

EXECUTIVE SUMMARY

In October 1998, Congress enacted the Competitiveness and Workforce Improvement Act of 1998. A major provision of the Act was the establishment of a fee to be paid by those employers importing foreign workers to the United States under the H-1B visa authority. The H-1B visas are used by employers to bring in high-skilled workers to the United States for a period of up to three years. The fee, initially set at \$500 per H-1B worker and subsequently increased to \$1,000, is to be used, in part, for U.S. Department of Labor (DOL) “demonstration programs and projects that provide technical skills training for U.S. workers in an attempt to increase the pool of workers in the United States with the skills necessary to fill high-tech jobs.”

Demonstration projects have been funded through a series of grant competitions. This report provides an assessment of six of the 43 projects funded in the first three rounds of competition awarded in 2000: Pima County, Arizona; Hampden County, Massachusetts; Anchorage, Alaska; New York City, New York; the State of Vermont; and Clarksville, Tennessee. Sites were identified based on whether they were close to meeting their enrollment targets, occupations targeted for training, employer involvement, training methods, and location. Meeting enrollment targets had the highest priority in site selection, and we sought diversity for the other criteria. Once a preliminary list had been established, consultations were held with officials in the national and regional offices of the Department of Labor to determine the suitability of the selections. Finally, any sites that were included in another evaluation of the H-1B sites were dropped. Semi-structured interview guides were used to interview site directors, other key staff, employers, training institutions, and participants. Site visits took place in late 2001 and early 2002.

Project Goals. The grant solicitations under the initial legislation included five guiding principles: partnership sustainability, business involvement, training for current shortages in high-skill occupations, use of innovative and effective tools, and targeting on all segments of the population—low-skill as well as high skill workers, unemployed as well as incumbent workers, and minority workers and workers with disabilities.

These goals were all accepted by the grantees visited. The grantees most frequently identified the following goals:

- Upgrade incumbent and unemployed/underemployed workers' skills to enable these workers to fill jobs in high-skill occupations for which local employers are facing shortages;
- Facilitate worker retention of jobs, career advancement, and wage growth;
- Offset training costs for local employers to encourage these firms to invest in training their workforce;
- Increase worker productivity, particularly with respect to incorporating new technologies into the workplace.

Operating Environment. The geographic areas served by the H-1B training programs in our sample range from remote rural areas (e.g., Alaska, Vermont) to center-city areas (e.g., New York). The size of service areas and the populations served vary substantially across sites. Several projects serve large geographic areas that extend across multiple counties: for example, the Alaska site serves a 26,235 square mile area; the Vermont site covers the entire state; the Nashville site extends across a 12-county area; and the Massachusetts site serves a four-county area, but also extends services across the state boundary to workers living in the Greater Hartford area. Finally, the New York City site targets services on the residents of New York City's five boroughs, though it includes a few individuals who live outside of the city but work for New York City-based employers.

The project began at a time of economic growth, highly favorable economic conditions, and low unemployment rates. In several sites, unemployment rates were reaching historic lows – and employers were complaining of labor shortages, particularly for highly skilled workers. As the projects developed, however, the national economy began to cool (in the latter part of 2000 and into 2001), and with it economic conditions in all project sites (with the possible exception of Alaska) began to slack off and deteriorate. By the summer of 2001, though unemployment rates still remained low by historic standards in the six study sites, unemployment rates were on the rise. As the

nation's economy slid toward recession and the bottom fell out of the "dot.com," IT, and telecommunications sectors, shortage conditions for high-tech workers also abated. General economic conditions in the country--particularly the slide toward recession and weakness in the IT and telecommunications sectors--were exacerbated further by the events of September 11th, particularly in New York City. In several of the sites, as a result of the slowing economy and layoffs, some employers who had either committed to be part of the H-1B project or might have been willing to join the effort did not have a need for additional workers trained through the H1-B project. Grantees have had to replace their participating employers with others as labor market conditions changed. In the case of Vermont, for example, of the original 14 employers who signed on supporting the grant and who indicated they would either hire or use the services to train incumbent workers, only 2 remain but 23 others have taken their place.

