use shared space as an opportunity to connect manufacturers to local communities,
- capitalize on local branding efforts that bring together a host of employers,
- expose youth early to manufacturing careers, and
- engage manufacturers in generating the right kinds of job training curricula.



**As reinvestment in older industrial districts intensifies, using a place-based lens is a potentially powerful strategy to advance equity.**

## Using Shared Spaces as a Venue for Connecting Manufacturing Businesses to the Local Community

The increasing diversification of manufacturing space needs has opened up opportunities for a variety of firms to be co-located under a single roof. Across the country, many buildings that used to house large companies now house a variety of small manufacturers producing a broad range of goods. This shift from one large to many small firms has implications for each employer's ability to train workers and connect to the local community. Because of their smaller size, these companies, usually without a human resources (HR) department, are less likely to work with local training programs, and also do not have an in-house training apparatus, making it difficult to recruit and retain qualified candidates. Some organizations managing these spaces have recognized manufacturers' needs, and provide a range of business services to support manufacturers, among them workforce assistance.

Opportunities for a Better Tomorrow (OBT), a 35-year-old community-based organization that provides education and workforce training programs in New York City, is one of the workforce training partners at Industry City, a large historic industrial complex located in the Sunset Park neighborhood of Brooklyn with businesses ranging from cabinet makers and producers of metal façade systems to print shops and a variety of food producers. OBT has recently focused on digital literacy and computer programming skills that can help individuals succeed in both technology and tech-integrated career pathways, through a program called OBT TechSTART. Because it is located in Industry City, OBT is able to reach out directly to all the varied businesses that are its neighbors in the complex. One way it reaches these businesses is through an internship program that places TechSTART graduates into full-time or client-based work experiences. The internships are a value-add to many of the small to medium-sized businesses that have information technology (IT), marketing, or web development needs. For many of the Industry City tenants, TechSTART is the first contact to a workforce program. TechSTART upskills young adults from the community, then assists them in applying those skills to serve real business needs. This is one example of the local synergies being activated in this space.

## **Engaging Employers Through Branding Efforts**

Interviewees who work with manufacturers agreed that it can be challenging to engage employers in conversations about jobs that benefit local residents. Especially in the case of smaller businesses without an HR department, firms often lack awareness of or access to potential partnerships with local workforce programs that could benefit them in the longer term.

The maker movement is becoming more popular, raising demand for locally made products. As a result, some cities have recognized the potential to connect businesses with the identity of their place, not only as a marketing strategy, but also as a means to bring local businesses together and advance their local manufacturing sectors. Such strategies include the establishment of an umbrella organization that becomes a gatekeeper for the manufacturing sector and that connects businesses to a broad range of services, including workforce assistance.

For example, Made in NYC, an organization that includes 1,300 manufacturers, started as a local branding program trying to capitalize on the strength of New York City's brand, but expanded its mission to become a support organization for its members. Adam Friedman, current director of the Pratt Center for Community Development and one of the founders of Made in NYC, reflected on this transformation of the group's mission as a way of creating connections to a host of employers at once. For example, over time Made in NYC partnered with the Pratt Institute, a school with deep expertise in graphic communications, to assist manufacturers with a variety of services, from social media support to photography and videography. This has allowed Made in NYC to reach a larger number of small companies and, by strengthening their sales operations, build a stronger relationship with these businesses.

Local branding initiatives can also serve as a vehicle to connect manufacturers to their local communities, with the branding organization serving as a liaison to the local workforce. For example, SF Made, a non-profit organization supporting the manufacturing sector in San Francisco, has sponsored Youth Made, a summer internship program that places low-income high school students in the Bay Area to work with local manufacturing businesses. Over the course of the internship, youth have the opportunity to get to know local businesses, build their professional skills and experience, and get exposure to a potential career in manufacturing. In turn, manufacturers have an opportunity to get to know high school students from disadvantaged communities and expand their understanding of the potential benefits that working with the local population may bring to their businesses.

The success of the Youth Made program led SF Made to create a toolkit for other organizations interested in developing and implementing manufacturing youth internship programs so the model can be replicated in other cities across the country.

## **Exposing Youth to Career Possibilities and Training Them**

While manufacturing jobs have grown in some places, many workers have retired, creating challenges to filling vacant positions. Although the maker movement is gaining popularity among some millennials, manufacturing is not typically seen as an attractive career path for youth, nor are its opportunities generally promoted in high schools.<sup>13</sup> Practitioners interviewed expressed that many people still have an outdated view of manufacturing, and that there are very few opportunities for young people to get into contact with the manufacturing field and its numerous job and career possibilities.

