

Implementation Evaluation of the Community-Based Job Training Grant (CBJTG) Program

FINAL REPORT

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Abbreviation Glossary

Abbreviation	Word or Phrase
AS	Associate of Science
AAS	Associate of Applied Science
ADN-to-BSN	Associate Degree of Nursing to Bachelor of Science in Nursing
AED	Automated External Defibrillators
AFL-CIO	American Federation of Labor-Congress of Industrial Organizations
ASE	Automotive Service Excellence
ATM	Associate-to-Master in Nursing
BHC	Black Hawk College
BS	Bachelor of Science
CBJTG	Community-Based Job Training Grant
CCBC Build	Building for Tomorrow operated by the Community College of Baltimore County (a case study initiative)
CCBC Healthcare 1	Healthcare as High Growth operated by the Community College of Baltimore County (a case study initiative)
CCBC Healthcare 2	Expanding Healthcare Opportunities in a Recession operated by the Community College of Baltimore County (a case study initiative)
CCCS	Board of Trustees of Connecticut Community-Technical Colleges
CFBO	Community or Faith-based Organization
CNA	Certified Nursing Assistant
CPR	Cardio-Pulmonary Resuscitation
CT	Computed Tomography
CT SMART	Skills for Manufacturing and Related Technologies Initiative operated by the Board of Trustees of Connecticut Community-Technical College (a case study initiative)
DACUM	Developing a Curriculum
DOL	U.S. Department of Labor
EICCD Logistics	Joined by a River: Logistics Programming in the Quad Cities operated by Eastern Iowa Community College District (a case study initiative)
EMT	Emergency Medical Technician
ESL	English as a Second Language
ETA	Employment and Training Administration of the U.S. Department of Labor
GED	General Equivalency Degree
GNA	Geriatric Nursing Assistant
HAZMAT	Hazardous Materials
HIT	Health Information Technology (or Technician)
HVAC	Heating, Ventilation, and Air Conditioning
ITA	Individual Training Account

Abbreviation	Word or Phrase
K-12	Kindergarten through 12 th Grade
LPN	Licensed Practical Nurse
MA	Medical Assistant
MCC	Manchester Community College
MLT	Medical Laboratory Technician
MRI	Magnetic Resonance Imaging
MS	Master of Science
MSN	Master of Science in Nursing
MSUB-COT Energy	Energy for Tomorrow operated by Montana State University-Billings College of Technology (a case study initiative)
NCCER	National Center for Construction Education and Research
NIMS	National Incident Management System
NST	Nurse Support Technician
OCTC	Owensboro Community and Technical College
OCTC Biotech	Biotech KY operated by Owensboro Community and Technical College (a case study initiative)
OSHA	Occupational Safety and Health Administration
OTA	Occupational Therapist Assistant
PMC	Pre-manufacturing Certificate
PTA	Physical Therapy Assistant
RFID	Radio Frequency Identification
RN	Registered Nurse
SBCCD Nanotech	California Nanotechnology Collaborative operated by San Bernardino Community College District (a case study initiative)
SCENE	Simulation Center for Excellence in Nursing Education
SGA	Solicitation for Grant Application
SMART	Skills for Manufacturing and Related Technologies
SPC Informatics	Building the Healthcare Informatics Workforce operated by St. Petersburg College (a case study initiative)
SPC RN	RN Job Fulfillment Partnership operated by St. Petersburg College (a case study initiative)
Tri-C Healthcare	Leveraging Innovation Assets to Alleviate Critical Healthcare Worker Shortages operated by the Cleveland/Cuyahoga One-Stop Career Center (a case study initiative)
UCR	University of California—Riverside
WIA	Workforce Investment Act
WIB	Workforce Investment Board

Executive Summary

In an increasingly global and competitive economy, many workers in the United States need to gain new skills or upgrade their current ones if they are to be successful in the labor market. At the same time, businesses, especially those in high-growth industries, face challenges recruiting, hiring, and retaining a skilled workforce. Community and technical colleges, as important training providers, are uniquely positioned to develop a skilled local or regional labor force, but they often lack the capacity to respond to the needs of local industry. The Community-Based Job Training Grant (CBJTG) program, funded by the U.S. Department of Labor's Employment and Training Administration (ETA), builds on previous industry-focused training demonstrations, designed to train workers in high-demand occupations and to meet the workforce needs of industry by partnering with it.

The CBJTG program was established to address a critical capacity shortage at community and technical colleges to train workers for high-growth occupations to help strengthen an industry's regional competitiveness. While enrollment at community and technical colleges continues to rise, colleges may not have the resources for facilities, up-to-date technology and equipment, and qualified faculty and instructors to train a sufficient number of workers for in-demand occupations. The CBJTG grants are intended to help community and technical colleges to design and implement sustainable training programs that effectively provide workers with the skills that industry needs. Grant recipients must utilize strategic partnerships with employers and industry, workforce investment boards, school districts, and other community members to ensure that the training programs are strongly linked to industry needs and will continue to increase the supply of skilled workers over the long run.

ETA provided CBJTG funding for 279 initiatives in 49 states between 2005 and 2009 through four rounds of competitive funding.¹ Between 68 and 72 grants were awarded per year. Grants were typically awarded for an initial three-year period, but organizations could request no-cost extensions. For example, nine of the 11 CBJTG initiatives examined in the case studies requested and received no-cost extensions ranging from six to 19 months. As of September 30, 2010, 70 percent of the grants were still operational.

Funding amounts for grants awarded by ETA ranged from \$499,014 to \$3,600,768. In all four rounds, most of the grants awarded (60 percent in round 4, 71 percent in round 1) were in the \$1,000,000 to \$1,999,999 range. Only 23 grants across the four rounds (8 percent) were for an amount less than \$1,000,000. All initiatives funded to start in 2007 experienced a one percent rescission in funding due to a decrease in Workforce Investment Act funding at the federal level.

An implementation evaluation of the CBJTG program was conducted in two phases. This report is based on the second phase, providing a comprehensive picture of the different CBJTG-funded initiatives, innovations developed, implementation successes and challenges to date, and trends and patterns across projects. This evaluation draws on the data collected through a survey of individuals at grant organizations and institutions, a review of grant documents, and site visits to 11 grant initiatives at eight grant locations. Grant documents reviewed include grant applications, narrative quarterly reports,

¹ A fifth and final round of 41 CBJTG grants was awarded in June 2010. These grants were not included in this evaluation as the data collection was underway at the time.

and financial reports. Survey respondents provided information on 220 of the 279 CBJTG-funded initiatives for an overall response rate of 79 percent.

Grant Characteristics

Grant Recipients

- In round 1, only community colleges, technical colleges, or other educational institutions were eligible for funding. In rounds 2, 3, and 4, workforce investment system organizations were also permitted to apply to the CBJTG program. Of the 217 survey respondents, 95 percent report their organizational type as an educational institution and 5 percent report their type as a workforce investment system organization.
- The 10 respondents characterizing their organizations as workforce investment system organizations include workforce investment boards, local workforce agencies, and One-Stop Career Centers. The 207 respondents characterizing their organizations as educational institutions indicated they were community colleges (81 percent), technical colleges (18 percent), state community college systems (12 percent), community college districts (6 percent), and other (5 percent).

Contracting Out

- Just over half of the survey participants (54 percent) indicated that their organization delivered all grant-funded services itself; they did not contract out for any portion of the grant-funded activities. On the other hand, two of the 220 survey respondents indicated that their organization served as the fiscal administrator only; they contracted out 100 percent of the grant-funded activities.
- Forty-nine percent indicated that they contracted with one or two organizations, while 26 percent contracted with five or more organizations.

Industries

- CBJTG focused on industries where applicants could demonstrate growth in their local area and a need for training or capacity-building support. Healthcare (39 percent), advanced manufacturing (19 percent), and energy (12 percent) were the three most represented industries among awards.
- While the healthcare industry consistently represented the highest proportion of grants awarded in each round, the proportion awarded to healthcare declined in each round. The proportion of grants awarded in advanced manufacturing and energy, on the other hand, increased during each round.

Geographic Reach of Grants

- During the four rounds of CBJTG awards, grant initiatives were funded in 49 states. A service area could be a portion of a city, a county, multiple cities or counties, particular school districts,

the whole state, or multiple states. The largest proportion of initiatives served participants in a multi-county area within a single state (61 percent).

Goals and Target Populations

Grant Goals

- Survey respondents were asked about the goals of their grant-funded initiatives to understand whether they were designed to achieve the goals of the overall CBJTG program. Nearly all of the 220 survey respondents indicated that their initiatives were intended to address workforce issues such as “insufficient supply of skilled workers” (99 percent) and “low levels of education or skills in the community” (93 percent).
- All projects had training goals related to job placement and retention for participants. Nearly all survey respondents indicated that “meeting employer needs and skills requirements” was “important” or “very important.”
- Goals related to capacity building at the community and technical colleges engaged in the grant activities were also a key part of the grant program designs. Attracting future workers to the industry was the capacity-building goal most frequently rated as “somewhat important” or “very important” by survey respondents (92 percent), with developing new education/training programs coming in a close second (90 percent).

Target Populations for Training

- Grant-funded initiatives targeted particular groups of individuals to recruit for their training programs. Nearly all survey respondents indicated they targeted new entry-level workers (91 percent) and unemployed workers (90 percent).
- A large proportion of grant-funded initiatives responding to the survey targeted dislocated workers (86 percent), incumbent workers (85 percent), and underemployed workers (80 percent).
- About 53 percent of the survey respondents said that they targeted older workers, with 71 percent targeting high school youth and 25 percent targeting pre-high school youth.
- Seventy-seven percent each targeted veterans and low-income/disadvantaged individuals, while 46 percent targeted people with disabilities and 30 percent targeted immigrants/refugees.

Grant Activities

Recruitment

- Most survey respondents cited partnerships with employers and industry organizations and distribution of flyers, posters, or educational/informational materials as recruitment strategies. Partnerships with employers/industry were rated as effective by the highest proportion of survey respondents (82 percent) and distribution of materials was rated as effective by 44 percent of respondents.

- The two recruitment challenges most frequently experienced by respondents as “great” were the “adverse economic and labor market conditions” (34 percent) and the “low or inadequate basic skill levels of applicants” (22 percent).

Training Programs

- Most survey respondents offered more than one training program, with the largest proportion (22 percent) offering six to 10 training programs. About 17 percent offered a single training program (17 percent).
- To take advantage of web-based technologies and make participation in training activities more accessible, more than 60 percent of respondents incorporated “distance learning or online tutorials” (61 percent) into their training components (either to substitute for or to supplement classroom-based instruction).
- Work-based, experiential learning activities were also featured including “short-term on-the-job training experiences including internships” (offered by 48 percent of respondents); “job shadowing” (26 percent); “cooperative education or work-study programs” (21 percent); and “longer term on-the-job training experiences including registered apprenticeships” (13 percent).
- Some training programs helped participants earn credit hours toward a specific degree (e.g., 11 credit hours toward an associate degree of nursing). Many others – especially short-term, non-credit courses – resulted in an employer-recognized certification.
- Three quarters of respondents offered financial aid to encourage participation in training and to support participants’ attendance and retention in training programs. CBJTG funds were used for financial assistance to participants and were coordinated with other available funds such as Pell Grants and/or Workforce Investment Act Individual Training Accounts). Initiatives also coupled financial aid with financial counseling, with about one-third of respondents offering counseling.
- Respondents indicated offering several other types of individualized and group counseling services and activities, including: peer support groups (30 percent); “critical friend” coaching, or mentoring (27 percent); and personal/family counseling (17 percent).
- About one-third of respondents indicated coordination of employment and training activities provided under the grant with receipt of public assistance (33 percent), as well as providing several additional forms of financial assistance, including for transportation (26 percent), child care (16 percent), and emergency assistance with rent or utility payments (15 percent).

Capacity-Building Activities

- The two leading capacity-building activities implemented by over four-fifths of the respondents, were “new curriculum development” (84 percent) and “installation of new instructional techniques or technologies” (82 percent).
- The next two most frequently cited capacity development activities focused on “improvement/expansion of existing training programs” (77 percent) and “hiring and retraining staff to support education/training activities” (76 percent). Both these types of capacity-building

activities were aimed at bolstering existing training programs to increase numbers of workers upgrading skills and obtaining credentials to meet staffing needs of employers in the targeted industry sector for the initiative.

- Nearly 60 percent of survey respondents indicated that with CBJTG funds they had been able to establish “new training programs” (60 percent) at their institutions (or partnering organizations). About two-thirds of survey respondents indicated that capacity-building activities initiated with CBJTG grant funds were aimed at “certification program development” (66 percent), while about half of respondents indicated that capacity-building activities focused on “degree program development” (53 percent) and “dual enrollment, articulation, or other programs that link secondary and post-secondary programs” (45 percent).
- Other capacity-building efforts were centered on building awareness in a region/locality about occupations or training programs in a high-growth industry sector and “attracting new workers to the industry” (61 percent). These efforts were particularly aimed at increasing the pipeline of new workers to high-demand occupations and improving the pool of candidates from which employers could recruit its future workforce.
- Over 90 percent of respondents rated their grants as successful or very successful in six capacity-building areas: “expanding the number of training slots” (94 percent of respondents); “attracting future workers to the industry” (94 percent); “developing new training programs” (94 percent); “designing or implementing new instructional techniques or technologies” (93 percent); “hiring or funding new faculty or instructors” (91 percent); and “improving access to education and training opportunities for disadvantaged populations” (91 percent).

Partnerships

- Of the 216 survey respondents that specified partner types, nearly all indicated some kind of workforce investment system partner (92 percent) or postsecondary education partner (87 percent), while most indicated some kind of business/industry partner (79 percent) or K-12 school district partner (80 percent). More than half indicated community or faith-based organization partners (60 percent), and just less than half indicated “other government” partners (48 percent).
- Survey respondents also indicated partnering with philanthropic organizations (14 percent), unions (18 percent), and other organizations not represented on the list provided in the survey (18 percent).
- The most widely cited significant partner types were “industry association, employer, chambers of commerce” (47 percent of respondents), workforce investment boards (46 percent), and school districts (44 percent).
- Most survey respondents indicated high levels of success in strengthening and supporting partnerships, with 69 percent of survey respondents indicating that they were “very successful” with employers or industry associations, nearly 66 percent indicating they were “very successful” with educational institutions, almost half indicating they were “very successful” with the public workforce system, and almost a third indicating they were “very successful” with other types of organizations.

- Nearly all non-operational respondents (93 percent) indicated that they had maintained their partnerships with “community-based organizations or other social service agencies.” In fact, more than half of survey respondents indicate having maintained relationships with their partners in all but five categories: faith-based organizations, unions, “seed and venture capital,” and the philanthropic community.
- The organizational categories with the most operational survey respondents indicating that the partnerships “will continue” are “community-based organizations or other social service agencies” (73 percent), “industry associations, employers, and chambers of commerce” (65 percent), workforce investment boards (62 percent), One-Stop Career Centers (62 percent), and school districts (60 percent).

Leveraged Resources

- The grant organizations responding to the survey and providing performance data used a median of \$35,111 in leveraged federal resources and \$589,271 in non-federal leveraged resources.
- Non-federal resources, which include contributions from the grant organizations, colleges, and employers, provided an important source of support for the grant activities. Survey respondents indicated that staff time (86 percent) and training facility space (82 percent) were the two most frequent types of leveraged in-kind resources. Training or office equipment (68 percent), supplies (61 percent), and expert consultants (57 percent) were also frequently leveraged.

Grant Results

Grant Performance and Accomplishments

- To understand the performance of the CBJTG program, the results of the 182 grant organizations that completed the survey and submitted performance data to ETA were examined. As of December 31, 2010, the grant organizations responding to the survey and submitting performance data served 106,856 participants. An average of 590 participants was enrolled in CBJTG training activities by survey respondents, with a median of 403 participants. Some grant initiatives enrolled as few as 37 participants and several enrolled over 8,000 participants, skewing the averages for the performance data. It is also important to note that 70 percent of the grants were still in operation at the time of data collection so the number of participants continued to grow.
- There were more male participants (median of 159) than female participants (median of 98). Grant initiatives that responded to the survey also served more white participants than other races with a median of 201 white participants.
- Over 110,000 participants had started training, 59,813 had completed the training, and 45,627 had earned a degree or certificate as of December 31, 2010. As over two-thirds of the grants were still in operation at the time of the survey, the completion and credential numbers would have continued to increase over time as more participants who were enrolled in training finished their programs. The survey respondents had a median number of 382 participants begin an education

or job training activity that was CBJTG-funded, with a median completion number of 173. A median of 113 completers received a degree or certificate as a result of the training activity.

- Of the grant organizations that responded to the survey and provided performance data, a total of 17,203 participants found employment in the quarter in which they completed training and 14,628 of these employed participants found a job that was in the industry for which they had received training. While the employment rate of all training completers in the quarter of completion may not seem large (29 percent), it is important to keep in mind that many participants may have found employment in the quarters after completion or non-completers may have found employment that may not have been counted in the performance data. Also, some training programs were too long for participants to finish during the period of performance, so some participants who may have subsequently become employed are not counted in the numbers. Thus, the employment rate is likely to be higher than is reflected in the performance data.
- Grant organizations responding to the survey and visited for the case studies indicated what they considered their major accomplishments. Many noted that they were able to develop state-of-the-art training facilities, strengthen existing partnerships and build new ones, develop the ability to serve more students, grow their enrollment, create pipelines for the future, and devise career pathways. Several grant organizations said they took pride in being the first in the nation or in their state to implement these types of training efforts.
- Case study participants indicated that the CBJTG allowed them to create consortia across colleges in their states, to create within-system articulation to foster better career pathways, to build capacity in their communities – not just within their colleges – and to extend the reach of the college through enhanced technologies.

Performance Results by Grant Characteristics

- The most prevalent industries for which grant organizations developed programs were advanced manufacturing, construction, energy, and healthcare. These four most common industries had rates of meeting or being on track to meet their enrollment goals similar to all industries, with advanced manufacturing exceeding the rate of all industries at 63 percent. Three of the industries – advanced manufacturing, energy, and healthcare – had a greater percentage of grant initiatives meeting their completion, graduation, and credential attainment goals than the average for all industries.
- Construction industry respondents seemed to have greater success than other respondents in finding employment for their participants who completed the program. Over 60 percent of the grant initiatives that focused on construction met or were on track to meet their employment goals. Grant initiatives that focused on advanced manufacturing and energy had similar rates of meeting their employment goal. However, grant initiatives focused on healthcare had a percentage meeting the employment goal lower than all industries at 51 percent.
- While nearly all grant initiatives were led by educational institutions such as community and technical colleges or community college districts or state systems, 5 percent of initiatives were carried out by a workforce investment organization such as a One-Stop Career Center or a workforce investment board. In nearly all of the goals (enrollment, completion, credential

attainment, and employment), educational institutions outperformed workforce system organizations.

- Survey respondents that targeted dislocated workers had greater success in their ability to meet their performance goals, especially enrollment (65 percent), completion (52 percent), and employment goals (69 percent), compared with those targeting other groups. This may be because dislocated workers have work experience and a base of skills that allowed them to successfully complete training and move to a job with fewer needs for support services or remedial education. During this time, many dislocated workers could continue to collect unemployment insurance while participating in approved training.
- Survey respondents that targeted low-income individuals had a different experience in meeting their performance goals. Grant initiatives that targeted this population had greater difficulties with meeting their enrollment (50 percent) and completion (45 percent) goals. However, survey respondents that targeted low-income individuals had greater success in meeting their employment goal (67 percent) compared to those targeting other groups.
- Incumbent workers were another challenging target group in terms of meeting performance goals. Fifty-two percent of survey respondents who targeted incumbent workers met or were on track to meet their enrollment goals, compared to 59 percent of all grantees.
- Survey respondents with training approaches such as cooperative education/work-study programs and English as a Second Language classes had higher average rates of meeting their enrollment (70 percent and 68 percent, respectively) and employment goals (67 percent for both) than the average across all approaches. Using mentoring as a component of training programs may also have been important to survey respondents in achieving employment goals. Survey respondents that used this strategy had an average of 70 percent meeting or being on track to meet their employment goal.
- Survey respondents with child care, personal/family counseling, and financial counseling had higher rates of meeting or being on track to meet their completion goals. Fifty-six percent of survey respondents that offered child care to participants met or were on track to meet their completion goal. Fifty-eight percent of respondents that offered personal and family counseling met or were on track to meet their completion goal. Finally, 54 percent of respondents that offered financial counseling met or were on track to meet their completion goal.
- Survey respondents that developed degree programs had higher rates of meeting completion (53 percent) and employment goals (62 percent) than across all capacity-building activities. In addition, survey respondents that had employers provide faculty to teach in their education and job training programs also saw higher completion (56 percent) and employment goals (63 percent).

Implementation Issues

- Survey respondents and case study participants expressed four types of challenges: the economic situation, operational challenges, programmatic challenges, and participant-related challenges.
- Operational challenges were frequently expressed as conflicts between sets of rules or procedures that occur because each system has not been designed to accommodate the other. The most frequently cited operational challenges were in the areas of tracking participant data (13 percent) and internal process rigidities (13 percent).
- Programmatic challenges were tied to the implementation of specific program elements. Survey respondents indicated problems with recruiting and training faculty and staff (26 percent) and the complexities of partner relationships (27 percent) more frequently than with adapting technology (6 percent) or the complexities of administering programs across a large geographic area (6 percent).
- Participant-related challenges are manifested in actions designed to increase the number of participants, support participants during their academic experience, provide them with on-the-job training opportunities, and/or support their employment after program completion. This is the area where both case study and survey participants were likely to mention the effects of the economy. Recruitment and retention of participants was noted as a challenge by nearly a third of survey respondents (32 percent).

Sustainability of Programming

- At the time respondents completed the survey, 154 respondents (70 percent) were representing grant initiatives that were still operating within their period of performance, and 66 respondents (30 percent) were representing grant initiatives that were not operational (were past their period of performance).
- Of the 66 survey respondents representing non-operational initiatives, all but two (97 percent) indicated that they continued at least part of their grant activities following the end of the period of performance. All but four (94 percent) indicated that they had begun planning for how to continue grant activities before the end of the performance period.
- When asked specifically about maintaining new training slots that had been created, 77 percent of non-operational initiatives have maintained and 83 percent of operational respondents expect to maintain the training slots they created.
- Most operational initiatives (74 percent) and most non-operational initiatives (67 percent) expect to or have sustained 100 percent of their training programs. About a quarter of operational and non-operational initiatives expect to maintain or have maintained at least half, but not all, of their training programs.
- Of the 92 operational initiatives indicating that they expect to maintain 100 percent of their training programs, only 11 percent expect no major challenges, while most (73 percent) expect insufficient funding to be a major challenge. About a quarter expect either changes in the industry of focus (such as technological, accreditation, or skill-based expectations) or lack of

potential students to be major challenges. Only 9 percent expect insufficient partner support to be a major challenge.

- Nearly all of the operational and non-operational survey respondents indicated that they expected to have or already had an ongoing relationship with their industry partners with only one in each group indicating no ongoing relationship.
- Across both operational and non-operational initiatives, “insufficient funding” is the area of concern for the largest proportion of respondents (64 percent of operational and 56 percent of non-operational). Interestingly, “the economy” and “faculty/staff shortage” are cited by a small proportion of respondents even though these two challenges were cited frequently in regard to implementing their programs.

Key Findings and Implications for Future Initiatives

Key Findings

- ***Investing in Many Colleges and Multiple Industries across States and Regions.*** The CBJTG program addressed workforce issues through investments in community and technical colleges that covered a range of industries with healthcare as the dominant industry of focus by CBJTG recipients. In later rounds of the CBJTG initiative, a broader range of industries was served by the grant-funded initiatives including advanced manufacturing, aerospace/aviation, construction, energy, and transportation. Most of the grant organizations serving these industries were community colleges but many were also technical colleges and a few were workforce investment organizations that worked with the community and technical colleges to develop the grant-funded initiatives. Moreover, 49 states had grant-funded initiatives and a majority of grant organizations that responded to the survey had training programs that served multi-county regions.
- ***Increasing the Supply of Workers to Meet Employer Demand.*** Nearly all of the survey respondents indicated that their grant-funded initiative addressed an insufficient supply of workers with particular occupational skills and credentials, and most identified a need to remedy the challenge of low education and skill levels in their communities. Survey respondents indicated that they thought that Web sites and their partnerships with employers and the workforce investment system were the most effective recruitment strategies. Case study participants conveyed that they needed a community-wide approach to recruitment through presentations and partnerships that could then lead to word-of-mouth interest in the training programs. Survey respondents noted that some of the greatest challenges to recruitment were the economic downturn, the low skill level of applicants, and gaining referrals from partners.
- ***Developing Training and Pathways to Meet Current and Future Workforce Needs.*** Many survey and case study respondents indicated an emphasis on developing career pathways as a part of the education and job training programs to move participants starting in entry-level occupations to higher-skill, higher-wage positions. Most participants trained for occupations in the healthcare field but some focused on traditional trades such as welder and electrician. Training in cutting-edge fields such as nanotechnology and renewable energy was less common.

- ***Creating Flexible and Responsive Training Opportunities.*** Most of the CBJTG-funded initiatives, nearly 90 percent, provided for-credit courses that would lead to a degree or certificate, but many of the case study participants indicated that it was important to have a mix of short- and long-term classes. The development of industry-recognized degrees and certificates valued by employers was a common activity across survey respondents and the case study participants interviewed. Many grant recipients also developed and employed new instructional technologies to create distance learning or online programs as key components of their education and training activities.
- ***Supporting Individuals to Enter and Complete School, and Obtain Employment.*** CBJTG-funded initiatives also provided services to participants to help retain them in the education and job training programs and to help them find employment afterwards. Most grant-funded initiatives offered financial aid to participants but only about a third of the survey respondents coordinated with public assistance programs and less than a third of survey respondents offered support services such as child care, transportation, or emergency assistance through the grant organization or partners. Workforce or employment-focused services to participants were more common among grant-funded initiatives than support services, with over 70 percent offering referrals to the workforce investment services.
- ***Addressing the Challenge of Staff and Faculty Shortages.*** To support their efforts, grant organizations were especially focused on finding qualified faculty and instructors, which could be challenging due to pay differences between what they could earn in the industry and what the community college system offered. Many grant recipients sought industry's help with this issue by having them lend or "share" their internal training or highly experienced staff to become instructors. Forty-four percent of survey respondents indicated that employer and industry partners provided staff and employees as trainers. Several initiatives indicated staff and faculty time as a contribution from employer partners. In many of the healthcare initiatives, employer partners were particularly crucial in providing staff and facilities for clinical rotations.
- ***Building and Maintaining Strong Partnerships to Enhance Training.*** As discussed throughout the report, partners were a key part of the CBJTG-funded initiatives, especially industry, school districts, post-secondary education institutions, and the workforce investment system. The most widely cited "significant" partner was industry, which included employers, industry associations, and chambers of commerce, with workforce investment boards and school districts not far behind.
- ***Leveraging Resources to Better Support Grant Activities.*** Grant organizations marshaled significant resources for their initiatives with a median of nearly \$600,000 in nonfederal cash and in-kind donations used. Survey respondents indicated that staff time and training facility space were the two most frequently used types of leveraged in-kind resources. Training or office equipment, supplies, and expert consultants were also frequently leveraged.
- ***Sustaining the Initiatives beyond the Grant Period.*** All but two of the non-operational grants that responded to the survey indicated that their programs were continuing, at least in part, after the end of the grant. Many found new funding sources but they were still utilizing ones they had during the grant.