Finally, it is important to note, that while the high-tech and IT sectors have been adversely affected by general economic trends, some sectors of the economy have remained largely unaffected along with demand for highly-skilled workers. For example, the H-1B training sites included in this study that focused on nursing and other health professions (Vermont and Pima County) reported that the demand for health care workers (especially nurses) has largely been unaffected by general economic slowdown. In fact, shortage in all areas of nursing continues largely unabated.

Grant Characteristics. Awards for grantees in the study sites ranged from \$1.5 million to almost \$3.0 million. Grants under the second and third rounds (when the ceiling was increased) were in the \$2.4 million to nearly \$3.0 million range. All grants were for a two-year period, but most of the grantees have or plan to request no-cost extensions to either complete a training cycle or to continue to provide training in some areas – it was either not possible or difficult to obtain degrees needed to enter some high-tech fields within a two-year time frame (e.g., a four-year degree). The two-year period of performance also included time needed to start-up programs and recruit participants. Finally, some of the academic programs were scheduled to last almost through the life of the grant, which allowed little or no time for intensive placement services after graduation.

Matching Funds. Minimum non-federal match requirements were dictated by the grant solicitation round. Round One required that 50 percent of the grant award be matched by non-federal funds. Rounds Two and Three required a 25 percent match. Grantees dealt with the match in a variety of ways. Workforce Essentials (in Tennessee) required that employers pay 40% of the actual tuition costs for trainees. If an incumbent worker was being trained, the employer was asked to share in the tuition payments. If the employer would not or could not make the contribution, other sources of funds were sought. The grantees were very creative in identifying alternative funding sources, where necessary. In Vermont, the IT training program required a 25% payment from an outside source.

Most of the sites used paid release time in the calculation of the match. Employers would give workers time off during regular working hours for H-1B participants to attend classroom or other types of training and record the amount of time and expense as part of the employer match. For example, release time was almost the entire match in the Vermont Nurse Training program, and amounted to more than \$2,000,000.

Where employers made their facilities available, a value was attributed to the space and overhead. This value was used as part of the match. Equipment used as part of the training activity and provided by the employer was also valued for the match. For example, in the Massachusetts site, one employer provided a fully equipped laboratory for the students to conduct their lab assignments.

Employer Partners. Every site reported partnerships with employers; however the strength of the relationships varied considerably; the number of partners ranged from fewer than 10 to over 50 employers. The role of employers varied within and across sites. In some cases, employers sent workers for training and could better be defined as program beneficiaries. In other sites, the employers were heavily involved in the program design, curricula development, and program support, as well as providers of incumbent workers for H-1B training activities. The Vermont nurse-training program provides a good example of comprehensive employer involvement. Under the Vermont program, employers were on the project design team; helped develop the training curricula; provided classroom space; contributed guest lecturers for the classroom

components; provided the trainees; used the program to attract unemployed workers; provided paid release time for their workers; and trained nurse mentors to provide on-the-job support.

Training Partners. Sites used several types of training providers. For IT training, the most common training providers were community colleges and proprietary schools. Training for health care occupations often involved four-year colleges as well. The relationship of the grantees with training providers also varied. Some sites provided grants directly to educational institutions to develop programs as well as using existing curricula in public and private proprietary schools. Sites did not generally limit themselves to the WIA-eligible provider list. Several sites used Individual Training Accounts (ITAs), but set higher cost limits than those used typically under their WIA programs.

Where programs were specifically designed for H-1B trainees, there was often an attempt to infuse greater flexibility and innovation in the delivery of the programs than had been the case in prior training initiatives and under the regular WIA program. For example, grantees and employers worked with training providers to develop new curricula and to adjust times and places of training to respond to the training needs and scarce time that incumbent workers had available for training. A common focus in structuring training initiatives was to work within the competing demands that workers often faced in balancing work, training, family, and leisure activities. In addition, in some sites, training providers went beyond instructional activities to provide ongoing support/mentoring and assist with job placement efforts for trainees who were either unemployed or underemployed.