Some localities have responded to this challenge by exposing young people to manufacturing career options prior to college. For example, businesses from Guilford, NC, are partnering with the local community college to establish an apprenticeship program for high school students. Through the Guilford Apprenticeship Partnership, local manufacturers provide three to four years of on-the-job training delivered both during high school and after graduation. Prior to starting the apprenticeship program, youth enter a two-month pre-apprenticeship session with their chosen employer, during which they have in-depth exposure to its worksite and culture. During this time, participants also begin courses at the community college to ensure aptitude for and interest in the apprenticeship program. On completion of the program, participants continue their full-time employment and at the same time earn an associate's degree through the partner community college that leads to further career advancement.

### **Engaging Employers to Develop the Right Kinds of Curricula**

As manufacturers get smaller, their workforce may require more specialized skills. Especially within districts, this means there are often increasingly small and diverse businesses, making it challenging to aggregate training needs for the area as a whole. In many municipalities, community colleges or local community-based workforce training programs are the most common avenue for providing the type of specialized training required for manufacturing. But these programs—either because they are small and under-resourced, or because they operate at the broader county level—are often challenged to craft programs that cover the diverse needs and requirements of the local manufacturing base, which might require just a handful of new workers a year. Recognizing this challenge, a number of manufacturers' associations are convening their member base to figure out the common denominator of skills that they all need, and to develop a curriculum that both covers their needs and guarantees that program graduates will get jobs afterward.

For example, in Chicago the Business and Career Services (BCS), North Suburban Cook County's One Stop operator, has been leading partnerships with manufacturers to train and hire local young people. BCS convened manufacturers that collectively identified the

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**Local branding initiatives can also serve as a vehicle to connect manufacturers to their local communities, with the branding organization serving as a liaison to the local workforce.**

need for a pipeline of young people in their factories. The group partnered with Opportunity Advancement and Innovation in Workforce Development (OAI), a community-based organization on the South Side of Chicago that works with out-of-school youth. Employers worked with BCS to develop a 12-week curriculum for OAI's youth that combines four weeks of classroom training at community-based organizations followed by an eight-week full-time paid internship.

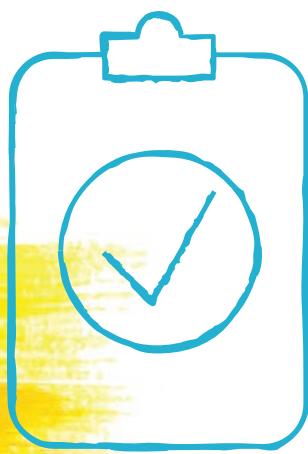
This structure, now expanded to include some dozen locations citywide, provides manufacturers with sufficient exposure to participants prior to hiring them full-time, and has led to successful employment of 80% of graduates. In addition, by engaging local manufacturers, this program structure also provides participants with certifications, such as OSHA-10 and additional forklift credentials, that are recognized and valued by local employers and thus offer broader employment opportunities.

## Case Studies

A number of strategies have proven successful in connecting industrial district jobs with residents of surrounding communities. The following extended case studies expand upon the examples above to illustrate how the Brooklyn Navy Yard, the Jackson Area Manufacturers Association, and the Southwest Brooklyn Industrial Development Corporation are making that connection effectively.



SITU Fabrication, Brooklyn Navy Yard





Crye Precision, Brooklyn Navy Yard

**Partnering with umbrella organizations may provide additional avenues to advance these strategies of integration.**

## 1801

For 165 years, the Brooklyn Navy Yard served as America's premier naval shipbuilding facility.

## Brooklyn Navy Yard

The Brooklyn Navy Yard is a shipyard and large industrial complex located in northwest Brooklyn in New York City. Established in 1801, the Brooklyn Navy Yard served as America's premier naval shipbuilding facility for 165 years, and launched some of America's largest warships, including the USS Arizona and the USS Missouri. Peak activity occurred during World War II, when some 70,000 people worked at the yard. The yard was decommissioned in 1966 and sold to the City of New York, beginning a long period of disinvestment while the city unsuccessfully sought to find a large industrial tenant. Starting in the 1990s, the city changed strategy and the yard began to renovate space for smaller tenants. Today, the Brooklyn Navy Yard has a diversified tenant base of over 400 businesses, which employ 9,000 workers in a variety of manufacturing, art, and technology-related industries. In 2011, the Brooklyn Navy Yard Development Corporation (BNYDC), the non-profit organization managing operations in the Navy Yard, created an employment center aimed at connecting jobs in the district with residents of surrounding communities.

According to Jocelynne Rainey, BNYDC chief administrative officer and executive vice president of human resources and workforce development, the yard currently places over 400 workers per year in the district, a large leap from the roughly 100 workers placed in district jobs annually during the yard's early years prior to Rainey's tenure. Some of this growth is due to an increase in the number of businesses and in their activity, but the increased placements also stem from BNYDC's efforts to support district businesses and in particular to connect them with the local community. Two years ago BNYDC created a business services department to support the work of its Albert C. Wiltshire Employment Center, and since then the two have worked in tandem. While the business services department provides supports including legal consulting, access to financing, and human resources assistance, it also lets BNYDC understand employers' workforce needs. BNYDC business-partner managers are assigned to specific industry sectors and speak with business owners on a weekly basis, developing a deep knowledge of the firms' operations and culture. Rainey explained that the team's time spent getting familiar with the companies' day-to-day activities and needs is an important part of BNYDC's work, giving the team insight into aspects of the work that owners might not share in a typical job description. This solid understanding of each business organization allows BNYDC to make good matches with local residents.