- ***Accomplishing Goals and Creating Foundations for Future Success.*** The survey and case study findings showed that the grant organizations saw their greatest accomplishments as the creation of state-of-the-art training facilities, strengthened and new partnerships lasting beyond the grant, the ability to serve an increased number of students, the development of pipelines of new workers to the industry, and the creation of career pathways that will be sustained. Case study participants also emphasized that their grant allowed them to create consortia across colleges in their states, better develop articulation across programs to foster career pathways, and to extend the reach of the college through new technologies. According to several of the case study participants, all of these accomplishments helped these grant organizations build capacity within their college and in the community.

Implications for Future Industry-Focused Job Training Initiatives

- ***Partnerships with Industry Help Colleges Be Proactive in Ensuring that Training Programs Teach In-Demand Skills.*** Case study participants echoed the importance of ongoing partnerships with industry to be able to anticipate new trends in employer skill needs rather than reacting to changing skills needs and technology. For example, hands-on training on up-to-date technologies emerged as an industry preference, but frequently the only place to get this training was in an on-campus laboratory. Purchasing much of this equipment and creating the laboratory space to make hands-on learning possible is very expensive and, according to case study interviews, typically beyond the means of community and technical colleges to support on their own. While the CBJTG funds often supported the initial purchase of the technology or equipment needed for training, industry partnerships were needed to ensure that the technology and equipment are up-to-date and the college can maintain the equipment.
- ***Facilitation of Institution-to-Institution Learning Is Critical.*** Case study participants talked about the important role that ETA played in facilitating peer-to-peer learning among the grant recipient institutions. Newer grant recipients learned from earlier grant recipients' strategies for managing their grants, techniques for handling the challenges of grant participant tracking, designs for curriculum and career path development in particular industries, and models for laboratory design and equipment purchasing to facilitate hands-on learning. In addition to communicating with each other during facilitated calls and meetings, the grant recipients supported each other by phone and through site visits to each other's institutions.
- ***Industry-Focused Job Training Initiatives in Colleges May Need a Longer Start-Up Period.*** As with many of the grant initiatives, nine of 11 case study initiatives were provided a no-cost extension to allow them to fully carry out the programs they had intended. Interviews with case study participants indicated that these no-cost extensions were frequently needed because grant start dates often did not align with college calendars which delayed start-up timelines, college procurement processes typically took a substantial amount of time, curriculum development and approval frequently requires many levels of review and has a timeline all its own, and strategic deployment of grant resources to ensure the ability to sustain programs beyond the grant period may require a more deliberative decision-making process. The cumulative effect of these delays can make it challenging to implement a program during the grant period, and grant applicants cannot adequately anticipate these challenges because many actions that occur during the grant period do not regularly occur – for example, renovating facilities or purchasing equipment.

- ***Providing Supports for Low-Income, Low-Skill Participants Is Important to Improving Program Success.*** One area of need identified by the grant initiatives was to better prepare and support low-income, low-skill participants so they can succeed in occupational training. Survey respondents that targeted low-income individuals had greater difficulty with meeting their enrollment and performance goals. Grant organizations reported that many of the individuals they initially recruited had education levels that were too low to meet enrollment requirements for these programs and many needed developmental or adult education. Less than a third of the grant initiatives that responded to the survey offered support services such as child care or transportation, which many low-income individuals need to continue to participate in training. Additional efforts to bring these resources to the table in these initiatives may lead to greater success.

I. Introduction

In an increasingly global and competitive economy, many workers in the United States need to upgrade their skills if they are to successfully meet the new demands in the labor market. At the same time, businesses, especially those in high-growth industries, face challenges recruiting, hiring, and retaining a skilled workforce. Community and technical colleges, as important training providers, are uniquely positioned to develop a skilled local or regional labor force, but they often lack the capacity to respond to the needs of local industry. The nation's 1,200 community and technical colleges are a major training system in this country—close to 60 percent of all college students were enrolled in community colleges in 2000²—yet many of these institutions do not focus on connecting students to growth industries in the economy.

To strengthen the ability of community colleges to address workforce and industry needs, the U.S. Department of Labor's Employment and Training Administration (ETA) developed the Community-Based Job Training Grant (CBJTG) Program to invest in building "the capacity of community colleges to train workers in the skills required to succeed in high-growth, high-demand industries."³ The competitive CBJTG program builds on previous industry-focused workforce development efforts by ETA, which were designed to train workers in high-demand occupations and to meet the workforce needs of industry by partnering with it.

The Community-Based Job Training Grant Program

The CBJTG program was established address a critical capacity shortage at community and technical colleges to train workers for high-growth occupations to help strengthen an industry's regional competitiveness. While enrollment at community and technical colleges continues to rise, colleges may not have the resources for facilities, up-to-date technology and equipment, and qualified faculty and instructors to train a sufficient number of workers for in-demand occupations. The CBJTG grants are intended to help community and technical colleges to design and implement sustainable training programs that effectively provide workers with the skills that industry needs. Grant recipients must utilize strategic partnerships with employers and industry, workforce investment boards, school districts and other community members to ensure that the training programs are strongly linked to industry needs and will continue to increase the supply of skilled workers over the long run.

Two hundred seventy-nine grants were issued between 2005 and 2009 in the first four rounds of grant competition.^{4,5} Most of the grant awards went to community and technical

² Paul Osterman, "Employment and Training Policies: New Directions for Less-Skilled Adults," in *Reshaping the American Workforce in a Changing Economy*, edited by Harry J. Holzer and Demetra Smith Nightingale (Washington DC: Urban Institute Press, 2007), pp. 119–54.

³ U.S. Department of Labor, Employment and Training Administration, "The President's Community-Based Job Training Grants," http://www.doleta.gov/business/PDF/cbjt_overview.pdf, March 11, 2008.

⁴ Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants, 70 Fed. Reg. 22905 (May 3, 2005); Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants, 71 Fed. Reg. 37984 (July 3, 2006); Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants, 73 Fed. Reg. 60340 (October 10, 2008); Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for

colleges, although in the later rounds, some grants were also made to community college districts, state community college systems and organizations, and agencies within the public workforce investment system. CBJTG has both training and capacity-building objectives. Grants can be used to: (1) increase the capacity of community colleges to provide training in high-growth areas through developing training curricula with local industry, hiring qualified faculty, arranging on-the-job experiences with industry, and using up-to-date equipment; and (2) train new and experienced workers in high-growth and high-demand industries.

The CBJTG Program Evaluation

An implementation evaluation of the CBJTG program was conducted in phases. This report is based on the second phase, providing a comprehensive picture of the different CBJTG-funded initiatives, innovations developed, implementation successes and challenges to date, and trends and patterns across projects. This evaluation draws on the data collected through a survey of individuals at grant organizations and institutions, a review of grant documents, and site visits to 11 grant initiatives at eight grant locations. Grant documents reviewed include grant applications, narrative quarterly reports, and financial reports.

Before further discussing the research conducted for this phase of the evaluation, an overview of the findings from the first report follows.

Summary of Key Findings from the First CBJTG Evaluation Report

The first report on the implementation of the CBJTG program was released in June 2009. This report described the characteristics of the grants awarded through the end of 2008. The information presented is based on a review of available documents about the grants awarded: the three solicitations for grant applications (SGAs), awarded grant organization statements of work, the most recent quarterly reports grant organizations submitted to ETA, and databases maintained by ETA that include information about each grant initiative.

As of December 31, 2008, 211 grants had been awarded in three rounds of competition (in 2005, 2006 and 2008). A majority of grant initiatives in those three rounds targeted healthcare and advanced manufacturing, which accounted for over 60 percent of all initiatives (43 and 18 percent, respectively). Nearly 70 percent of the initiative sites were community colleges. Other educational institutions, namely four-year institutions and technical colleges, made up slightly over 26 percent of the funded sites.

Following are summaries of key findings from this initial report:

- *Grant Awards.* During the three rounds examined, grants awarded by ETA under the CBJTG program ranged from \$500,000 to \$3.6 million, with the average grant initiative receiving approximately \$1.8 million. The majority of grants (almost 71 percent) were in the range of \$1 to \$2 million

Community-Based Job Training Grants, 75 Fed. Reg. 12272 (March 15, 2009). See also ETA news release, January 16, 2009, <http://www.dol.gov/opa/media/press/eta/archive/eta20090068.htm>.

⁵ A fifth and final round of 41 CBJTG grants was awarded in June 2010. These grants were not included in this evaluation as the data collection was underway at the time.

- *Period of Performance.* As of December 2008, the original end date of October 31, 2008, for all 70 round 1 grants had passed. However, 69 percent of round 1 grant recipients and 23 percent of all grant recipients requested and received no-cost extensions that generally allowed them to continue to use grant funds into late 2009. Thus, as of December 2008, 90 percent, or 189 grant initiatives, were still operational.
- *Target Populations.* Over three-quarters of grantees reported they plan to target youth in high school. Most grantees also planned to target incumbent workers (65 percent) and low-income or disadvantaged populations (56 percent). Nearly 30 percent of grantees report that they will target dislocated workers and/or entry-level workers for their programs. Fewer grantees note that they will target particular racial and ethnic groups such as Hispanics (14 percent), African Americans (4 percent), and American Indians and Native Americans (3 percent).
- *Training Activities.* All grant recipients reported planning to use their grant funds to operate some job training activity, most commonly classroom instruction and internships. Across the grant recipients, 87 percent reported that they planned to offer classroom instruction, and 32 percent planned to offer internships.
- *Capacity-Building Activities.* Eighty-eight percent of grant recipients were planning to use grant funding to develop recruitment efforts. Eighty-three percent were planning to develop new curricula, 62 percent were planning to revise or expand existing training programs, and 54 percent were planning to develop new training programs. Healthcare and energy grant recipients were more likely than the average grant recipient to plan to expand their current training programs, while advanced manufacturing, automotive, and construction were more likely than average to develop new programs.
- *Product Development and Purchasing.* Eighty-seven percent of grant recipients were planning to develop or revise a course or curriculum. Seventy-nine percent were planning to use the grant for new equipment or renovated facilities, 70 percent were planning to use the grant for outreach materials, and 63 percent were planning to develop a career ladder program. Healthcare grant recipients were more likely than the average grant recipient to create distance learning products.
- *Partnerships.* Grant initiatives identified from three to 126 partners each, with an average of nearly 18. The most common types of partners listed were employers (93 percent) and workforce investment boards (88 percent), but a majority of grant initiatives also indicated partnerships with school districts, industry associations, four-year colleges or universities, and community/nonprofit organizations.
- *Leveraged Resources.* Ninety-percent of grant recipients planned to leverage some resources even though leveraging of resources was not required in the first three grant rounds. Planned leveraged amounts ranged from \$15,000 to \$19.5 million.

- *Preliminary Outcomes.* As of June 2008, the grant recipients reported that 52,147 individuals had started training programs, and slightly over half of those individuals completed training. Of those that completed training, 78 percent received a degree or certificate.

While the above findings were based on the plans that grant organizations had developed to operate their grants, some early conclusions could be drawn. First, grants focused on the healthcare industry were the most prevalent, especially in the first round of the grant competition, where they made up over half of the grants awarded, likely reflecting nationwide growth in that industry. The characteristics of the grants in the first round were somewhat different than grants in the second and third rounds, as organizations in the workforce investment system were permitted to apply for CBJTG funding. In addition, some elements in the design of the training programs reflected the skill-building strategies used in different industries. For example, grant initiatives in healthcare were likely to use classroom training and mentorships, whereas grant initiatives in advanced manufacturing were more likely to use an apprenticeship design. Healthcare grant initiatives were also more likely than others to use new instructional techniques and technologies. Finally, the grant organizations had made progress accessing planned leveraged resources. Round 1 grant organizations (in operation for 31 months in June 2008) collected an average of \$1.1 million in federal and nonfederal resources, which approached the average goal of approximately \$1.9 million.

This knowledge of the characteristics of the CBJTG-funded organizations and their grant activities guided the design of the second phase of the implementation evaluation, described below.

Overview of the Final Report

The first CBJTG report is primarily prospective – what the CBJTG initiatives hoped to accomplish with their funds. The analysis was based on the statements of work (SOWs) and reports provided by the organizations that sought and received the grant funds. While the second CBJTG report also uses these data sources, most of the analysis is based on self-reports of the perceptions and experiences of the individuals implementing the CBJTG-funded initiatives. The final report provides overall findings from the implementation evaluation in which data were collected from grant recipients through a survey, and site visits and grant documents and performance data were analyzed.

This evaluation documents the different models and projects operating with grant funds, examines and assesses the implementation of grant-funded initiatives, and identifies innovative features and potentially promising strategies. The research design is based on a formal cross-site implementation analysis, which involves systematic examination of the context within which the projects are designed, how the projects are implemented, interagency and intersystem interactions, project funding and expenditures, and trainee services and activities.

Thus, a range of important research questions can be answered through the implementation study, including the following:

- *Community colleges and other training systems.* How are investments in these organizations building their capacity to train workers for high-growth, high-demand

industries? How are these investments helping to build training pipelines to support future workforce growth?

- *Training.* How are these investments shaping the training options available? To what extent are they changing the types of individuals targeted for training and the numbers of individuals who access training? How are these investments shaping the delivery mechanisms and course structures for training? How are these investments altering recruitment mechanisms?
- *Partnerships.* How and to what extent are partnerships with the workforce investment system, employers, community-based organizations, and other education and training providers involved in the implementation of the grant?
- *Connections with employers and industries.* To what extent are the grant initiatives able to establish strong connections with employers in the industry of focus to help them meet their workforce needs?
- *Implementation lessons and challenges.* To what extent were grant initiatives able to meet their original design goals? How did they modify their plans or goals to meet changing community needs? What are the lessons learned and challenges faced by the grant initiatives in implementing these projects? What grant initiative characteristics contributed to successful implementation?
- *Financing.* How are these investments leveraging funds and resources? What types of resources tend to be leveraged? Do the organizations think they will be able to continue to leverage these resources after the grant period has ended?
- *Sustainability.* To what extent have grant initiatives that have concluded their funding periods been able to continue? How do they anticipate sustaining these efforts in the long run? Where do they anticipate the greatest sustainability challenges?

Methodology

In addition to a document analysis of grant initiative SOWs and selected narrative and quantitative program reports, this evaluation examines data collected through a survey of all grant initiatives participating in the first four rounds of the CBJTG and case studies of 11 initiatives implemented by eight grant-funded organizations and institutions. A description of the survey and site visit processes and results are provided below. Awards made in Round 5 of the CBJTG are not included in this evaluation because the awards were made after the evaluation had been designed, and the initiatives were not expected to have made much progress during the time period of the evaluation.

Survey of CBJTG Recipients. All grant initiatives in the first four rounds of the CBJTG were asked to participate in this survey. The survey was administered in a web-based format, but grant recipients were provided the option of completing a paper-based form instead. The survey gathered data on grant organization type, size and structure, project design and objectives, recruitment efforts and target populations, training, capacity-building and other program activities, partner contributions, and plans for sustaining programming and leveraging resources.

The vast majority of the survey questions were closed-ended to allow for quantitative analysis of the data, such as cross-tabulations, and to reduce human error. See Appendix A for a copy of the survey, and Appendix B for survey data.

A survey respondent could be any individual at the organization receiving the grant with sufficient knowledge of the organization and the CBJTG-funded initiative. Multiple individuals were able to contribute to a given response. On March 28, 2011, a link to the survey was e-mailed to individuals representing the 279 grants awarded in rounds one, two, three and four. Individuals were allowed to respond through May 13, 2011.

Respondents provided information on 220 of the 279 CBJTG-funded initiatives for an overall response rate of 78.9 percent. As Table I.1 indicates, response rates varied by award round, with rounds three and four having the highest response rates (88 percent each). Round 1 had the lowest response rate (61 percent), and round 2 fell in between with about 78 percent of awards represented. This response bias was expected, as many of the earlier grants had ended more than a year prior to the survey and key staff may have left the grant organization. Thus, the results of the survey should be viewed with an understanding that the information may reflect more about the later grants than the earlier grants.

Table I.1: Survey Response Rates by Round of Grant Award

Round of award (program year of award)	Number of grants	Percent responding to survey
Round 1 (2005)	70	61.4
Round 2 (2007)	72	77.8
Round 3 (2008)	69	88.4
Round 4 (2009)	68	88.2
Total	279	78.9

Source: CBJTG Grantee Survey 2011; ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

The examination of response rates by industry reveals a survey participation range of 0 percent to 100 percent. Only one industry abstained from participation – forestry (with two awards), while four industries wholly participated (automotive, homeland security, hospitality and nanotechnology). Aerospace/aviation had a relatively low participation rate at 57 percent, but all other industries participated at a rate of 75 percent or higher. The three industries with the most grant awards (healthcare, advanced manufacturing and energy) each participated in the survey at a rate right around 78 percent. Therefore, there are few concerns about the representativeness of the survey results based on industry.

Most survey participants responded to most survey questions but there are some instances where respondents did not answer questions that were applicable to them. Rather than provide survey response rate information in the text, the total number responding to a question (the “N”) is provided in text tables and in the tables found in Appendix B. When a section of the report is focused on a particular subset of survey participants, however, the number responding to the survey question is noted in the text in addition to the tables to ensure clarity about the subgroup under discussion.

Table I.2: Survey Response Rates by Industry of Focus

Industry	Number of grants	Percent responding to survey
Advanced manufacturing	54	77.8
Aerospace/aviation	7	57.1
Automotive	6	100.0
Biotechnology	8	75.0
Construction	23	82.6
Energy	33	78.8
Forestry	2	0.0
Healthcare	108	77.8
Homeland Security	2	100.0
Hospitality	4	100.0
Information technology	6	83.3
Nanotechnology	2	100.0
Transportation	14	78.6
Other (education, engineering and process technology, financial services, geospatial, movie/TV production, retail, non-sector-specific)	10	90.0
Total	279	78.9

Source: CBJTG Grantee Survey 2011; ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

Performance Data. As a part of its effort to track the progress and outcomes of the grants, ETA developed a performance reporting system that required grant organizations to provide aggregate data on participant enrollment, training, and employment outcomes, as well as grant organization capacity-building activities and leveraged resources. To track long-term employment outcomes (ETA's Adult Common Measures), grant organizations had the option to either submit Social Security numbers to ETA for matching to national unemployment insurance wage records through the Common Reporting Information System, or to track these post-program employment measures through their own program data. Grant organizations could then determine which participants were employed at exit and if those participants were employed in their field of training. As these data became available, the evaluation team linked the performance data reports to grant initiative survey data to identify promising strategies and program models that demonstrated successful performance in these areas.⁶

Of the 220 respondents to the survey, 182 had submitted performance reports (if the grant was still underway) or final reports (if the grant had ended) to ETA as of December 31, 2010. Of the 38 respondents that did not submit performance report forms, nearly all were in rounds one and two. This was likely because the requirement to submit standardized quarterly reporting forms began in May 2008, and grants ending prior to this date were not required to follow these new requirements. Thus, the analysis is skewed towards the outcomes of round 3 and four grants, which had not necessarily completed all activities.

⁶ See U.S. Department of Labor, Employment and Training Administration. 2008. High Growth and Community-Based Job Training Grants: General Quarterly Reporting Forms & Instructions. Washington, DC.

Case Studies. Site visits to eight selected grant organizations were conducted to deepen understanding of grant implementation. The eight sites were selected to ensure variation along several criteria including industry, type of organization, round of grant, and geographic region. The focus of the visits was to further document the activities supported by the grant funds, the extent to which the key objectives of the overall CBJTG program were addressed, the nature of activities conducted and products developed, and the partnerships involved. The site visits provided information on common trends and patterns across initiatives as well as implementation challenges and successes.

The strategy for selecting grant initiatives for in-depth site visits ensured that the final sample would exhibit variation along the following four dimensions: region, industry of focus, timing of grant, and organizational structure. In addition to these four primary selection criteria, the selected grant initiatives exhibited variation in target population, plans for partnerships, and geographic characteristics. At two of the selected grant organizations, more than one grant initiative was selected for evaluation, yielding 11 programs across the eight sites. It is important to note, however, that case initiatives were not selected to be “representative” of all initiatives.

Site visits took place between January and August of 2011. Teams of two interviewers conducted face-to-face interviews at each site. Researchers followed up with interviews by telephone as needed for further clarification after the visit or if some partners were not available during the initial interview. Interviewers spent between one-and-a-half and three days on-site depending on the complexity of each initiative and the number of initiatives selected from a particular site. During site visits where more than one initiative was selected for evaluation, interviewers met with staff and partners from each program. Interview questions clearly indicated which grant initiative was being discussed for each question. Some staff members worked on more than one grant initiative, and they were asked to segregate their remarks as best they could. Table I.3 provides some key characteristics of the initiatives and organizations selected. It also provides abbreviations that will be used throughout the report to reference the initiatives visited. Summaries of each site visit grant initiative are provided in Appendix C, and particular features of case study initiatives are featured throughout this report.

The selected case study sites represent eight states in DOL Regions 1-6, CBJTG grant rounds 1 through 4, the industry fields of advanced manufacturing (1), biotechnology (1), construction (1), energy (2), healthcare (3 sites and 5 projects), nanotechnology (1), and transportation (1), and varying types of grant organizations as seen in Table I.3.⁷ At each site, key grant administrators, individuals who provided support to students, instructors/faculty, a representative of the local workforce investment board or one-stop, one or more partners, and, where possible, students were interviewed. Other individuals interviewed in some sites included college deans, department chairs, industry partners, economic development partners, community partners, K-12 school personnel, and union staff.

⁷ One project was classified as both Construction and Energy and is represented separately under each industry.

Table I.3: Site Visit Grant Initiative/Organization by Key Characteristics

Funded Initiative/Organization (Abbreviation)	Region	State	Industry	Organization Type
Skills for Manufacturing and Related Technologies (SMART) Initiative /Board of Trustees of Connecticut Community-Technical Colleges (CT SMART)	1	CT	Advanced Manufacturing	Community-Technical College
Building for Tomorrow /The Community College of Baltimore County (CCBC Build)	2	MD	Construction and Energy	Community College
Healthcare as High Growth /The Community College of Baltimore County (CCBC Healthcare 1) Expanding Healthcare Opportunities in a Recession Economy/The Community College of Baltimore County (CCBC Healthcare 2)	2	MD	Healthcare	Community College
RN Job Fulfillment Partnership/St. Petersburg College (SPC RN) Building the Healthcare Informatics Workforce/ St. Petersburg College (SPC Informatics)	3	FL	Healthcare	Educational Institution
Biotech KY /Owensboro Community and Technical College (OCTC Biotech)	3	KY	Biotechnology	Community-Technical College
Energy for Tomorrow /Montana State University-Billings College of Technology (MSUB-COT Energy)	4	MT	Energy	Educational Institution
Leveraging Innovation Assets to Alleviate Critical Healthcare Worker Shortages/ Cleveland/Cuyahoga One-Stop Career Center – 2 (Tri-C Healthcare)	5	OH	Healthcare	Public Workforce Investment Organization
Joined by a River: Logistics Programming in the Quad Cities /Eastern Iowa Community College District (EICCD Logistics)	5	IA	Transportation	Community College District
California Nanotechnology Collaborative /San Bernardino Community College District (SBCCD Nanotech)	6	CA	Nanotechnology	Community College District

Source: CBJTG Evaluation Case Studies 2011

The initiatives selected for visits also represented the range of rounds in which the grants were awarded and whether they were operational or not. Table I.4 provides the rounds and periods of performance for each initiative selected.

Table I.4: Numbers of Training Outcomes Achieved as of December 31, 2010

Selected Initiatives	Round of Grant	Period of Performance	Operational as of Visit
CT SMART	2	April 4, 2008 – March 31, 2012	Yes
CCBC Healthcare 1	2	January 1, 2007 – September 30, 2010	No
CCBC Build	3	April 1, 2008-March 31, 2012	Yes
CCBC Healthcare 2	4	February 13, 2009 – September 30, 2012	Yes
SPC RN	1	November 1, 2005 – April 30, 2009	No
SPC Informatics	2	January 1, 2007 – June 30, 2010	No
OCTC Biotech	3	January 1, 2007 – December 31, 2009	No
MSUB-COT Energy	2	January 1, 2007 – December 31, 2010	No
Tri-C Healthcare	3	April 1, 2008 – December 31, 2011	Yes
EICCD Logistics	2	January 1, 2007 – December 31, 2010	No
SBCCD Nanotech	4	April 1, 2009 – March 31, 2012	Yes

Source: CBJTG Grantee Survey 2011; CBJTG performance reports

Table I.5 provides an indication of how the case study initiatives that submitted performance data compare to the survey respondents on their outcomes. Grants had to report performance data on a quarterly basis including the number beginning and completing training, receiving a degree or certificate for completers, and employment in the quarter of training completion. The performance data for grants that were operational as of December 31, 2010 may not fully reflect the outcomes for the grant initiative as those who enrolled in training may not have had time to complete the program as of the reporting period used for this report. Moreover, some of the grants in the early rounds did not provide performance reports so no data are provided.

