

# **Beyond Welfare-to-Work: Bridging the Low-Wage - Livable-Wage Employment Gap**

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## Beyond Welfare-to-Work: Bridging the Low-Wage – Livable-Wage Employment Gap

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**T**he Personal Responsibility and Work Opportunity Reconciliation Act of 1996 imposed a five-year, lifetime limit on the amount of welfare benefits a family can receive. The Act also requires welfare recipients to get a job within two years of receiving benefits. In an approach that has come to be known as "work first," the Act favors immediate placement in any job over education or training, even though education or training is usually needed to secure a good job.

Based on the best available evidence, the work first strategy will not succeed in enabling most welfare families to become economically self-sufficient, even though economic self-sufficiency is necessitated by the five-year limit on welfare benefits imposed by the 1996 law. Research on how welfare recipients fare in the labor market shows that most can find only low-wage work, and soon become stuck in dead-end jobs. Few are able to move up to better-paying positions over time (Pavetti and Acs 1997; Strawn 1998).<sup>1</sup> STRIVE Chicago Employment Service, a highly-regarded not-for-profit employment agency for welfare recipients, reports that, of 781 program participants from January 1995 to July 1997, the average starting wage for first jobs was less than six dollars per hour (Taylor Institute and Women Employed Institute 1998: 8). This is not nearly enough to enable a family to pull itself out of poverty.<sup>2</sup> At best, therefore, welfare reform confined to work first will only increase the ranks of the working poor.

If we are serious about economic self-sufficiency for welfare families — and not just about cutting welfare rolls — we need to move beyond work first and find ways to bridge the gap between low-wage and livable-wage employment. Bridging the gap is also critical if we are committed to alleviating poverty more generally, since the majority of the poor are already working in low-wage jobs, a fact that is often overlooked in the welfare debate (National Research Council 1995).

For reasons of both supply and demand, the gap between low-wage and livable-wage jobs is now wider than ever, and seems to be increasing. The qualifications needed to secure entry-level jobs that pay a livable wage are similar across industries. First, applicants for such jobs must be drug-free, reliable and have a positive attitude. Second, they must be able to learn as the technology of the job changes. This assumes the ability to read for a purpose and do basic mathematics, solve problems and communicate effectively with others. Third, employers expect applicants to be proficient in at least the basic technical skills of the industry. Thus, some skills training is usually required to qualify for livable-wage jobs.<sup>3</sup>

The problem is that too many of those who would want better-paying jobs lack these qualifications for entry-level, livable-wage jobs. Many if not most high school graduates from urban school systems like Chicago's fall short of meeting these basic requirements, not only in their inadequate basic skills but also in their poor work habits and attitudes. Those who lack a high school diploma or GED are at an even greater disadvantage. This applies to a large segment of the welfare population. In Cook County, Illinois, for example, 53 percent of welfare recipients lack a high school diploma or GED (Taylor Institute and Women Employed Institute 1998: 10).

On the demand side, recent decades have seen a deterioration across industries of the mechanisms by which relatively low-skilled individuals were in the past able to secure decent-paying jobs and advance over time to even better jobs. These days, employers are reluctant to build job ladders that would allow workers at lower rungs to move up into better-paying, more skilled jobs, even though many industries face severe shortages of skilled workers. This suggests the need for systems outside of firms and industries that can support job access and advancement, especially for those mired in low-wage, dead-end jobs.

This issue brief explores the gap between low-wage and livable-wage jobs, and describes efforts to enable disadvantaged individuals to bridge it. It also examines why "bridge programs" are not more common and what can be done to increase their prevalence and effectiveness.

#### The Low-Wage – Livable-Wage Employment Gap

Figure 1 shows a "job/training ladder" through which it is possible to advance from low-wage jobs to successively better paying positions in manufacturing. The figure indicates the minimum qualifications for the job category at each "rung" on this ladder as well as the type of training or other preparation typically necessary to move to the next higher level. Such a ladder is not necessarily present within any one manufacturing company. Indeed, these ladders are not likely to be present within smaller, non-union firms, and are increasingly rare even among larger firms. However, with the proper preparation and qualifications, it is usually possible to move from one level to the next, although advancement may mean moving from one employer to another. Table 1 gives the median hourly wages among Chicago-area manufacturing firms for specific job titles associated with each job category in the ladder diagram.

This paper is most interested in the transition between what in Table 1 are labeled "semi-skilled jobs" and "skilled operator jobs."<sup>4</sup> Typical semi-skilled manufacturing job titles