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**BNYDC, as the landlord of the Navy Yard, encourages hiring of local residents by looking favorably on a business's good hiring practices during lease renewals.**

Another way BNYDC, as the landlord of the Navy Yard, encourages hiring of local residents is by looking favorably on a business's good hiring practices during lease renewals. During leasing BNYDC offers incentives to companies that agree to meet certain criteria related to the social purposes of the organization, including local hiring through the employment center. Early on during lease negotiations, businesses meet with leasing agents as well as with representatives from the business services department and employment center, who present their services as part of a comprehensive benefits package for companies. Rainey explained that if a leasing agent is talking to a business, that agent makes sure to include the employment center and its benefits in the conversation. For smaller companies that still lack an HR department, having an organization like BNYDC assisting with worker recruitment and selection is an attractive proposition and, according to Rainey, BNYDC's ability to provide this service for free is considered a substantial added benefit to being in the district.



Brooklyn Navy Yard, Aerial View

The BNYDC team also includes employment specialists who interact with job seekers. They hold open orientation events twice a week and are also deeply engaged in the surrounding community through contact with tenant associations of local public housing, local economic development organizations, and the borough's workforce career center. Since BNYDC focuses on job placement, its workforce training is provided by partner organizations such as Brooklyn Workforce Innovations and Opportunities for a Better Tomorrow, both described above, among others.

Besides job placement, BNYDC further connects local residents with opportunities in the yard through an internship program. The program places students from local community colleges into small businesses, helping interns understand the needs of small businesses while also building their capacity, and on occasion leading to permanent jobs.

Finally, the BNYDC is collaborating with the New York City Department of Education to create a career and technical education program in the Navy Yard that will provide a continuous pipeline of next-generation workers for local companies. Through the program, a group of high school students from eight high schools in Brooklyn will be selected by the Department of Education to spend their junior and senior years learning in a training hub located in the yard. The STEAM (Science, Technology, Engineering, Arts, and Media) Center has an advisory committee that includes businesses from the yard, who advise on curriculum design and provide guest lectures and internship opportunities to students.

By joining workforce provision with business support services, developing a deep knowledge of each manufacturer's specific culture and needs, and maintaining a strong commitment to hiring local residents, BNYDC has made successful connections between companies in the district and their local community.

## The Jackson Area Manufacturers Association

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**Manufacturing is more technical than it used to be, you can't just knock on their doors with a high school diploma and necessarily get a job with them.**

– Bill Rayl

The Jackson Area Manufacturers Association (JAMA) was created in 1937 by a dozen manufacturers who saw the opportunity to join forces in order to better address pressing challenges. Today the organization includes over 260 members located or doing business in Jackson, Michigan, and the surrounding region. Bill Rayl, JAMA's president, notes that while some of the challenges have changed, the organization's core mission of helping manufacturers succeed and grow has remained constant. JAMA's current services include workforce training, workforce and economic development support, and advocacy at the local, state, and federal levels.

Linking manufacturers to their potential workforce has been an important part of JAMA's work. For example, in 2003, when the local community college decided to discontinue its trade skills training program, members got together and convened community actors, including their local Workforce Development Board (called Michigan Works) and educational institutions, to identify a solution. Part of the reason the college dropped the program was its low attendance, which the college interpreted as lack of demand. However the issue wasn't lack of demand. According to Rayl, the programs the college provided were not as relevant to local manufacturers as they once had been, and the manufacturers weren't communicating that fact clearly to the college. For example, industry in the area includes numerous machine shops and factories that use computer numerical control (CNC) systems, but the college did not have a single piece of CNC equipment in its program.



Edna Martin Christian Center, Indianapolis



Mass Avenue Industrial District, Indianapolis

Rayl reflects about the need for more sophisticated programs: “Manufacturing is more technical than it used to be, you can’t just knock on their doors with a high school diploma and necessarily get a job with them. Over the years their needs have evolved and are more technical even at the production level. It’s not something you can learn in five minutes.” The result of JAMA’s engagement effort was the birth of the Academy for Manufacturing Careers (AMC), a JAMA program to provide the specialized training local manufacturers need. AMC programs include U.S. Department of Labor-certified apprenticeship training in 14 occupational tracks; currently 190 registered apprentices are training in over 60 partner companies. Programs also include a variety of shorter-term certificate trainings in areas such as machine maintenance, welding, tool and die making, and CNC machining.