Table I.5: Numbers of Training Outcomes Achieved as of December 31, 2010

Selected Initiatives	Began Education/Job Training Activities	Completed Education/Job Training Activities	Received Degree or Certificate	Entered Employment	Entered Training-Related Employment
CT SMART	236	139	137	24	22
CCBC Healthcare 1	n/a	n/a	n/a	n/a	n/a
CCBC Build	n/a	n/a	n/a	n/a	n/a
CCBC Healthcare 2	214	52	52	23	23
SPC RN	n/a	n/a	n/a	n/a	n/a
SPC Informatics	n/a	n/a	n/a	n/a	n/a
OCTC Biotech	720	448	388	56	56
MSUB-COT Energy	1186	948	980	551	497
Tri-C Healthcare	340	233	205	63	49
EICCD Logistics	70	27	23	17	10
SBCCD Nanotech	236	139	137	24	22

Source: CBJTG Grantee Survey 2011; CBJTG performance reports

Structure of the Report

The remainder of this report focuses on the implementation findings yielded by the 220 survey respondents and eight site visits (examining 11 grant initiatives), progress/final reports submitted by grant organizations for the period ending March 31, 2011, and grant initiative SOWs, which served as original agreements to carry out the CBJTG-funded project. Rather than reporting on each data source separately, the data are presented together with case study interviews providing a deeper perspective on the issues summarized in the survey data or discovered through the document analysis. Findings are presented in the following order: an overview of grants awarded including characteristics of grant organizations; design and planning of the grant initiatives; grant initiative activities including recruitment, program characteristics, capacity-building characteristics, partnerships, and leveraged resources; and results of grant initiatives including program sustainability, accomplishments, implementation issues, and promising strategies and program models.

The report concludes with a summary of key findings, implications and conclusions. The summary section focuses on lessons learned, cross-cutting dimensions and environments, and the implications these findings have for future industry-focused job training and community college initiatives.

Language of the Report

The CBJTGs were awarded to eligible organizations to implement CBJTG initiatives. Organizations could apply in more than one round of grants, and they could apply for multiple grants at the same time. Thus, some organizations received and implemented more than one grant. The unit of analysis in this report is each CBJTG-funded initiative. The organizations receiving the grants are discussed briefly to provide context for where the grant activities were administered. In discussion of the case studies, certain characteristics of the organizations receiving the grants become particularly relevant. Thus, the following language is used throughout this report:

- *CBJTG-funded initiative* – referring to the 279 initiatives funded in rounds 1 through 4
- *Grant organization/institution* – referring to the education institutions or workforce investment system organizations receiving the grants and administering the grant initiatives
- *Grant recipients* – individuals working in the grant organizations/institutions who can speak on behalf of the grant initiatives
- *Survey respondents* – referring to the individuals who shared information through the survey about 220 CBJTG-funded initiatives
- *Case study participants* – referring to the individuals who shared information through interviews regarding the CBJTG-funded initiative in which they participated; sometimes case study participants are referred to by their particular role

II. Overview of the Grants

This section describes the overall features of the organizations that received CBJTG awards in rounds 1 through 4, some basic characteristics about the awards, and the operational status of the awards. The information provided is based on the responses to the CBJTG-funded initiative survey, ETA data on overall grant awards, and interviews of case study participants.

Characteristics of the Grants

ETA provided CBJTG funding for 279 initiatives in 49 states between 2005 and 2009 through four rounds of competitive funding. Between 68 and 72 grants were awarded per year. Grants were typically awarded for an initial three-year period, but organizations could request no-cost extensions.⁸ For example, nine of the 11 CBJTG initiatives examined in the case studies requested and received no-cost extensions ranging from six to 19 months.

Of the 220 survey respondents, 154 or 70 percent indicated that their CBJTG-funded initiative was still operational.⁹ At the time of the visits to the 11 initiatives selected for case studies, four were still in progress. Thus, this report provides information about the experiences of initiatives still in operation as of September 30, 2010 and initiatives that had concluded prior to survey or case study data collection.¹⁰ For those programs still in operation, this report captures what has already been accomplished and expectations about what will happen in the future as initiatives continue to operate, including their sustainability beyond CBJTG funding.

Funding amounts for grants awarded by ETA ranged from \$499,014 to \$3,600,768. In all four rounds, most of the grants awarded (60 percent in round 4 compared to 71 percent in round 1) were in the \$1,000,000 to \$1,999,999 range. Only 23 grants across the four rounds (eight percent) were for an amount less than \$1,000,000. Grant award sizes were similar by round, but a somewhat higher proportion of grants less than \$1,000,000 were distributed in rounds one and four, as seen in Table II.1. All initiatives funded to start in 2007 experienced a one percent rescission in funding due to a decrease in Workforce Investment Act funding at the federal level.

Table II.1: Percentage of Grant Amount by Grant Round

Round	\$500,000 – \$999,999 ¹	\$1,000,000 – \$1,999,999	\$2,000,000 – \$3,999,999
Round 1	30.4	26.3	19.7
Round 2	21.7	26.8	24.2
Round 3	21.7	25.3	24.2
Round 4	26.1	21.6	31.8
Percent of all grants by grant amount	100.0	100.0	100.0

¹ One grant in round 4 was awarded at less than \$500,000; N=279

Source: ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

⁸ An extension in the time provided to complete the project and expend the funds with no additional award of funds.

⁹ This is likely because the response rates were higher in rounds three and four. Programs beyond their period of performance were less likely to respond.

¹⁰ This report does not provide any examination of grants awarded in round 5.

Characteristics of the Organizations Receiving Grants

Survey respondents were asked to provide information about the overall characteristics of the organizations receiving the grants, including their organization type, the year of founding, the annual budget for the most recent fiscal year, participant enrollment levels for the previous school or program year, and proportion of students who are low-income or Pell Grant recipients.

In round 1, only community colleges, technical colleges, or other educational institutions were eligible for funding. In rounds 2, 3, and 4, workforce investment system organizations were also permitted to apply to the CBJTG program. After the first three rounds of grant awards, however, 96 percent of grant initiatives were funded in educational institutions while only four percent were funded in workforce investment organizations. Similarly, of the 217 survey respondents, 95 percent report their organizational type as an educational institution and five percent report their type as a workforce investment system organization. The 10 respondents characterizing their organizations as workforce investment system organizations include workforce investment boards, local workforce agencies, and One-Stop Career Centers. The 207 respondents characterizing their organizations as educational institutions indicated they were community colleges (81 percent), technical colleges (18 percent), state community college systems (12 percent), community college districts (6 percent), and other (5 percent).

Eighty-five percent of the educational institutions providing budget information (162) and 50 percent of the workforce organizations responding to the survey (10) indicated that they had budgets exceeding \$5,000,000 in the previous program year or school year. Just one workforce agency and one educational institution responding to the survey indicated having a budget of less than \$1,000,000.

Participating educational institutions and participating workforce investment organizations tended to be large, with 62 percent of education institutions having student enrollments above 20,000 and 60 percent of workforce investment organizations serving more than 2,500 clients.

The 10 workforce investment system respondents indicated that more than half of the individuals served by their organizations were low-income, with six of the respondents indicating that more than 75 percent of the individuals served were low-income. Comparatively, respondents from educational institutions indicated wide variation in the proportion of low-income students served as represented by the proportion receiving Pell grants in the 2008-09 school year.¹¹ While about 11 percent of educational institution respondents indicated a student body where more than three-quarters of all students were considered low-income, another 10 percent of educational institution respondents indicated a student body composed of no more than one-quarter low-income individuals. Another 20 percent of educational institution respondents indicated a student body composed of 26-50 percent low-income, and 22 percent of educational institution respondents indicated a student body with 51-75 percent low-income students.

¹¹ Of educational institution respondents, 76 (nearly 37 percent) indicated that they did not know the percentage of students receiving a Pell Grant at their institution. Pell Grants are need-based grants awarded to undergraduate and certain post-baccalaureate students with amounts determined by the student's (or the household of the student if dependent) income and/or assets

Contracting Out of Grant Activities

While it is informative to understand the characteristics of the organizations receiving grants, it is also important to recognize that serving as the administrative and fiscal agent for the grant is not the same as delivering the services and activities supported by the grant. In fact, workforce investment organizations serving as the administrative agent were required to contract out training activities to community or technical colleges.¹² Just over half of the survey participants (54 percent) indicated that their organization delivered all grant-funded services itself; they did not contract out for any portion of the grant-funded activities. Two of the 220 survey respondents indicated that their organization served as the administrative agent only (one identified itself as a local workforce investment board and the other did not provide an organizational type); they contracted out 100 percent of the grant-funded activities. Two survey respondents (both community colleges) indicated that they did not know what portion of their activities had been contracted out. The rest of the survey respondents indicated that some grant-funded activities had been contracted out, but some had also been performed by the grant-receiving organization. All workforce investment system organizations contracted out at least some part of their activities, but many respondents from educational institutions indicated that no part of their initiatives had been contracted out. According to these respondents from educational institutions, the following initiatives were administered entirely in-house: 69 percent of community college district initiatives, 63 percent of state community college system initiatives, 59 percent of community college initiatives, and 46 percent of technical college initiatives.

Of the 100 survey respondents who indicated contracting out part or all of their grant-funded activities, 75 percent indicated that they contracted out training programs, 73 percent indicated that they contracted out capacity-building activities, while 38 percent indicated that they contracted out “other” activities. These “other” activities included student support services like case management and employment-related services, outreach, project management, and data tracking, monitoring, and evaluation. As case study interviews reveal, some of these contracts are with partner agencies and some are not. For example, a college may contract with an individual or firm that specializes in curriculum development for what is purely a contractual arrangement. A college may also contract with a One-Stop Career Center to provide specialized career counseling services as part of the partnership to implement its program design.

Forty-nine percent indicated that they contracted with one or two organizations, while 26 percent contracted with five or more organizations. Respondents contracted with a variety of institution types including: 49 percent contracting with community colleges, 39 percent contracting with workforce investment system organizations, 22 percent contracting with independent consultants, 21 percent contracting with community-based organizations, 16 percent contracting with universities or other four year institutions, 15 percent contracting with industry associations, 12 percent contracting with employers, and 11 percent contracting with technical colleges. Twenty-five of the respondents indicated contracting with an organization other than those listed. Eight of these respondents indicated contracting with the K-12 system – ranging from a single school to an entire school district. Four indicated contracting with another state agency, while one indicated contracting with a Tribal entity, and two indicated contracting with online training providers.

¹² See round 4 grant solicitation, *Federal Register*, p. 60343, October 10, 2008.

Organizations frequently contracted with other organizations of the same type. For example, 27 percent of community colleges contracting out some of their CBJTG activities contracted with other community colleges; 10 percent of technical colleges contracted with other technical colleges; and, 15 percent of community college districts contracted with other community college districts.

Industry Focus

CBJTGs focused on industries where applicants could demonstrate growth in their local area and a need for training or capacity-building support. Healthcare (39 percent), advanced manufacturing (19 percent), and energy (12 percent) were the three most represented industries among awards as shown in Table II.2.

Table II.2: Grant Awards by Industry

Industry	Number of initiatives	Percent of All initiatives
Advanced manufacturing	54	19.4
Aerospace/aviation	7	2.5
Automotive	6	2.2
Biotechnology	8	2.9
Construction	23	8.2
Energy	33	11.8
Forestry	2	0.72
Healthcare	108	38.7
Hospitality	4	1.4
Information technology	6	2.2
Transportation	14	5.0
Other (education, engineering and process technology, financial services, geospatial, movie/TV production, nanotechnology, non-sector-specific)	14	5.0
Total	279	100.0

N=279

Source: ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

While the healthcare industry consistently represented the highest proportion of grants awarded in each round, the proportion awarded to healthcare declined in each round (54 percent in round 1, 39 percent in round 2, 35 percent in round 3, and 27 percent in round 4), as shown in Table II.3. The proportion of grants awarded in advanced manufacturing and energy, on the other hand, increased during each round, with advanced manufacturing growing from about 16 percent of awards in round 1 to 25 percent of awards in round 4, and energy growing from about three percent of awards in round 1 to just over 20 percent of awards in round 4.

Answers from survey respondents concerning the industries targeted by their CBJTG-funded initiatives indicate similar proportions to the overall grant awards with the largest group of survey respondents (41 percent) mirroring the largest industry identified in awards (healthcare). In the survey, however, 25 percent of respondents took the opportunity to indicate that their initiatives actually cross over more than one industry: 19 percent indicate that their initiatives target two industries, and five percent indicate that their initiatives target three industries. Three respondents indicated targeting more than three industries (four, nine and 10

industries respectively). This may indicate that some respondents thought that the training they provided would allow individuals to work in a variety of industries.

Tale II.3: Percent of Grants Awarded by Round and Industry

Industry	Round 1	Round 2	Round 3	Round 4
Advanced manufacturing*	15.7	16.7	20.3	25.0
Aerospace/aviation	1.4	1.4	4.4	2.9
Automotive	4.3	2.8	0.0	1.5
Biotechnology	4.3	5.6	1.5	0.0
Construction*	7.1	8.3	11.6	5.9
Energy*	2.9	13.9	10.1	20.6
Forestry	2.0	0.0	0.0	0.0
Healthcare*	54.3	38.9	34.8	26.5
Hospitality	0.0	1.4	4.4	0.0
Information technology	0.0	1.4	4.4	2.9
Transportation*	4.3	7.0	4.4	4.4
Other* (education, engineering and process technology, financial services, geospatial, movie/TV production, nanotechnology, non-sector-specific)	2.9	2.8	4.4	10.3
Total	100.0	100.0	100.0	100.0

*Denotes industries with more than 10 grant initiatives across the four rounds.

N=279

Source: ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

The case studies offer another layer of information about industries targeted, revealing that the industry of healthcare, for example, has many focal points. Five CBJTG-funded initiatives offered by three organizations across the four rounds of grants sought to enhance their ability to meet healthcare industry needs in 13 areas: nursing, medical assistant, physician assistant, healthcare informatics, medical laboratory technology, emergency medical assistance, radiography, respiratory therapy, elder care, physical therapy, occupational therapy, mental health, and dental health. These initiatives focused on all levels of the healthcare industry from training entry-level staff towards credential attainment to increasing the availability of instructors and enhancing the skill sets and specialty areas of individuals who were already registered nurses. Similarly, a deeper look at the energy initiative in Montana reveals a focus on a variety of skill sets needed for the energy industry, including welding, heavy equipment operation, diesel, power plant and process plant technology, engineering technology, hazardous materials, and incident response. Students graduating from many of these programs could actually use their skills in industries other than energy. For example, the initiative in Iowa, classified as transportation, also developed training on heavy equipment operation.

Further indicating the diversity of grants by industry is the amount awarded by industry as shown in Table II.4. While the areas of automotive, biotechnology, and forestry did not garner any grants at \$2 million or above, industries represented in “other” such as homeland security, nanotechnology, movie/television production, and retail did. The three industry areas most represented in the grant awards (healthcare, advanced manufacturing, and energy) all had grant awards spanning the spectrum of award levels.

Table II.4: Grant Amounts by Industry (Percent)

Industry	\$500,000– \$999,999	\$1,000,000– \$1,999,999	\$2,000,000– \$3,999,999	Total Percent
Advanced manufacturing*	5.6	63	31.5	100.0
Aerospace	14.3	71.4	14.3	100.0
Automotive	16.7	83.3	0.0	100.0
Biotechnology	25.0	75.0	0.0	100.0
Construction*	8.7	82.6	8.7	100.0
Energy*	9.1	66.7	24.2	100.0
Forestry	0.0	100.0	0.0	100.0
Healthcare*	6.5	70.4	23.15	100.0
Hospitality	0.0	50.0	50.0	100.0
Information technology	16.7	66.7	16.7	100.0
Transportation*	7.1	50.0	42.9	100.0
Other*	14.3	57.1	28.6	100.0
Percent of all grants	8.2	68.1	23.7	100.0

*Denotes industries with more than 10 grant initiatives across the four rounds.

N=279

Source: ETA data on CBJTG grants awarded at <http://www.doleta.gov/business/Community-BasedJobTrainingGrants.cfm>

Geographic Region Served

During the four rounds of CBJTG awards, grant initiatives were funded in 49 states. Each grant initiative, however, had its own service area, which was frequently determined by the state, or a regionally defined service area for the institution receiving the grant. As illustrated in Table II.5 a service area could be a portion of a city, a county, multiple cities or counties, particular school districts, the whole state, or multiple states. For example, the CBJTG case study initiative funded in Iowa actually served a five-city area that spanned two states – Iowa and Illinois. The fiscal agent was a community college district located in Iowa, but the grant enhanced services both in that community college district and that of its partner college in Illinois. In fact, one goal of the grant initiative was to provide a model for collaborating across state lines to serve communities and industry areas that cross over. In this case, the industry was logistics, and the five cities served were joined together by the Mississippi River, which provided a shipping hub.

Table II.5 : Geographic Region Served Among Survey Participants

Geographic Region	Percent of Survey Participants
Within one city	.45
Within one county	4.6
From multiple counties	61.4
Multiple counties (across state lines)	18.2
All counties in a state	5.5
Multiple states	9.6
Other	.45
Total	100.0

N=220

Source: CBJTG Grantee Survey 2011

III. Goals and Planning for the CBJTG Initiatives

As envisioned by ETA, the CBJTG program was intended to “support workforce training for high-growth/high-demand industries through the national system of community and technical colleges.”¹³ Funds were to be awarded to individual community and technical colleges, community college districts, state community college systems, and One-Stop Career Centers to “support or engage in a combination of capacity-building and training activities for the purpose of building the capacity of community colleges to train individuals for careers in high-growth, high-demand industries in the local and/or regional economies.” Thus, grant recipients had to discuss the workforce issues they would address, the training and capacity-building goals they had, and the populations they would target for their initiatives. This section details the goals and plans grant recipients made in developing their CBJTG-funded initiatives.

Workforce Issues Addressed

The workforce issues addressed by grant initiatives focused on enhancing basic and technical skills of workers (e.g., unemployed/dislocated job seekers, underemployed workers, and incumbent workers), while meeting the needs of employers for skilled workers in selected high-growth sectors. For example, all but two of the 220 survey respondents indicated that their initiatives were aimed at addressing “insufficient supply of skilled workers” (99 percent), and nearly all respondents indicated that their projects were intended to tackle “low levels of education or skills in the community” (93 percent). A preponderance of respondents also cited two other workforce issues addressed by their initiatives that were training-related: “lack of available education and/or training programs for industry in the community” (77 percent) and “poor employment opportunities especially for low-skilled or other disadvantaged workers” (58 percent).

As shown in Table III.1, the workforce issues addressed by the 11 initiatives visited during the evaluation effort addressed workforce issues that were reflective of the overall goals set forth by ETA for the initiative, and mirrored those generally identified in the survey. At the time grant recipients designed their initiatives, only a few of their training programs (three of the 11 visited) identified “high current vacancies” as an issue to be addressed; nine of the 11 initiatives were designed to tackle what were “expected to be future industry growth or vacancies.” As discussed earlier this is not surprising, as a key intent of the CBJTG was to target high growth and emerging industry sectors that would likely experience shortages or a tight labor market in the future. Most of the 11 grant initiatives visited also indicated that at the time their grant responses were submitted to ETA, the training to be offered was aimed at “meeting emerging training needs” in the industry sector targeted (eight of the 11 initiatives visited). All but one of the 11 programs visited indicated that their “training program had been established because existing training programs were not sufficient to meet the needs of participants and employers in the service area.” Box III.1 below highlights the workforce issue that was to be addressed by one grant organization – the Community College of Baltimore County – through its *CCBC Healthcare 1* grant.

¹³ Requirements discussed in this report with regard to training to be provided under the CBJTI are based on the grant solicitation requirement provided in the Federal Register, Vol. 72, No. 152/Wednesday, August 8, 2007/Notices, p. 44574: “Department of Labor, Employment and Training Administration, Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants.”

Table III.1: Workforce Issues Addressed as Indicated by Visited Sites

Site Visit Initiative	Workforce Issue			
	High Position Vacancy Rate	Expected Industry Growth or Vacancies	New Industry Training Needs	Training Programs Not Sufficient to Meet Needs
CT SMART	✓		✓	✓
CCBC Healthcare 1	✓	✓	✓	✓
CCBC Build		✓	✓	
CCBC Healthcare 2		✓	✓	✓
SPC RN	✓	✓		✓
SPC Informatics			✓	✓
OCTC Biotech		✓		✓
MSUB-COT Energy		✓	✓	✓
Tri-C Healthcare		✓		✓
EICCD Logistics		✓	✓	✓
SBCCD Nanotech		✓	✓	✓

Source: CBJTG Evaluation Case Studies 2011

Box III.1: Baltimore Workforce Context for Healthcare Training

CCBC Healthcare 1

According to the Baltimore Workforce Investment Board, healthcare/life sciences comprised the largest employment sector in Baltimore at the time its CBJTG grant was submitted for funding. Maryland's Department of Education and Department of Labor, Licensing, and Regulation had produced a report identifying 27 health occupations critical to Maryland's future. Additionally, the Maryland Hospital Association 2006 survey of its members indicated a 9.2 percent vacancy rate for all positions and a survey by the Baltimore Alliance for Careers in Health (BACH) indicated pronounced turnover and vacancy rates for the eight Baltimore hospitals that had responded to the survey. Thus, the Community College of Baltimore County (CCBC) was responding to many strong signals about current and growing health industry needs when it responded to the grant request. Through its community contacts, the community college was also aware of incumbent worker training needs of area hospitals, including help with upgrading skills of medical laboratory technician (MLT) and nurse support technician (NST). CCBC's School of Health Professions and Division of Continuing Education needed to add training capacity to meet expanding staffing needs of hospitals, skilled nursing homes, and other providers for healthcare professionals.

Training Goals

The training goals of grant initiatives were focused on meeting the needs of the local workforce to enhance skills and employability, and at the same time, responding in a timely way to the training needs and requirements of the employer community. All projects mounted training initiatives that had goals for job placement and retention for training participants. The training goals for programs often overlapped with capacity-building goals – for example, grant activities were in part aimed at building capacity of existing training programs including developing or implementing new curriculum, training/hiring additional faculty, and establishing new/improved

laboratory facilities – so it was possible to expand training slots in a healthcare, biotechnology, or advanced manufacturing training program at a community or technical college.

Table III.2 provides a ranking of the training goals of CBJTG initiatives, which shows that training programs were closely aligned with the objectives that DOL set forth in the original *Federal Register* grant solicitation. As shown in the table, 97 percent of survey respondents indicated that “meeting employer needs and skills requirements” was “important” or “very important.” Responding to a variety of trainee needs was of paramount concern in implementing their initiatives as well: “meeting trainee enrollment goals” (96 percent); “meeting graduation/completion goals” (96 percent); “increasing skills of the workforce, including incumbent and dislocated workers” (96 percent), and “meeting trainee credential/certificate attainment goals” (95 percent). Goals with respect to enhancing employment, earnings and worker mobility to higher skilled/higher paid jobs were also considered by over three-quarters of survey respondents to be of critical importance to their initiatives: “creating opportunities for promotion or moving up career ladders/lattices” (85 percent); “increasing earnings for graduates” (82 percent); and “matching graduates with available jobs” (81 percent). Box III.2 highlights OCTC Biotech’s training goals for its training programs serving youth and adults.

Table III.2: Training Objectives by Level of Importance to the CBJTG Project

Training Objectives (Rated as Important or Very Important)	Frequency	Percent
Meeting employer needs	213	96.8
Meeting trainee enrollment goals	212	96.4
Meeting graduation/completion goals	210	95.5
Increasing skills of the workforce, including incumbent and dislocated workers	210	95.5
Meeting trainee credential/certificate attainment goals	208	94.5
Creating opportunities for promotion or moving up career ladders/lattices	186	84.5
Increasing earnings for graduates	181	82.3
Matching graduates with available jobs	179	81.4
Increasing trainee satisfaction with training program	166	75.5
Other	10	4.5

N=220

Source: CBJTG Grantee Survey 2011

Box III.2: Goals of CBJTG Training Initiative in Biotechnology

OCTC Biotech

(1) *Develop a youth pipeline and strategies to retain students --*

- Implement a comprehensive recruitment campaign targeting students at feeder high schools in the OCTC service area; dislocated workers wishing to change careers; and targeted populations, such as minorities, persons with disabilities, and other underrepresented groups; and
- Provide advising, counseling, and support services to students enrolling in biotechnology/life science programs to promote student retention.

(2) *Create more training avenues for developing skill competencies of both incumbent and non-incumbent workers --*

- Incorporate two biotechnology laboratory courses modeled after successful National Science Foundation projects (*Biotechnology Techniques I and II*).
 - Offer real-life industry exposure through internship opportunities to youth and adults.
 - Offer training opportunities to incumbent workers at area biotechnology and life science employers with topics and activities appropriately suited to the industry.
 - Offer professional development opportunities to teachers from OCTC's feeder schools at various levels of the education continuum, from elementary to high school, to promote the inclusion of biotechnology concepts and competencies at the pre-college level.
 - Promote a career pathway in biotechnology from the senior level of high school through the baccalaureate level (2+2+2), including alternative delivery models.
-

Capacity-Building Goals

According to the grant announcement for round 4 in the *Federal Register* (October 2008): “CBJTG applicants are encouraged to broadly assess their capacity to meet the training needs of the targeted high-growth/high demand industry or industries. Proposed capacity building strategies are expected to address significant barriers which impede the ability of the community college, or other entity as specified in the exception detailed in Section III.C.5, to meet local and regional industry demand for workforce training as well as increase the capacity of the college to provide training resulting in an increase in the pipeline of skilled workers ready for employment or promotion in the regional economy. These strategies should not simply address isolated deficits, but rather provide a comprehensive solution to identified capacity challenges as they relate to the industry or industries of focus” (p. 60343).

As shown in Table III.3, attracting future workers to the industry was the capacity-building goal most frequently rated as “somewhat important” or “very important.” of survey respondents (92 percent), with developing new education/training programs coming in a close

second (90 percent). The proportion of survey respondents indicating these two goals as important appears to be a reflection of their recognition that they needed “new” strategies to better serve industry. Pipeline development and creation of new educational programs were frequently discussed among case study site participants as well. More than 80 percent but less than 90 percent of survey respondents indicated the following capacity-building objectives as “somewhat important” or “very important”: expanding the number of education/training slots (89 percent), designing or implementing new instructional techniques or technologies (89 percent), improving access of disadvantaged workers to educational and training opportunities (86 percent), and hiring or retraining faculty or instructors (83 percent).