**Figure 1: Job/Training Ladder to a Career in Manufacturing**

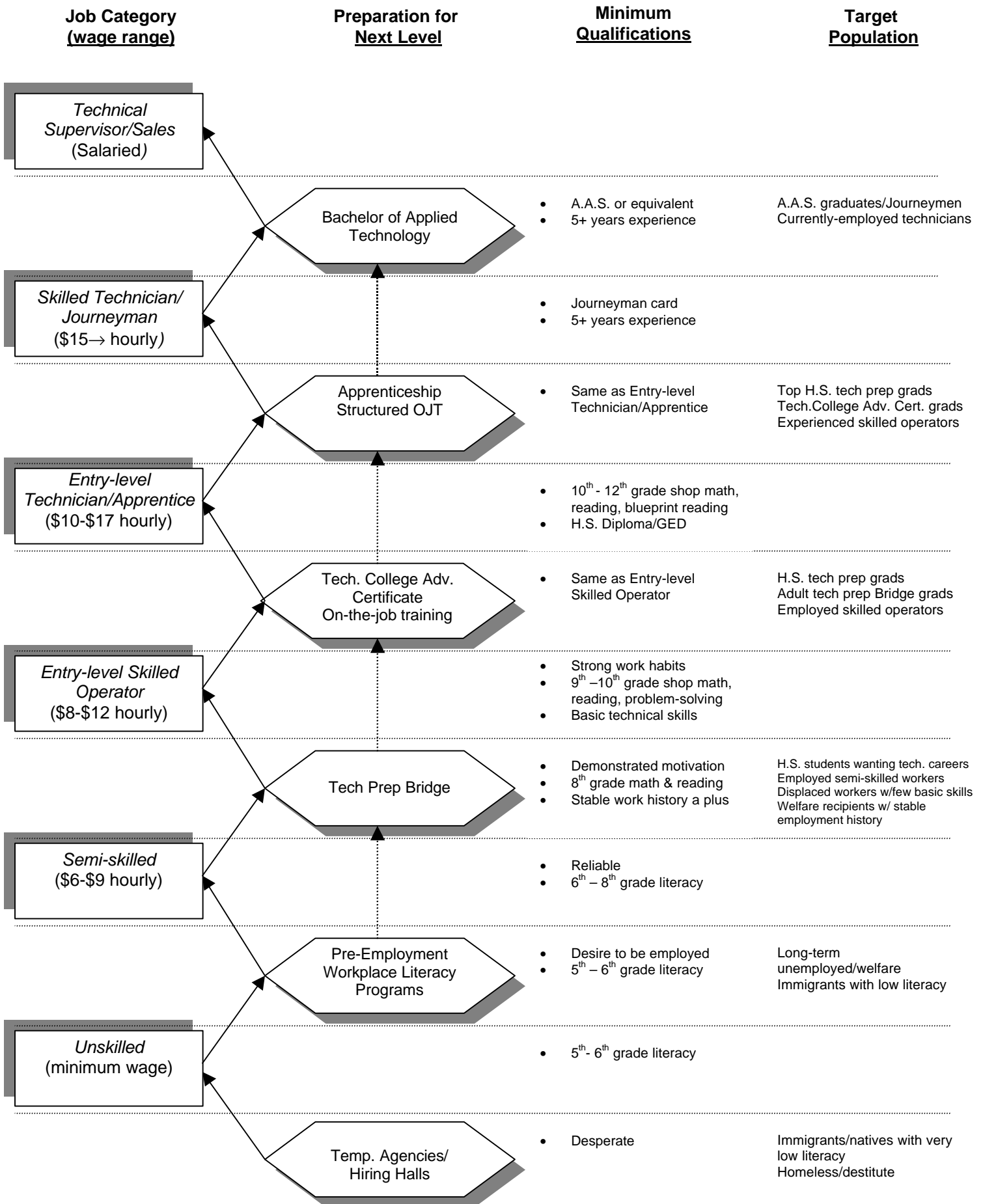


Table 1: Sample Job Titles in the Manufacturing Job Ladder

| <b>Job Category</b>                   | <b>Sample Job Titles</b>  | <b>Median Hourly Wage*</b>   |
|---------------------------------------|---|--|
| Technical Supervisor                  | Shift Supervisor<br>Team/Group Leader   | Salaried<br>NA   |
| Skilled Technician/<br>Journeyman     | CNC Programmer/Machinist<br>Designer, CAD<br>Electrician<br>Machine Builder<br>Machinist, Journeyman<br>Maintenance Machinist<br>Maintenance Mechanic<br>Mold Maker, Journeyman<br>Model Maker<br>Tool and Die Maker  | \$21.63<br>\$22.50<br>\$19.49<br>\$21.20<br>\$17.50<br>\$16.12<br>\$17.95<br>\$22.00<br>\$19.33<br>\$22.00 |
| Entry-level Technician/<br>Apprentice | Apprentice<br>CNC Machinist, Set up and Operate<br>Draftsman, CAD<br>Estimator<br>Inspector, Final<br>Machinist<br>Maintenance Worker, Toolroom or Production<br>Welder, ARC/MIG/TIG  | \$11.13 (12<br>mos)<br>\$16.10<br>\$16.34<br>\$13.55<br>\$13.28<br>\$14.08<br>\$13.95<br>\$13.86           |
| Entry-level Skilled                   | Assembler, Skilled<br>Inspector, In Process<br>Grinder, Surface<br>Material Handler<br>Set-Up Operator (die setter, die casting drill press,<br>CNC, heat treatment, lathe, milling machine, punch<br>press, printing press, misc. machine setter)<br>Shipping/Receiving Clerk<br>Stockroom, Toolroom or Production<br>Utility Worker, Toolroom or Production<br>Welder, Spot | \$11.92<br>\$10.75<br>\$11.50<br>\$ 9.90<br>\$9.00-\$14.00<br>\$10.00<br>\$11.50<br>\$9.23<br>\$9.05       |
| Semi-skilled                          | Assembler<br>Forklift Driver<br>Operator (die casting, drill press, injection molding,<br>press brake, screw machine, turret lathe, other semi-<br>skilled operator)<br>Packer  | \$8.75<br>\$8.50<br>\$7.00-\$8.75<br>\$8.50  |
| Unskilled                             | Laborer   | \$6.25   |

\*Source: Tooling and Manufacturing Association, "1/1/98 Wage Survey," and Crain's Chicago Business, "1998 Wage and Salary Survey."

include Assembler and Machine Operator. These jobs generally pay from \$5.50 to \$8.50 an hour, although usually closer to the lower end. They sometimes offer piece-rate incentives for workers who can meet production quotas. They also tend to provide health benefits, although not always. Besides the low pay, the main drawback of these jobs is that they offer few opportunities for learning and advancement. Such jobs are characterized by mind-numbing repetition of tasks—assembling the same piece or running the same machine operation over and over. As such, they provide little opportunity to learn new skills. Still, for those who are new to the labor market or who have had long spells of unemployment, semi-skilled jobs offer the chance to build a record of stable employment. Indeed, the main requirements for these jobs are reliability and a positive attitude. In the long run, however, semi-skilled jobs are a dead end.

Skilled operator jobs typically pay from \$8.00 to \$14.00 an hour and usually provide health care coverage and other fringe benefits. Just as important, these jobs tend to offer opportunities for learning on-the-job and advancement to better-paying positions. As such, these jobs can generally be described as “livable-wage.” The typical entry-level skilled job in manufacturing is the Set-up Operator. This person not only operates machines, but also performs set-ups and routine maintenance. In contrast to the semi-skilled operator, who is merely a “button pusher,” the Set-up Operator has to exercise discretion over how the equipment is operated, which requires skills in machine operation and maintenance. In plants with more advanced management practices, Set-up Operators are required to be “multi-skilled” because they operate more than one machine or work in a team to operate a manufacturing “cell” of machines controlled by computer. With experience on the job and additional formal training in basic technical skills, it is usually possible in a relatively short time for Set-up Operators to advance to entry-level apprentice or technician positions — the next rung up the job ladder.

A key advantage of entry-level skilled positions such as the Set-Up Operator compared to unskilled or semi-skilled jobs is that they provide opportunities for productive learning on-the-job, which is essential for moving up to better positions. Table 2 summarizes the differences between low-wage jobs and livable-wage jobs.

Table 2: Low-Wage and Livable-Wage Jobs Compared

|                | <i>Low-Wage Jobs</i>   | <i>Livable-Wage Jobs</i>   |
|----------------|--|--|
| Pay            | <ul style="list-style-type: none"> <li>▪ \$5.50 - \$8.50 hourly</li> <li>▪ Often part-time</li> <li>▪ Often pay no benefits</li> </ul> | <ul style="list-style-type: none"> <li>▪ \$9.00 - \$12.00 hourly</li> <li>▪ Usually full time</li> <li>▪ Usually pay benefits</li> </ul>                       |
| Work Type      | <ul style="list-style-type: none"> <li>▪ Low-skill</li> <li>▪ Repetitive</li> <li>▪ Little discretion</li> <li>▪ Dead-end</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Multi-skilled</li> <li>▪ Changing</li> <li>▪ Some discretion</li> <li>▪ Learning/advancement opportunities</li> </ul> |
| Qualifications | <ul style="list-style-type: none"> <li>▪ Employable</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Employable</li> <li>▪ Trainable</li> <li>▪ Basic technical skills</li> <li>▪ HS Diploma or GED</li> </ul>             |

Moving from low-wage, semi-skilled jobs, to livable-wage, entry-level skilled jobs is difficult for a variety of reasons. To begin with, the qualifications for the entry-level skilled jobs are considerably higher than those for semi-skilled jobs. Indeed, in manufacturing, as in other sectors, the requirements for entry-level livable-wage jobs are considerably higher than they once were. In the past, one could get a well-paying factory job just by being able to read and write and show up for work regularly. Now, manufacturers generally look for a much broader set of qualifications in applicants for entry-level skilled positions (the “skilled operator” jobs in Figure 1). These can be grouped into four main categories:

- 1) *Employable* – Drug free, reliable, strong work habits, ability to work well with others.
- 2) *Trainable* – Can read and do math at least the 9th grade level, apply basic principles of science and technology, use computers, solve practical problems and communicate effectively, both orally and in writing.
- 3) *Technically literate* – Can do basic shop math, use common measuring devices, read blueprints and schematics and is familiar with machine operation.
- 4) *High School Diploma or GED* – There are exceptions, but most employers in more technologically advanced firms (which also tend to pay higher wages) require applicants for entry-level skilled jobs to have a high school credential.

The ideal candidate would have these qualifications plus a basic understanding of manufacturing business concepts such as process flow, quality assurance, CAD/CAM, manufacturing resource planning, and just-in-time.

These basic requirements exclude many of today’s high school graduates, who are too often lacking not only the requisite basic skills but also acceptable work habits and attitudes. Those without a high school diploma or GED are further excluded (even if we discount the fourth qualification above). Without these basic qualifications, a job seeker is relegated to low-wage, semi-skilled positions. Even low-wage jobs generally require that the employee be reliable and have a good attitude and at least a modicum of basic skills. This excludes many new entrants to the labor force and those with unstable work histories (Regenstein, Meyer and Hicks 1998: 25).

Even for those who are able to secure semi-skilled jobs, moving up into better paying, more skilled jobs is difficult. The instability inherent in many semi-skilled jobs makes it tough to build a resume. Because the pay is low and benefits often non-existent, many semi-skilled workers have to work long hours or multiple jobs just to get by. They may not have the time or the resources to get the training they need to advance to better-paying jobs. Few employers provide this sort of training to semi-skilled workers. In general, employers tend to invest less in skill upgrade training of low-level workers than of professional, technical or management employees.<sup>5</sup> The growing tendency of employers in manufacturing and other industries to use temporary or contract workers for semi-skilled jobs means that such workers may not be employed by the company where they work. As a result, there is even less chance now than there might have been in the past of advancing by building a good performance record with one’s employer.<sup>6</sup>

Even if semi-skilled workers can find the time and resources to invest in training, too many training programs are unresponsive to the needs of either working adults or employers. Some of the reasons are explored below in the section on “Gaps in Practice and Policy.”

The gulf between low-wage and livable-wage jobs is a problem not only for individuals seeking gainful employment, but also for employers, which at present in many industries and in many parts of the U.S. face severe shortages of skilled labor. Employers usually do not have trouble recruiting workers to fill semi-skilled positions, although high turnover among these positions is often a problem. In contrast, in the past several years, employers in manufacturing and other sectors have had difficulty finding *any* applicants qualified for skilled technician positions.<sup>7</sup> This is due in part to the breakdown of traditional means, including adult apprenticeships within firms and high school vocational education, by which skilled trade and technical workers were recruited and trained for work in industry. Outside of manufacturing, and especially in newer sectors such as information technology, neither internal nor external mechanisms for training skilled technicians were ever well-established in the U.S.

A similar gap between low-wage and livable-wage jobs is evident in other industry sectors.<sup>8</sup> As in manufacturing, the gulf between low-wage and livable-wage jobs in these other sectors is due to factors of both supply and demand. This gap is shown in Table 3 below.

Table 3: Low-Wage – Livable-Wage Employment Gap by Industry Sector

| Sector                     | The Gap:                                       |  |
|----------------------------|--|--|
|                            | Low-wage, dead-end jobs<br>(Semi-skilled jobs) | vs. Livable-wage, career-path jobs<br>(Entry-level skilled jobs) |
| Manufacturing              | Assembler                                      | vs. Set-Up Operator  |
| Health Care                | Certified Nurse’s Assistant<br>(CNA)           | vs. Medical Technician (e.g.,<br>Phlebotomist)                   |
| Banking/Financial Services | Lock-Box or Back-Office Clerk                  | vs. Bank Teller<br>Customer Service Rep.                         |
| Information Systems        | Data Entry Clerk                               | vs. Programmer<br>Help Desk Technician<br>Network Technician     |
| Telecommunications         | Operator                                       | vs. Network Technician   |

It is notable that virtually all of the entry-level skilled positions listed in the right hand column of Table 3 are in short supply in many parts of the country. Despite the strong demand for these jobs, employers are having trouble finding applicants qualified to fill the many openings for them. In information technology, employers are even "importing" skilled workers from other countries, even as many Americans are unemployed or under-employed.