Union or Association Partners. Four of the six sites had active working relationships with industry or trade associations. In each case, the association played an important role in the operation of the program. Among the roles played by associations were: surveying employer members concerning needs in the target occupations; screening applicants for entry into the program; promoting the H-1B training program among its membership; developing job opportunities for program graduates; identifying employers who might be interested in tailored training provided under the grant; and, in one case, tracking employer participation. Union involvement in

this program was limited. Only a few sites dealt with employees covered by collective bargaining agreements, and many of the targeted occupations are not traditionally unionized. Where there was a union presence, certain conditions had to be met, i.e., paid release time and overtime pay for training after hours.

Population Served. Five of the six sites had enrollment goals in the range of 200 to 300 participants. One site (Tennessee) planned to serve 735 participants. Since one of the criteria used to select programs for this study was success in meeting enrollment targets, it is not surprising that all of these programs are likely to meet or exceed enrollment targets. By the time of our visit, three of the six sites had already achieved their enrollment goals (Tennessee, Arizona, and Massachusetts); two other sites were nearing achievement of their overall goals at the time of our visit (Alaska and New York); one site (Vermont) had reached about half of its goal, but was bringing new programs on line that would help in reaching its goal.

All programs reviewed served both incumbent and unemployed workers. In one program (Tennessee) unemployed workers were only enrolled if they had a job commitment upon completion of training. Underemployed workers could either be in the field for which training was being offered or could be in the process of changing fields.

The mix of males and females varied by the occupational focus of the training programs. Health training enrollees were almost exclusively female. Industrial training programs (e.g., several of the training programs in Massachusetts) enrolled mostly men. The IT programs typically attracted somewhat more men than women.

Educational requirements varied considerably depending on the occupations for which training was being provided and on whether the workers were in employer-specific training programs or not. Entry-level career ladder health programs required high school diplomas or a GED. IT programs were typically seeking individuals with some college (an AA Degree or higher). If the individual had no work experience in the field, and at least a high school diploma, the person would be considered but not enrolled without extensive testing to ensure that the candidate could cope with the material. Grantees were aware that occupations eligible for consideration under the H-1B program are generally more challenging and are often presented in an accelerated mode that demands that participants have good basic reading and math skills. Two of

the sites instituted programs that helped prepare students for more advanced IT work, though both of these programs required a high school diploma, aptitude and interest testing, and an interview prior to entry. Most sites indicated that they targeted the underserved groups for their projects, but that did not mean that program requirements were adjusted to accommodate for lack of preparation on the part of the participants. In several sites, programs offered remedial courses to applicants lacking prerequisites to participate.

Recruitment, Screening, and Assessment. The most common outreach activities were:

- Partnering employers referred incumbent workers;
- Web sites were used to announce the program;
- Notice of the grant award were placed in newspapers, with additional information about available services and how and when to make application to the program;
- Notification of training opportunities was provided to one-stop career centers, Unemployment Insurance (UI) offices, TANF agencies, Job Corps programs, other workforce development organizations, and to community-based organizations; and
- Training providers (public and private) publicized the program.

None of the grantees used paid advertisements to attract participants. Several grantees used job fairs to spread the word to potential trainees. Because all grantees were established players in workforce development in their communities, it was not difficult for them to mount a publicity campaign where needed. One (Alaska) grantee had to do little more than wait after the notice was in the local newspaper about the project award, because the interest on the worker side was great and the need on the employer side was equally great. Other H-1B grantees had to work at getting the word out about the program to the targeted workers and employers – generally through contacts with one-stop career centers, trade associations, and other local human service agencies.