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**Academy for Manufacturing Careers (AMC)’s youth programs enhance typical workforce initiatives in manufacturing by offering very early experiences that pique young people’s interest in manufacturing, and then by connecting newly interested youth to more formalized training.**

One of the more significant activities of AMC involves youth career exploration and skill building, through summer camps and after-school programs that begin as early as kindergarten. These activities were carefully crafted and introduced by JAMA to give younger generations industry-related exposure and training, with the goal of building a continuous workforce pipeline. According to Rayl, AMC’s youth programs enhance typical workforce initiatives in manufacturing by offering very early experiences that pique young people’s interest in manufacturing, and then by connecting newly interested youth to more formalized training. He explains: “When we were trying to figure out how to build this for apprenticeship and adult education training, [we realized] that still doesn’t solve the problem because we need young people to get exposed to these potential careers and the skills they need to succeed in them, or else we won’t have a feeder system.”

There were no initiatives in Jackson to involve younger kids and create that feeder system. So JAMA collaborated with its local workforce agency to offer the I Can Make It Camp, a weeklong overnight camp with hands-on learning for fourth, fifth, and sixth graders, operated in partnership with their intermediate school district. After running I Can Make It, JAMA then launched its Machining U machine learning program for seventh, eighth, and ninth graders, and kept building the pipeline from there, continuing to engage manufacturers, the workforce agency, and the school system. For example, JAMA has worked extensively with the Jackson Area Career Center (JACC), the place where kids in the area have traditionally gone to learn machining, welding, computer-aided design (CAD), and engineering. In the I Can Make It Camp, students have camp activities at the JAAC, and JAAC instructors come in to perform demonstrations using industrial equipment. This approach has allowed kids to experience and form connections to the JACC in grades four through six, so when they get to high school, the center is already a familiar place offering potential career options. Rayl reflects on the approach: “Part of the success that we’re having is the interconnectedness of the system that builds on itself. The kids that are coming in our after-school programs or summer camps, or the other range of programs that our partners offer, the kids who are gravitating [toward that beginning end] of the pipeline, are there very intentionally, so they’re motivated to be successful. At the other end of the spectrum, our adult end of our program with the apprenticeship, that population is employed by the local companies and the companies are paying for them to be trained, so our completion ratio is very high.”

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Through its wide range of integrated youth-to-adult education programs and strong partnerships, JAMA has changed the workforce landscape of Jackson and the surrounding region, and provided hundreds of opportunities to local residents in the process.

Key to JAMA’s success is its ability to leverage the assets of other partners. Rayl explains: “We rely on partners for everything. We don’t even have our own facility.” For example, when JAMA was creating the I Can Make It Camp the organization considered building its own camp site. A couple of members stepped in and volunteered their own private properties to be used for the camp. However, by engaging the local school district, JAMA was instead able to use the district’s existing camp site at a time when it was normally not in use, avoiding the delay and cost associated with building a facility from scratch. The ability to leverage partners’ assets is a strategic component of JAMA’s success, as the organization’s operations and activities are mostly funded by contributions from its member base.

Rayl observed that there have been few youth of color coming through JAMA’s K-12 pipeline in past years, so the organization has been reaching out intentionally to these communities. For example, JAMA has held informational sessions at local urban high schools to meet with parents and students there. It is also collaborating with Save Our Youth, a diversion program for young people who have come into the court system and, in lieu of sentencing, get an opportunity to participate in an AMC program.

Through its wide range of integrated youth-to-adult education programs and strong partnerships, JAMA has changed the workforce landscape of Jackson and the surrounding region, and provided hundreds of opportunities to local residents in the process.

# Southwest Brooklyn Industrial Development Corporation

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**How do you construct a training program so people can continue to pay their rent and support their families and also advance their career?**

– Karen-Michelle Mirko

The Southwest Brooklyn Industrial Development Corporation (SBIDC) is a 40-year membership non-profit organization assisting businesses located in the Sunset Park, Red Hook, and Gowanus neighborhoods through a range of business services, workforce services, policymaking, and advocacy. In addition, as a neighborhood economic development organization, SBIDC seeks to improve the quality of life for residents and provides local residents with employment services.

Over the years SBIDC has built strong relationships with local manufacturers by providing valuable services including business training programs and connection to a variety of incentives, from capital improvements to equipment purchasing support to energy costs savings programs, among others. Meanwhile, SBIDC connects low-income residents of these neighborhoods to jobs in the district through a workforce center the organization runs in partnership with the New York City Department of Small Business Services. These workforce strategies developed over time, as a strategic extension of SBIDC's businesses services approach.

One of the challenges SBIDC faces in the neighborhoods it serves is to engage residents in training opportunities that, while potentially of great benefit, are unpaid, and in a field, manufacturing, whose onetime reputation as a route to a stable middle-class income has diminished over the years. Karen-Michelle Mirko, director of workforce services of SBIDC, reflects: “We’re engaging a population that is low-wage and in need of income. It is a difficult choice to make to invest in themselves by taking two to four weeks off of the job search, even if it will get them on a career pathway with family-sustaining wages. So how do you construct a training so people can continue to pay their rent and support their families and also advance in their career?” Lack of interest in manufacturing is something of a generational issue, but Mirko says interest is growing, thanks in part to SBIDC’s efforts to address traditional misperceptions about what manufacturing is and to entice local youth through updated information and the right visuals.