Three quarters of survey respondents indicated the importance of hiring or retraining staff to support education/training activities, while about half of the survey respondents indicated the importance of developing or expanding financial aid options (51 percent each) and creating train-the-trainer programs (49 percent). A new degree program might require new recruitment/awareness activities to attract new individuals, hiring or training of faculty to be compatible with the new subject matter, pipeline-building activities to generate a future generation of interested students, and designing new instructional technologies to support the new subject matter. The particular activities implemented are discussed later in the report.

Table III.3: Capacity-Building Objectives by Level of Importance to the CBJTG Initiative

Capacity-Building Objectives (Rated as Somewhat Important or Very Important)	Frequency	Percent
Attracting future workers to industry (such as creating “pipelines” of new workers or youth)	202	91.8
Developing new educational/training programs	198	90.0
Expanding the number of education/training slots	195	88.6
Designing or implementing new instructional techniques or technologies	195	88.6
Improving access of disadvantaged workers to educational and training opportunities	188	85.5
Updating existing programs (including updating curriculum and upgrading equipment)	184	83.6
Hiring or retraining faculty or instructors	182	82.7
Hiring or retraining staff to support education/training activities	165	75.0
Developing financial aid or scholarship programs	112	50.9
Expanding existing financial aid or scholarship options for trainees	112	50.9
Creating train-the-trainer programs (instructional training for faculty or other trainers)	107	48.6
Other	7	3.2

N=220

Source: CBJTG Grantee Survey 2011

Target Populations

The round 4 solicitation identifies the following as potential target populations for CBJTG: “WIA Sec. 171(d) authorizes demonstration programs to serve dislocated workers, incumbent workers, and new entrants to the workforce. This authorization supports a broad range of training for a variety of populations, including: incumbent workers who need new skills for jobs in demand at higher levels of the career ladder or because the skill needs for their current jobs have changed; untapped labor pools such as immigrant workers, individuals with limited English proficiency, individuals with disabilities, veterans, Indian and Native Americans, older workers, youth, etc.; or entry level workers who need basic skills and/or specific occupational skill training “ (p. 60348).

Survey respondents were asked to indicate their target populations. Nearly all indicated new entry-level workers (91 percent) and unemployed workers (90 percent) as target populations. A large proportion indicated dislocated workers (86 percent), incumbent workers (85 percent), and underemployed workers (80 percent). Fewer targeted by age with 53 percent targeting older workers, 71 percent targeting high school youth, and 25 percent targeting pre-high school youth. Seventy-seven percent each targeted veterans and low-income/disadvantaged individuals, while 46 percent targeted people with disabilities and 30 percent targeted immigrants/refugees. Women and men were targeted at nearly equivalent rates – men (67 percent) and women (67 percent). Finally, 50-60 percent tended to target by some kind of race: Asian-Pacific Islanders (49 percent), American Indians (56 percent), African Americans (59 percent), and Hispanics (64 percent).

The case studies revealed that respondents selecting the term “incumbent worker” to describe their target population may mean two different things, either workers who continue to work for a current employer and receive training to advance in the same workplace or individuals who are currently working but want to change careers. Similarly, “dislocated workers” may mean individuals who are from any field and are unemployed or individuals who are unemployed from the field in which they desire training. In both cases, there is a distinction between building on skills in one field or developing skills in a new field. Similarly, the case studies reveal that subsets of youth are frequently targeted including young girls, fifth and sixth graders, middle school, or high school youth (see Box III.3 for an example). Some of the youth are targeted for occupational training where they might be involved through dual enrollment in high school and a community college, while others are targeted for career pipeline activities that have been developed to create awareness of employment opportunities in a particular industry.

Box III.3: Targeting Youth for Pipeline Development in Manufacturing

CT SMART

Pipeline Development. One focus of the *SMART Initiative* is increasing awareness and interest among young girls in entering advanced manufacturing careers. In partnership with the non-profit Connecticut Women's Education and Legal Fund (CWEALF), CCCS conducted six one-day technical expositions (referred to as G²O-Expo). Young female students and teachers attended these expositions. The all-day workshops highlighted the varying sectors and opportunities within the manufacturing industry. A range of workshops were offered, including *Let's Make Something* (how machines help to take a product from raw to finished form); *The Amazing Cube* (a vertical milling machine is used to make a design that can hang from a key chain); and *Treasure Hunt* (teams work to locate three caches using a GPS unit). The expositions are aimed at bringing a "cleaner" and more modern view of manufacturing to a younger generation. As of December 31, 2010, nearly 450 students attended expositions focused on increasing knowledge/awareness of advanced manufacturing careers.

IV. Grant Activities

This section examines the five primary grant activities in which CBJTG-funded initiatives engaged: recruitment activities, training programs, capacity-building activities, partnerships, and leveraged resources.

Recruitment Activities

Recruitment was an important grant activity for CBJTG-funded initiatives because they needed to dispel misconceptions about the industry fields for which they were developing training, make the industry and community aware of new training opportunities, and bring in new students and incumbent workers to participate in their new training programs. Initiatives utilized a wide variety of recruitment techniques ranging from broadly sweeping community education and awareness activities to sharply targeted activities designed to bring in certain populations of individuals. This report section discusses the types of participants in the CBJTG-funded initiatives, the strategies used to recruit these participants, assessments of the effectiveness of strategies employed, and recruitment challenges experienced as reflected in the survey responses and insights provided through the case study sites.

Survey respondents were asked to provide characteristics of the participants they served. While three survey respondents indicated that they did not know these characteristics, the other respondents most frequently indicated unemployed workers (86 percent) and new entry-level workers (83 percent) as CBJTG-funded initiative participants. More than half of the respondents also indicated dislocated workers (78 percent), underemployed workers (74 percent), incumbent workers (74 percent), and low-income/disadvantaged workers (69 percent). Less than half of the respondents indicated serving any of the youth populations: 46 percent had high school youth participants, 22 percent had out-of-school/dropout youth participants, and 10 percent had pre-high school youth participants. Five percent of respondents indicated that their participants were distinguished by “other” characteristics. These others included veterans, English as a second language students, prison inmates, and tribal affiliations.

Survey respondents were asked to indicate the types of recruitment strategies they used and to rate the effectiveness of those strategies as shown in Table IV.1. All 220 survey respondents indicated that they undertook some kind of recruitment strategy. Survey respondents indicated using one to nine different recruitment strategies with the median number of strategies used at six. Among the 220 survey respondents, the majority cited partnerships with employers and industry organizations (92 percent) and distribution of flyers, posters, or educational/informational materials (91 percent) as recruitment strategies. While partnership with employers/industry was rated as effective by the highest proportion of survey respondents (82 percent), a significantly lower proportion (44 percent) rated distribution of materials as effective.

Table IV.1: Types of Recruitment Activities Used in Order of Percentage Rated as Effective

Type of Recruitment Activity	Percent of Survey Respondents Using Recruitment Activity	Percent of Those Using Indicating It as an Effective Strategy
Partnerships with employers and industry organizations	92.3	82.3
Other	7.7	76.5
Informational websites	80.0	70.7
Referrals from the workforce system	87.3	62.0
Outreach campaigns using media (TV, radio, newspaper, advertisements on buses)	63.6	49.3
In-person presentations in the community (at schools, neighborhood centers, libraries)	86.8	45.5
Referrals from community- or faith-based organizations	51.4	44.3
Distribution of flyers, posters, or educational/informational materials	91.0	44.0
Door-to-door outreach campaigns	4.1	33.3
Direct mail campaigns	41.4	30.0
Toll-free informational hotlines	3.6	25.0
Did not have a recruitment strategy	0.0	0.0

N=220

Source: CBJTG Grantee Survey 2011

The next most frequently used recruitment strategies as indicated by the survey respondents were referrals from the workforce system (87 percent), in-person presentations (87 percent), and informational Web sites (80 percent). More than half of the respondents using workforce system referrals (62 percent) and informational Web sites (71 percent) indicated that these strategies were effective. Only 46 percent of respondents said the same of in-person presentations.

Nearly two-thirds of respondents (64 percent) had outreach campaigns using media such as television, radio, newspaper, and advertising on buses with 49 percent indicating this strategy as effective. Fifty-one percent of respondents noted referrals from CFBO organizations as a recruitment strategy (with 44 percent finding this effective) and 41 percent relied on direct mail campaigns for recruitment (with 30 percent finding this effective). Only four percent of respondents used either door-to-door outreach or toll-free informational hotline recruitment strategies, and only a handful found these strategies effective (33 percent and 25 percent respectively). About eight percent of respondents indicated that they had used a recruitment strategy not listed on the survey. These included high school, college, and job fairs, on-campus visits, Facebook, career camps, and collaborations with other programs.

Examining strategies by industry does not yield much systematic variation. The respondents whose initiatives are classified as financial services or forestry did not indicate which recruitment activities they engaged in. While direct mail was indicated by less than half of the respondents, every industry except logistics or movie/television production included it as a strategy. Similarly, door-to-door outreach, which was indicated by less than five percent of respondents, was used by nine industries. While not every respondent indicated that its initiative

used referrals from the workforce system as a recruitment strategy, some respondents in every industry area that reported recruitment strategies used referrals from the workforce system.

When speaking with case study participants, important nuances emerged about the recruitment process. Case study participants whose initiatives focused on emerging fields such as healthcare informatics (*SPC Informatics*), logistics (*EICCD Logistics*), and biotechnology (*OCTC Biotech*) indicated that a key part of their recruitment strategy was helping not only their target populations but the community as a whole understand what their field is (see Box IV.1). As EICCD noted, “*Not many kids grow up and say, ‘I want to be a logistician.’*” Case study participants in more traditional fields such as nursing, advanced manufacturing, and energy faced a different problem. They had to help potential applicants understand that training in these fields had changed and there were more skill and academic requirements for entry into the training program. *SPC RN* had to make potential students aware that their nursing program was highly competitive (they needed a strong science background and good grade point average to be admitted) while advanced manufacturing (*CT SMART*) and energy (*MSUB-COT Energy*) needed potential students to know that their programs were more technology-driven and less manual labor. Those initiatives focused in the area of health and sciences, but not focusing in the traditional areas of doctors and nurses faced the challenge of helping potential students understand the breadth of the science field, the demand for many lesser known science-related professions, and to overcome fears about science. Following are two examples from the case study sites demonstrating how their recruitment strategies addressed these misperceptions and lack of knowledge.

Box IV.1: Educating Students on Biotechnology

OCTC Biotech

Biotechnology is a relatively new field that is not well understood by the larger Owensboro community. Some students are afraid to enter the field of biotechnology because science and math requirements appear daunting. Thus, OCTC focused efforts on allaying these fears and on making the community (including prospective students, parents, and teachers) more aware of career and educational opportunities in biotechnology and life sciences. OCTC hired a recruitment director to conduct outreach to increase community awareness of career and educational opportunities in the biotechnology field, and in particular, to increase awareness of OCTC’s biotech and life sciences programs. Major recruitment activities fell into three main areas: (a) targeted high school recruitment, (b) general community awareness and outreach, and (c) outreach through OCTC’s “Discover College” dual enrollment program. The targeted high school recruitment included presentations to area high school science classes; outreach to high school science teachers, agriculture teachers, and counselors; and, helping K-12 teachers learn more about biotechnology by providing professional development training opportunities (see training section below).

General community awareness and outreach strategies included radio ads, billboards, distribution of brochures throughout the community, public service announcements on OCTC’s television channel, and presentations at job fairs. OCTC estimates that over 35,000 individuals were reached through these community awareness efforts. OCTC also

targeted recruitment to students who were already enrolled at OCTC, but undecided about a major or entry into a specific occupation or field. The staff used posters, brochures, and presentations to targeted classes of students to make them aware of biotechnology courses available at OCTC and to encourage these already enrolled students to consider entry to the field. Finally, staff from OCTC's Discover College program worked to recruit students for dual enrollment in the biotechnology and life sciences programs. The primary challenge recruiters faced for this dual enrollment was the concern about the difficulties of undertaking a "hard" sciences curriculum. *"Traditionally, when a student and parents look at a heavy science field they think Doctor, now they have opened their eyes to see that you can take the same education and use it in other fields. They see life sciences as less intimidating and [opening] more possibilities."*

Both of these examples highlight the role that the K-12 system can play in helping with recruitment of youth. Nine of the 11 case study initiatives talked about their partnerships with the K-12 system as an important recruitment asset. The *SPC Informatics* example reveals that strategies that are sometimes intended for a specific purpose (like scholarships to increase access) can serve multiple other purposes (see Box IV.2). *Tri-C Healthcare* also found that offering scholarships to attend school served as an effective recruitment tool. *MSUB-COT Energy* found that the mobile training unit purchased and outfitted through their initiative served as the perfect recruitment tool to dispel misperceptions of the energy industry as a "dirty" profession and to demonstrate the high-tech elements of their programs; they took it to job fairs, career fairs, and county fairs, allowing youth and adults to use the simulators to experience the energy field.

Box IV.2: Recruiting for Healthcare Informatics Program

SPC Informatics

As an emerging field, healthcare informatics was relatively unknown. This meant that recruitment efforts needed to include awareness efforts. SPC relied on traditional outreach methods such as an online newspaper advertisement, a highway billboard, a program brochure, and Healthcare Informatics web pages on the College's web-site. Project staff also implemented more aggressive awareness strategies including: participation in job fairs put on by WorkNet Pinellas (the local workforce board) and others, presentations at area high schools, and an annual Healthcare Informatics symposium which was free to the public or available for a fee for continuing education credits. Throughout the project, SPC compiled contact information of individuals who made inquiries, participated on the advisory board, or attended related events. SPC was able to then use these contacts to send email blasts about program activities. Finally, SPC indicated that their best recruiting tool was a scholarship for Health Informatics Certificate participants; industry representatives and students quickly spread the word about the availability of the scholarships and the program to incumbent workers who needed a skills upgrade.

As survey respondents indicated in rating the effectiveness of their recruitment strategies, the initiatives experienced some recruitment challenges. The survey respondents were asked to

respond to a list of potential such challenges by rating each on a scale from “1” to “4” with “1” indicating “a great challenge/problem” and “4” indicating “not a challenge at all.” While survey respondents indicated that some of their recruitment strategies were ineffective, almost half (47.7 percent) indicated that this ineffectiveness was “not a challenge at all” while only 3.6 percent indicated this was “a great challenge.” Similarly, more than half of respondents (56.8 percent) indicated that “insufficient resources devoted to outreach and recruitment” was “not a challenge at all” while only four percent of respondents indicated it as “a great challenge.”

The two challenges most frequently noted by respondents as “a great challenge” were the “adverse economic and labor market conditions” (34 percent) and the “low or inadequate basic skill levels of applicants” (22 percent). Showing the diversity of program experiences, however, 25 percent of respondents indicated that the economic conditions were “not a challenge at all.” Similarly, 15 percent of respondents indicated that the skill level of applicants was “not a challenge at all.” In the case of the economy, conversations with the case study participants reveal that the downturn in the economy frequently had mixed recruitment effects. In some places, the unavailability of jobs caused more people to enroll in school, thus not hurting recruitment. In other places, layoffs in the industry field supported by the CBJTG-funded grant caused individuals to be reticent about enrolling in a program supporting a field where jobs seemed to be disappearing.

Fewer than 10 percent of survey respondents indicated that any of the following were “a great challenge/problem”: “difficulties with identifying and finding eligible participants,” “insufficient referrals from partner community-based organizations,” “insufficient referrals from partner employers/employer organizations,” “insufficient referrals from partners in the workforce system,” “insufficient resources devoted to outreach and recruitment,” “lack of effectiveness of selected outreach strategies,” or “participants’ difficulties with transportation.”

Training Programs

This section of the report focuses on the training program activities conducted with CBJTG-funded grants, presenting findings based on the 220 survey responses and providing more specific details from the 11 case study initiatives. The *Federal Register* grant announcement identified three key requirements of the training activities to be conducted under this initiative, namely:

- Training activities must be provided by a community or technical college (with several exceptions);¹⁴
- Such training must occur within the context of workforce education that supports long-term career growth, such as an articulated career ladder/lattice; and
- Training must result in college credit or other credentials that are industry-recognized and indicate a level of mastery and competence in a given field or function.

The *Federal Register* grant announcement further specified that “the credential awarded to participants upon completion should be based on the type of training provided through the grant and the requirements of the targeted occupation, and should be selected based on

¹⁴ See Section III(C)(5) of the grant solicitation for these exceptions.

consultations with industry partners.” Substantial importance was placed on preparing participants to obtain degrees or certificates of completion that would be recognized by employers. For example, it was expected that CBJTG-funded initiatives providing customized and/or short-term training would result in receipt of a performance-based certification or credential upon successful completion of the training.

Active employer involvement was encouraged in terms of design of training curriculum, as well as involving training participants in hands-on internship or work experience at employer sites during training programs. Under CBJTG, certification for training initiatives could be developed jointly by employers and a community/technical college (or other educational institution), based on defined knowledge and skills required for an occupation. Grant organizations could also work with employers to use or adapt existing curriculum to prepare trainees for national certification tests. A key component of this training may be work-based learning for which employers provided the staff and site to conduct this training.

Finally, CBJTG emphasized the importance of job placement and retention.” An important underlying goal of the program was to ensure that grants forged close linkages between the training institutions providing instruction (usually community or technical colleges) and employers within the targeted industry sectors, which would be expected to hire CBJTG participants once they had completed training. As highlighted earlier, training could be provided to various populations, including unemployed/underemployed individuals looking to enter or re-enter the job market or move to full-time or higher skilled/paying jobs. Training could also be provided to help incumbent workers to enhance skills that would enable them to move along a career track to higher skilled or paying jobs.

This section of the report assesses the training models employed by CBJTG initiatives, reporting first in each section on the results from the survey of all grant recipients and then highlighting key findings and observations from the 11 CBJTG case study initiatives visited as part of the evaluation effort. As discussed in greater detail in this section, the CBJTG grant recipients implemented training programs across a considerable range of industry sectors and high-demand occupations. The discussion that follows describes key aspects of the training approaches employed by CBJTG sites, including the number of training programs initiated; types of occupations for which training was provided, goals of the training programs, training duration, training methods employed, and types of degrees or certification provided.

Scope of Training Programs Offered

Training initiatives frequently included more than one training program. The programs may have focused primarily on adults, primarily on youth, or on a combination of youth and adults. The largest proportion (22 percent) of respondents offered six to 10 training programs, while the next largest proportion offered a single training program (17 percent). Five percent indicated that they offered more than 20 training programs.

Seven of the eight sites visited (and 10 of the 11 initiatives offered at these sites), with the exception of *SBC Nanotech*, offered more than one training program. A total of 51 separate training programs were funded through the CBJTG initiatives across the eight sites. CBJTG funded initiatives offering the greatest number of distinct training programs were *MSUB-COT Energy* (10), the *CCBC Healthcare 2* (nine), and *CCBC Healthcare 1* (seven). Slightly more than

half (28 training programs) were accounted for by the case study initiatives visited that focused on the healthcare sector.

Forty percent of the respondents indicated providing one or more programs targeting youth. Of those 87 respondents indicating that they had education/training programs primarily serving youth, more than half (58 percent) indicate a single program, 21 percent indicate two programs, 15 percent indicate three to five programs, and seven percent indicate offering five or more programs.

Ninety-three percent indicated one or more programs targeting adults. Of those 200 respondents, almost one-third (32 percent) indicated offering more than five programs, while less than a quarter (21 percent) indicated offering just one program. The remaining respondents are spread fairly evenly across those offering two, three, four, or five programs with the proportion offering each ranging from 10 to 13 percent.

Forty-four percent of the respondents indicate providing education/training programs that serve both youth and adults. Nearly a third (31 percent) of the 96 respondents indicating that they targeted both youth and adults provided a single education/training program, 24 percent provided two programs, and 20 percent provided more than five programs. The remaining respondents are fairly evenly distributed across those offering three, four, or five programs with the proportion offering each ranging from seven to nine percent.

Occupations Targeted by Training Programs

As discussed earlier, an important goal of the CBJTG was to foster education/training in a variety of high-growth occupations in high demand by employers in the region served by the program, as well as to support worker mobility along well-articulated career pathways.¹⁵ Survey respondents were asked to identify the job titles and occupations for which participants were being prepared. The most frequently identified occupations identified were the following (in descending order of frequency):

- Registered Nurse (RN)
- Welder
- Machinist/Computer Numerical Control (CNC) Operator
- Certified Nursing Assistant (CNA)
- Emergency Medical Technician (EMT)
- Renewal Energy Auditor/Technician
- Process Operator/Support Technician
- Medical Assistant (MA)

¹⁵ Career pathway is a term generally used for training programs with interim credentials earned as the training participant progresses through the program. Individuals in a pathway program may be able to use interim credentials to obtain employment but then return to the program to complete more advanced training. A basic example of a career pathway is in nursing where an individual can become certified as a nursing assistant (a certificate program), then progress to a licensed practical nurse and then registered nurse (both degree programs).

- Dental Assistant/Hygienist
- Licensed Practical Nurse (LPN)
- Heating, Ventilation, and Air Conditioning (HVAC) Technician
- Physical Therapist Technician
- Respiratory Therapist
- Electrician
- Medical Billing/Coding Technician
- Quality Assurance/Control Specialist
- Medical Laboratory Technician (MLT)
- Industrial Maintenance Technician
- Phlebotomist
- Plumber

Of these leading occupations, about half were in healthcare. Some were familiar— such as teacher, retail sales clerk, carpenter, pharmacy technician/aide, fork lift operator, and licensed practical nurse – and some cutting-edge, high-tech, and emerging occupations that may not be as familiar – such as solar installation technician, geo-thermal installation/service technician, sonographer, hazard control specialist/evaluator, nuclear medicine technologist, aircraft structural technician, and biofuels technician.

The case studies provide more specific details about the breadth of occupations for which training was provided with CBJTG funding, as well as how training activities supported career pathways under the initiative. Table IV.2 provides an overview of the industries and occupations targeted by the 11 initiatives that were the focus of site visits under the evaluation effort, as well as the potential career pathways open to trainees once they had completed the coursework and other “hands-on” training activities that were often a part of the training programs offered. In selecting grants for site visits, an attempt was made to be broadly reflective of the industry sectors served, but at the same time include several industries that were high-tech/cutting edge, with less representation among the 279 initiatives funded. Hence, as shown in Table IV.2, among the 11 programs that were the focus of site visits, nearly half (five) prepared participants for entry into rapidly expanding jobs in the healthcare sector. The other six programs visited prepared participants for occupations in advanced manufacturing, construction and energy, biotechnology, energy, logistics, and nanotechnology.

One key element of CBJTG-funded initiatives was their focus on developing training programs that created career pathways that provided advancement opportunities in their industry of focus. These career pathways may be well-established on national scale such as those in the healthcare sectors tended to be, but the local training environment may not previously have fostered easy transitions between career steps. For example, CNA is typically a first step on a career ladder in nursing, but the CNA is often earned through a non-credit career and technical education program in a community college or through another training provider rather than a for-

credit academic program in a college. This meant that the courses taken to earn a CNA could not be counted toward becoming an LPN, a more advanced nursing position. The CBJTG emphasis on long-term career tracks, however, provided colleges the impetus to create bridges between continuing education and academic tracks, typically through articulation agreements, so that no credential becomes a dead end on the career ladder. CCBC Healthcare 1 provides an example of such an effort.

In other cases, pre-defined career pathways did not exist because of the emerging nature of the industry. In those cases, input from industry representatives and employers was crucial in creating steps in a career ladder that demonstrated incremental skill increases. In fields where unions and apprenticeship programs were prevalent, the colleges attempted to assure some continuity with union training expectations and apprenticeship levels. CCBC Build and MSUB-COT provide examples of these kinds of career pathways.

Table IV.2: Career Pathways of Case Study Sites

Initiative Visited	Industry	Career Pathway as Defined by CBJTG-Funded Initiative
CT SMART	Advanced Manufacturing	<ul style="list-style-type: none"> Establishing a Pre-Manufacturing Certificate program Expanding availability of Skills for Manufacturing and Related Technologies (SMART) Level 1 Training Clearly articulating connections between Pre-Manufacturing, SMART Level 1, and SMART Level 2 trainings throughout the Connecticut community college system Strengthening linkages between the community colleges and manufacturing employers
CCBC Healthcare 1	Healthcare	<ul style="list-style-type: none"> CNA → Nurse Support Technician (NST) (developed NST) CNA → LPN, Dental Assisting → Dental Hygiene, Intro to Lab Techniques → MLT (developed intra-agency articulation agreements between continuing education and academic programs) Associate-to-Master's in Nursing (ATM) – developed a joint program with a local university to allow students to complete their associate, bachelor's, and master's degrees in three years; students must have a bachelor's degree in any field and meet all nursing prerequisites
CCBC Build	Construction and Energy	<ul style="list-style-type: none"> Instituting a construction pre-apprenticeship course series to prepare participants for established registered apprenticeship programs in the region Updating educational credentials (certificates and academic degrees) and coursework to include "green" technologies Forming a college consortium across all 16 Maryland community colleges to offer courses that align with the skills required for jobs in the construction and energy sectors
CCBC Healthcare 2	Healthcare	<ul style="list-style-type: none"> Developing a new career path for mental health practitioners including a Psychosocial Rehabilitation Certificate Developing a new career path for CNAs/Geriatric Nursing Assistants (GNAs); launching the Eldercare Specialist Certificate for long-term care Adding CT and MRI specializations to the Radiography certificate Developing Associate Degree in Nursing (ADN)-to-Bachelor of Science in Nursing (BSN) curriculum with a local college
SPC RN	Healthcare	<ul style="list-style-type: none"> Updating LPN-to-RN transition program using simulation laboratory Providing an opportunity for RNs specialize through Critical Care Certificate and Emergency Care course Support RNs to become MSNs so they can teach
SPC Informatics	Healthcare	<ul style="list-style-type: none"> Healthcare Informatics Certificate → Health Informatics AAS; due to conversion to electronic records incumbent staff at many levels needed to upgrade their skills with Health Informatics training

Table IV.2: Career Pathways of Case Study Sites

Initiative Visited	Industry	Career Pathway as Defined by CBJTG-Funded Initiative
OCTC Biotech	Biotechnology	<ul style="list-style-type: none"> Developed a 2+2+2 strategy: high school credits → Associate Degree in Applied Sciences (AAS) → to Bachelor degree at a local university
MSUB-COT Energy	Energy	<ul style="list-style-type: none"> Created articulation with apprenticeship programs that may allow students to skip some apprenticeship years; evaluation is individual
Tri-C Healthcare	Healthcare	<ul style="list-style-type: none"> This program was primarily focused on increasing slots in existing healthcare training areas. Participants in the CNA program could upon completion (and if meeting college entry requirements) enter Medical Assistant (MA) program or LPN/RN training programs.
EICCD Logistics	Logistics	<ul style="list-style-type: none"> Developed high school dual enrollment Developed stackable logistics credentials: Logistics Certificate → Logistics Diploma → Logistics & Supply Chain AAS Developed 4+2 Supply Chain Management Program with a local university
SBCCD Nanotech	Nanotechnology	<ul style="list-style-type: none"> Developed a six-course sequence that prepares students for a technician position

Source: CBJTG Evaluation Case Studies 2011

This table also highlights the emphasis that grant initiatives placed on defining and promoting “career pathways” through their training programs. For many of the grant-funded initiatives, certificates of completion served as an initial step into an occupation or a bridge to moving to a higher-skilled/paid occupation along a career pathway. For example, the *CT SMART* initiative – a 15-week course (204 hours in seven weeks with an optional 96-hour elective) – provided an introduction to the field of advanced manufacturing. With this Pre-Manufacturing Certificate, a trainee could potentially secure an entry-level manufacturing job or could immediately move on to SMART Level I at 600 hours of training and then on to the SMART Level II certificate programs.