Given the current course of economic and technological change in these and other industry sectors, the gap between low-wage and livable-wage jobs seems likely to increase over time.

The livable-wage jobs will increasingly involve the use of computers and require strong basic skills as well as the ability to learn continually as technology and business practices change. In many industries, low-skill, low-wage jobs will disappear as they are moved offshore to lower-wage labor markets, or, even more likely, are replaced by automation. In other sectors, low-skill jobs will remain, and in some cases increase, but the prospects of earning enough to support a family on the meager wages these jobs afford will become ever more remote. The growing gap between low-wage and livable-wage jobs will continue to exacerbate income inequality in the U.S.

#### Tech Prep “Bridge” Programs

Across the U.S., a handful of well-known programs, and a growing number of fledgling efforts have been established to bridge the gap between low-wage and livable-wage employment. Profiles of a sample of such “bridge programs” are included in the appendix. While they may not use the term “bridge,” all of these programs share a similar goal: to help educationally and economically disadvantaged individuals secure entry-level jobs that pay a livable wage and provide opportunities for advancement.<sup>9</sup> In Figure 1, they are represented by the “Tech Prep Bridge” programs that enable individuals working in low-wage semi-skilled jobs to move to livable-wage, entry-level skilled jobs.

The “product” bridge programs seek to produce is a job applicant with the basic qualifications for entry-level skilled positions: employable, trainable and technically literate. To achieve this, bridge programs offer intensive training in applied basic skills and technical fundamentals, and extensive assessment, counseling, case management and follow-up support, all in an environment that seeks to expose program participants to the culture and learning demands of the workplace.

While bridge programs are designed to serve the disadvantaged, their clients are typically not the most disadvantaged or “hardest-to-employ.” Most programs require participants to have some work experience and basic skills — typically at least an eighth grade level in mathematics and reading. Some require a high school diploma or GED, but others have been successful with clients who are not high school graduates. Bridge programs are intensive, so that those who lack motivation are not likely to succeed in them. Bridge programs are also generally not appropriate for those who have little or no work experience or very limited basic skills. These individuals are better-suited for the “Pre-Employment Programs,” — the first “rung” of the ladder shown in Figure 1 — which seek to help participants find steady employment in any job, regardless of the pay and prospects for advancement.<sup>10</sup>

Some of the better known, longer-running bridge initiatives, such as Project QUEST in San Antonio, CET in San Jose and Project Focus: Hope in Detroit, have been evaluated with varying degrees of rigor.<sup>11</sup> Based on this research and our own efforts to build bridge programs in Chicago and Detroit, we offer the following four characteristics of effective bridge programs.<sup>12</sup>

“ *Effective bridge programs are demand-driven, with strong connections to employers offering livable-wage jobs.*

It should go without saying that the hallmark of effective bridge programs is that they enable participants to secure livable-wage jobs. The connection to jobs comes through strong relationships with employers. Ideally, employers are involved in all aspects of bridge program development, from design, to implementation, to on-going evaluation and feedback. Employers define the standards for bridge training, give feedback on curricula, help identify instructors with industry experience, donate equipment and offer paid internships to bridge students and full-time jobs to bridge graduates. The most effective programs seek to build long-term relationships with employers with the aim of learning about their changing labor force needs and being prepared to serve those needs as they arise. One strategy that is especially effective in keeping employer ties strong is to provide customized training for incumbent employees of partner companies in addition to training of prospective hires. Many employers that are adopting new technologies and management practices will find that their current employees need bridge training.

“ *Bridge training should provide the foundation for career-long learning.*

The increasing pace of technological change means that the ability to learn as technology and business practices change has become essential for decent pay, job security and advancement in just about any field. Bridge programs that are effective in strengthening participants’ ability to learn emphasize “applied learning” or “learning by doing.” Instruction is organized around problems and situations that resemble those encountered in the workplace in order to expose participants to the learning environment and demands of the workplace. Participants learn to approach these situations as they would tasks in the workplace—often working in groups or teams, making use of tools and reference materials, and with a defined product or outcome in mind. This makes learning interesting, motivates participants to learn and shows them that they can learn. For those who have been poorly served by the schools, or for immigrants who must overcome barriers of language and poor schooling, this approach engenders the confidence and self-esteem that are critical to success both in securing a good job and pursuing further learning.

Effective programs stress the fundamentals of applied mathematics, principles of science and technology, workplace communication and problem solving. Instruction in these fundamentals is integrated into the teaching of technical topics whenever possible. Curricula are defined in terms of competencies, with clear standards of what students should be able to do to demonstrate mastery. Mastery of particular competencies is more important than subject matter. Bridge programs also seek to familiarize students with the basic principles of how businesses operate, and prepare them for the culture and expectations of the workplace. They do this using classroom simulations and field trips, job shadowing, internships and other “structured work experiences” in actual workplaces.

It should be emphasized that bridge instruction, although driven by the needs of employers, is not narrow, job-specific training. As discussed earlier, what distinguishes low-wage jobs from livable-wage jobs is precisely the greater problem-solving, decision-making and learning abilities required by the livable-wage positions. Bridge programs are designed to enable

students to build a broad foundation for learning throughout their careers. In manufacturing-oriented bridge programs, for example, the curriculum invariably stresses basic skills such as shop mathematics, applied physics, workplace communications and problem solving in addition to machining, welding or other specific technical skills. It is left to further training, both on-the-job and in formal post-secondary technical education, to provide instruction in more industry- and company-specific skills.<sup>13</sup>

The role of the instructor in such a learning environment is more as coach than as purveyor of knowledge and skills. This creates a teacher - learner relationship that resembles that between supervisor or team leader and team member in the workplace. Moreover, it respects and capitalizes on the extensive knowledge and experience that adult learners bring to the learning situation. Bridge programs often rely on instructors with industry experience, although adult educators can be effective teachers as well. Either way, bridge programs need to devote considerable resources to training instructors to teach in a way characteristic of effective bridge program pedagogy. As with any education program, the quality of the instructors is key to the success of bridge programs. This is especially so given that most bridge students are likely never to have experienced good teaching.

*.. Effective programs offer participants extensive case management and support over an extended period of time, in addition to training*

Effective training in technical foundation skills is an essential part of preparing low-skilled individuals for livable-wage jobs; but training by itself is not sufficient. Just as necessary to the success of bridge programs is extensive case management and support for program participants. Support services are needed to help bridge program participants overcome the barriers they face to employment in skilled jobs. These include needs assessment, counseling, and assistance with child care, transportation, drug treatment and other health services. The most effective bridge programs provide follow-up support and encouragement to program graduates even after they complete training and have been placed in a job, to ensure that they not only stay on the job but advance up the job ladder.

*.. Effective programs have strong ties to the local community.*

Strong community connections are essential for recruiting bridge program participants and for providing the wide range of necessary support services. Community-based organizations ((CBOs) are often more effective in recruitment and case management of disadvantaged individuals than are community colleges or other training providers. CBOs provide a comfortable “home base” for bridge program participants. They are also accustomed to referring clients to other organizations and agencies for services they themselves do not offer.

In many parts of the country, CBOs are the primary provider of pre-employment programs, which seek to help the hard-to-employ secure stable employment. One strategy for recruiting participants of bridge programs is to draw from the “graduates” of pre-employment programs, especially those that provide post-job placement case management and tracking to their participants. Adult literacy programs are another possible "supplier" of

bridge program candidates, particularly those that teach reading, communication and math with a vocational emphasis.

“ Effective programs are built on “community-business partnerships.”

Few organizations can offer the full range of training and support services needed to make bridge programs work. As a result, most bridge programs operate as partnerships among different organizations. Because of their strong ties to employers and jobs, on the one hand, and to the community, on the other hand, effective bridge programs are built on “community-business partnerships. Table 4 outlines the roles of the typical members of bridge program partnerships.

Table 4: Bridge Program Partner Roles

| Partner                       | Roles  |
|-------------------------------|--|
| Employers                     | <ul style="list-style-type: none"> <li>▪ Program review</li> <li>▪ Hosting of field trips</li> <li>▪ Paid internships for qualified students</li> <li>▪ Student practicum examinations</li> <li>▪ Jobs for graduates</li> </ul>  |
| Community colleges            | <ul style="list-style-type: none"> <li>▪ Curriculum development</li> <li>▪ Instruction</li> <li>▪ Job placement assistance</li> <li>▪ Recruitment into college-level technical training</li> <li>▪ Instructor training</li> </ul>  |
| Community-based organizations | <ul style="list-style-type: none"> <li>▪ Student recruitment and screening</li> <li>▪ Assessment and counseling</li> <li>▪ Case management</li> <li>▪ Referral to social services</li> <li>▪ Community sites for instruction</li> <li>▪ Job and college placement assistance</li> <li>▪ Follow-up support for retention and advancement</li> </ul> |
| Universities                  | <ul style="list-style-type: none"> <li>▪ Labor market analysis</li> <li>▪ Curriculum development</li> <li>▪ Learning tools development</li> <li>▪ Program evaluation</li> <li>▪ Program planning and coordination (intermediary)</li> </ul>  |
| Industry Associations         | <ul style="list-style-type: none"> <li>▪ Employer referrals</li> <li>▪ Program planning and coordination (intermediary)</li> <li>▪ Program marketing and promotion</li> </ul>  |

Intermediary organizations are often needed to organize and coordinate the activities of the various partners in bridge programs.<sup>14</sup> Employers rarely band together on their own accord to address common labor problems, so an intermediary is sometimes needed to foster cooperation among employers and work with them to identify and articulate their needs to service providers. For their part, service providers are also often reluctant to cooperate with one another, so an intermediary can help to build cooperation among them and broker the services of providers to meet the needs defined by employers. Thus, the intermediary works with businesses to identify where the employment opportunities are and where “bridges”

need to be built to create pathways for community residents to the jobs in demand. The key to the intermediary's success is to create partnerships that meet the needs both of community residents for jobs with a future and of employers for qualified, motivated employees.