Applicants at the program sites were generally required to have at least a high school diploma or GED. Some type of test or assessment instrument was used in

every site, but not all applicants were required to take the tests. Educational achievement and work history were cited as reasons why individuals were not tested. All grantees mentioned that acceptance into the program was based on more than just test scores. Applicants needed to demonstrate an interest in the field. Some programs required that the applicants identify the training program in which they wished to participate and justify why it was important to them. Other programs required an essay from applicants on what the training would mean to them in their future. For example, the Alaska site ensured that applications for training, whether submitted by individuals or employers, go through a technical review to ensure that the type of training requested was suitable for the student's capabilities and to ensure that the proposed training made sense for the local labor market. Students enrolling in degree granting institutions also had to meet the enrollment requirements of the school. In addition to the paper process, applicants were all interviewed. The interviews might consist of a meeting with a career counselor or caseworker in a one-stop career center, or it might consist of a meeting with representatives from educational institutions, industry associations, and the grantee organization.

Many of the steps involved in enrolling and assessing unemployed and underemployed workers in training were eliminated for incumbent workers in specialty training. This was because the employers in these initiatives screened the workers that they wanted trained – though grantees made the assessment facilities at one-stop career centers and/or training partners available to these employers should they desire to have employees screened and assessed prior to the start of training.

Training. All sites provided computer-related training for at least some of the H-1B participants. Five of the six sites trained in computer skills which would be used in an IT or software environment or in an IT or software unit of a company. Three sites trained in the industrial applications of computer technology (Tennessee, Arizona, and Vermont). Courses were identified through employer surveys or discussions with employers as types of computer training courses needed within the workplace. At one site, 80 percent of the incumbent workers were enrolled in one or more of computer courses. Common courses generally related to systems maintenance and Web and Internet applications. Many of the programs were combined into a computer science

curriculum so that participants could obtain AA degrees or work toward a BA degree. Employers report that in addition to these technical skills, they wanted workers with good English, math, and communication skills.

Three of the sites – the Tennessee, Pima County, and Vermont sites -- provided training in health fields (licensed practical nurse, registered nurse, specialty nurse, medical transcription, and radiation technology). One site (Arizona) offered training in fields outside of IT and health care occupations, including training for teachers, accountants, and electronic technicians/engineers.

Every program included a classroom training component, which was offered at an educational facility or at the job site. Most programs also incorporated experiential learning opportunities either in a laboratory or on the job. Four of the six programs augmented training with some type of Web-based support. Instructors generally used the Web to post notices, syllabi, assignments, recommended reading, and links to other useful sites. One site (Massachusetts) implemented its full classroom instruction for one employer on the Web in an interactive mode. Another site (New York City) required that each student develop a Web site to demonstrate proficiency in Web design.

Interactive TV was used by one site (Vermont) to provide classroom instruction to students in remote audio-video labs throughout the state. Some technical and instructional difficulties were encountered, causing the grantee to recommend the presence of a technician whenever classes were scheduled. In addition, instructors were required to have a briefing on techniques to use when broadcasting live to multiple sites.

It is difficult to generalize about training hours and program duration. IT training programs ranged from two days to two academic years. Those programs offering training through a college setting with a degree objective required up to two academic years. Students enrolled in these programs could attend school full time during the week either during the day or at night with a scheduled Saturday class. The vendor-specific programs varied from a few days to several weeks, depending on the certification being sought. For example, the Microsoft Certified Systems Engineer training was offered as a series of 7 courses lasting from two days to three weeks each. These classes were offered in the evening or during the day, and the format affected

program duration. Students could take these courses as part of a degree program or as stand-alone certification preparation.

Nurse training ranged from 10 weeks (including the clinical practice) for specialty care nurses to several years for some degree nursing programs. The grantees providing LPN training anticipated that some of these trainees would continue their formal education and become registered nurses.

Employer-based training for incumbent workers appeared to be generally of shorter duration (e.g., as short as two days to three weeks) and more narrowly focused, in comparison to training provided for unemployed or underemployed workers. However, there were also examples of longer-term employer-based training provided at the various program sites. On-site training appeared to have considerable employer support as release time could be granted with the knowledge that, in case of emergencies, workers could return to their duties. Not all employers had the facilities or equipment necessary to support on-site training.