Similarly, the *CCBC Build* initiative offered a pre-apprenticeship program (of six weeks and 150 hours of core training), which could also include specialty training of an additional 150 to 200 hours in plumbing, carpentry, electrical work, or power generation. Trainees could seek an entry-level job in one of these occupations upon completion of the training, but they also had a range of other options available if they desired to seek additional training and move along a career pathway. For example, the *CCBC Build* initiative offered an Associate of Applied Science program in HVAC/Energy (a minimum of two years) or, if desired, trainees completing the pre-apprenticeship program could apply to other longer-term apprenticeship programs in construction or energy. Finally, under its initiative, CCBC offered a long list of continuing education for-credit and non-credit courses to enhance worker skills (especially aimed at incumbent workers) and move them along a career path to higher-paying and more skilled jobs.

Within the healthcare field, many of the initiatives were aimed at increasing awareness of the wide variety of healthcare professions (i.e., getting parents, teachers, and students to understand that the healthcare field has many skilled and high-paying opportunities besides becoming a doctor or nurse). Box IV.3 provides one illustration of a grant institution’s efforts to build the pipeline of new workers to the healthcare field, provide a range of training programs

through which interested individuals could enter training (and a field), and help workers to move along a career pathway to higher skills and higher-paying jobs.

Box IV.3: Building Pipeline and Career Pathway in Health Training

SPC RN

Pipeline Development. Even though St. Petersburg College (SPC) had waiting lists for enrollment in the RN program, the college believed that it was important to educate high school students about the nursing profession. The three-week summer academies offered by SPC consisted of two weeks in the classroom and the last week job-shadowing in hospitals. During their weeks in the classroom, for example, youth learned about the effects of drugs and alcohol through the use of a simulation center.

Curriculum Development. Curriculum for four courses was developed or updated with CBJTG funding to provide an opportunity for nurses who already have their RNs to earn specialty certificates that would allow them to perform duties in more areas of the hospital and to move along a career pathway to higher skill/pay jobs. The Critical Care Nursing Certificate, a three-course, 100 percent online certificate program, was updated to comply with the new Advanced Cardiac Life Support accreditation requirements. In addition, a one-credit Emergency Care Course allows an RN with a Critical Care Certificate to receive an Emergency Care Certificate. This course was developed for online delivery. The RN curriculum was also updated to conform to new accreditation standards and adapted for online availability. Curriculum for an LPN-to-RN transition program was also updated with grant funds to increase the retention rate in the program. This Transition to Professional Nursing course allows the LPNs to convert their previous credits and time in the field into 11 credit hours in the RN program. During the period of performance, 36 trainees participated in this updated program with promising results – 94 percent completed instead of the typical 75 percent.

Healthcare Training. A number of hospitals in the area partnered with SPC. Most of the additional 48 students in the RN program enrolled under the CBJTG program were also sponsored by a hospital. In some cases, hospitals sponsored students through tuition scholarships or stipends for books. In other cases, sponsorship entailed no funding but created the likelihood (but not guarantee) of subsequent employment.

Components of the Education and Training Programs

As might be expected with the CBJTG program’s emphasis on utilizing the community and technical college system to provide training, grant initiatives relied on both for-credit academic programs and non-credit career and technical education programs, often creating bridges between the two. However, grant initiatives used mostly traditional classroom settings to deliver training but supplemented these activities with Web-based training methods (e.g., online and “hybrid” training methods), as well as work-based learning activities with employers in the targeted industry sector.

Table IV.3 provides an overview of the major education and training components and methods used by the 220 survey respondents. As shown in Table IV.3, a very high proportion of respondents offered “for-credit courses that led to a degree or certificate” (89 percent). Several specific examples of the types of training and course offerings are highlighted later in this section. As shown in the table, about two-thirds of the respondents indicated that the training

offered was “part of an established career pathway/ladder” (68 percent), which was an explicit goal of the CBJTGs as envisioned by ETA. Nearly 60 percent of respondents offered “classroom-based occupational instruction other than college level”, and slightly less than half offered “non-credit college-level courses” (46 percent). To take advantage of Internet-based technologies and make participation in training activities more convenient, slightly over 60 percent of respondents incorporated “distance learning or online tutorials” (61 percent) into their training components (either to substitute for or to supplement classroom-based instruction).

Table IV.3: Education and Training Components of CBJTG Programs

Education/Training Component	Frequency	Percent
For credit courses that lead to a degree or certificate	195	88.6
Part of an established career pathway/ladder	149	67.7
Distance learning or online tutorials	135	61.4
Classroom-based occupational instruction other than college level	131	59.5
Short-term on-the-job training experience (e.g., internships)	105	47.7
Non-credit college-level courses	101	45.9
Remedial/basic education classes (e.g., adult basic education)	66	30.0
Job shadowing	57	25.9
Cooperative education or work-study program	46	20.9
Mentorships	37	16.8
Other preparatory classes (e.g., pre-apprenticeship)	32	14.5
Longer term on-the-job training experiences (including registered apprenticeships)	29	13.2
English as a second language classes	26	11.8
Other	38	17.3

N=220

Source: CBJTG Grantee Survey 2011

Additionally, a critical underlying element of many of the training programs offered was to get trainees out of the classroom and provide them with opportunities to interact with potential future employers and perform actual work activities at employer worksites. Typically, these activities supplemented more formalized classroom and/or distance learning with hands-on learning and performance of job tasks and activities under the supervision of an employer (or in some cases, faculty member). Among the most utilized of these work-based experiential learning activities – which featured extensive employer involvement – were “short-term on-the-job training experiences including internships” (offered by 48 percent of respondents); “job shadowing” (26 percent); “cooperative education or work-study programs” (21 percent); and “longer term on-the-job training (OJT) experiences including registered apprenticeships” (13 percent). Often – especially in the case of OJTs, apprenticeship programs, and work-study programs – participants received pay for the hours they worked at employer sites.

Finally, CBJTG-funded initiatives provided other types of preparatory or basic skills training including: “remedial or basic education classes including adult basic education” (30.0 percent), “mentorships” (17 percent), and “English-as-a-Second Language (ESL) instruction” (12 percent). The remedial or basic education and ESL instruction typically preceded occupational training activities, while mentoring relationships were established and maintained while participants were involved in training (to reduce attrition during training programs and improve academic performance), and even after participants concluded training (to help

participants secure and retain jobs, as well as to encourage and assist participants to obtain additional education/training to upgrade skills and advance along career pathways).

The case study sites provided additional details about the education and training activities supported by the grant initiatives, as well as examples of the training offered with CBJTG funds. Instructional methods typically used by the initiatives combined formal classroom instruction with a variety of “hands-on” instruction to simulate work tasks and activities that are likely to be performed in the workplace. Nine of the 11 initiatives visited featured in-classroom instruction (with the exception of *SPC Informatics*, which was 100 percent online, and *EICCD Logistics*, which was 100 percent hybrid). All 11 of the initiatives visited featured some form of experiential or “hands-on” training activities, including internships, work experience or OJT at employer sites, use of simulators, and laboratory instruction. Some of the programs combined two or more of these instructional methods. Five of the programs visited featured use of online or hybrid instructional methods, which allowed for some or all of the instruction to be accessed by participants remotely via the Internet. In two of the programs (*SPC Informatics* and *EICCD Logistics* initiatives), all instruction was provided online or in a hybrid format, and coupled with laboratory or simulator instruction (see Box IV.4 for an example of how one of these programs managed to provide classroom-free instruction).

Box IV.4: Using Hybrid Instruction Methods

EICCD Logistics

Prior to the *Joined by a River* project, the two colleges involved in this initiative (EICCD and Black Hawk College (BHC)) had begun to develop logistics curriculum due to the growing industry interest in the field. EICCD had recently held a DACUM from which they had created a 160-hour non-credit Logistics Technician training program. Additionally, BHC had acquired but not yet delivered a five-course Warehouse & Distribution Logistics training program created by Georgia Tech. However the initial industry workshop to define logistics indicated that many more courses were needed. EICCD hired a curriculum designer to assist it in creating the stackable Logistics & Supply Chain Management credit-based program and the Radio Frequency Identification (RFID) Certificate. BHC customized the Georgia Tech curriculum to include simulator training (with simulator hardware and software purchased by the grant), and some online elements. It was important to both EICCD and BHC to make their programs as accessible to students as possible with multiple entry and exit points, and the flexibility provided by online coursework. It was also important to both colleges to help students acquire the necessary skill sets and experience by incorporating hands-on and/or simulator experiences. The two colleges created seven credit-based logistics-oriented programs. EICCD created the Radio Frequency Identification (RFID) Certificate (12 credits) – the only RFID program in the state of Iowa; the Logistics Certificate (18 credits); the Logistics Diploma (33 credits; stacks on to the Logistics Certificate); and the AAS in Logistics & Supply Chain Management (64 credits, but stacks on to the previously mentioned certificates and diploma). EICCD offers all credit coursework in logistics in a hybrid format. EICCD developed each course in eight-week increments to allow for easy program entry/exit. Students take between one to three classes each eight weeks. Each three-credit course requires approximately 18 hours per week of student time to complete.

Types and Duration of Training Programs Offered

A wide range of training types and durations was offered through the CBJTG-funded initiatives. The case study sites illustrate the complexity of these education program offerings. Table IV.4 provides a glimpse at the wide range of occupations for which training was provided with CBJTG grants, as well as additional details about the types of training offered, the duration of training, and the type of degree or certificate received upon successful completion of training. As shown in this table, training programs ranged from several hours or days (typically resulting in a certificate of completion) to two years of training or longer (typically resulting in a degree such as an AAS). The range of program offerings included:

- *A single course or a set of related workshops* (lasting from several hours to several days and up to a semester) usually aimed at providing skill upgrades or some type of certification for incumbent workers – such as the *SPC RN* Emergency Care Certificate training program (lasting one semester) aimed at incumbent workers with an RN and Critical Care Certificate and the *MSUB-COT Energy* OSHA certificate program (lasting a minimum of 10 hours for basic safety and more for additional components);
- *Short-term preparatory training initiatives*, usually aimed at preparing participants for entry-level jobs or for entry into a longer-term training program (by introducing the individual to a field and remediating basic skills) – such as the *CT SMART* Pre-Manufacturing Certificate program lasting from 7 to 15 weeks and the *MSUB-COT Energy* Introduction to Welding program lasting 30 hours; and
- *Longer-term education and training programs* typically leading to an associate or higher-level degree, which could be aimed at individuals not yet in a particular field or at incumbent workers to assist them in moving to a higher-skilled job (e.g., from an LPN to RN) – such as the *Tri-C Healthcare* training program which offers three two-year Associate degree programs to become an Occupational Therapist Assistant (OTA), Physical Therapy Assistant (PTA), or Health Information Technician (HIT), and a 27-month Physician Assistant program (which culminates in the receipt of a master's degree).

While Table IV.4 provides a more detailed listing of the types of occupational training provided with CBJTG funds, some examples of the considerable variety of training programs offered include the following: Healthcare Informatics; MLT; Occupational Safety and Health Administration (OSHA) and hazardous materials (HAZMAT) certification; AAS in Power Plant Technology; AAS in Engineering Technology; and AAS in Logistics and Supply Chain Management.

Table IV.4: Training Programs Developed/Enhanced through the Eleven CBJTG Case Study Initiatives

CBJTG Case Study Initiative	Industry	Type of Training	Duration of Training	Results in Degree or Certification
CT SMART	Advanced Manufacturing	SMART Pre-Manufacturing Certificate	7-15 weeks (204 hours required + 96-hour regional electives to meet regional industry needs)	Certificate of Completion
	Advanced Manufacturing	SMART Level I	600 hours	Certificate of Completion
CCBC Healthcare 1 *All noncredit programs have the same pre-requisites: Basic Math for Healthcare Workers (2 hours), CPR for healthcare providers (7 hours), and HIPPA (4 hours). The hours for pre-requisites are not included in the table. **All credit programs have some pre-requisites – usually 1-2 years. The hours for pre-requisites are not included in the table.	Healthcare	Medical Laboratory Technician (MLT) Program**	15 months (for the MLT-specific requirements; 27 credits)	Associate of Applied Science (A.A.S.)
		Dental Hygiene Program**	2 years	A.A.S.
		Dental Assisting*	3 months (87 hours)	Certificate of Completion
		Certified Nursing Assistant (CNA)*	3 months	Certificate of Completion
		Nursing Support Technician (NST) Program*	8 months Fast track: 6 weeks; 4 days/week	Certificate of Completion
		Accelerated Associate to Master's Degree in Nursing**	3 years (full-time, year round)	Receive A.S. (after 5 terms), BSN and MSN (after 11 terms)
		Introduction to Lab Techniques*	2 months	Part of the Medical Assistant Program and articulates with the MLT program
CCBC Build Specialty training in the following occupations is available to students completing the core pre-apprenticeship program: plumbing, carpentry, electrical work or power generation.	Construction and Energy	Pre-apprenticeship program	6 weeks and 150 hours of core training; optional specialty occupational training for another 150-200 hours	OSHA-10, First Aid-CPR, AFL-CIO and National Center for Construction Education and Research (NCCER) pre-apprenticeship certificate
		AA in HVAC/Energy	Minimum of two years (65-70 credits)	Associate in HVAC/Energy
		Continuing education and for-credit courses	Semester	Courses result in certification
CCBC Healthcare 2	Healthcare	Emergency Medical Technician (EMT)	1 year (53 credits)	Certificate
		EMT AAS	2 years (69 credits)	AAS
		Radiography (MRI and CT)	6 months each	Certificates
		Mental Health-Psychosocial Rehabilitation	18 months (24 credits)	Certificate
		Mental Health-General	2 years (66 credits)	AAS
		Nursing (BSN)	BSN is still in development	ADN to BSN
		Eldercare Specialist	48 hours of classroom time	Certificate of Completion
		Medical Laboratory Technology (MLT)	15 months (for the MLT-specific requirements; 27 credits)	Certificate of Completion
SPC RN	Healthcare	RN – Associate Level	2 years (68 credits)	AAS
			15 months	RN

Table IV.4: Training Programs Developed/Enhanced through the Eleven CBJTG Case Study Initiatives

CBJTG Case Study Initiative	Industry	Type of Training	Duration of Training	Results in Degree or Certification
		Critical Care training for incumbent workers with an RN	3 courses	Critical Care Certificate
		Emergency Care training for incumbent workers with an RN and Critical Care Certificate	1 course	Emergency Care Certificate
		LPN-to-RN Transition	1 course	Earn 11 credit hours toward RN degree. Converts LPN into countable credits.
SPC Informatics	Healthcare	Healthcare Informatics	3 8-week "mod-mesters" (2 courses for 6 credits each 8 weeks)	Certificate (transferrable, academic certificate; not a certification)
		Healthcare Informatics	2 years full-time (67 credits)	Associate in Science (A.S.) in Healthcare Informatics
OCTC Biotech	Biotechnology	Associate Degree	2-year minimum	Associates of Applied Science in Biotechnology
		Incumbent worker training	½ day to one semester	Certificates and/or college credit hours
		Professional development for local K-12 science and agricultural teachers	1-6 days	None
MSUB-COT Energy	Energy	OSHA	Minimum of 10 hours for basic safety; more for additional components	Nationally recognized certificate (non-credit)
		HAZMAT	Varies	Nationally recognized certificate (non-credit)
		NIMS (Incident Command Response)	Varies	Nationally recognized certificate (non-credit)
		Heavy Equipment Operation	Large Wheel Loader and Skidsteer (30 hours), Backhoe and Excavator (30 hours), and Motor Grader (30 hours)	MSUB-COT certificates listing the NCCER modules (non-credit)
		Introduction to Welding and Wire Feed Welding	30-hour (Intro), 36-hour (Wire Feed)	MSUB-COT certificates listing the NCCER modules (non-credit)
		Welding & Metal Fabrication	72 credit hours for AAS (2 years), 39 credit hours for certificate (1 year)	AAS of Welding and Metal Fabrication Technology, Welding and Metal Fabrication Certificate, Welding for Energy Technology Certificate Can sit for NCCER Certification (nationally recognized) and may qualify for advanced placement in Iron-workers, Pipefitters or Boilermakers unions.

Table IV.4: Training Programs Developed/Enhanced through the Eleven CBJTG Case Study Initiatives

CBJTG Case Study Initiative	Industry	Type of Training	Duration of Training	Results in Degree or Certification
		Power Plant	72 credit hours (2 years)	AAS in Power Plant Technology
		Process Plant	69 credit hours (2 years)	AAS in Process Plant Technology
		Diesel	70 credit hours for AAS (2 years), 35 credit hours for certificate (1 year)	AAS in Diesel Technology, Diesel Certificate; Students are encouraged to take the ASE certification tests
		Engineering Technology (Dawson Community College)	Unknown	AAS in Engineering Technology
Tri-C Healthcare	Healthcare	Medical Assistant	1 year	Certificate of Completion
		Occupational Therapist Assistant	2 year	Associate Degree of Arts and Science
		Physical Therapy Assistant	2 year	Associate Degree of Arts and Science
		Health Information Technician	2 year	Associate Degree of Arts and Science
		Physician Assistant	27 months	Master's Degree, Physician Assistant
		Nursing Assistant	6-8 weeks	Certificate of Completion
EICCD Logistics	Logistics	High School Career Academy Dual Enrollment	Varies, 1 semester to 2 years	Credit hours; varies by program
		Incumbent worker customized program	Varies	Non-credit
		BHC Credit Programs Warehousing & Distribution Certificate Inventory Specialist Program Freight Broker Certificate	Varies	Certificates
		EICCD Credit Programs RFID Certificate (12 credits) Logistics Certificate (18 credits) Logistics Diploma (33 credits) AAS in Logistics and Supply Chain Management (64 credits) [stackable programs]	Varies	Certificates, Diploma, AAS
SBCCD Nanotech	Nanotechnology	Non-credit certificate program with optional soft-skills component	Two months – six, 15 hour courses, Monday-Thursday, 3 hours each day	Certificate of completion

Source: CBJTG Evaluation Case Studies 2011

Degrees and Certificates

As also shown in Table IV.4, all of the training programs visited offered some kind of formal degree or certificate. The highest degrees offered were master's-level (only in several healthcare fields among the training programs visited), but most were Associate of Applied Sciences (AAS) degrees in widely varying fields. Among the most frequently awarded AAS degrees were various specialty healthcare occupations – for example, medical laboratory technician, dental hygienist, emergency medical technician, healthcare informatics technician, and respiratory therapist. Some examples of Associate degrees outside of the health field included HVAC/energy, biotechnology, welding and metal fabrication technology, power plant technology, diesel technology, and logistics and supply chain management.

Some training programs helped participants earn credit hours toward a specific degree (e.g., 11 credit hours toward an Associate degree in nursing). Many others – especially short-term, non-credit courses – resulted in a certificate of completion or industry-recognized certification. Following are some examples of certificate of completion programs – SMART Pre-Manufacturing and SMART Level I Advanced Manufacturing; Dental Assisting; Nursing Support Technician (NST); Emergency Medical Technician (EMT); Radiography (for MRI or CT); Mental Health-Psychosocial Rehabilitation; and Emergency Care Certificate.

Pipelines of New Workers into Occupations and Career Pathways

As alluded to earlier in this section, several grant initiatives focused on expanding the “pipeline” of workers into and through a given industry sector. For example some projects developed a short-term “introductory” or “pre-apprenticeship” type program to make it possible for individuals with little or no prior experience within a field to prepare for more rigorous training within an occupation and gain a basic understanding of the specific field. These types of programs provided individuals with basic-level instruction and some hands-on experience (perhaps over a six week period) in order to help individuals decide whether they were interested in pursuing longer-term training. At the same time such projects may help to redress some basic skills deficiencies.

Within the healthcare field, there were a number of initiatives as well that sought to create a pipeline of new workers into healthcare and the possibility of moving up along a career ladder. For example, *Tri-C Healthcare* sponsored a summer camp for elementary school students to increase interest in health careers generally and to increase awareness on the part of teachers, students and parents of the need to take certain course offerings in math and science to be prepared for post-secondary education in a health career. Also, in terms of providing a pathway into nursing, this program offered a six to eight week Nursing Assistant program, after which certificate of completion recipients are able to directly enter employment (e.g., at a hospital, nursing home, or as a home health worker) or go on to additional training at the Cuyahoga Community College as a Medical Assistant (a one-year certificate of completion program) or enter an LPN or RN training program. The CT SMART program also offered a pathway for new workers into the manufacturing industry through an introductory course at community colleges (see Box IV.5).

Box IV.5: Facilitating Entry of New Workers to a Skilled Manufacturing Trade and Additional Levels of Training to Build Skills

CT SMART

With the help of industry employers and the Connecticut Center for Advanced Technology (CCAT), CCCS created and implemented a Pre-Manufacturing Certificate (PMC) training program at five community colleges across the state. The PMC training program offers 204 hours of training for students new to manufacturing plus an optional 96 hours of a regional elective in a specific area of manufacturing. The PMC training curriculum – involving both classroom instruction and hands-on activities -- was intended to serve as an introduction to the field of advanced manufacturing and to lay the foundation for more specialized training in SMART Levels I and II training programs offered within the community college system. The PMC program offers a core curriculum across the five colleges, but provides flexibility in terms of timing of the program, the duration of training, and the focus of the regional elective. For example, at Manchester Community College (MCC), the PMC curriculum is taught over a 7- to 8-week period; at Three Rivers Community College (TRCC), the PMC curriculum is provided over a 14-week period to accommodate evening and weekend students. The PMC program is also geared at laying a foundation of basic skills so that those completing the program could secure a job as an entry-level machinist (earning in the \$11-\$12 per hour range or even higher), prior to undertaking additional training. The elective training is offered to provide basic training in a specialty manufacturing area that is in high demand among employers in the region that the community college served.

Support Services and Employment Assistance Offered

While the main focus of the CBJTG training initiatives was on providing substantive education and training services, initiatives also provided a variety of support services to help participants stay fully engaged in and complete training, as well as to assist them in securing and retaining jobs.¹⁶ As shown in Table IV.5, three quarters of respondents offered financial aid to encourage participation in training and to support trainees while they were in training. Such financial aid, made possible by CBJTG funding (and coordinated with other available funds such as Pell Grants and/or Workforce Investment Act Individual Training Accounts), was necessary to induce participation, especially in longer-term training, in part because of the target groups served by the initiatives (e.g., unemployed or underemployed individuals, dislocated workers, and other disadvantaged groups). In addition, some initiatives sought to reduce or eliminate the need for participants to obtain student loans that would later need to be repaid. As also shown the table, initiatives coupled financial aid with financial counseling, with about one-third of respondents offering such counseling.

¹⁶ CBJTG sometimes paid for these supports and sometimes partners provided leveraged resources in support of these needs, including some in-kind services and supports.

Table IV.5: Support Services and Employment Assistance Available to CBJTG Program Participants Among All Survey Respondents

	Frequency (N=220)	Percent
Type of Support Service		
Child care assistance	34	15.5
Coordination with public assistance	73	33.2
“Critical friend,” coach, or mentor	60	27.3
Emergency assistance (e.g., with rent or utilities)	32	14.6
Financial aid	166	75.5
Financial counseling	75	34.1
Peer support groups	65	29.6
Personal/family counseling	38	17.3
Transportation assistance	58	26.4
None	24	10.9
Other	42	19.1
Type of Employment Assistance		
Employment/career counseling	171	77.7
Interviewing/résumé workshops	170	77.3
Job search assistance	157	71.4
Referrals to job openings	189	85.9
None	9	4.1
Other	14	6.4

N=220

Source: CBJTG Grantee Survey 2011

Respondents indicated offering several other types of individualized and group counseling services and activities, including: peer support groups (30 percent); “critical friend,” coaching, or mentoring (27 percent); and personal/family counseling (17 percent). Because programs often targeted unemployed, underemployed, or other disadvantaged individuals, about one-third of respondents indicated that they coordinated with public assistance programs (33 percent) and provided access to additional assistance, including for transportation (26 percent), child care (16 percent), and emergency assistance with rent or utility payments (15 percent). Finally, respondents indicated providing a varied range of “other” types of support services carefully tailored to the individual needs of participants and to the employment and training services being provided, including: referrals to faith-based organizations for support services; life skills training/workshops; payments for books, equipment, or tools; remediation/tutoring; referral for disability services; legal advocacy/referrals; in-class healthy meals and referral to health services; an online support Web site; and retention counseling/support.

As shown in Table IV.5, respondents also provided a range of workforce services, particularly aimed at job placement, advancement, and retention. Over 70 percent of respondents indicated providing the following types of workforce/employment-related services: referrals to job openings (86 percent); employment/career counseling (78 percent); interviewing/resume workshops (77 percent); and job search assistance (71 percent). Some other types of workforce services respondents offered included holding job/career fairs (or referring participants to such fairs), career-readiness certification; electronic resume posting; and referrals to WIA and other local workforce service providers.