Different organizations can serve as intermediaries between employers and job seekers. In the Cincinnati Manufacturing Pre-Employment Program described in the appendix, the role is played by IAMS, a local industry association. In San Antonio's Project QUEST, a group of community-based organizations came together to form an intermediary. In a few cases universities have taken on the intermediary role, drawing on their extensive resources for labor market research, educational program design and policy analysis. In Chicago, the University of Illinois at Chicago's Great Cities Institute has helped to build the partnership that underpins the Chicago Manufacturing Technology Bridge program. The Center on Wisconsin Strategy at the University of Wisconsin-Madison is working with employers and local community development groups to establish "community career ladders" in targeted occupations and industry sectors for residents of Dane County, Wisconsin.<sup>15</sup>

### Gaps in Policy and Practice

The bridge programs profiled in the appendix are generally small in scale, producing in most cases fewer than 100 graduates each year. Most are meagerly funded. Many were started with limited-term, "demonstration project" grants from foundations or government programs. Some draw for operating support on federal and state funds for employment and training of unemployed or economically-disadvantaged and displaced adults. In a few cases — for example the Cincinnati Manufacturing Pre-Employment Program — efforts have been made to supplement funding from government and philanthropic sources with fees from employers. Generating fees from employers has a number of advantages, not the least of which is that it helps to ensure that a program meets the needs of employers. Still, to the extent that they serve the more disadvantaged, bridge programs are unlikely to sustain themselves on income from employers alone, and will generally require at least some public funding.<sup>16</sup>

Here, as in other areas, workforce development policy and practice are out of sync with labor market needs. Two trends in particular threaten to keep bridge program funding tenuous and the impact of bridge programs marginal, despite the need for such programs among the working poor and employers. First, publicly-funded employment and training programs for the poor increasingly emphasize "work first" — placement in any job as soon as possible — rather than advancement over time to jobs that would pay a livable wage. Second, publicly supported education programs for adults are too often insufficiently oriented toward employment and not responsive enough to the needs of employers and students seeking career-path jobs. These "gaps" in workforce development policy and practice are discussed in more detail below.

***"Work first"-focused employment and training programs fail to provide link to livable- wage jobs.*** The 1998 Workforce Investment Act changes the old Job Training Partnership Act (JTPA) system by making One-Stop Career Centers the main mechanism for the delivery of employment and training services, and by opening up the services of the federally-funded employment programs to all, not just the disadvantaged.<sup>17</sup> The new act also

promotes “customer choice” by providing One-Stop clients with vouchers that they can use to buy training services from providers of their choice. At the same time, following the “work first” philosophy of welfare reform, the new law gives immediate job placement priority over training. Indeed, One-Stop clients are not eligible for training unless they fail to find work after receiving a series of job placement services. Under the new law, then, training will be available primarily to the very hard-to-employ. As indicated earlier, bridge programs are designed for those who are at least employable, but lack the “learning skills” and technical fundamentals required to secure livable-wage employment. So, under the new Workforce Investment Act, bridge programs will be unable to serve many if not most One-Stop clients with vouchers for training.

Even where One-Stop clients with vouchers can meet the entrance requirements for bridge programs,<sup>18</sup> the amount of the voucher may not be sufficient to cover bridge services. At least as they are conceived in the law, One-Stop vouchers are for training and do not usually cover the cost of case management and support services, which are essential to bridge program success and add substantially to program cost.<sup>19</sup> These services are supposed to be provided by the One-Stops, but in practice the One-Stops are likely to be far less effective in providing the necessary support than can programs where the support services are integrated with training and job placement. Vouchers do not cover the cost of follow-up support, which is essential to ensuring job retention and further advancement of bridge program graduates.

Within the general framework it establishes, the new law gives states and localities fairly wide discretion over how to implement employment and training programs. The workforce boards in many states and localities have recognized the need of both job-seekers and employers for programs aimed at supporting progress toward career-path employment rather than simply immediate placement in any job. Still, the heavy emphasis on work first, which infuses the federal law and has influenced workforce policy in many states, may limit support for bridge programs.

***Missing connection between education for adults and employment.*** The amount of public funding for employment and training of adults, such as that authorized by the Workforce Investment Act, pales in comparison to the public funding for education of adults — primarily from states and localities — that flows to established educational institutions, particularly community colleges. For example, the City of Chicago currently receives less than \$35 million a year in funding under the Job Training Partnership Act (which the Workforce Investment Act will replace). The annual operating budget of the City Colleges of Chicago, the city’s two-year college system is more than \$240 million.

In the face of declining funds for employment and training of economically-disadvantaged or displaced adults, some bridge programs have converted to college-credit programs. This allows them to tap into student financial aid and other sources by which college-credit programs are funded. There are a number of drawbacks to this approach, however. For one, the entrance requirements of college-credit programs are often too high for many of the individuals that bridge programs are designed to serve. The requirements for advanced certificate or associate degree programs in technical fields tend to be the same as those for entry-level skilled jobs: good work ethic, strong applied basic skills, and basic technical skills.

So, because they lack these basic qualifications, individuals for whom bridge programs would be appropriate cannot get into college-level programs where they could qualify for financial aid.

At the same time, neither pre-college remedial programs, which are offered by virtually all community colleges, nor adult literacy programs, which are also widespread, provide adequate preparation for post-secondary technical education or for employment as a technician in industry. Both adult literacy and college remedial programs tend to focus on literacy and math to the exclusion of the fundamentals of applied science and technology that are essential to the “technical literacy” needed to succeed in post-secondary technical education and employment as a skilled technician. They also tend to construe “literacy” rather narrowly to mean reading, not the many forms of communication used in the modern workplace.

College remedial programs typically are designed to help students improve academic skills in English and math, rather than to communicate effectively and use mathematics to solve practical problems — the sort of skills needed in the workplace. As a result, remedial programs do not provide sufficient preparation for either post-secondary technical education or for entry-level skilled employment, even though the need is great.<sup>20</sup> Some bridge programs have the dual aim of preparing participants for both entry-level employment as technicians and post-secondary technical education. Given that post-secondary technical education has become essential for moving up the “ladder of learning and earning” illustrated in Figure 1, this should be an explicit goal of bridge initiatives.

Adult literacy programs traditionally have not prepared students for employment or for post-secondary education. Rather, these programs have seen their mission as helping adult students to become more literate, usually measured in grade level terms, and to earn a high school equivalency degree. More recently, spurred by research showing that adults learn basic skills more effectively when they are taught in the context of training for employment, some more innovative adult literacy programs have sought to integrate the teaching of basic skills with instruction in vocational skills.<sup>21</sup> Instead of adult basic education (ABE) and English as a second language (ESL), these programs teach vocational adult basic education (VABE) and vocational English as a second language (VESL). This change has been encouraged by a mandate for such integration from federal adult literacy programs. Still, the integration of basic skills with vocational instruction is not widespread, and the focus of adult literacy programs is still largely confined to reading and basic mathematics.

Most education programs for adults, whether college credit, college remedial or adult literacy, lack the characteristics that make bridge programs effective, especially when it comes to methods of instruction. Even at community colleges, which among educational institutions serve the largest number of adults, it is rare to find education programs that are organized around standards of competence rather than “seat time,” where instruction takes place primarily through coaching and learning by doing rather than through lecture and recitation, and where teaching of the fundamentals is integrated across the disciplines. Yet, these are all characteristics of effective bridge program pedagogy outlined earlier. Rarer still are “cooperative education programs” in which students combine learning in the classroom with structured learning in the workplace.<sup>22</sup> Finding creative ways to combine education and

work is imperative for bridge program students, first because they need to work in order to make ends meet, and second because they need training to escape from the trap of low-wage, dead-end work and move to better jobs.

Yet most education programs for adults, like those for children and youth, operate on a model in which education is disconnected from employment. They tend to be designed to meet standards dictated by educators rather than employers. Moreover, their aim is to produce credentials, even though employers are generally more interested in competence. In addition, education programs are often offered in a lock-step serial sequence in which learning and working are separate and employment follows education. In the job/training ladder illustrated in Figure 1, learning and working are intertwined, with as much learning occurring on-the-job as in the classroom. This disconnect between education and employment is a problem for policy as well as practice, since, as suggested earlier, the lion's share of public funds that could be used to prepare educationally-disadvantaged adults for livable-wage employment go to education designed on the traditional academic model rather to training that builds the foundation for career-long learning.