The Gowanus Neighborhood

Like JAMA and the Brooklyn Navy Yard, SBIDC uses its established relationships with employers, built over the years through its business services program, to promote quality jobs for local residents. SBIDC is able to inform employers of potential cost savings and businesses growth opportunities, while at the same time educating them about the long-term benefits of adopting labor standards and promoting employee benefits. Ben Margolis, SBIDC's executive director, explains: "If we're doing our job well, our programs are operating at the nexus of business and workforce services. One programmatic example is training more employers to become 'higher road'—helping them meet their bottom line and addressing their expanding and changing workforce needs. The program is a natural extension of how SBIDC is structured."

Strong collaboration with a wide range of partners is core to SBIDC's approach and key to its success in opening a pathway for local residents to jobs in the district. Recognizing that to connect low-income residents with quality jobs requires a wider set of services that go beyond placement, SBIDC works with a number of organizations and partners to provide training, social services, and complementary wrap-around services under the banner Stronger Together. This network is composed of partners located in Brooklyn and with strong ties to their neighborhoods, strengthening the connection between community residents and the industrial district.

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SBIDC Apprentice Presentations

# Lessons Learned

The previous case studies highlight advanced strategies, but these organizations didn't get there in a day. Below are lessons from the LISC network that illustrate how partners are laying the groundwork for integrating workforce and industrial revitalization approaches.

## 1

### Create the Early Local Infrastructure for Collaboration

Because so much depends on collaboration, where no networking forum or business association exists, it may be important to organize one. For example, Jacksonville LISC has helped organize and funded staff positions at the Rail Yard District Business Council, which advocates for members' needs and has already been successful in engaging public and elected officials around infrastructure challenges. This strategy may also fund a "point person" to coordinate between employers and training providers, as LISC Indianapolis has done in funding work by the Riley Area Development Corporation in the North Mass Avenue Corridor.

Another way to set the stage for collaboration is to invest in shared spaces where a variety of manufacturers operate side by side. For example, also in Indianapolis, LISC invested in the Riley Area CDC's Ruckus Makerspace, where manufacturers have access to shared, affordable, hi-tech equipment for prototyping, and where they can receive support from partners such as Purdue University, and legal service clinics from Indiana University. Places like Ruckus allow manufacturers to interact with one another, learn about resources, and connect to the local community.

LISC NYC is a lender to the Greenpoint Manufacturing and Design Center (GMDC), which provides affordable industrial space to small and medium-sized manufacturers and connects them to a number of business resources citywide. The organization does not currently have workforce development partnerships in operation, but it is part of an active network of industry partners and often puts manufacturers in contact with local workforce training providers.

## 2

### Engage Key Partners Beyond the Neighborhood

The country's workforce training infrastructure is greatly influenced by the federal government through the Workforce Innovation and Opportunity Act (WIOA), but is implemented at the local level through state and local Workforce Development Boards (WDBs). WDBs are composed of local businesses and a variety of stakeholders responsible for crafting the vision, goals, and strategic framework for workforce services. With its stronger emphasis on sector partnerships and dual-sector customer approaches, WIOA offers those working to connect local residents and manufacturers, including local community-based organizations, an opportunity to address gaps on both sides of the equation by engaging local WDBs. For example, through a partnership with EmployIndy, Marion County's local Workforce Development Board, LISC Indianapolis acts in a coordinating role identified under WIOA, as the so-called One-Stop Operator. On the worker-support side, LISC has been able to work directly with frontline staff of the local American Job Center to improve the staff's knowledge regarding local labor market dynamics as well as additional training opportunities and wraparound services available through partner organizations, all in order to better assist job candidates. On the business side, LISC Indy was able to bring together EmployIndy Business Solutions team members and managers of the industrial districts where LISC works (North Mass and East Washington Street) to devise a targeted talent development strategy for those districts. This connection

allows the WDB's Business Solutions team to optimize its employer engagement strategy by tapping into district managers' deep knowledge of their employers' talent needs and job quality. It also allows the WDB to leverage district managers' neighborhood-specific relationships.

Another way this engagement can occur beyond the neighborhood level is through curriculum alignment, which often takes place within particular industry sectors. Jane Addams Resource Corporation (JARC), a partner of LISC Chicago, established an industry advisory council composed of its closest employer partners, to provide feedback on JARC's curriculum. This curriculum is implemented by industry professionals rather than professional educators. Indeed JARC's entire faculty is made up of people who used to work on the factory floor, which has furthered its credibility among employers across the region.