Training Challenges and Successes

Both in survey responses and during site visits, CBJTG study participants identified a number of issues, challenges, and successes with respect to their training programs (see Box IV.6 for case study example). As part of the evaluation survey, grant recipients were asked to rate their experiences from very difficult to very easy. Less than half of the respondents rated their experiences as “difficult” or “very difficult” on any of the training-related issues provided in the survey. Several of the issues/factors that were rated as difficult or very difficult by respondents were capacity-related: “having enough qualified faculty or trainers” (43 percent), “having proper training facilities and equipment” (33 percent), and “finding appropriate curriculum” (22 percent). Some of the other issues rated as difficult or very difficult were related to recruitment of the targeted population: “having applicants with the basic skill levels needed to enter the training program” (41 percent of respondents), “recruiting eligible participants” (30.5 percent), and “receiving referrals from partner organizations” (24 percent). Finally, 41 percent of respondents rated “placing trainees in jobs after program completion” as difficult or very difficult, while about one-third of respondents found it difficult or very difficult to “retain trainees in the program” (30 percent).

Box IV.6: Challenges that One CBJTG-Funded Initiative Encountered in Implementing Its Training Program

Tri-C Healthcare

Planning and early implementation slowed due to the need to clarify roles of key partnering organizations. Under this CBJTG, the grant recipient (the City of Cleveland’s Department of Economic Development - Division of Workforce Development) and fiscal agent (the Cuyahoga Community College, or Tri-C) were different entities, and as a result, it initially took some time to sort out organizational roles and get the training program up and running. Initially, the grant organization did not have the capacity or expertise to plan/implement the grant, in part because the bulk of the program training and staffing for the grant was to be undertaken at Tri-C. In addition, grant planning and initiation was also slowed because the grant called for the hiring of the Project Director during the second program year (in part, because a good portion of the first year’s program activity involved setting up the preventive care clinic and laboratory facilities. Over time, Tri-C gradually took the lead on the grant – hiring the Project Director, planning and implementing all of the major project components, providing training, and expending most of the grant resources.

Inability to obtain malpractice insurance limits hours and types of clinical services that could be provided out of the preventive care clinics. Grant administrators were eager for the two preventive care clinics both to provide clinical experiences for students going through the various training programs sponsored under the grant and to meet the healthcare needs of low-income, uninsured residents living in the neighborhoods surrounding the two clinics. While the two preventive care clinics were both opened and offered state-of-the-art equipment for screenings and rehabilitation services, it proved not possible to secure the malpractice insurance necessary so that physicians could practice out of the two clinics and supervise clinical internships of students involved in the six training programs. Early on, the hope had been that these clinics would be one option – and a

free one – for residents to obtain health screenings, rehabilitative services, and referrals to other care providers. While the clinics were open for services a total of six hours a week and were able to provide health screenings and rehabilitative services for area residents, without staffing of doctors practicing out of these clinics it was not possible for the clinics to serve as part of the clinical rotation that students attended during the program. Further, the number of hours that clinics were open to the public and the extent of healthcare services provided fell short of what could have been possible had malpractice insurance been obtained and doctors had been able to practice out of these two facilities.

Although they identified some training-related challenges that had to be overcome in implementing their initiatives, survey respondents reported a high degree of success with regard to the outcomes of their training programs. On all of the training-related criteria that they were asked to apply, over two-thirds rated their performance as “successful” or “very successful.” In four specific areas, over 80 percent of respondents rated their training programs as successful or very successful: “meeting enrollment goals” (91 percent); “meeting employer needs” (89 percent); “achieving high graduation/completion rates” (82 percent); and “increasing trainee satisfaction” (82 percent).

Perhaps because of the adverse labor market conditions faced by many of the initiatives during their periods of performance, respondents rated their performance on job-related outcomes for trainees slightly lower, though about two-thirds of respondents rated the performance of their training program on the following factors as successful or very successful: “creating opportunities for promotion or moving up career ladders/lattices” (68 percent); “matching graduates with available jobs” (66 percent); and “increasing earnings for graduates” (65 percent). Site visit participants emphasized training success in terms of initiating or expanding training programs and training slots; increasing responsiveness of training programs to the needs of both employers and workers; expanding training opportunities to assist new and incumbent workers in entering and advancing along career pathways (particularly with regard to high-growth industry sectors within their regions); and incorporating new state-of-the-art Internet-based technologies into teaching methods to enhance instruction and make it more accessible to unemployed and underemployed individuals. Box IV.7 provides illustrations of several key successes that one grant initiative cited as resulting from its training program.

Box IV.7: Perspectives on Success – Partnerships and Articulated Educational Pathways

OCTC Biotech

Strong partnerships with economic development and industry are key to developing internships and aligning training programs with workforce needs. OCTC had developed relationships with economic development and the biotechnology industry prior to the grant. OCTC benefited from industry and economic development input on hiring staff and faculty, purchasing laboratory equipment, curriculum development, and internship placements. Industry also benefited from the grant, according to one program official: “The grant has helped this community build traction in attracting biotech companies to this area. They [economic development officials] can say [to employers interested in locating new facilities in the local area that] we have a school that can produce a trained workforce.”

Articulated educational pathways were developed to link high school students to post-secondary education opportunities in the biotechnology field (at community college and four-year institutions). OCTC developed a 2+2+2 educational pathway allowing high school students to earn academic credits during their junior and senior years of high school counting towards both high school graduation and an associate degree at OCTC. Additionally, under this program, an articulation agreement with Western Kentucky enabled those earning an AAS degree in biotechnology at OCTC to automatically enter into the bachelor’s degree program at Western Kentucky University. In addition to keeping costs of education affordable for students, the 2+2+2 approach accelerated students’ movement towards receipt of AAS and bachelor’s degrees in biotechnology/life sciences and provided a clearly specified educational pathway into biotechnology fields.

Progress to Date on Training Goals

In addition to setting broad objectives for their training initiatives (e.g., to meet employer needs and skill requirements), CBJTG initiatives originally set quantifiable goals for their training programs in five principal areas: “enrollment in training programs” (90 percent of respondents), “program completion/graduation” (87 percent), “credential attainment” (82 percent), “employment/job placement” (67 percent), and “employment/job retention” (43 percent).

Survey results indicated that according to respondent assessments, most training initiatives achieved or were on the way to achieving the goals that they originally set for their programs. Using survey data, it is possible to analyze whether CBJTG training initiatives achieved the goals set for their training programs for two groups of initiatives – those that had completed their period of performance for their grants (i.e., “non-operational initiatives”) and those that had not yet done so (i.e., “operational initiatives”):

- Goal Achievement for Non-Operational Initiatives.** As shown in Table IV.6, of 66 such respondents, most had achieved the original training goals they had set for their grants. It is important to note, that not all grant recipients set specific goals on each of the training goals identified in Table IV.6. As shown in the table, over two-thirds of non-operational initiatives indicated that they had met the following goals originally set for enrollment and completion of their training program: enrollment (86.2 percent of initiatives that had originally set a goal in this area); credential attainment (79.6 percent); and program completion/graduation (74.6 percent). In terms of employment-related goals for training participants, slightly less than two-thirds of non-operational initiatives indicated they had achieved their employment or job placement goal (63.4 percent), while nearly three-quarters indicated that they had reached their employment/job retention goal (74.6 percent).

Table IV.6: Percent of Non-Operational Initiatives Indicating Original Training Goals Met

Training Goal	Frequency	Percent
Enrollment (N = 58)	50	86.2
Credential attainment (N= 49)	39	79.6
Program completion/graduation (N= 59)	44	74.6
Employment/job retention (N=27)	20	74.1
Employment or job placement (N=41)	26	63.4
Other (N=3)	3	100.0

Source: CBJTG Grantee Survey 2011

- Goal Achievement for Operational Initiatives.** For those initiatives still operating within their period of performance and serving training participants at the time in which the survey was administered, it is possible to examine whether goals had already been met at the time the survey was administered (see Table IV.7), and for those that had not yet met their training goals at the time of survey administration, whether the survey respondent expected their initiative to meet the training-related goals by the time their projects concluded (i.e., by the end of the period of performance). Of the 154 initiatives that were still operational at the time of the survey, only on the goal of “enrollment in training programs” had more than half of initiatives (60 percent) already met the goal they had set (i.e., in the area of enrollment) at the time they completed the survey. Achievement of other goals was more modest: about one-third of initiatives indicated they had achieved their “trainee program completion/graduation” goal (33 percent) and “credential attainment” goal (30 percent). Most operational initiatives were also still engaged in efforts to achieve their employment-related goals –13 percent of operational initiatives had so far met “employment/job placement” goals and 18 percent had met “job retention” goals. Many, however, had more than a year left in their period of performance when they completed the survey.

Table IV.7: Percent of Operational Initiatives Indicating Original Training Goals Met To-Date (N=154)

Training Goal	Frequency	Percent
Enrollment (N=140)	84	60.0
Program completion/graduation (N=133)	44	33.1
Credential attainment (N=132)	40	30.3
Employment/job retention (N=68)	12	17.6
Employment or job placement (N=106)	14	13.2
Other (N=10)	4	40.0

Source: CBJTG Grantee Survey 2011

Survey responses indicated that many operational initiatives expected to eventually achieve their goals by the end of their grant periods, especially in relation to their training-related goals: 64 percent anticipated achieving their “enrollment” goal; 58 percent expected to meet their “program completion/graduation” goal; and 63 percent anticipated meeting their “credential attainment” goal. Expectations with regard to employment-related goals by the conclusion of the projects were somewhat lower: 41 percent expected to achieve their “employment/job placement” goals and 48 percent anticipated meeting their “job retention” goals.

The site visits provided some additional information on both the goals that CBJTG-funded initiatives set for enrolling participants in training, as well as achievements to date in: 1) actual number of enrollments; 2) number and percentage completing training; and 3) number and percentage of participants securing and retaining jobs. About half of the 11 training programs visited as part of the evaluation effort (six) had completed their projects by the time of the visit; the other five training programs had not yet completed their periods of performance (with these initiatives due to be completed between December 31, 2011 and September 30, 2012).

With some grant initiatives offering multiple training programs, it is possible to assess the extent to which initiatives achieved their goals both for the grant overall and for individual training programs. While overall goals were available for all of the training programs visited, numbers enrolled to date were available for nine of the 11 training programs visited. Four of the nine programs exceeded their enrollment goals. Of those grants that had ended, four of the six exceeded their overall goals:

- *MSUB-COT Energy* had an overall goal of enrolling 1,010 participants in training and enrolled 177 more participants than its goal (enrolling 1,187 participants);
- *CCBC Healthcare I* had an overall goal of enrolling 850 participants in training and enrolled 149 more participants than its goal (enrolling 999 participants);
- *OCTC Biotech* had an overall goal of enrolling 360 participants in training and enrolled 107 more participants than its goal (467 participants); and
- *EICCD Logistics* had an overall goal of 984 participants in training and enrolled 187 more participants than its goal (1,171 participants).

The two case study initiatives not reaching their goals narrowly missed them:

- *SPC RN* had an overall goal of enrolling 272 in training but enrolled 24 participants fewer than its goal (enrolling 248 participants), though the initiative achieved goals on three of four training programs (only not reaching the goal for the Summer Nursing Academy for 10th and 11th graders); and
- *SPC Informatics* had an overall goal of enrolling 2,185 in training (across its four training components) but enrolled 115 participants fewer than its goal (enrolling 2,070 participants), though the initiative achieved goals on two of three training programs (only falling short on the Intro to Healthcare Informatics tutorial.)

Job placement and retention rates for the sites visited are partial and at this point only provide a glimpse of how well trainees have fared in the job market. Among 11 training programs, job placement rates were available for four training programs, and retention rates for just one program. Among the case study participants reporting job placement rates, the rates among non-operational sites were the following: (1) *CCBC Healthcare I* training program placed 350 participants in a job, exceeding its goal by 46 percent; and (2) *SPC RN* – 100 percent of those completing the Associate Degree in Nursing to Prepare for RN training component, 98 percent of those enrolled in this training component, and 100 percent of those completing and enrolled in the Master of Science in Nursing training component were placed in a job.

Capacity-Building Activities

Grant organizations funded under CBJTG were instructed to place substantial focus on building the capacity of their organizations (and others funded with CBJTG resources) to provide up-to-date and high quality training tailored to industry requirements that would be sustained (and meeting worker and employer needs) long after grant funds had been fully expended. As set forth in the *Federal Register* announcement, funds were to be awarded to individual community and technical colleges, community college districts, state community college systems, and one-stop career centers to “support or engage in a combination of capacity-building and training activities for the purpose of building the capacity of community colleges to train individuals for careers in high-growth/ high-demand industries in the local and/or regional economies.”¹⁷ Under the requirements set forth in the *Federal Register* announcement, capacity-building activities funded with CBJTG funds had to meet two basic criteria:

1. Be directly linked to the specific training supported under the grant; and
2. Grant funds had to be used in a manner consistent with the regulations and policies governing use of funds under Section 171(d) of WIA, which broadly allows the funds to

¹⁷ Requirements discussed in this section with regard to training to be provided under the CBJTG are based on the grant solicitation requirement provided in the *Federal Register*, Vol. 72, No. 152/Wednesday, August 8, 2007/Notices, p. 44574: “Department of Labor, Employment and Training Administration, Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants.”

be utilized to test an array of approaches to the provision of training services and supports the development and replication of effective training strategies.

This section of the report focuses on the capacity-building efforts conducted with CBJTG funds, presenting findings based on the survey responses of all CBJTG grant recipients and providing more specific details about the capacity-building efforts mounted by the 11 CBJTG initiatives visited as a part of the evaluation effort.

Types of Capacity-Building Activities Implemented

In designing their initiatives, ETA encouraged CBJTG applicants to “broadly assess their capacity to meet the training needs of the targeted high-growth/high demand industry or industries.” As specified in the *Federal Register* announcement, proposed capacity-building strategies were expected to address significant barriers that impeded the ability of the CBJTG-funded institutions (or other partnering entities) to “increase the capacity of the college to provide training resulting in an increase in the pipeline of skilled workers ready for employment or promotion in the regional economy.” The strategies to be employed were, according to ETA, to provide a “comprehensive solution to identified capacity challenges” (as they relate to the industry or industries of focus) and, to the extent possible, grant recipients were to “align and leverage their proposed capacity-building activities with existing curricula, competency models and other frameworks developed by existing HGJTI and CBJTG grantees.” Examples of capacity-building activities outlined in the *Federal Register* announcement included the following:

- The development or adaptation of competency models and curricula to support training;
- The development of innovative curricula, teaching methods and instructional design to maximize the impact of the initiative in meeting the skills needs of employers;
- Innovative strategies to ensure availability of qualified and certified instructors;
- Procurement of equipment and simulation equipment necessary to train to industry-demanded skills;
- Support for clinical experiences required for certification or licensure; or
- Development of technology-based distance learning curricula and programs to promote better access to education and training programs.¹⁸

Finally, in their capacity-building and training activities, ETA encouraged “CBJTGs applicants, particularly those serving rural areas and other areas that are educationally underserved due to lack of access to community colleges, to look at technology-based distance learning options when building their capacity to provide training.”¹⁹

¹⁸ Federal Register, Vol. 72, No. 152/Wednesday, August 8, 2007/Notices, pp. 44577-8: “Department of Labor, Employment and Training Administration, Notice of Availability of Funds and Solicitation for Grant Applications (SGA) for Community-Based Job Training Grants.”

¹⁹ As noted in the Federal Register announcement: “Technology-Based Learning (TBL) is transforming the way people learn and can increase the geographic reach of training. TBL can be defined as the learning of content via all electronic technology, including the Internet, intranets, satellite broadcasts, audio and video tape, video and audio

Table IV.8, based on 220 CBJTG survey respondents, provides an overview of the considerable range of capacity-building activities implemented with CBJTG funding. As evidenced in the table, the types of capacity-building activities provided spanned the full range of activities identified by ETA in the *Federal Register* announcement, with a particular emphasis on developing and implementing new curriculum and the capacity to deliver training through recruitment of additional faculty and employment of a range of innovative (often Internet-based or distance learning) instructional methods. As shown in the table, the two leading capacity-building activities implemented by over four-fifths of the respondents, were “new curriculum development” (84.1 percent) and “installation of new instructional techniques or technologies” (81.8 percent).

The next two most frequently cited capacity development activities focused on “improvement/expansion of existing training programs” (77.3 percent) and “hiring and retraining staff to support education/training activities” (75.9 percent). Both of these types of capacity-building activities were aimed at bolstering existing training programs to increase numbers of workers upgrading skills and obtaining credentials to meet staffing needs of employers in the targeted industry sector for the initiative. Nearly 60 percent of respondents indicated that with CBJTG funds they had been able to establish “new training programs” (59.5 percent) at their institutions (or partnering organizations). These new training programs were targeted on expanding the pipeline of skilled workers to a specific industry (or industries) and would otherwise not likely have been established without grant funds (or would have been substantially more challenging to establish).

Table IV.8: Capacity-Building Activities Implemented Using Grant Funds

Capacity Building Activity	Frequency	Percent
Curriculum development	185	84.1
Installation and use of new instructional techniques or technologies	180	81.8
Improvement or expansion of existing training program	170	77.3
Hiring or retraining staff to support education/training activities	167	75.9
Certification program development	145	65.9
Programs to attract future workers to the industry	134	60.9
New training program	131	59.5
Training of new or incumbent faculty or instructors	128	58.2
Degree program development	116	52.7
Dual enrollment, articulation, or other programs that link secondary and post-secondary programs	99	45.0
Program to share faculty from business or other sectors	51	23.2
Other	19	8.6

N=220

Source: CBJTG Grantee Survey 2011

conference, Internet conferencing, chat rooms, bulletin boards, Web casts, computer-based instruction and CDROM. It encompasses related terms, such as online learning, Web-based learning, computer-based learning and e-learning. For example, a college may convert industry-specific curricula typically offered in traditional classroom settings to technology-based learning (e-learning or online) or develop technology-based learning training programs so that dislocated workers, incumbent workers, and/or new job entrants can access training 24 hours a day and seven days a week.”

Table IV.8 also demonstrates the commitment of grant recipients to implementing new or expanded training capabilities to provide program participants with educational credentials that are recognized by employers and can potentially boost long-term employability and earnings. About two-thirds of survey respondents indicated that capacity-building activities initiated with CBJTG grant funds were aimed at “certification program development” (65.9 percent), while about half of respondents indicated that capacity-building activities focused on “degree program development” (52.7 percent) and “dual enrollment, articulation, or other programs that link secondary and post-secondary programs” (45.0 percent). Other capacity-building efforts were centered on building awareness in a region/locality about occupations or training programs in a high-growth industry sector and “attracting new workers to the industry” (60.9 percent). Such efforts were particularly aimed at increasing the pipeline of new workers to high-demand occupations and improving the pool of candidates from which employers could recruit its future workforce. Other capacity-building efforts mounted by survey respondents (and identified in Table IV.8) were closely aligned with the types of activities already discussed: “training of new or incumbent faculty/instructors (58.2 percent) and “programs to share faculty from business or other sectors” (23.2 percent). In their open-ended responses to identifying “other” types of capacity-building activities implemented, respondents noted efforts reflecting the broad range of capacity-building activities undertaken with grant funds, including the following:

- Development of dual-credit courses,
- Holding training symposiums,
- Purchase of equipment/tools and supplies,
- Redesigning curriculum for e-learning,
- Increase in the number of clinical sites,
- Curriculum dissemination to other colleges,
- Addressing the need for affordable training,
- Creation of a program lab (equipment purchases),
- Development and implementation of career awareness activities, and
- Installation of additional equipment, laboratory, and simulators

The sections that follow provide further details and examples of these main types of capacity-building efforts undertaken and, to the extent data are available, the early results of such efforts.

Training Slots Created

An important emphasis of grant initiative capacity-building efforts was on expanding the number of training slots to meet the future needs of the targeted industry or industry sectors. For example, initiatives targeting the healthcare sector often aimed to build on existing training capacities, substantially increasing (e.g., doubling) the number of training slots available at a community or technical college for training as a medical assistant, physical therapist, or registered nurse. Other grant efforts focused on creating entirely new training programs (and training slots). The types of training offered (and training slots) stretched across a wide range of

industries and occupations. Table IV.9 provides a snapshot of both the goals that grant recipients set for creating new training slots per program cycle with CBJTG funding, as well as a point-in-time (September 30, 2010) estimate of the numbers of training slots actually created per program cycle as reported by survey respondents. It is important to note that as of September 30, 2010, some initiatives were only partially along the way in implementing their grants and creating new training slots (i.e., it is likely that this table underestimates the total number of training slots created with CBJTG funding). It is also important to note that this table does not provide data on the ability of CBJTG grant organizations to sustain training slots once CBJTG funds have been expended – that is, it is possible that while initiatives were able to create new slots with CBJTG funding, this expansion was only temporary and newly created training slots went away (or diminished) after grant periods ended because organizations were unable to find the necessary resources to maintain them (e.g., tuition paid by trainees or other sources such as Pell Grants or WIA funding were inadequate to sustain training slots expanded under initiatives).

As shown in Table IV.9, grant recipient goals for creation of training slots per program cycle as reported by survey respondents were well aligned with actual training slots created per program cycle as of September 30, 2010 as reported by survey respondents. The cumulative distribution is about the same at each break point for goals for training slots created versus actual training slots created as of September 2010 (e.g., 75 percent of respondents set their goals at creating 300 or fewer training slots, compared with 78 percent of respondents creating 300 or fewer slots as of September 30, 2010).

Table IV.9: Goals for Training Slots Created and Actual Training Slots Created as of September 30, 2010

	Frequency	Percent	Frequency	Percent
	Initiative goal, Training slots created per program cycle (N=156)		Training slots per program cycle created as of September 30, 2010 (N=148)	
0	9	5.8	13	8.8
1-100	67	42.9	60	40.5
101-300	41	26.3	43	29.1
301-500	20	12.8	12	8.1
501-1000	11	7.1	13	8.8
1000+	8	5.1	7	4.7

N=220

Source: CBJTG Grantee Survey 2011

The site visits provided a number of examples of programs that adopted two basic strategies to expanding training slots – (1) building on existing training capacity within an educational institution (seven initiatives) or (2) establishing a new training program (three initiatives). CBJTG funding was used in a variety of ways to expand training slots/capacity, including funding of scholarships to make training more affordable (and thereby attract more trainees); recruitment and/or training of new faculty to support expanding training slots within an existing program; expansion or renovation of classroom and laboratory space to be able to handle increased numbers of trainees (and sustain expanded training slots into the future); purchase of simulators and use of other Internet-based instructional methods to substitute (partially) for classroom instruction; and expansion in internship slots at employer sites. The *Tri-C Healthcare*

initiative provides a good example from the site visits of how CBJTG funding has provided additional resources to support expansion of training slots in an existing training program (see Box IV.8).

Box IV.8: Using CBJTG Funds to Expand Existing Training Slots and Long-term Capacity

Tri-C Healthcare

To provide more skilled workers for area healthcare employers, Cuyahoga Community College (Tri-C) increased enrollment in six existing health careers training programs: (1) Health Information Technician (30 additional slots); (2) Physician Assistant (30 slots); (3) Medical Assistant (30 slots); (4) Occupational Therapist Assistant (30 slots); (5) Physical Therapist Assistant (30 slots); and (6) Nursing Assistant (200 slots). In total, under the CBJTG grant, the goal was to train an additional 350 workers across the six healthcare professions. In addition to expanding the available training slots to students, Tri-C offered scholarships to encourage enrollment in the six-health career training programs and to make attendance affordable especially for unemployed and low-income individuals. Scholarship aid using CBJTG funding could be up to a maximum of \$4,000 per year (depending upon need) and could be for up to two years (a total of \$8,000) depending upon the duration of each training program (e.g., four of the training programs offered lasted two or more years). Tri-C also offered an additional \$500 in scholarship aid (through the Cuyahoga Community College Foundation) to provide financial assistance (beyond the CBJTG grant resources and Pell grants) for students based on need. CBJTG funding was also critical for equipping and opening two preventive care clinics serving low-income communities in Cleveland. These two clinics, offering state-of-the-art rehabilitative equipment, were open to the public twice a week (6 hours in total) to provide health screens (e.g., blood pressure, glucose check, HIV testing, bone density testing) and physical/occupational therapy at no cost to area residents (particularly targeting individuals without health insurance). The centers also served as laboratories for classroom instruction under the training programs, which was essential space for Tri-C to be able to expand the number of training slots within its existing health training programs. Finally, to increase the pool of instructors in six targeted occupational training programs, Tri-C developed and implemented a four-hour train-the-trainer online curriculum.

New Credentials Created

Over eight in 10 survey respondents utilized CBJTG funding to develop degree and/or certificate programs (85.1 percent). Survey respondents indicated that they used CBJTG grant funds to particularly develop associate degree programs (67 percent of the 185 grant initiatives developing a degree and/or certificate program); industry-recognized certificates (58 percent); and occupational certificates (47 percent). According to survey respondents, some examples of the types of credentials they offered upon successful completion of training included:

- Bachelor of science (BS)
- Master of science (MS)
- Associate degree
- Certificate of completion (for occupational training)

- Bachelor of science nursing (BSN) and master of science nursing (MSN)
- Professional licenses and certifications
- Continuing education certificate
- Instructor recertification
- Job readiness certificate

The site visits provided some additional background and illustrations of new degrees or certificates developed with CBJTG funding. Table IV.10 (last column) provides an overview of some of the new credentials offered that would not have likely been possible without CBJTG funding. As shown in this exhibit, there was a considerable range of new credentials offered ranging from certificates of completion (typically for shorter-term and non-credit type training activities) to associate, bachelor's and master's degrees, with most programs funded with CBJTG grants offering associate degrees from community and technical colleges. Box IV.9 provides an example of one case study initiative's efforts – *CCBC Healthcare 1* – that managed to offer a full range of credentials from certificate-bearing programs to a master's degree in nursing.