Factors that promoted and hindered implementation. The sites visited reported several factors that facilitated in designing and implementing the projects:

- **Incumbent worker training.** Employers were asked what they needed to remain competitive in the market. Even where employers were required to contribute funds towards the training, it was still perceived as being worth the investment.
- **Established relationships with employers.** All grantees mentioned that they had very little time to get projects started, and if they had not had existing, positive relationships with employers and employer associations, it would have been very difficult to meet the HI-B grant requirements.
- **Prior experience in operating a government-financed training activity.** Certain of the requirements under the grant, such as matching funds, could have presented a problem for those not familiar with government grants. Each of these grantees had operated programs before or was currently involved with WIA or other workforce development activities. One site (Massachusetts) had piloted its training program using a prior government grant.
- **Serious shortage of trained individuals in the target occupation coupled with a pool of candidates meeting minimum requirements.** Clearly, there needed to be a demand for workers in the occupations for which training was planned. In addition, the training program would have failed in H-1B training

sites if there was not an adequate supply of suitable candidates for training. Sites would also have had difficulty reaching full scale and achieving participation goals if they had attempted to mount their programs for only the unemployed individuals because of strong economic conditions and low unemployment rates at the time the initiatives started.

- **Available curricula to use as base for establishing training program.** All grantees used standardized, pre-existing curricula for their training programs. This enabled them to avoid spending significant time developing curricula. Several sites also worked with post-secondary institutions to develop a degree program (AA or BA), but even those programs relied to a large extent on existing course that were modified.
- **Established working relationships with training providers, both public and private.** Where there were existing relationships with training providers, it was easier for the grantees to develop tailored training programs for employers or to develop more non-traditional approaches to the delivery of credit courses.
- **Access to start-up funds.** One grantee was given private start-up funds to bridge the gap between the time the grant was awarded and when federal funds could be spent. This allowed the grantee to set up operations, engage staff, and begin developing the program.

Although our site selection process was designed to yield sites that were relatively successful in enrolling participants, all sites encountered some problems that hindered implementation. These problems included:

- **Availability of Funds.** Some grantees indicated that they did not have access to grant funds when the program was officially started. For some grantees, there were local grant approval processes that further slowed down start-up efforts. In two cases, grantees lost 3-4 months of operating time.
- **Grant Period.** A two-year grant period hindered implementation of some degree programs, even AA degree programs, because there needs to be time devoted to recruitment and assessment prior to enrolling people into training. In addition, there is little time at the end of longer training (provided within a two-year time frame) to provide placement assistance for those needing it. An option year on the grant does not fully address this problem because grantees cannot plan for the option year as part of their initial submissions. Some site administrators indicated that it would be more useful if the programs were for 3 years to 5 years.
- **Employer fear of government paperwork and audits.** Some employers feared that if they became involved with government sponsored training programs, that they would be engulfed by a mountain of paperwork and/or would open the door to government audits.

- **Inflexible Training Providers.** Incumbent worker training requires maximum flexibility on the part of training providers, and some just could not adapt. Small institutions and community colleges seemed to be more attuned to dealing with the working student.
- **Deteriorating Labor Market.** A number of programs started with a list of employers willing to partner in the program, but some did not follow through on their commitments to the program because of deterioration in the business climate and/or cutbacks in staffing. In response, programs sought to replace these employers with others not as affected by the economic downturn.

Interesting Practices. The sites visited had a number of practices that might be of interest to others implementing an H-1B training program. In this section several of the interesting practices are described. The full report includes more examples.