Furthermore, partnering with national umbrella organizations may provide additional avenues to advance these strategies of integration. LISC National is a partner to the Urban Manufacturing Alliance (UMA), a coalition of small businesses, manufacturing associations, industrial district practitioners, and city governments collaborating to promote manufacturing and living-wage jobs in cities across the country. Since its inception, UMA has served as a platform for these diverse stakeholders to share ideas and best practices, and to develop and advocate for initiatives that can spur an inclusive economy. One of its initiatives is the State of Urban Manufacturing, a series of studies of the manufacturing economy across six cities (Philadelphia, Detroit, Milwaukee, Portland, Baltimore, and Cincinnati) that highlights the ecosystem of citywide organizations and institutions that support manufacturing and job growth as well as the challenges local manufacturers face. The series is meant to inform economic development services at the national and local levels and spur further collaboration among these groups.

## 3

### Align Incentives for Equity

The Good Jobs Fund is an initiative of LISC's affiliate, the New Markets Support Company (NMSC); it invests in social-impact businesses that are looking to grow but have challenges accessing enough capital. Through the fund, businesses that are committed to providing residents of low-income communities with fair- and living-wage positions, equitable benefits, and professional development opportunities gain access to adequate capital. These businesses are given the opportunity to expand and may eventually serve as national models of quality job creation. One Good Jobs Fund-supported enterprise is Ovenly, a New York City-based neighborhood bakery that provides quality jobs for New Yorkers who have typically faced high hurdles to entering the workforce. Ovenly partners with a number of local workforce organizations including the ANSOB Center for Refugees, Seedco, and Get Out Stay Out (GOSO), which works with formerly incarcerated people. More recently, Ovenly has adopted "open hiring," a radical practice among social entrepreneurs of hiring people for entry-level positions without a resume or any previous job experience.

In addition to earning living wages, Ovenly employees receive benefits including maternity and paternity leave, free yoga, and quarterly classes on personal development topics ranging from financial planning to personal health. The company's business practices have echoed in the communities they serve and allowed Ovenly to build a strong brand and reputation showing that it is possible to put employees on par with profits. In fact, the NMSC loan will be used to expand the bakery's production capacity and allow it to grow into more retail stores.

# Practice and Policy Implications

The findings above present a range of practice and policy implications for local economic and workforce development practitioners working to support industrial districts and connect local residents to jobs in those districts.

## Employer Engagement

All successful integration strategies have built a relationship with employers through business support services first or in parallel with workforce provision, which distinguishes their employer engagement approach and helps explain some of their success. As Adam Friedman at the Pratt Center reflects: “Companies are focused on getting products out, or sales, it’s whatever [is] the daily grind of what they have to do. Most of the successful programs I see are capitalizing on those relationships that have been built in the economic development world... Once you’ve helped a company, you’ve got a friend for life. You have a trucking problem, parking problem, so if you prove you can deliver in whatever those issue areas are, keep reminding them, next time you need help, it will register.”

Another related implication the findings suggest is that developing employer engagement through the provision of multiple support services allows organizations to build trust and credibility – and also gives them the opportunity to advocate and promote worker advancement. Brooklyn Workforce Innovations (BWI) is a workforce development organization in Brooklyn, NY, that partners with industrial districts throughout New York City to provide employer-customized training. Aaron Schiffman, BWI’s executive director, observes: “There are many times when employers say they don’t need people with hard skills; that they can teach them, they just need someone who will show up on time. While that is true for a small number of jobs, when you start to unpack this, there are often job quality issues and lack of career growth options for those workers that have stopped showing up. Candid conversations with local businesses – paired with tailored training opportunities – put us in a position to partner with businesses and jointly address those issues.”

Shiffman’s quote illustrates another important implication of our findings: not all available manufacturing jobs are necessarily quality jobs. This points to the need for strategies to work with employers to devise systems for upward mobility. For example, businesses might make these jobs more attractive by offering additional benefits, or alternatively by making them (formally or informally) temporary positions that serve as stepping stones to better positions down the line.



GMD Shipyard and EC Workshop at the Brooklyn Navy Yard

## **Government and Philanthropic Incentives**

Our findings also have implications for funders. The case studies highlight the importance of capitalizing on relationships developed around economic development to also benefit workforce development and placement. This means that governmental and philanthropic funders could encourage more organizations to do both by adopting criteria that give weight to organizations that combine economic development (business services) with workforce training and placement provided in-house or through established partnerships. Such an approach to investment recognizes industrial districts and surrounding neighborhoods as an ecosystem and seeks to make investments that foster collaboration and strengthen that ecosystem.

Furthermore, practitioners generally felt that placement-based funding for workforce development is often tied to a narrow set of outcomes that do not reflect the full gamut of work needed to engage employers and connect low-skill residents to manufacturing jobs. As Aaron Shiffman from BWI explains: “High-quality workforce development programming involves a great deal more than job placement. We are engaging in dialogue with local businesses and industry leaders, doing constant outreach within communities in need, assessing individual capacities and interests, and doing the vocational counseling and career advancement coaching required to keep people working... [F]unding for those activities is much more rare.”