Box IV.9: Example of New Credentials Offered Along a Health Career Pathway

CCBC Healthcare 1

The CBJTG supported development of new training programs and credentials offered by CCBC along a health careers pathway. First, under the grant, the Nurse Support Technician (NST) certificate was developed for implementation both at CCBC and at two local high schools, which were already offering the Certified Nursing Assistant (CNA) credential-- enabling students at the high school and college levels to upgrade their nursing skills from a CNA to the next level (NST). Second, within CCBC, the CBJTG grant supported the establishment of intra-agency articulation agreements between the Division of Continuing Education (noncredit-bearing courses) and the School of Health Professions. This change permitted eligible: (a) CNAs to articulate into the credit-bearing Licensed Practical Nurse (LPN) program, (b) dental assistants to articulate into the Dental Hygiene program, and (c) individuals completing the introduction to laboratory techniques coursework to make a transition to the Medical Laboratory Technician (MLT) program. Third, the grant supported the creation of the Associate to Master's Degree in Nursing (ATM) program offered in conjunction with Towson University, which allows students with a Bachelor's degree in another field to earn their Associate, Bachelor's, and Master's degrees in Nursing in three years by jointly attending CCBC and Towson University. Finally, the grant facilitated career pathways for incumbent workers by helping CCBC partially subsidize incumbent worker training for some of its partnering healthcare employers. Supported incumbent worker pathways included helping entry-level workers obtain CNA certificates, helping CNAs obtain NST certificates, and helping qualified individuals seek an Associate Degree in Nursing (ADN).

Table IV.10: New and Updated Curricula and New Credentials Developed by Site Visit Initiatives

Selected Initiatives	New Curriculum	Updated Curriculum	New Credentials
CT SMART	CCCS created Pre-Manufacturing Certificate (PMC) curriculum (for implementation at five community colleges) intended to serve as an introduction to the field of advanced manufacturing and to lay the foundation for more specialized training in SMART Levels I and II training programs offered within the community college system.	SMART I advanced manufacturing curriculum updated to meet varying needs of employers across state and to facilitate transition from PMC to SMART I and II level training programs.	Created Certificate of Completion for Pre-Manufacturing Certificate (PMC) training component (used existing credential for other training programs)
CCBC Healthcare 1	Nurse Support Technician, Introduction to Laboratory Techniques, Dental Hygiene, Associate-to-Master's in Nursing	Dental Assisting, Certified Nursing Assistant, Medical Laboratory Technology	Nurse Support Technician (NST) A.A.S. in Dental Hygiene Associate-to-Master's leads to A.S. after 5 terms, BSN and MSN after 11 terms A.A.S. in Medical Laboratory Technician (revived after six years of inactivity)
CCBC Build	Construction Apprenticeship Preparation course series	Heating Ventilation and Air Conditioning – Energy (HVAC-E) Added “green technologies” elements to existing credit and noncredit programs.	Apprenticeship Preparation series leads to the following: OSHA-10, First Aid-CPR, AFL-CIO and National Center for Construction Education and Research (NCCER) pre-apprenticeship certificate
CCBC Healthcare 2	Eldercare Specialist, Psychosocial Rehabilitation specialization for mental health, Radiography specializations in Computed Tomography (CT) and Magnetic Resonance Imaging (MRI), ADN-to-BSN (Associate Degree in Nursing to Bachelor of Science in Nursing)	Emergency Medical Technician (EMT)	Eldercare Specialist Certificate of Completion, Psychosocial Rehabilitation Certificate, CT Certificate, MRI Certificate, ADN-to-BSN
SPC RN	Critical Care Nursing and Emergency Care Nursing, specializations for RNs	LPN-to-RN Transition program updated to improve retention	Critical Care Nursing Certificate Emergency Care Nursing Certificate
SPC Informatics	Healthcare Informatics	NA – Program was 100% new	Healthcare Informatics Certificate A.S. in Healthcare Informatics
OCTC Biotech	Biotechnology Techniques I and II, laboratory courses	Five courses were updated for online/hybrid delivery.	Not applicable (used existing credentials)
MSUB-COT Energy	Welding and Metal Fabrication, Power Plant, HAZMAT, and Engineering Technology (Dawson Community College); Purchase and customization of curriculum in OSHA and NIMS; and purchase of curriculum in Heavy Equipment Operation, Introduction to Welding, and Wire Feed Welding Note: some of the programs existed prior to the grant, but new courses were developed to enhance the programs	Welding and Metal Fabrication, Power Plant, Process Plant, and Diesel Technology	OSHA – nationally recognized certificates HAZMAT – nationally recognized certificates NIMS – nationally recognized certificates Heavy Equipment Operation – MSUB-COT certificate listing NCCER nationally recognized modules Introduction to Welding and Wire Feed Welding -- MSUB-COT certificate listing NCCER nationally recognized modules Welding and Metal Fabrication

Table IV.10: New and Updated Curricula and New Credentials Developed by Site Visit Initiatives

Selected Initiatives	New Curriculum	Updated Curriculum	New Credentials
			A.A.S.
Tri-C Healthcare	Not Applicable	Not Applicable	Not Applicable (used existing credentials)
EICCD Logistics	Stackable Logistics & Supply Chain Management credit-based, hybrid delivery program	BHC updated a Georgia Tech Warehouse & Distribution Logistics training program to include online elements.	At EICCD: RFID Certificate, Logistics Certificate, Logistics Diploma, A.A.S. in Logistics & Supply Chain Management At BHC: Certificate in Warehousing & Distribution, Freight Broker Certificate, Inventory Specialist Certificate
SBCCD Nanotech	Not-for-credit Nanotechnology six-course sequence; Soft skills training		Certificate of completion (Plans to create a for-credit option)

Source: CBJTG Evaluation Case Studies 2011

New Curriculum Developed

Another frequent focus of capacity-building activities undertaken by CBJTG initiatives was new curriculum development. The two most frequently cited methods for developing curriculum were closely connected to the requirements of the industry sector (or sectors) for which workers were to be trained – half of the survey respondents who had developed new training programs indicated that curriculum design was “based on industry-recognized standards” (50 percent) or “based on input from employers and/or industry” (50 percent). This is not surprising given the strong emphasis that ETA placed on linking training provided to the needs and requirements of the targeted industry or industries for which training was being provided. Other curriculum development methods employed included: “developed in collaboration with other colleges or state education systems” (28 percent), “used ‘off the shelf’ curriculum or curriculum already in use elsewhere” (22 percent), “adapted from pilot courses founded through the grant” (13 percent), and “used standard process such as DACUM” (12 percent).

Table IV.10 (shown above) displays in greater detail the extensive work undertaken by CBJTG-funded organizations in creating and updating curriculum. As shown in this exhibit, all 11 initiatives visited for the evaluation either updated or developed new curriculum, with many initiatives both creating new curricula and updating existing curricula. This area of capacity-building was one of the most important areas of accomplishment according to many grant recipients, and one that would make it possible for the grant program to have long-term and continuing effects on the training offered at these institutions. Curriculum development was conducted for credit-bearing (and degree-oriented) programs, as well as for non-credit coursework and workshops (often aimed at upgrading skills of incumbent workers). For example, the *CCBC Build* initiative engaged in three curriculum development activities: (1) developing a pre-apprenticeship program, (2) updating an existing but inactive Associate of Applied Sciences (AAS) degree in Heating Ventilation and Air Conditioning, and (3) updating

continuing education courses with “green technology” for use in construction jobs. As noted earlier, some curriculum redesign efforts were aimed at facilitating transition of participants who had already received a certification or degree to secure a high-level degree, and thereby higher skilled/higher paying jobs, such as the *SPC RN* initiative (which updated its LPN to RN transition program curriculum). Box IV.10 provides an illustration of entirely new curriculum produced with CBJTG funding in the emerging high-tech field of nanotechnology.

Box IV.10: Developing New Curriculum in Emerging Field

SBCCD Nanotech

SBCCD developed a six-course not-for-credit sequence in nanotechnology with the support of faculty partners at the University of California, Riverside (UCR). The course sequence is designed to provide the technical knowledge and skills needed to fulfill a technician role in the emerging nanotechnology field, to upgrade the skills of incumbent workers, and/or to prepare students for additional education in nanotechnology and related fields. Each of the six courses offered is 15 hours in duration. The six-course sequence lasts approximately eight weeks, and results in a certificate of completion. SBCCD offers class times in the afternoon and evening, to accommodate incumbent workers. Laboratory facilities and equipment purchased with grant funds, allowed SBCCD to incorporate a great deal of hands-on learning opportunities into the curriculum. Also with grant funds, SBCCD has been able to develop an elective soft skills training curriculum for nanotechnology students. With the goal of improving program participants’ job placement, SBCCD developed and offered short-term elective soft skills training to nanotechnology students. Curriculum was adapted to help students find jobs in the nanotechnology industry and focused on resume writing, communication skills, business writing, interviewing, and emotional intelligence.

New and Existing Faculty and Program Staff

As discussed, three-quarters of survey respondents indicated that they had used CBJTG resources for “hiring or retraining staff to support education/training activities” (76 percent). The case study participants provided additional details and illustrations of the variety of ways in which initiatives bolstered staff with CBJTG funding, including bringing on new faculty and new staff, as well as providing staff development activities to enhance productivity and skills of the grant organizations’ (or partnering agencies’) workforce. New faculty members were brought on by nearly all of the initiatives visited. Newly hired staff members were primarily used to provide instruction in the classroom and laboratories, though in some instances, new faculty also developed or updated curriculum. Some faculty had a post-graduate degree (e.g., master’s degree or higher), and all site participants mentioned hiring faculty who had prior experience working within the industry sector that was the focus of the training. For example, *OCTC Biotech* brought on a full-time biotechnology professor (with a Ph.D. and prior industry sector experience) to develop curriculum, teach biotechnology and life science classes, and advise biotechnology students. *SPC RN* went a step further than most other programs and provided CBJTG-funded scholarships that enabled four Bachelor’s degree-prepared RNs to earn a master’s degree in Nursing (MSN). These scholarships stipulated that, following graduation, these individuals teach for at least one year at St. Petersburg College. All four individuals successfully completed their

Master's degrees and joined the faculty at St. Petersburg College to fulfill the teaching requirements of their scholarships.

CBJTG funding also enabled institutions to bring on additional new staff to manage a range of grant-related activities, including grant administrators/project managers to oversee and manage grant operations; outreach managers and staff to organize recruitment activities; internship coordinators to recruit employers to sponsor clinical and other types of internships, as well as to place trainees in slots and monitor their progress; job development/placement staff to work with employers to identify job openings and with trainees to facilitate job search/placement activities; and case managers/advisors to help retain participants in training activities and to troubleshoot challenges and/or arrange for support service. Box IV.11 illustrates hiring and use of “career advisors” (responsible primarily for outreach and recruitment of new participants into the training programs) and “roving mentors” (responsible for reaching out to the employer community and securing internships and job opportunities for trainees) by one CBJTG initiative.

Box IV.11 Example of Hiring of New Staff with CBJTG Funding

CT SMART

Three “career advisors” were hired with CBJTG funding to conduct outreach, recruitment, and orientation sessions focusing on training opportunities for advanced manufacturing jobs within Connecticut. Each month, career advisors conducted at least one 90-minute orientation at each of the eight full-service One-Stop Career Centers serving the state. The Career Advisors travelled to One-Stops to conduct group orientations and hold one-on-one discussions with youth (and other One-Stop customers) interested in training or working in the advanced manufacturing sector. Career Advisors provided most of the referrals to the program (though there was no requirement that participants be WIA enrolled). The CBJTG grant also enabled the CCCS to fund four “SMART roving mentors” who were responsible for developing strong linkages with manufacturing employers and providing job search assistance for students involved in SMART PMC, Level I, and Level II training programs. A key activity of the four SMART roving mentors was to conduct outreach to manufacturers to inform them about the SMART program, engage them in providing input on their training requirements and the structure/curriculum of the three advanced manufacturing training programs offered by community colleges in the state, and identify potential internships and job openings into which program trainees could be placed. Each roving mentor worked out of one of the community colleges involved in the grant, but provided a strong link to both the LWIB/One-Stop System and area employers. In particular, a key criterion in hiring each of the roving mentors was his/her familiarity with the manufacturing employers in the region of the state where the roving mentor was to be assigned.

New Pipelines for Industry

An important aim of substantial numbers of initiatives was to increase awareness of a particular career path or occupations within an industry sector and to expand the pipeline of new workers trained to fill future jobs within the targeted sector. In many instances, grant program staff indicated that target populations (e.g., often youth, as well as their parents and teachers) lacked awareness and knowledge of various occupations and career paths available within industry

sectors. Often targeted populations had incomplete and even erroneous knowledge of targeted industries and the skilled occupations/career ladders within industries. For example, one administrator conducting outreach for training programs to prepare for occupations within the advanced manufacturing sector observed that he often had to counter misperceptions among students, teachers and parents that work within the manufacturing sector was “dull, dank, and dangerous” – and an absence of understanding about the varied and often highly technical and rewarding occupations that have emerged in the advanced manufacturing sector over the past decade.

According to survey results, the 138 respondents developing programs to attract future workers to an industry sector indicated that the targeted population for the pipeline of new workers included the following: dislocated (laid-off) workers (28 percent); unemployed workers (27 percent); high school students (23 percent); out-of-school youth (18 percent); middle school students (6 percent); and elementary school students (4 percent). Some other examples of the disparate groups of workers targeted for such pipelines included the following:

- individuals from low-income areas
- manufacturing workers from closed plants
- veterans
- non-traditional GED students
- underemployed healthcare workers
- WIA youth (and hard-to-serve youth, in general)
- low-income and disabled individuals
- American Indians
- high school dropouts
- migrant workers
- homeless individuals
- substance-abusing populations
- older workers (over 50 years of age)

One underlying strategy for expanding the pool of individuals willing to consider and enter training programs was to make such programs affordable by offering scholarships with CBJTG funding, as well as assisting program applicants to secure other sources of training funds, such as Pell grants, Workforce Investment Act (WIA) Individual Training Accounts (ITAs), and other grants/scholarships offered by states or educational institutions. All of the initiatives visited used some portion of their grant funds to offset costs of training for CBJTG participants, usually paying for part of the tuition not covered by WIA funds or Pell Grants or offsetting the costs of books and supplies. An important aim of such efforts was to keep training affordable so that trainees were more willing to enter the program, to reduce attrition once individuals were engaged in training (i.e., dropping out because of financial strain), and to help participants so that they were not burdened by student loans once they graduated from college. Some examples of

the ways in which grant funds were used or leveraged to offset expenses for program trainees included the following:

- *CCBC Healthcare 1*: Students could apply for small stipends after they were enrolled in the program, and incumbent workers received paid time off to attend training;
- *SPC RN*: Hospitals sponsored students including paying for tuition and providing stipends for books (note: sometimes there was a work requirement, but sometimes also a job guarantee following training);
- *Tri-C Healthcare*: Tuition assistance using CBJTG funding was provided up to a maximum of \$4,000 per year and could be received for a maximum of two years depending upon the duration of the training program (at total of \$8,000). CCC also offered an additional \$500 in scholarship aid (through their College Foundation) to provide additional financial assistance for students based on need; and
- *EICCD Logistics*: Workforce investment system agencies in Iowa (CareerLink and Iowa@Work) and in Illinois helped students to access local (United Way), state, and federal (WIA and Temporary Assistance for Needy Families) assistance to help pay for tuition.

CBJTG grant funding initiated a variety of outreach and recruitment strategies to make new populations, usually youthful ones, aware and interested in occupations within a targeted industry. Often these outreach and “pipeline-building” efforts extended into high schools, and even middle and elementary schools. The pipeline development strategies initiated in nine CBJTG grant-funded initiatives are highlighted in the case summaries found in Appendix C. The pipeline activities included establishment of “summer academies” for elementary and middle school children to inform them about the varied occupations in the healthcare sector and to get them interested in pursuing a healthcare career down the road; holding one-day expos or workshops to increase awareness of young girls and teachers of opportunities within the advanced manufacturing sector; and establishing articulation agreements to allow high school students to earn credits at the community college and therefore to move more quickly through a particular training program and earn an associate or bachelor’s degree.

Training Products Developed

One of the important aims of the CBJTG program was to provide funding for initiatives to develop tangible products of their capacity-building efforts that could be sustained well after grant funds had been expended and, where possible, for such products to be disseminated for use by other training institutions/programs across the country. According to survey results, half of respondents shared grant-funded products with other organizations on their own.²⁰ With an emphasis placed on development and implementation of new or updated training programs (many of which employed innovative Internet-based instructional methods to complement more traditional classroom-based instruction), it is not surprising that the most frequently cited product among survey respondents was “new or revised curricula and course materials” (86 percent). Next in frequency was “outreach and recruitment materials” (73 percent), which were needed to

²⁰ Sharing of these products is in addition to the required sharing of training products developed with CBJTG funds that occurred through ETA’s e-learning and knowledge sharing platform, www.workforce3one.org.

“get the word out” and generate an appropriate pool of candidates for possible enrollment in training. The third and fourth most cited products were technology-related: “new or improved Web sites” (42 percent) and “development of distance learning programs” (39 percent). Grants were aimed at generating development activity around incorporation of the latest information technology applications to promote access to training (e.g., through distance learning instructional methods) and to spur improvements in curriculum and instructional methods. Distance learning and extensive reliance on the Internet were hallmarks of quite a few programs initiated with CBJTG funding, including several visited as part of the evaluation effort (see below). Finally, between a quarter and a third of survey respondents developed capacity-building products that were curriculum- or assessment-related tools, including: development of “training program designs and tools” (35 percent); establishment of “training curricula blended with basic skills education or training” (31 percent); and development/installation of “assessment tools” (26 percent).

Table IV.11 highlights the types of instructional techniques, laboratory and other equipment purchased, and other technologies implemented with CBJTG funding in the 11 initiatives visited as part of the evaluation effort. While only providing a small sample from which to draw, the 11 CBJTG-funded projects visited instituted a considerable array of Internet-based, cutting-edge instructional methods. Several visited sites emphasized online delivery of courses either as a substitute for or supplement to classroom-based instruction. For example, *OCTC Biotech* used CBJTG funding to update five biotechnology courses for online delivery, which meant that students could view the courses at their own time and location (e.g., saving time and money on coming to the campus and allowing for multiple viewing of classes by students). As also shown in this exhibit, several initiatives (particularly those preparing workers for the healthcare sector) were able to open new laboratories, purchase new equipment, and install simulators. For example, *SPC RN* was able to renovate classroom and laboratory space, as well as purchase several simulators (see Box IV.12)

Table IV.11: Capacity-Building through Instructional Techniques and Technologies by Case Study Initiatives

Selected Initiatives	Instructional Techniques	Laboratories, Equipment and Technologies
CT SMART	Pre-Manufacturing Certificate and SMART Level I and II programs feature combination of classroom and hands-on training; in addition, the program offered internships with manufacturing employers.	SMART had intended to create distance learning options, but found students were not interested in them.
CCBC Healthcare 1		Renovated space and purchased equipment to outfit two nursing simulation laboratories, dental hygiene labs, the Dental Arts Building, and the MLT program.
CCBC Build		Renovated laboratory space and purchased a variety of materials such as: shop tables and stools; germicidal cabinets with safety glasses; eye wash units; tool cabinets, shelves, storage racks, and gang boxes; “smart cart” stations with computers; various saws, sanders, drills, grinders, and threaders; and lumber, nails, fasteners, wire, and other consumable supplies.

Table IV.11: Capacity-Building through Instructional Techniques and Technologies by Case Study Initiatives

Selected Initiatives	Instructional Techniques	Laboratories, Equipment and Technologies
CCBC Healthcare 2	Mental Health A.A.S. was updated to provide hybrid delivery. All new curricula were developed for hybrid delivery.	Renovated Respiratory Therapy laboratory and classroom and the Medical Laboratory Technician (MLT) Laboratory. Purchased state-of-the-art ventilators and simulation equipment for the new respiratory therapy lab.
SPC RN	Developed two online specializations for incumbent workers who already have an RN: Critical Care Certificate and Emergency Nursing Care course. Provided PDAs loaded with electronic library to RN students, and incorporated into coursework.	Renovated classroom and laboratory space; created The SCENE (Simulation Center for Excellence in Nursing Education). Simulators include a simulation baby, a simulation birthing mother, and programmable mannequins that emit breath, tummy, and heart sounds, and can “code.”
SPC Informatics	Developed an entire program for online delivery including the simulation experience.	Purchased an electronic medical records system for students to practice as part of their coursework. Created an online Health Informatics Tutorial to help individuals decide on interest.
OCTC Biotech	Five courses were updated for online delivery: Introduction to Biotechnology, Botany with a Laboratory, Zoology with a Laboratory, Introduction to Cell and Molecular Biology, and Biotechnology Techniques I.	Outfitted a biotechnology laboratory was with equipment, updated other biotechnology and life sciences laboratories, and purchased mobile equipment for incumbent worker training.
MSUB-COT Energy	Existing coursework was updated and new coursework was developed to incorporate the new equipment and simulators purchased with the grant.	Purchased and outfitted a mobile training lab equipped with satellite, eight student stations, one instructor station, two monitors, up to three equipment operation training simulators, multiple Amatrol power and energy simulators, and laptop computer stations. Updated the laboratory with more welding stations for pipe welders, Amatrol hydraulics, Volvo backhoe, Caterpillar motor grader, Bobcat skidsteer, JLG articulating boom lift.
Tri-C Healthcare	Combination of classroom instruction, hands-on laboratory instruction, and internships for each of the six healthcare training programs. The grant also supported the development of an online train-the-trainer program to cultivate new faculty.	Grant funds were used to outfit the two preventive care centers/laboratories with an audio-visual system, BTE machines and important supplies such as physical therapy beds, wheelchairs, ultrasound machines, exercise tables, scales, and weights.
EICCD Logistics	All curricula were developed for delivery in a hybrid format that also incorporated hands-on or simulation learning in laboratories.	Web-based, interactive outreach tool about Logistics Electronic library of logistics materials Equipment simulation environment for radio frequency identification and forklift safety
SBCCD Nanotech		Created the NanoCenter and equipped the clean room at UCR with mask and bond aligner equipment.

Source: CBJTG Evaluation Case Studies 2011

Box IV.12: Use of Simulators in a Health Training Initiative

SPC RN

SPC devoted a considerable portion of its CBJTG grant funds to purchasing simulation equipment for the Simulation Center for Excellence in Nursing Education (SCENE). The 11 simulators purchased included a simulation baby and a simulation birthing mother. SCENE has not only enhanced the regular classroom experience by simulating real health scenarios to which the students learn how to react without endangering lives, but it has sometimes also served as a location for clinical rotations. This was particularly true for obstetrics and pediatrics rotations, which can be difficult to schedule. Florida law allows up to 25 percent of clinical time to be spent on simulators versus live patients [Florida Statute 464.019 (1)(b)2.(c)]. The simulation mannequins can, for example, simulate breath and heart sounds. They can also be programmed for a crisis situation or “code” that students are unlikely to experience in their field rotations. Faculty members indicate that they have received feedback from industry that students who have practiced in SCENE have high skill levels once in the field.

Grant Recipient Perceptions of Success of Capacity-Building Activities

Finally, survey respondents were asked to rate their success on a range of capacity-building areas on a four-point scale from unsuccessful to very successful. Over 90 percent of respondents rated their grants as successful or very successful in six capacity-building areas (all of which have been discussed in this section of the report or in the earlier section on training activities): “expanding the number of training slots” (94 percent of respondents); “attracting future workers to the industry” (94 percent); “developing new training programs” (94 percent); “designing or implementing new instructional techniques or technologies” (93 percent); “hiring or funding new faculty or instructors” (91 percent); and “improving access to education and training opportunities for disadvantaged populations” (91 percent). All of these dimensions rated as successes are in the area of either directly building training capacity/techniques or opening up new pipelines of skilled workers into a high-demand occupation in a targeted industry or industries. Other capacity-building activities that respondents rated their own performance as being successful or very successful over the course of their grants included: “hiring or funding new faculty or instructors” (86 percent); “developing financial aid or scholarship operations for trainees” (80 percent); and “creating train-the-trainer programs” (73 percent).

Partnerships

According to the CBJTG round 4 funding announcement posted in the *Federal Register* (10.8.2008), strategic partnerships were to be an integral part of CBJTG initiatives: “ETA believes that strategic partnerships between community colleges; the workforce investment system, including One-Stop Career Centers; business and industry; and the continuum of education, including the K-12 system, adult education, and four-year colleges and universities need to be in place in order to implement effective demand-driven training and capacity building strategies. These strategic partnerships may have a local, regional, or statewide focus, and may include a consortium of partners or cross-industry representatives” (p.60342). The notice also encouraged applicants to partner with faith-based and community-based organizations.

Partner organizations may have been involved in planning, implementation, and/or sustainability. They may have contributed ideas, resources, services, and/or time. They may have been involved sporadically or may have been persistent contributors throughout the CBJTG initiative. Some organizations may have been partners long before the CBJTG initiative, while others may have become partners during the initiative. CBJTG grant applicants were required to list their expected strategic partners with their expected roles for initiative implementation and to provide documentation that the potential partner had in fact agreed to participate. This report, however, investigates what actually happened through survey and case study participant responses. What kinds of organizations ultimately served as CBJTG partners, in what roles did they serve, what resources did they contribute, and how long were they involved?

Types of Partners

Survey participants were presented with a list of possible partner types and asked to indicate which organizations they had partnered with for their CBJTG-funded initiative, which ones they had partnered with for planning purposes, and which ones they had partnered with for operational purposes. Four survey respondents did not specify their partner organizations. As indicated in Table IV.12, of the 216 survey respondents that specified partner types, nearly all indicated some kind of workforce investment system partner (92 percent) or postsecondary education partner (87 percent), while most indicated some kind of business/industry partner (79 percent) or K-12 school district partner (80 percent). More than half indicated community or faith-based organization partners (60 percent), and just less than half indicated “other government” partners (48 percent). Survey respondents also indicated partnering with philanthropic organizations (14 percent), unions (18 percent), and other organizations not represented on the list provided in the survey (18 percent).

Table IV.12 also displays information about when certain kinds of partners were engaged in the CBJTG-funded initiatives. With the exception of engagement with the philanthropic community, a higher proportion of respondents indicate partnering with each group in the implementation or operating period rather than the planning period. The contrast is particularly stark in the case of workforce investment system organizations with 92 percent of survey respondents indicating a partnership with them during the operation of the initiative vs. 63 percent of survey respondents indicating workforce investment system involvement in the planning process. Generally speaking, the lower engagement during the planning period may be a reflection of the time constraints for getting the project off the ground, or other interested organizations coming forward after the program has launched.