One clear implication of the two major policy "gaps" described above is that there is a significant gap in funding for programs that provide a bridge between low-wage and livable-wage employment. Publicly-financed employment and training programs (such as those funded under JTPA and the new Workforce Investment Act) are designed primarily to help the unemployed get a job. While services are available to working adults with sufficiently low income, the thrust of the services available is still focused on strengthening attachment to jobs, rather than advancement up the job ladder. College-level occupational programs, which offer financial aid to those in need, are out of reach for the many working adults who cannot meet the entrance requirements. And adult literacy programs, which are more affordable to those with few means, generally fail to provide a link to employment or further education and training. Thus, the working poor are trapped without a ready and affordable means to enable them to move to positions that pay wages sufficient to support their families.

### Bridging the Gaps in Practice and Policy

At least three things need to be done to bridge the gaps outlined above.

First, workforce development policy makers need to move beyond their current obsession with welfare-to-work and the work first strategy and embrace the goal of enabling the working poor to secure jobs that pay a livable wage and offer opportunities for advancement. A growing number of states and localities are realizing that work first alone will not help families move out of poverty. For "welfare-to-work" to become "welfare-to-self-sufficiency," resources need to be invested in helping create bridges from low-wage to livable-wage jobs.

Second, policy makers should recognize that most of the resources for programs that could enable the working poor to advance from low-wage to livable-wage employment are present in public post-secondary education systems, and especially community colleges. The problem is that these resources are generally not *allocated* in ways that would support bridge efforts. Too many publicly funded educational programs for adults, including many

community college programs, are disconnected from employment. Policy makers need to provide the incentives to education programs for adults to focus on employment outcomes for their students. At the very least, they should begin to collect data on the employment outcomes of such programs and require that this information be made available to the public. Florida and other states provide financial incentives to reward post-secondary occupational training programs that are successful in enabling students to achieve employment outcomes. The Florida policies are notable because they give added incentives to post-secondary occupational education programs that succeed in graduating and placing in well-paying jobs welfare recipients, displaced workers and other disadvantaged individuals (Fitzgerald 1998, Roberts and Padden 1998). Ideally, policy makers should encourage the development of articulated systems of educational programs designed not only to provide a bridge to livable-wage jobs but also to support on-going advancement up the career ladder.<sup>23</sup>

Third, both policy makers and program providers should take advantage of the labor shortages currently facing many industries as an opportunity not only to involve employers in the development of bridge programs but to encourage them to finance their share of such programs. Employers should be encouraged to create pathways for employees in low-wage, low-skill jobs to advance to better paying jobs as well as to support efforts to enable them to make this move. Such arrangements have benefits for both the employer and their employees. Providing a way out of low-wage, semi-skilled jobs is one strategy for improving retention among employees in such jobs. Recruiting from within has the advantage that the employer generally knows who are the most dedicated workers. The employee obviously benefits from the chance to move into a job that not only pays wages sufficient to support a family, but also, just as important, provides a start on a path of further learning and advancement.

## Appendix

### Bridge Program Profiles

|                           |  |
|---------------------------|--|
| <b>Program Title</b>      | Chicago Manufacturing Technology Bridge Program  |
| <b>Location</b>           | Chicago, IL  |
| <b>Current Status</b>     | Active since March 1997  |
| <b>Objectives</b>         | <ol style="list-style-type: none"> <li>1) Prepare residents of disadvantaged communities for career-path employment and post-secondary technical education in manufacturing</li> <li>2) Provide foundation for career-long learning</li> <li>3) Help address the skilled worker shortage facing Chicago-area manufacturers.</li> </ol>   |
| <b>Target Population</b>  | <ul style="list-style-type: none"> <li>▪ 8<sup>th</sup> grade math and reading on TABE (or intermediate ESL)</li> <li>▪ Some work history</li> <li>▪ Demonstrated motivation</li> <li>▪ Empowerment Zone resident, low-income or unemployed</li> </ul> <p>(A “Pre-Bridge” program is offered for those not meeting these educational qualifications to ready them for the Bridge program.)</p> |
| <b>Providers/Partners</b> | <ul style="list-style-type: none"> <li>▪ Instituto del Progreso Latino</li> <li>▪ Richard J. Daley Community College</li> <li>▪ University of Illinois at Chicago Great Cities Institute</li> <li>▪ Illinois Institute of Technology</li> <li>▪ Chicago Manufacturing Center</li> <li>▪ Mayor's Office of Workforce Development</li> </ul>   |
| <b>Program Design</b>     | Intensive training program (16 weeks, 6 hours a day, Mon-Fri.) with counseling, case management, job placement assistance and follow-up  |
| <b>Curriculum</b>         | <ul style="list-style-type: none"> <li>▪ Workplace Mathematics</li> <li>▪ Principles of Technology</li> <li>▪ Basic Machining</li> <li>▪ Industrial Computer Applications</li> <li>▪ Blueprint Reading</li> <li>▪ Metrology</li> <li>▪ Careers in Manufacturing</li> <li>▪ Employment Skills</li> </ul>  |
| <b>Key Features</b>       | <ul style="list-style-type: none"> <li>▪ Intensive 16-week instruction in technical fundamentals and employment skills</li> <li>▪ Case management, job placement assistance, and counseling</li> <li>▪ Advanced placement in community college certificate/degree programs in Manufacturing Technology.</li> </ul>   |
| <b>Results</b>            | <ul style="list-style-type: none"> <li>▪ 125 graduates since March 1997</li> <li>▪ &gt; 85% placed at average starting wage of \$9.56 per hour</li> <li>▪ Retention study in progress</li> <li>▪ &gt; 30% enrolled in community college certificate/degree programs</li> </ul>   |
| <b>Program Costs</b>      | Cost per student: \$4,100 (assumes at least 120 enrollments per year), includes tuition, support services, and administrative costs.   |
| <b>Funding Sources</b>    | <p>Operational Funding:<br/>Chicago Empowerment, Illinois Department of Commerce and Community Affairs, Illinois Employment and Training Centers (One-Stops)</p> <p>Technical Assistance Funding:<br/>NIST Manufacturing Extension Partnership, John D. and Catherine T. MacArthur Foundation, National Science Foundation</p>   |
| <b>Key Contacts</b>       | <p>Davis Jenkins, UIC Great Cities Institute (312)996-8059<br/>Tom DuBois, Instituto del Progreso Latino (773)890-0055<br/>Prem Sud, Daley College (773)838-0300</p>   |

## Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | IAMS Manufacturing Pre-Employment Training Program  |
| <b>Location</b>           | Cincinnati, OH  |
| <b>Current Status</b>     | Active  |
| <b>Objectives</b>         | To facilitate a bridge for Cincinnati-area residents to career-track manufacturing positions.   |
| <b>Target Population</b>  | Open to all, but displaced and underemployed workers are targeted. Applicants must be 17 or older with a high school diploma or equivalent. Applicants must also demonstrate a 9 <sup>th</sup> grade level of math and reading, pass a mechanical aptitude test, drug test, and have no felony convictions.   |
| <b>Providers/Partners</b> | Institute of Advanced Manufacturing Sciences, Inc.<br>Local manufacturing companies, churches and faith-based organizations.<br>Partner organizations such as City of Cincinnati Employment and Training, Queen City Vocational Center, The Urban League of Greater Cincinnati, and the Career Resource Network (area One-Stop Center)  |
| <b>Program Design</b>     | 6-week program, 4 hours nightly, Monday through Friday.<br>The program is an intensive introduction to the fundamental skills required for a career in manufacturing.   |
| <b>Curriculum</b>         | Classes include: <ul style="list-style-type: none"> <li>• Job Seeking Skills</li> <li>• Job Survival Skills</li> <li>• Teamwork</li> <li>• Health and Wellness</li> <li>• Math</li> <li>• Safety</li> <li>• Quality</li> <li>• Introduction to Manufacturing</li> <li>• Metrology</li> <li>• Geometric Tolerancing</li> <li>• Plant Tours.</li> <li>• Blueprint Reading</li> <li>• SPC</li> </ul>   |
| <b>Key Features</b>       | Program is governed by a consortium of employers, which set standards for the program. Employers pay a \$1,500 annual membership fee and \$1,200 for each graduate they hire. Employers provide instructors for technical training, and their plants are used as training locations. Students also get the opportunity to visit at least four member plants on a rotating basis. The program has designed recruitment tools such as brochures, business cards, posters, and a videotape describing opportunities in manufacturing. "Partner" community-based organizations assist in recruitment and case management. |
| <b>Results</b>            | As of 12/1/98, 125 graduates, 92 graduates employed in Consortium, with 6 hired outside the Consortium, and 1 remained with current employer; 26 graduates are not accounted for. Employed graduates received starting salaries between \$8.50 and \$11. The program anticipates 160-200 graduates for the year 1998.   |
| <b>Program Costs</b>      | A Consortium of 15 sponsoring employers provides the tuition and fees that support operation of the Consortium, promotion and recruiting of students and delivery, evaluation, and continuous improvement of training.  |
| <b>Funding Sources</b>    | 1997 Ohio STW Partnership Grant of \$28,000 helped support pilot. 1998 STW Expansion Grant of \$100,000 award to expand recruiting in target populations: graduating high school seniors, high school non-completers and at-risk youth.<br>Employers pay a \$1,500 annual membership fee and \$1,200 for each graduate they hire. Applicants each pay a \$100 fee for drug screening and entrance testing, though financial assistance is available. The goal of the program is to ultimately become self-funding.  |
| <b>Key Contacts</b>       | Susan Moehring, Program Development Manager, Institute of Advanced Manufacturing Sciences, Inc. (513)948-2069 e-mail:moehring@iams.org  |

Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Labor Force Access Development Initiative   |
| <b>Location</b>           | Seattle, WA   |
| <b>Current Status</b>     | Active  |
| <b>Objectives</b>         | <ul style="list-style-type: none"> <li>▪ Address a shortage of trained workers in Washington’s aerospace industry</li> <li>▪ Create career pathways for entry-level workers in the aerospace industry</li> <li>▪ Train low-skilled and economically-disadvantaged residents of Seattle for aerospace manufacturing careers.</li> </ul>  |
| <b>Target Population</b>  | Economically disadvantaged residents of Seattle and the Puget Sound region<br>The program serves about 200 welfare recipients each year. About 90 students total are enrolled each quarter, including 45-55 welfare recipients. Remaining students are a mix of other low-income people and dislocated workers. Most enter the program without a high-school diploma or GED.  |
| <b>Providers/Partners</b> | Shoreline Community College<br>Washington Aerospace Alliance  |
| <b>Program Design</b>     | <p>The program offers both entry-level and advanced training for Computerized Numerical Control Machine Operators (CNC).</p> <p>Entry-level program: 11 weeks, 30 hrs./week (300 hours)<br/>The entry-level training was adapted from an existing, year-long (900 hour) course. This short-term, entry-level training has been in place since 1997. All students begin with 11 weeks of classroom training, and those who are not immediately hired when they complete training go on to an industry internship. The short course ends in a certificate of completion. Students meet for 30 hours per week for about 11 weeks. The optional internship is ten weeks, 40 hours/week.</p> <p>The advanced training is in the planning stages. It will be geared more for current workers who want to advance their skills. The program will end with an associate degree in Machining Technology.</p> |
| <b>Curriculum</b>         | <p>Classroom training covers:</p> <ul style="list-style-type: none"> <li>▪ blueprint reading</li> <li>▪ measuring and inspection</li> <li>▪ teamwork</li> <li>▪ geometric tolerancing,</li> <li>▪ safety</li> <li>▪ cutting tool theory</li> <li>▪ set up and operation of CNC machining/turning centers</li> </ul>   |
| <b>Key Features</b>       | To enter the program, students must have math skills at about the 9 <sup>th</sup> grade level and English oral and written skills at about the 8 <sup>th</sup> grade level. The program also offers some pre-classes in a self-paced learning lab, tutors who help students in the machine operator class, and vocational ESL integrated into the machine operator class. Case management services are provided to students by several community-based organizations.   |
| <b>Results</b>            | The program began Spring 1997. They have graduated 150 participants, placing them all in jobs by December 1997. Program graduates average an hourly wage of \$11.67.  |
| <b>Funding Sources</b>    | Funding for tuition is provided by the state’s welfare reform program, by the Seattle JOBS initiative, and in the case of incumbent workers, by aerospace companies. The program’s annual budget is about \$200,000 with about half of that spent to serve welfare recipients.  |
| <b>Key Contacts</b>       | C.J. Renouard, Director, Self-Sufficiency Project, Shoreline Community College (206)546-4695<br>Ken Rouse, CNC Program Director, (206)546-4570  |

## Bridge Program Profiles

|                           |  |
|---------------------------|--|
| <b>Program Title</b>      | Machinist Training Center  |
| <b>Location</b>           | Warren, MI (Detroit area)  |
| <b>Current Status</b>     | Active   |
| <b>Objectives</b>         | Train unemployed individuals for careers in machinist trade  |
| <b>Target Population</b>  | Macomb and St. Clair County residents only   |
| <b>Providers/Partners</b> | Macomb Community College<br>Macomb/St. Clair Workforce Development Board<br>Michigan Works   |
| <b>Program Design</b>     | 16-week program in Machining Skills, a program incorporating the basic requirements for the majority of skilled positions in the metalworking fields.  |
| <b>Curriculum</b>         | Topics include: <ul style="list-style-type: none"><li>▪ job planning and management</li><li>▪ manual operations (benchwork and layout)</li><li>▪ career management</li><li>▪ power saw operations, milling operations,</li><li>▪ quality control</li><li>▪ surface grinding operations</li><li>▪ general lab maintenance</li><li>▪ drill press operations</li><li>▪ employee relations</li><li>▪ turning operations inspection</li><li>▪ environmental protection</li><li>▪ CAD-CAM</li><li>▪ Blueprint reading</li><li>▪ industrial safety</li><li>▪ shop math</li><li>▪ process adjustment</li></ul> |
| <b>Key Features</b>       | Free tuition to qualified applicants, up to six college credits from Macomb CC, free toolbox and tools.  |
| <b>Results</b>            | 93% placement rate with average starting salaries of \$9-\$12/hr   |
| <b>Program Costs</b>      | Approximately \$4,000 per participant  |
| <b>Funding Sources</b>    | JTPA   |
| <b>Key Contacts</b>       | Mike Moprinc or Ed Stanton, (810)774-1870  |

Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Steptronics   |
| <b>Location</b>           | Portland, OR  |
| <b>Current Status</b>     | Active  |
| <b>Objectives</b>         | To provide welfare recipients the training and support to help them leave public assistance and become self-sufficient.   |
| <b>Target Population</b>  | Welfare recipients in the Portland area   |
| <b>Providers/Partners</b> | Mt. Hood Community College and the local welfare district   |
| <b>Program Design</b>     | 6-weeks, 40 hours/week (240 hours)<br>Steptronics is an electronics manufacturing training program designed to bridge the gap between recipients' skills and those required to enter employer training in Portland's booming electronics and semiconductor manufacturing industry. The program is one component of a larger Steps to Success Program that provides classes and services at whatever level is needed by the welfare recipients. The Steptronics program requires participants to have a high school diploma or equivalent and to meet minimum math and reading skills. Steps to Success will tutor interested recipients to help them pass the entry test. It is a |
| <b>Curriculum</b>         | Topics include:<br>workplace communication<br>statistical process control<br>industrial mathematics<br>introduction to electronics and semiconductor manufacturing<br>keyboarding<br>technical career preparation   |
| <b>Results</b>            | The overall Steps to Success program serves about 5000 welfare recipients each year.  |
| <b>Program Costs</b>      | The 1997-98 budget for the overall STS program was \$6.7 million (exclusive of funding for support services).   |
| <b>Key Contacts</b>       | Kim Freeman, (503)256-0432 ext 202<br>Pamela Murry, (503)256-0432 ext.206   |

## Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Transformations   |
| <b>Location</b>           | Laconia, NH   |
| <b>Current Status</b>     | Active  |
| <b>Objectives</b>         | <ul style="list-style-type: none"> <li>▪ Employ ex-offenders</li> <li>▪ Retrain displaced workers</li> <li>▪ Reduce recidivism</li> <li>▪ Provide future choices for education and employment</li> <li>▪ Improve earnings</li> <li>▪ Lower costs of the criminal justice system</li> <li>▪ Enhance the economy</li> <li>▪ Promote citizenship</li> </ul>                    |
| <b>Target Population</b>  | Young, first-time, non-violent offenders, average age 26, that have completed any drug/alcohol/behavior rehabilitation.   |
| <b>Providers/Partners</b> | <p>New Hampshire Community Technical College- Laconia (Department of Regional Community Technical Colleges)</p> <p>New Hampshire Department of Corrections</p> <p>New Hampshire Department of Employment Security</p>   |
| <b>Program Design</b>     | <p>16-week training sessions in technology:</p> <ul style="list-style-type: none"> <li>▪ personal computer with an option in business or PC technical</li> <li>▪ industrial technology with an option in maintenance or machinist</li> </ul>  |
| <b>Key Features</b>       | <p>Inmates must have an 8<sup>th</sup> grade reading and math level and approved by Corrections. Students earn 30 college credits and a Transformations Certificate.</p> <p>Counseling in employment skills, living skills, and career planning are incorporated into the program.</p> <p>Includes a learning lab for students needing remedial work before acceptance.</p> |
| <b>Results</b>            | <ul style="list-style-type: none"> <li>▪ By December 1997, 12 cycles completed with 245 graduates</li> <li>▪ 90% plan further education</li> <li>▪ Earnings \$2-\$8 higher than minimum wage</li> <li>▪ Less than 12% recidivism for graduates</li> </ul>   |
| <b>Program Costs</b>      |   |
| <b>Funding Sources</b>    | Began with a grant from the Federal Department of Corrections Education   |
| <b>Key Contacts</b>       | Bonnie Lockwood, Program Director, New Hampshire Community Technical College, (603)524-3207   |

Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Bank Tellers and Beyond   |
| <b>Location</b>           | Chicago, IL   |
| <b>Current Status</b>     | Active  |
| <b>Objectives</b>         | To train welfare recipients for entry-level bank teller jobs  |
| <b>Target Population</b>  | Welfare-to-work recipients, though open to all  |
| <b>Providers/Partners</b> | Wilbur Wright Community College<br>Chicago banking institutions   |
| <b>Program Design</b>     | 13-week program<br>Topics include teller training, work environment protocols, and general life skills issues. Each session is limited to 25 students, and fewer than one in four applicants to the program are accepted. Participants must have a high school diploma or its equivalent, pass reading and math competency tests, and an interview test with bank executives. |
| <b>Results</b>            | 95% graduates get bank jobs with starting salaries between \$8-\$9.75/hr.   |
| <b>Program Costs</b>      | \$1,500 per participant, covered by training vouchers   |
| <b>Funding Sources</b>    | JTPA training vouchers through One-Stop Centers   |
| <b>Key Contacts</b>       | Nancy Bellew, Workforce Development Consultant, Wright College,<br>(773)481-8844  |

## Bridge Program Profiles

|                           |  |
|---------------------------|--|
| <b>Program Title</b>      | Finance and Insurance Partnership  |
| <b>Location</b>           | Dane County, Madison WI  |
| <b>Current Status</b>     | running a class of 15 students, another fifteen to start at beginning of year  |
| <b>Objectives</b>         | Develop quality jobs and a quality workforce in finance and insurance industry   |
| <b>Target Population</b>  | <ul style="list-style-type: none"><li>▪ W2 sponsored jobs</li><li>▪ Low skilled entry level workers incumbent workers at max of job because lack skills to move into other positions.</li></ul>  |
| <b>Providers/Partners</b> | <ul style="list-style-type: none"><li>▪ Madison Area Technical College</li><li>▪ Dane County Job Center</li><li>▪ Dane County Cooperative Education Services- Agency 2/School-to-Work Consortium</li><li>▪ Wisconsin DWD-Division of continuing Education and Work</li><li>▪ Employers and labor unions in insurance and finance</li></ul> |
| <b>Results</b>            | First class graduated in July, 1998 a second is scheduled to graduate fall 1998, and a new class will start first of the year.   |
| <b>Program Costs</b>      | \$3,000, all covered by the employer.  |
| <b>Funding Sources</b>    | Joyce Foundation, Dane County, City of Madison, Madison Area Technical College, Greater Madison Chamber of Commerce, UW Madison, United Way of Dane County,  |
| <b>Key Contacts</b>       | Laura Dresser, (608)262-6944 or Steve Stienhoff, (608)266-4270   |

Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Health Care Partnership   |
| <b>Location</b>           | Dane County, Madison WI   |
| <b>Current Status</b>     | running a class of 15 students, another fifteen to start at beginning of year   |
| <b>Objectives</b>         | <ul style="list-style-type: none"> <li>▪ Develop pathways from CNA to other jobs in health care industry</li> <li>▪ Identify and overcome occupational shortages</li> <li>▪ Develop training for “multi-skilled” health care worker</li> </ul>  |
| <b>Target Population</b>  | <ul style="list-style-type: none"> <li>▪ W2 sponsored jobs</li> <li>▪ Low skilled entry level workers incumbent workers at max of job because lack skills to move into other positions.</li> </ul>  |
| <b>Providers/Partners</b> | <ul style="list-style-type: none"> <li>▪ Madison Area Technical College</li> <li>▪ Dane County Job Center</li> <li>▪ Dane County Cooperative Education Services- Agency 2/School-to-Work Consortium</li> <li>▪ Area health care employers and labor unions</li> </ul>                                     |
| <b>Program Design</b>     | <ul style="list-style-type: none"> <li>▪ 48 hrs of classroom training at MATC</li> <li>▪ 48 hrs of technical training in clinic setting</li> <li>▪ Training done in 4 hr blocks of time and is part of regular work day</li> <li>▪ 10 or more hours of regular job duties</li> <li>▪ 6-7 weeks</li> </ul> |
| <b>Curriculum</b>         | CNA training, phlebotomy, medical records, and medical transcription.   |
| <b>Results</b>            | 15 gone through first class and all obtained better jobs in firm where they worked previously   |
| <b>Program Costs</b>      | \$3,000 all absorbed by employer.   |
| <b>Funding Sources</b>    | Joyce Foundation, Dane County, City of Madison, Madison Area Technical College, Greater Madison Chamber of Commerce, UW Madison, United Way of Dane County,   |
| <b>Key Contacts</b>       | Robin Richards, (608)262-5387 or Branden Born (608)265-8665   |

## Bridge Program Profiles

|                           |   |
|---------------------------|---|
| <b>Program Title</b>      | Programmer/Analyst Trainee Training Program   |
| <b>Location</b>           | Dane County, Madison WI   |
| <b>Current Status</b>     | first class of 13 started this year   |
| <b>Objectives</b>         | Enable participants to design, code, test and document basic computer programs  |
| <b>Target Population</b>  | <ul style="list-style-type: none"><li>▪ W2 sponsored jobs</li><li>▪ Low skilled entry level workers incumbent workers at max of job because lack skills to move into other positions.</li></ul>   |
| <b>Providers/Partners</b> | <ul style="list-style-type: none"><li>▪ Madison Area Technical College</li><li>▪ Dane County Job Center</li><li>▪ Industry employers</li></ul>  |
| <b>Program Design</b>     | Sixteen week, 20 hrs per week broken into three parts <ul style="list-style-type: none"><li>▪ Part 1: presentation and application of batch COBOL programming skills (1-8 weeks)</li><li>▪ Part 2: Introduction to Customer Information Control System online techniques (9-10 weeks)</li><li>▪ Part 3: Comprehensive project management and program implementation. (11-16 weeks). Attend lecture and lab four hours a day, five days a week for 16 weeks.</li></ul> |
| <b>Curriculum</b>         | Structured programming, advanced programming techniques, report preparation, Job control language, use of American National Standards COBOL.  |
| <b>Key Features</b>       | Those who successfully complete this training will earn 11 associate degree credits which may be applied toward completion of MATC's CIS programmer Analyst Associate Degree  |
| <b>Program Costs</b>      | \$2,000-\$3,000 per student to be charger to employer   |
| <b>Funding Sources</b>    | Joyce Foundation, Dane County, City of Madison, Madison Area Technical College, Greater Madison Chamber of Commerce, UW Madison, United Way of Dane County,   |
| <b>Key Contacts</b>       | Robin Richards (608)262-5387 or Branden Born (608)265-8665  |

Bridge Program Profiles

|                           |  |
|---------------------------|--|
| <b>Program Title</b>      | Advanced Technology Program  |
| <b>Location</b>           | Oakland Community College, MI  |
| <b>Current Status</b>     | Active. This year will train 75-100 people.  |
| <b>Objectives</b>         | Train welfare recipients in IT fields for placement in entry level technical jobs within corporate partner firms.  |
| <b>Target Population</b>  | Welfare recipients with high school diploma or GED, no felonies, pass drug screening.  |
| <b>Providers/Partners</b> | Corporate Partners: EDS, Kelly Services, Xerox Corp, Fanuc Robotics, Delco Group.  |
| <b>Program Design</b>     | Two tracks: Foundations in Computer Programming and Business Information Systems. In addition to computer coursework, supportive classes include Problem Solving, Conflict Resolution, Business Writing, Master Student (study skills), Stephen Covey's <i>7 Habits of Highly Effective People</i> , Franklin Planner and Power Point.   |
| <b>Curriculum</b>         | <ul style="list-style-type: none"> <li>▪ Business Information Systems</li> <li>▪ Keyboard skill building, computer literacy, communications, MS Word, Access, Excel, Powerpoint.</li> <li>▪ Foundations in Computer Programming</li> <li>▪ Keyboard skill building, computer literacy, communications, MS Word, Access, Excel, Powerpoint, introduction to COBOL programming, computer information systems literacy..</li> </ul> |
| <b>Key Features</b>       | 100 hour paid internship; a performance review is conducted on every student every four or five weeks; supportive services are integral to the success of the program (assistance with child care, transportation, etc.);  |
| <b>Results</b>            | 87 of 95 participants completed training (92% retention)<br>83 placed into full-time jobs (88% placement rate)<br>Salaries: \$18,000 - \$25,000 annually<br>85% Cash assistance cases closed   |
| <b>Program Costs</b>      | Free to welfare recipients who are working at least 20 hours per week,   |
| <b>Funding Sources</b>    | Started with \$100,000 grant from TANF training dollars. Recently received \$250,000 grant from TANF.  |
| <b>Key Contacts</b>       | Sharon Miller, Program Manager, Workforce Preparation Services<br>(248)340-6787  |