This means that governmental and philanthropic support for this work must acknowledge the full range of activities involved in promoting manufacturing business growth and providing the training and wraparound services required to make these jobs accessible to job seekers who have typically not been able to benefit due to existing barriers.

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## **Integrated Service Delivery**

Low-income and low-skill residents typically face multiple barriers that affect their ability to join and stay in workforce training programs, including lack of transportation to training and industrial sites, family responsibilities like caring for children, and the need for income support. The Instituto de Progreso Latino has provided career pathways, workforce development, adult education, youth development and education, and citizenship services to communities in Chicago for over 40 years. Its programs were intentionally designed to enable individuals to advance their current skill level through additional education or specialized training. Since individuals arrive with very different skill and education levels, the Instituto developed a comprehensive set of programs – ranging from literacy and English as a Second Language (ESL) instruction to college prerequisites and tailored job training – that meet individuals where they are, often referred to as the bridge-to-career model. In the process, program participants receive industry-recognized credentials and key supportive services to address any potential barriers. Agatha Demarchi, director of student and community support, explains: “That’s the beauty of this concept because we meet participants where they are, our role is to provide the resources they need and create a bridge between where they are and where they want to go.”

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We see that value these services bring, so we know you can't cut out certain parts of the FOC services because for us it would be the same as not teaching someone how to weld.

- Emily Doherty



The Best Chocolate in Town, Mass Avenue Industrial District

Similar to the Instituto, Jane Addams Resource Corporation (JARC), a Chicago-based non-profit workforce development corporation focused on the manufacturing sector, also provides, besides job readiness and specialized manufacturing training, a comprehensive set of services to support job seekers through its Financial Opportunity Center (FOC). According to Guy Loudon, JARC's president, it is the combination of wraparound services with workforce training that makes these comprehensive programs successful. He emphasizes, however, that a key element to success is that at JARC these wraparound services are not optional, but compulsory and fully integrated into JARC's curriculum. Emily Doherty, senior director of programs at JARC, explains the approach: "We see that value these services bring, so we know you can't cut out certain parts of the FOC services because for us it would be the same as not teaching someone how to weld. It's not because we just want to do this, it's more like we see the results and we see that people are able to get through more successfully and are able to be better employees once they're in the job; so we fully integrated and our clients don't see that's the training department and that's the FOC department, they just see these are the steps I work with during the program."

### Regional Alliances

A common topic mentioned by interviewees relates to the number of available jobs and opportunities for advancement within a single industrial district, especially within the landscape of increasingly small manufacturing firms. Depending on their scale and business composition, some industrial districts may not have enough firms, or firms with scale that allows for worker advancement, and thus have limited opportunities for local residents. For this reason a number of organizations, including JARC, have broadened their geographic scope, adopting a regional approach to job training and placement. JARC's training programs engage manufacturing employers throughout the Chicago region. New graduates often choose employment opportunities within the city and accessible by public transportation. Once they achieve financial stability and are able to afford a private vehicle, JARC graduates often move to better-paying jobs in the outer suburban rings. JARC found that having a broader scope allows it to offer better opportunities for graduates.

## Youth Pipeline

Another important implication the findings reveal is that in order to develop a continuous workforce pipeline there's a need to engage children in manufacturing-related activities early on to address common misperceptions of manufacturing and generate youth interest in the field. A continuum of exposure and clear pathway for children allows them to begin to consider manufacturing as a viable career option when they get to high school. This highlights the need for partnerships between workforce providers, industry, and schools not only at the high school level but even at middle and elementary schools, as JAMA's success illustrates.

## State and Local Levels

On the policy side, the findings highlight that land-use and zoning are critical issues. Interviewees emphasized that industrial space needs to be affordable and stable, with long-term leases, so manufacturers feel secure they can invest in their facilities, production, and workers; build relationships with local organizations; and become vested in the community. A number of cities have zoning legislation that allows many non-industrial uses such as superstores, hotels, and other commercial facilities to co-exist with manufacturers in industrial districts. In cities with tight real estate markets, competition from land uses that typically can afford higher prices per square feet, including residential, is preventing manufacturing growth and expansion. More favorable state and local land-use designations and stronger enforcement to avoid competition from residential and strictly commercial land uses are needed to support industry's success in these markets. In weaker market cities, a sensitive approach to zoning may allow light-manufacturing uses in non-industrial neighborhoods. For example, Indianapolis, IN, and Somerville, MA, have pursued land-use strategies such as Artisan zoning that open more opportunities to create space for production in a wider variety of neighborhoods. Artisan zoning refers to land-use designations that give space to light manufacturers that produce little to no vibration, noise, fumes, or other forms of pollution. In Washington, DC, zoning in some neighborhoods allows a hybrid of production and retail, which may help generate more revenue for some manufacturers.