- **The Individual Training Account (ITA) training component is closely connected with the one-stop career system, but employs pre-screening criteria for determining which unemployed and underemployed individuals are appropriate for receiving ITAs under the H-1B grant (Massachusetts).** In linking the H-1B project to its one-stop system, REB is able to generate a steady flow of unemployed and underemployed individuals with the potential for upgrading skills for entry into fields within the IT or telecommunications fields. The ITAs made available to the target population, while narrowly targeted to training for careers within IT or telecommunications, are more flexible in the sense that trainees are not limited to the WIA eligible list of providers or by the \$5,000 cap normally placed on ITAs in the locality. However, to ensure that those who are recruited into the program are capable of and interested in higher skilled occupations in the IT or telecommunications fields, REB has developed pre-screening criteria and an assessment process through which individuals must go to receive an ITA (paid for out of the H-1B grant). Under the eligibility criteria, for example, the individual must have either recent employment (within one year) and/or current employment in an IT or telecommunications occupation and/or have “self-taught” skills equivalent to work experience in the field.
- **Exceptional employer involvement (Vermont).** The exceptional employer involvement in the nursing program might not be applicable to other fields, but is worthy of note. The situation in Vermont hospitals in regard to nurse shortages was critical and appeared to be getting worse. In the case of health care, having several small hospitals unable to serve critical care patients or support physicians in the operating room only resulted in increased demand for those services at larger hospitals and in a potential deterioration in the care of those who needed it the most. To overcome this statewide problem, employers, educators, training professionals, state officials, associations, and other health care organizations had to come together to find a solution or they would all

suffer. The grantee enlisted the aid of the Vermont Association of Hospitals and Health Systems and together they shared information on the H-1B training solicitation with all interested parties. They were able to overcome resistance by explaining program benefits and developing solutions to such problems as employee retention upon the completion of training. It is likely that severity of the situation made this unusual cooperation possible.

- **Unemployed workers are guaranteed jobs if they successfully complete the training program (Tennessee).** To be enrolled in the project individuals either had to already be employed or to have a commitment from an employer that they would be hired upon completion of H-1B funded training.
- **Utilization of an IT technical review board representative to determine whether candidates and proposed courses of study quality for support under the H-1B program (Alaska).** There was consensus that case managers did not have the technical expertise to evaluate participant readiness for IT training, nor were they able to determine whether the course of study proposed by the trainee or employer was appropriate under H-1B definitions and the current labor market. For this reason, when a participant did not have demonstrated skills or educational background, his/her file was submitted to the Alaska High-Tech Business Council for assessment. This careful screening minimizes the numbers of participants dropping out of the program due to their inability to complete the required coursework. It is too early to tell if this policy will affect placement success for those unemployed at the time of entry into the program.
- **Web-based training provided at job site (Massachusetts).** REB sponsors training at one employer site (JDS Uniphase), which provides training to incumbent workers via the Internet. Participants are enrolled in college credit courses through the Springfield Technical Community College. Lecture notes and homework assignments are disseminated over the Internet, so the participants can learn the material when it is most convenient for them. The firm has made laboratory facilities available, so that individuals involved in the training can complete required laboratory assignments without traveling to the community college campus.
- **Modification of training programs to provide college credit (Arizona).** A common problem in health occupations is that one cannot build on courses already taken if one wants to move up to a higher-skill job. For example, LPNs typically take courses that do not provide college credit, so they cannot count their courses if they wish to become a RN. The Pima County project overcame this problem by negotiating with the local educational and training institutions so that the courses taken for a LPN program carried transferable credit.
- **Development of a Research Model for the purposes of predicting whether future enrollees would successfully complete the program (New York).** A team of researchers from the Center for Advanced Study in Education at CUNY,

representatives from the NY Workforce Alliance, and CUNY trainers identified 185 data items to collect. Data is collected for all formal applicants for the long-term training component of the program. Pre-program, in-program, and post-program data is scheduled to be collected. Such items as employment history, interview scores, interest inventory scores, self-assessment of IT skills, attendance, and class performance are quantified. The objective of the data collection effort is to establish a model profile that will help predict which applicants will be successful in IT training programs. The data collection effort also provides management information for the project. Whether the results of this effort will be of use or not may depend on factors beyond the project's control.

This project was undertaken to provide early feedback on the H-1B training projects. The six sites selected for study were not drawn randomly, but largely because they were on track to meet their enrollment goals. The project has identified a number of promising practices, but conclusions on the projects' success must await future studies that include outcome data.