## Bridge Program Profiles

|                           |  |
|---------------------------|--|
| <b>Program Title</b>      | Resident Apprenticeship Demonstration Program of the America Works Partnership   |
| <b>Location</b>           | The program has been operating in 21 demonstration cities since 1995, including Buffalo, St. Louis, New Haven, and San Francisco.  |
| <b>Current Status</b>     |  |
| <b>Objectives</b>         | The program offers training tied to careers with living wages for residents of communities America Works serves.   |
| <b>Target Population</b>  | 30% of trainees are women, 85% are people of color, and all are low income   |
| <b>Providers/Partners</b> | America Works Partnership International Painters, Sheet Metal and Carpenters Unions  |
| <b>Program Design</b>     | The number of hours per week and the total length of the program vary from site to site, however typically training is 10-20 weeks, 20-40 hours per week. The program includes: <ul style="list-style-type: none"> <li>▪ Pre-apprenticeship and apprenticeship training for residents of low-income communities</li> <li>▪ Construction career opportunities in the public and private sector</li> <li>▪ Coordination of community and private development projects</li> <li>▪ Investment standards for community development projects that commit to the program's training-to-jobs model</li> <li>▪ Technical assistance to community-based partnerships</li> <li>▪ Creation of community-based affiliates to carry out these activities</li> <li>▪ Encouraging union to make pension funds available for community investments and residential mortgages</li> </ul> |
| <b>Curriculum</b>         | The training includes: <ul style="list-style-type: none"> <li>▪ life skills</li> <li>▪ basic skills instruction</li> <li>▪ preapprenticeship training in the construction trades</li> <li>▪ placement in an apprenticeship with local building trades unions</li> <li>▪ job placement</li> </ul>   |
| <b>Key Features</b>       | In some cities, community-based organizations assist in the remedial education. In others, the unions themselves perform all remediation services. Support services needs such as child care and transportation are provided. The partnerships try to identify in advance job opportunities that participants can move into at the end of the program, including persuading agencies, contractors, and unions to dedicate a certain number of construction jobs in a community to qualified residents. They also seek to establish access to loans and bonding collateral for small businesses and minority contractors.   |
| <b>Results</b>            | 485 residents have enrolled in the program since it began 11/96. 62 residents are still in training. 54% of those who enrolled have graduated to the apprenticeship level and 82% of graduates have been placed in jobs.   |
| <b>Funding Sources</b>    | Unique by an innovative mix of federal housing funds, local bank loans, state and local public works funds, and loans from union pension funds.  |
| <b>Key Contacts</b>       | Edward Gorman, President of the America Works Partnership, (202)639-8811   |

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## Notes

<sup>1</sup> Strawn (1998: 8) cites a study by Burtless (1995, 1997) that looked at 12 years of earnings for young women receiving welfare in 1979 and found that they experienced very little wage growth, moving from \$6.07 per hour to only \$6.72 per hour over that time. By contrast, the wages of women not receiving welfare at the start of the period rose substantially throughout their twenties and thirties, from \$6.07 at baseline to over \$10.00 per hour. Strawn (1998: 7) points to other research showing that only a handful welfare-to-work programs that have been evaluated rigorously (i.e., with control groups) are successful in helping welfare recipients find better jobs. Most programs increase the earnings of welfare recipients by helping them work more, not by enabling them advance over time to better-paying jobs.

<sup>2</sup> While there is no precise definition, a “livable-wage job” is generally considered to be one that pays wages above the poverty level, provides health care and other fringe benefits and—just as important—offers opportunities for advancement. In practical terms, this generally means a job that pays at least \$9.00 - \$12.00 per hour plus benefits, depending on how many dependents the job holder has to support. Wages at this level are also referred to as “family-supporting,” since they begin to provide the level of support needed to keep a family off welfare and economically self-sufficient.

<sup>3</sup> A corollary is that any effort to help the poor become economically self-sufficient must include technical skill training—albeit at the appropriate point. This is discussed in more detail under the section on “Tech Prep Bridge Programs.”

<sup>4</sup> Manufacturing is used as an example here in part because the gap between low-wage and livable-wage jobs, though wide by historical standards and by all indications increasing, is not as wide as in other industry sectors.

<sup>5</sup> Based on 1996 statistics from the American Society for Training and Development, Alexandria, Virginia. These figures, as well as other information on training, are available on ASTD's web site: <http://www.astd.org>.

<sup>6</sup> So, for example, whereas in the past a manager might have known the company janitor and been able to promote him based on good performance, now employers don't even know who their janitors are.

<sup>7</sup> For example, based on their 1997 telephone survey of the hiring managers in a random sample of manufacturing plants in Chicago, Jenkins and Theodore (1998) found that only 20% of plants that hired new workers in the past year indicated having trouble filling openings for semi-skilled production workers or laborers, while more than half indicated that they had problems filling openings for skilled trade and technical positions. Openings for skilled positions were unfilled for an average of 7 weeks. Applicants' lack of basic technical skills and inadequate work experience and habits were listed as the most common problems.

<sup>8</sup> Manufacturing is used here as an illustration in part because, for those with poor educational preparation, manufacturing jobs have the advantage in that they do not carry the credential and licensing requirements of entry-level skilled jobs in health care, business and other fields. While the basic qualifications for entry-level, livable-wage manufacturing jobs are relatively high for those without a strong basic education, they are lower than the requirements for well-paying entry-level jobs in health care,

information systems, business services and other expanding sectors of the economy. The bar is even higher in these other fields.

<sup>9</sup> This list is by no means exhaustive. Many of the programs profiled are designed to prepare for entry-level skilled jobs in manufacturing. Nevertheless, two of the programs listed target jobs in the banking industry. Other bridge programs prepare for entry-level skilled jobs in information technology and healthcare. We will continue to update and expand this listing as we learn about other bridge efforts.

<sup>10</sup> While bridge programs do serve welfare recipients, generally it is those who have had some work history and a fairly high level of basic skills. As such, bridge programs tend to be a step beyond welfare-to-work for public aid recipients with limited work histories or low basic skills.

<sup>11</sup> The Center for Employment and Training (CET) in San Jose (not included in the profiles) is one of the most successful, and rigorously evaluated, efforts to connect low-income individuals with family-supporting jobs (See Melendez 1996). Lautsch and Osterman (1998) present a insightful analysis of the keys to successful bridge efforts based on their evaluation of Project QUEST (also not included in the profiles), a program in San Antonio, Texas, that prepares disadvantaged adults for entry-level skilled jobs in health care and other fields. The Aspen Institute (1998) is currently evaluating of a number of bridge-type programs, including Project QUEST and Project Focus: HOPE (also not described in the profiles), a program in Detroit that trains inner city residents for employment in the precision machining and metalworking industry. With a grant from the National Science Foundation's Advanced Technological Education program, we are conducting an extensive, three-year evaluation (1998-2001) of the Chicago Manufacturing Technology Bridge program, which we helped to launch.

<sup>12</sup> The bridge programs profiled in the appendix are remarkably similar in structure and approach, given that, in most cases, they were developed independently of one another and without a widely-accepted institutional or methodological framework for such programs. The "bridge" term and concept is one we have applied to such programs and not one that other programs would necessarily know or use.

<sup>13</sup> Many manufacturers do seem to be willing to invest in more skill-specific training of their skilled workers. A common refrain among employers in manufacturing is "give us applicants who are *trainable* and we will train them in the skills of our business."

<sup>14</sup> Dresser and Rogers (1997) point out the importance of such intermediaries in an economy characterized by unstable labor markets. Kazis (1998) describes some model intermediaries. Molina (1998) presents a thoughtful analysis of employment linkage programs.

<sup>15</sup> The Center on Wisconsin Strategy (COWS) defines "community career ladders" as "community-recognized career transition steps for workers, facilitated by worker credentialing for experience and skill, accepted by area businesses and supported by area training institutions and public labor market services."

<sup>16</sup> The greater the reliance on employer funding, the less able bridge programs may be to serve more disadvantaged clients. Obviously, more disadvantaged individuals require more support, which is more costly to provide. Training programs for the disadvantaged are often stigmatized in the eyes of employers. As a result, employers may set requirements that exclude many disadvantaged. For example, following the stipulations of its employer board, the Cincinnati Manufacturing Pre-Employment Program will only

accept applicants with a high school diploma or GED, 9<sup>th</sup> grade level math and reading and no felony convictions. The requirements would disqualify most current welfare recipients and large segments of the working poor.

<sup>17</sup> Welfare recipients and other economically disadvantaged individuals are supposed to be given first priority for One-Stop services. However, the One-Stops will be evaluated and funded on their capacity to place clients in jobs, so there is a strong disincentive to serve the hard-to-employ.

<sup>18</sup> Employed individuals whose income falls below certain levels are also eligible for One-Stop job search and training services.

<sup>19</sup> For example, in the 16-week Manufacturing Technology Bridge program we have helped to organize in Chicago, the cost for the training (430 hours of instruction in workplace mathematics, workplace communication, principles of technology, industrial computer applications, print reading, metrology, and machining) is less than \$1,000 per participant; the cost of assessment, counseling, case management, job placement and other essential support services ranges from \$3,000 to \$4,000 per participant. (These costs are lower than those of many other programs of similar aims and intensity.) Training vouchers available through the Illinois Employment Training Centers (aka “One-Stops”) cover training costs only and are generally capped at \$2,000.

<sup>20</sup> An NSF-sponsored report on *Technical Education in 2-Year Colleges* (Burton and Celebuski 1995: iv) found that: “College administrators identified poor academic preparation of their entering students as *the most pressing problem* in both engineering technology and science technology programs” (emphasis added).

<sup>21</sup> See Sticht and Mikulecky (1995) for a review of this research.

<sup>22</sup> A notable exception is Laguardia Community College, a two-year institution that is part of New York City’s CUNY system, which requires all full-time students to participate in internships. See Weiler and Bailey (1997) for an analysis of the Laguardia approach.

<sup>23</sup> Such a system as it would apply to manufacturing is envisioned in Figure 1.