Pia Urban Café on East Washington Street, Indianapolis

## Federal Level

In addition, the findings emphasize the contribution of the Workforce Innovation and Opportunity Act (WIOA) to the workforce development system. Before WIOA's passage in 2014, workforce systems throughout the country were largely disconnected from local economic development strategies, employers' needs, and equity considerations. Our interview participants emphasized that WIOA is a step forward for those seeking to connect low-skill job seekers to living-wage jobs. The legislation adopts a dual-customer and integrated approach to job development. It not only places equal priority on the job seeker/worker and the end-customer employer, but as importantly it's predicated on industry partnerships. It requires full participation of the local business community in the definition and implementation of workforce development initiatives for each city or region, while allowing space for non-profits and other community-based organizations to play a role. This role can be in the form of providing job and skills training, but also may include a variety of wraparound services as WIOA encourages workforce systems to support that kind of staffing. WIOA brings an equity approach to workforce development by supporting labor-market sectors like manufacturing that offer family-sustaining wages, benefits, and career paths, but also by its emphasis on focused services for job seekers with typical barriers to employment.

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**Industrial space needs to be affordable and stable, with long-term leases, so manufacturers feel secure they can invest in their facilities, production, and workers; build relationships with local organizations; and become vested in the community.**

Our findings suggest a potentially transformative role for WIOA, if robustly funded and appropriately implemented. Even though WIOA encourages partnerships with strong employer engagement, and authorizes use of funds for services to support job seekers with barriers, the legislation does not provide secure funding for these activities to be implemented by states or local areas. Supportive states have used other sources of funding for these partnerships, typically from their own Governor's Reserve Fund. In fact, all successful strategies in this report rely on a mix of public and private funding for their programs, and in the case of JAMA, the vast majority of funding for their programs comes from the manufacturers themselves. This is a remarkable example of commitment to the initiative but it cannot be expected that other places will have the same level of commitment and capacity. Taking full advantage of WIOA represents a great opportunity for those willing to support manufacturing and provide job opportunities to low-income residents, but without substantive dedicated funding, strategies of integration like these will remain isolated cases.

## Endnotes

- <sup>1</sup>U.S. Census Bureau of Labor Statistics. (2018). Current Employment Statistics. [CES Database].
- <sup>2</sup>U.S. Census Bureau of Economic Analysis. (2018). 2016 SUSB Annual Data Tables by Establishment Industry Current. Retrieved from <https://www.census.gov/data/datasets/2016/econ/susb/2016-susb.html>
- <sup>3</sup>Deloitte and Manufacturing Institute. (2018). 2018 Skills Gap in Manufacturing Study. Future of manufacturing: The jobs are here but where are the people? Retrieved from <https://operationalolutions.nam.org/mi-skills-gap-study-18/>
- <sup>4</sup>Kotkin, J. and Shires, M. Where US Manufacturing is Thriving. Forbes, May 23 2018. Retrieved from <https://www.forbes.com/sites/joelkotkin/2018/05/23/where-u-s-manufacturing-is-thriving-in-2018/#13c5589253b3>
- <sup>5</sup>NAM. (2018). Top Facts About Manufacturing. Retrieved from <https://www.nam.org/Newsroom/Top-Facts-About-Manufacturing/>
- <sup>6</sup>Equitable Innovation Economies (2016). Prototyping Equity: Local strategies for a more inclusive innovation economy. Retrieved from <http://prattcenter.net/eie/strategies/>
- <sup>7</sup>Porter, Michael (1998). On Competition. Boston: Harvard Business School Press.
- <sup>8</sup>Porter, Michael. (2000). Location, Competition, and Economic Development: Local Clusters in a Global Economy. Economic Development Quarterly, 14 (1), p.15 - 20
- <sup>9</sup>Wilson, William J. 2011. When work disappears: The world of the new urban poor. New York: Vintage
- <sup>10</sup>Toussaint-Comeau, M., Newberger, R., & Augustine, D. (2016). Inclusive Cluster-Based Development Strategies for Inner Cities: A Conference Summary. Economic Development Quarterly, 30(2), 171–184
- <sup>11</sup>Jackson, Kenneth T. 1985. Crabgrass frontier: the suburbanization of the United States. New York: Oxford University Press
- <sup>12</sup>Rothstein, Richard. 2017. The color of law: a forgotten history of how our government segregated America. New York; London: Liveright Publishing
- <sup>13</sup>National Skills Coalition (2016). Promising Practices in Work-Based Learning for Youth. Published October 2016. Retrieved from [https://www.nationalskillscoalition.org/resources/publications/file/10-4-NSC-YouthWorkBasedLearning\\_v4.pdf](https://www.nationalskillscoalition.org/resources/publications/file/10-4-NSC-YouthWorkBasedLearning_v4.pdf)

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