Table IV.12: Proportion of Respondents Indicating Types of Partner Organizations

Partner Organization Type	Partnerships At any Stage	Planning Partnerships	Operating Partnerships
Workforce Investment System (Career or Job Centers, One-Stop Career Centers, and Workforce Investment Boards (state or local))	92.1	63.0	91.7
Business/Industry (Industry associations, employers, or chambers of commerce; economic development organizations; seed and venture capital organizations or individuals, investor networks, or entrepreneurs)	78.7	70.8	75.0
Community- and Faith- Based Organizations (Community-based organizations or other social services agencies; Faith-based organizations)	59.7	43.5	55.1
Educational Institutions			
School districts (K-12 education)	80.1	61.6	79.2
Postsecondary (community colleges, community college consortia, community college districts, or workforce development departments within community colleges; Technical Colleges; Universities or other four-year schools; Vocational schools)	86.6	79.6	83.8
Other Government (Local or state)	47.7	35.2	46.7
Other			
Philanthropies	14.4	6.0	14.4
Unions	18.1	8.8	10.7
Other	18.1	13.0	10.7

N=216

Source: CBJTG Grantee Survey 2011

As noted in Table IV.12, the grant organizations worked with many partners through their CBJTG initiatives and these partners became involved during different points in the grant. The following examines the survey results for the specific types of partners:²¹

- **Workforce Investment System.** Survey respondents with workforce investment system partnerships indicated working with workforce investment boards (69 percent), One-Stop centers (71 percent), and career or job centers (41 percent). When asked what types of partners had participated in the planning stages of their particular CBTG initiative, only 63 percent of survey respondents indicated partnering with workforce investment system organizations. Ten of the 11 case study initiatives partnered with workforce investment

²¹ Interviews with case study participants indicate that partners may be construed to mean other parts of the same organization. For example, the CCBC Healthcare Academic Department partnered with the CCBC Continuing Education Department to assure articulation between non-credit bearing and credit-bearing healthcare programs. MSUB-COT discussed a similar partnership in regards to their welding program. Although these partnerships may be considered internal because they are part of the same organization as recognized for tax purposes, each of these departments are quite large, have their own missions, and their own leadership thus requiring a real effort to partner much like that found external to an organization. When survey respondents answered the question, it is not clear whether they were referring only to external partnerships or also included internal partnerships.

system organizations; the one that did not was itself a workforce investment system organization.

- **Educational Institutions.** Survey respondents with educational institution partnerships indicated working with universities and other four-year colleges (42 percent), “community colleges, community college consortia, community college districts, or workforce development departments within community colleges” (70 percent), technical colleges (23 percent), vocational schools (19 percent), and school districts (K-12) (80 percent). Of the 11 case study initiatives, six partnered with both post-secondary and K-12 schools, three partnered only with postsecondary institutions, and two partnered only with K-12 schools.
- **Business and Industry.** Survey respondents with business/industry partnerships indicated working with “industry associations, employers, or chambers of commerce” (70 percent), economic development organizations (48 percent), and “seed and venture capital organizations or individuals, investor networks, entrepreneurs” (3 percent). All of the 11 case study initiatives indicated partnerships with employers. Four of the case study initiatives indicated partnerships with economic development organizations (*OCTC Biotech*, *MSUB-COT Energy*, *EICCD Logistics*, and *SBCCD Nanotech*).
- **Community and Faith-Based Organizations (CFBOs).** Survey respondents with CFBO partnerships indicated working with “community-based organizations or other social service agencies” (55 percent) and “faith-based organizations” (26 percent). Six of the 11 case study initiatives partnered with community or faith-based organizations.
- **Other Government Agencies.** Survey respondents partnering with governmental entities other than workforce investment or economic development indicated working with “local government” (30 percent) and “state government” (37 percent). Other government agencies were not frequently mentioned by the case study initiatives, but two of them did talk about partnering with local fire departments (*CCBC Healthcare 2* and *MSUB-COT Energy*).
- **Philanthropic Organizations, Unions, and “Other”.** Other types of organizations that CBJTG initiatives partnered with include the “philanthropic community (e.g. foundations)” (14 percent), “unions” (11 percent) and other organizations (18 percent) that the survey respondent did not feel like fell into the categories provided on the survey. Three of the 11 case study initiatives partnered with unions (*CCBC Build*, *MSUB-COT Energy*, and *SBCCD Nanotech*).

Role of Partners and Resources Provided by Partners

As discussed in the previous section, partners reflected a variety of organizational types, and they could have played a role in the planning or implementation stages, or both. The survey asked respondents to provide information on the how partners within the workforce investment system, employer or industry partners, and other partners contributed. It also asked respondents to indicate their top five organizational partners “that dedicated the most time/resources or played the most active/significant role in developing or implementing” their CBJTG-funded initiative.

This section discusses these survey responses on the roles and resources provided by partner organizations with some illustrations provided by the case study participants.

- **Workforce Investment System.** The four most frequently cited roles of workforce investment system partner organizations were: providing referrals to the CBJTG training programs (73 percent), access to support services (69 percent), advisory committee/steering committee participation (65 percent), and establishing connections to employers or industry associations (63 percent). Just under half (47 percent) of survey respondents indicate job placement services as a role performed by their workforce investment system partner organizations. About one third of respondents indicated that the workforce investment system partners provided access to financial aid (32 percent), direct funding/training costs (31 percent), and use of ITAs (31 percent), while 22 percent indicated use of facilities and 11 percent indicated use of staff as trainers. Fewer than 10 percent of survey respondents list the following roles/resources for their workforce investment system partners: curriculum development, internships, job shadowing, mentoring, operation of training activities, apprenticeship-related services, or other. Survey respondents also indicated that workforce investment system partners provided the following roles and resources not listed on the survey: access to their database of job listings, career assessment services, transportation assistance, tracking of common measures, and marketing/recruitment services.
- **Employers and Industry Associations.** The three most frequently cited contributions of employer/industry partners were advisory committee/steering committee participation (92.7 percent), referrals of employees to the CBJTG training programs (72 percent), and curriculum development (60 percent). About half of survey respondents indicated interviews of program graduates (55 percent) and use of facilities (52 percent). Between one third and one half of survey respondents indicated the following employer/industry contributions: use of staff/employees as trainers (44 percent), internships (44 percent), “paid time for incumbent workers in training, or other incentives to workers for training” (38 percent), “referrals of individuals outside partner organizations to the CBJTG training program” (36 percent), and financial resources for training (33 percent). About 28 percent of respondents noted that employer/industry partners helped by providing job shadowing opportunities. Fewer than 20 percent of respondents indicated that these partners contributed in the following ways: mentoring (20 percent), support services (19 percent), operation of training programs (15 percent), and apprenticeships (14 percent). Seven survey respondents cited “clinical sites/rotations” as an employer partner contribution, while three indicated the provision of equipment.
- **Other Organizations.**²² The three most frequently cited contributions of “other” partners were advisory committee/steering committee participation (82 percent), referrals to the CBJTG training program (66 percent), and curriculum development (47 percent). About one third of survey respondents indicated each of the following “other” partner roles and resources: support services, use of facilities, and use of staff. About one quarter of survey respondents indicated that “other partners” helped with operation of training

²² The survey asked respondents to discuss the roles of three kinds of partners: workforce investment system partners, employer and industry association partners, and all other partners.

programs and about one fifth of respondents indicated that “other” partners helped with access to financial aid. Fewer than 20 percent of survey respondents indicated that “other” partners helped with the following: internships (16 percent), direct funding/contracts (14 percent), mentoring (12 percent), job shadowing opportunities (11 percent), and apprenticeships (7 percent).

Most Active or Most Significant Partners

The survey asked respondents to name their top five organizational partners “that dedicated the most time/resources or played the most active/significant role in developing or implementing” their CBJTG-funded initiative. It then asked them to classify the organizations as one of the organizational types listed in Table IV.13 All of the partner types listed in the survey were included as one of the five most active or most significant for at least 14 respondents (6 percent); both unions and seed and venture capital organizations fell in this category. The most widely cited significant partner types were “industry association, employer, chambers of commerce” (47 percent of respondents), workforce investment boards (46 percent), and school districts (44 percent). Sometimes multiple organizations of the same type were most important to survey respondents. For example, 10 percent of survey respondents indicated three to five partners that fit in the type “industry association, employer, or chamber of commerce.” Similarly, six percent of survey respondents indicated three to five partners in the state government.

Table IV.13: Five Partners that Played the Most Active or Significant Role in the CBJTG Initiative’s Development or Implementation by Percentage with at Least One of These Partners

Partner Type	Percent of respondents with at least one of these partners	Percent of respondents with 3 to 5 of these partners
Industry association, employer, or chambers of commerce	46.8	9.5
Workforce Investment Boards	46.4	0.5
School districts	44.1	2.3
One-Stop Career Centers	39.5	0.5
Economic development organization	30.9	2.3
Career or job centers (other than One-Stop)	30.0	2.7
Community-based or other social service agency	30.0	3.6
Universities or other four-year colleges	22.7	0.0
State government	21.4	5.5
Technical colleges	20.0	1.4
Local government	16.4	1.8
Vocational schools	14.5	0.5
Faith-based organization	8.2	0.0
Philanthropies	8.2	0.0
Seed and venture capital	6.4	0.5
Unions	6.4	0.0

N=220

Source: CBJTG Grantee Survey 2011

Information gathered from the 11 CBJTG case study initiatives provides further information on the value of partners. For example, eight of the case study initiatives had training projects where they partnered with K-12 schools. They indicated that partnership activities primarily focused on building awareness of industry careers among youth through outreach campaigns, curriculum development, and summer programs. Two of these eight training projects worked together with city and county school districts to develop summer academy camps to remediate reading and math skills (such as *SPC RN*) and increase awareness of industry-specific careers. Other programs with K-12 partners fostered dual-credit enrollment programs for students (such as *EICCD Logistics*). Another role among school district partners was teacher education. Several CBJTG initiatives worked with secondary institutions to develop teacher trainings on industry opportunities (such as *OCTC Biotech*) and classroom materials. The *Tri-C Healthcare* initiative developed a classroom kit for use by 5th- and 6th-grade teachers to guide yearlong classroom instruction on health career opportunities.

All 11 CBJTG initiative case study sites discussed the importance of their employer partners. Many of the initiatives indicated that employer partners contributed equipment, tools, materials and supplies, and cash resources. Several initiatives indicated staff and faculty time as a contribution from employer partners. In healthcare initiatives, employer partners were particularly crucial in providing locations for clinical rotations. For example, *CCBC Healthcare 2* indicated that it had at least 70 employer partners for students' clinical rotations. In addition to these types of in-kind and cash contributions, all initiatives indicated that employers served on advisory boards that provided guidance on new curriculum and outreach materials, new equipment purchases, and skills needed for students' success in the industry. The case study sites indicated that the employer partner involvement in these advisory committees was particularly critical to ensuring that training truly met the needs of industry.

The examples in Box IV.13 highlight some of the important lessons the case study respondents learned about working with partners and developing partnerships during the implementation of their CBJTG initiatives.

Box IV.13: Partnership Lessons Learned – Case Study Sites

CCBC Healthcare 1 and 2. Partnership with industry is key. CCBC relationships with industry prior to the availability of the grant helped them determine which gaps in their curriculum to address, and how to address them in ways that best met industry's needs. In addition, the industry relationships helped them to develop special incumbent worker cohorts to help students advance their skills within their current work environments.

SPC RN and Informatics. Partnership with industry is key. SPC and its industry partners agree that the partnership was key to creating a training program that really meets industry needs. Phrases characterizing a model partnership include: "it can't be a one-way street," "it isn't a rubber-stamp process," and "you must come into the relationship with open arms."

EICCD Logistics. Success is all about relationship-building. Many unexpected things will happen during project implementation. Partners join with different goals and expectations, which may change over time. Their intensity of participation may increase and wane throughout the project, but continuity of participation is not as important as the relevant participation in particular stages of the project. Someone must be working throughout the project to solicit, develop, and strategically integrate partners.

MSUB-COT Energy. Create relationships before asking for something. Partnerships need to be sustained over the long term. It is important to invite industry and community partners to the table even prior to a specific initiative. Asking for their opinions and needs is important in demonstrating to them that you can be counted on and are involved. Then, when you ask them for help, they'll be willing to give it.

Tri-C Healthcare. Obtain written and signed agreements for leveraged resources and seek cash/in-kind contributions early in the grant period. During the grant proposal process, the grant recipient received oral and written commitments of leveraged resources from several partner agencies. After the grant was awarded, the leveraged funds were not immediately sought or collected. Over time, Tri-C found it difficult to collect resources as changes in personnel at partnering organizations made the nature of commitments to provide leveraged resources less clear, and in one case there was no written and/or signed documentation to back up specific commitments of leveraged resources.

Partnership Successes and Challenges

Survey respondents were asked to reflect on how successful their CBJTG initiatives had been in "supporting and strengthening partnerships" with educational institutions, employers or industry associations, the public workforce system, and other organizations. Survey respondents were also asked to reflect on how easy or difficult it had been to engage with their partners in the following ways: "accessing planned leveraged resources," "engaging partners throughout the grant period," "communicating with partners," "working with partners during changing economic conditions," among others. Survey respondent answers to these questions are discussed here and supplemented with examples from the case study participants.

Most survey respondents indicated high levels of success in strengthening and supporting partnerships, with 69 percent of survey respondents (Table IV.14) indicating that they were “very successful” with employers or industry associations, nearly 66 percent indicating they were “very successful” with educational institutions, almost half indicating they were “very successful” with the public workforce system, and almost a third indicating they were “very successful” with other types of organizations. Very few survey respondents indicated they were “not successful at all,” with fewer than two percent of respondents providing this answer for any type of organization. For each type of organization, between two and six percent of survey respondents indicated that it was “too soon to tell” how well they were doing in supporting and strengthening the partnerships.

Table IV.14: Percentage of Respondents Indicating Levels of Success in Supporting and Strengthening Partnerships by Type of Partnership

Type of Organization	Level of Success			
	1 - Not Successful	5 - Very Successful	Too Soon to Tell	Not Applicable
Educational institutions	0.0	65.9	3.2	3.6
Employers or industry associations	0.5	69.1	2.7	0.0
Public workforce system	1.8	46.8	4.1	1.8
Other organizations	0.0	31.8	5.9	30.5

N=220

Source: CBJTG Grantee Survey 2011

Survey respondents also tended to indicate ease in working with their grant partners around all of the partnering activities listed in the survey. As indicated in Table IV.15, more than 50 percent of survey respondents rated the ease of engaging with partners around each of these grant activities at either a “4” or “5” with “5” representing “very easy.” Fewer than seven percent of survey respondents indicated that working with their partner organizations on these activities was “very difficult.” It appears that “working with partners during changing economic times” was perhaps the least easy activity with only 18 percent of respondents rating it as “very easy.”

Table IV.15: Percent of Respondents Indicating Ease of Experience with Certain Partnering Activities (N=220)

Partnering Activities	Level of Ease					
	1 - Very Difficult	2	3	4	5 - Very Easy	Not applicable
Accessing planned leveraged resources	3.6	12.7	22.7	37.7	20.5	2.7
Engaging partners throughout the grant period	2.7	9.6	25.9	35.5	25.9	0.5
Communicating with partners	0.9	4.1	20.5	38.6	35.5	0.5
Working with partners during changing economic times	6.4	12.3	25.5	35.9	18.2	1.8
Other	1.4	0.0	1.4	0.9	0.9	95.5

N=220

Source: CBJTG Grantee Survey 2011

Sustaining Partnerships after the Grant Ended

One hope of the CBJTG funding is to create capacity within the training institutions that will be sustained beyond the period of performance. One way to maintain capacity is to maintain relationships built during the planning and implementation of the CBJTG initiatives. Survey respondents were asked to indicate or speculate on partnership continuation. This section first examines the ongoing partnership experiences of the 66 CBJTG survey respondents whose initiatives are non-operational (their period of performance has passed). Then this section examines the responses of the 154 survey respondents whose CBJTG initiatives are still operational regarding their expectations for sustaining their partnerships. Later in this report the issues of sustainability are explored more deeply.

Table IV.16 illustrates a fairly positive picture in regard to the ability of CBJTG initiatives to maintain the partnerships they have built. Nearly all non-operational respondents (93 percent) indicated that they had maintained their partnerships with “community-based organizations or other social service agencies.” In fact, more than half of survey respondents indicate having maintained relationships with their partners in all but five categories: faith-based organizations (25 percent maintained), unions (26 percent maintained), “seed and venture capital” (28 percent maintained), “other” (41 percent maintained), and the philanthropic community (44 percent maintained).

Table IV.16: Survey Respondent Partnerships that Have Continued, of CBJTG Initiatives that Were Non-operational

Type of Organization	Partnership has Continued	
	Yes	Percent
Career or job centers (other than One-Stop Career Centers) (N=39)	28	71.8
Community-based organizations or other social services agencies (N=56)	52	92.9
Economic development organizations (N=45)	32	71.1
Faith-based organizations (N=28)	7	25.0
Industry associations, employers, or chambers of commerce (N=53)	43	81.1
Local government (N=36)	20	55.6
One-Stop Career Centers (N=55)	48	87.3
Philanthropic community (e.g., foundations) (N=32)	14	43.8
School districts (N=53)	45	84.9
Seed and venture capital organizations or individuals, investor networks, or entrepreneurs (N=29)	8	27.6
State government (N=38)	26	68.4
Technical colleges (N=37)	23	62.2
Unions (N=31)	8	25.8
Universities or other four-year colleges (N=38)	24	63.2
Vocational schools (N=31)	16	51.6
Workforce Investment Boards (N=48)	40	83.3
Other (N=12)	12	41.4

Source: CBJTG Grantee Survey 2011

Survey respondents whose CBJTG initiatives were still within their period of performance (operational) were fairly optimistic about the prospects for many partnerships to

continue. The organizational categories with the most respondents indicating that the partnerships “will continue” are “community-based organizations or other social service agencies” (73 percent), “industry associations, employers, and chambers of commerce” (65 percent), workforce investment boards (62 percent), One-Stop Career Centers (62 percent), and school districts (60 percent). Given the high proportion of non-operational survey respondents indicating that their partnerships with these organizations continued, the optimism of the operational survey respondents appears warranted. Similarly, unions and faith-based organizations are the two types of organizations for which the highest proportion of operational survey respondents indicated that partnerships “will not continue,” at 16 percent and 11 percent respectively. These were also the two organizational types with the fewest survey respondents indicating continued partnerships.

Table IV.17: Of Operational Initiatives, Likelihood that Partnerships Will Continue after Grant Period, by Type of Partner Organization (N=154)

Type of Partner Organization	Likelihood that Partnership Will Continue				
	(Percent of N)				
	Will not continue	Not likely to continue	Unsure	Likely to continue	Will continue
Career or job centers (other than One-Stop Career Centers) (N=132)	3.8	1.5	18.9	23.5	52.3
Community-based organizations or other social services agencies (N=138)	1.5	1.5	7.3	17.4	72.5
Economic development organizations (N=128)	1.6	0.8	18.8	29.7	49.2
Faith-based organizations (N=117)	11.1	3.4	49.6	16.2	19.7
Industry associations, employers, or chambers of commerce (N=138)	0.7	0.7	11.6	22.5	64.5
Local government (N=123)	1.6	0.8	24.4	26.8	46.3
One-Stop Career Centers (N=139)	2.2	0.7	11.5	23.7	61.9
Philanthropic community (e.g., foundations) (N=112)	8.9	3.6	39.3	18.8	29.5
School districts (N=146)	0.7	1.4	8.9	28.8	60.3
Seed and venture capital organizations or individuals, investor networks, or entrepreneurs (N=105)	18.1	2.9	62.9	4.8	11.4
State government (N=121)	5.0	0.0	28.9	24.8	41.3
Technical colleges (N=119)	10.9	1.7	33.6	16.8	37.0
Unions (N=113)	15.9	1.8	54.9	8.0	19.5
Universities or other four-year colleges (N=126)	8.7	1.6	15.9	17.5	56.4
Vocational schools (N=117)	10.3	0.0	38.5	19.7	31.6
Workforce Investment Boards (N=141)	2.1	0.0	12.8	22.7	62.4
Other (N=78)	20.5	0.0	60.3	1.3	18.0

Source: CBJTG Grantee Survey 2011

Leveraged Resources

The first three rounds of CBJTG encouraged grant-receiving organizations to leverage resources, but the fourth round of CBJTG required some leveraging of resources. In particular, grant-receiving organizations were required to demonstrate that they had leveraged WIA funds for training. Leveraged funds could include both federal and nonfederal resources, both cash and in-kind.

Of the 206 survey respondents answering the question regarding their proposed level of leveraged resources, five percent indicated that they had not planned to leverage any funds and two percent indicated that they did not know the level of leveraging they had proposed. Of the 202 survey respondents who indicated an amount leveraged, the largest group (27 percent) indicated that they had planned to leverage between \$1,000,000-\$1,999,999. The next largest group (21 percent) indicated that they planned to leverage between \$500,000-\$999,999. The same proportion (18 percent) each indicated an intent to leverage between \$1-\$499,999 and \$2,000,000-\$4,999,999. About 10 percent intended to leverage \$5 million or more.

As displayed in Table IV.18, almost half of the respondents (45 percent) did not expect their organizations to make a direct financial contribution but 41 percent expected in-kind contributions of less than \$500,000 from within their own organization. On the other hand, three respondents expected their organizations to contribute \$5,000,000 or more in cash, and six respondents had expected their organizations to contribute that same amount in-kind. In contrast, only 14 percent of respondents did not expect any leveraged financial contribution from partners. The highest proportion of respondents expected both financial and nonfinancial contributions from partners to be less than \$500,000.

Table IV.18: Proposed Leveraged Resources by Type and Organization

Proposed Leveraged Resources	Percent within Own Organization		Percent from Partner Organization	
	Leveraged Financial Contribution (N = 199)	Leveraged In-Kind Contribution (N = 189)	Leveraged Financial Contribution (N = 184)	Leveraged In-Kind Contribution (N = 184)
\$0	44.7	31.8	13.6	14.1
\$1-\$499,999	37.7	40.7	51.6	44.0
\$500,000-\$999,999	6.0	9.5	10.9	12.0
\$1,000,000-\$1,999,999	2.0	5.8	9.2	9.8
\$2,000,000-\$4,999,999	2.0	2.1	6.5	8.2
\$5,000,000 or more	1.5	3.2	1.6	3.8
Don't Know	6.0	6.9	6.5	8.2

Source: CBJTG Grantee Survey 2011

Survey respondents indicated that staff time (86 percent) and training facility space (82 percent) were the two most frequently types of leveraged in-kind resources. Training or office equipment (68 percent), supplies (61 percent), and expert consultants (57 percent) were also frequently leveraged. Of the options listed on the survey, curriculum (41 percent) was the least frequently leveraged. Seven survey respondents indicated waived tuition/scholarships as another type of in-kind resource, and three survey respondents indicated no in-kind resources received.

The value of in-kind leveraged resources should not be underestimated. Discussions with case study participants indicated that some of the leveraged equipment was essential to outfitting their hands-on laboratory experiences for students. MSUB-COT Energy, for example, received a donated “Caterpillar 14M Motor Grader, Training and Maintenance Services” from Caterpillar Inc., valued at \$410,000. The City of Cleveland Economic Development Center indicated that it leveraged over \$2 million in in-kind construction donations to equip prevention centers/laboratories for its CBJTG-funded Tri-C Healthcare initiative.

Discussions with case study participants also indicate that the time devoted by industry to help them develop and implement their programs may not have been captured as leveraged resources. For example, all the case study participants indicated that they had one or more advisory committees on which industry members sat to guide curriculum and program development. It is not clear, however, that the value of the time spent in those meetings has been captured.

When asked if they are on-track in meeting their leveraged fund goals, 82 percent of operational respondents indicated that they were and that same percent indicated that the leveraged resources came from the partners listed in their original proposal. Among non-operational respondents 88 percent indicate that they accomplished their leveraged fund goals, with 85 percent indicating that the leveraged resources came from the expected sources. Ninety-seven operational respondents and seven non-operational respondents indicated receiving additional leveraged resources from places not anticipated at the time they applied for their grants.

One quarter to just over one third of respondents representing operational initiatives indicate having received all of their expected funds from each of the four kinds of funds listed in Table IV.19. Respondents representing initiatives that are not operational demonstrate that programs cannot expect to receive all funds from any source, but “financial contribution or grant from own organization” seems to be the most reliable, with 61 percent of non-operational respondents indicating receipt of all funds from this source. On the other hand, “financial contribution or grant from partner organizations” seems to be the least reliable source with only 44 percent of non-operational respondents indicating receipt of all these expected funds and 13 percent of non-operational respondents indicating receipt of none of these funds.

Table IV.19: Expected Leveraged Resources Received by September 30, 2010: Operational and Non-Operational Initiatives				
Leveraged Resources Type and Source	Operational		Non-Operational	
	Percent Received All	Percent Received None	Percent Received All	Percent Received None
Financial contribution or grant from own organization (N=143)	34.0	12.0	60.5	11.6
Financial contribution or grant from partner organizations (N=160)	25.2	19.1	44.4	13.3
“In-kind” donations from own organization (N=191)	37.8	4.4	58.9	3.6
“In-kind” donations from partner organizations (N=193)	25.0	8.8	54.4	3.5

Source: CBJTG Grantee Survey 2011

Leveraged resources are significant in proportion to the value of the grants. Three of the CBJTG-funded initiatives participating in the site visits generated more leveraged funds than their original CBJTG award (*SPC Informatics*, *OCTC Biotech*, and *Tri-C Healthcare*). Another four leveraged funds totaling 75-93 percent of their CBJTG award (*CT SMART*, *SPC RN*, *CCBC Healthcare 1*, and *CCBC Build*).

V. Results of the Grants

This report section examines various results of the CBJTG-funded initiatives through the lenses of program sustainability, accomplishments, implementation issues, and performance.

Performance Results

As a part of its effort to track the progress and outcomes of the grants, ETA developed a performance reporting system, the Common Reporting Information System, requiring grant initiatives to collect aggregate data on participants' enrollment, training, and employment outcomes, and initiative capacity-building activities and leveraged resources. Grant organizations provided their own data on training participation and completion and on demographics of their participants. They could provide aggregate data on employment outcomes – entered employment and employment in a training-related field in the quarter of completion of the program – from their own information systems or submit the Social Security numbers of participants to the ETA to link to nationally available employment data. As these data were available, the evaluation team linked these reports to grant recipient survey data to identify promising strategies and program models that may indicate some successful performance in these areas.²³

Of the 220 respondents to the survey, 182 had submitted these performance forms to the ETA as of December 31, 2010 if the grant was still underway or as their final report if the grant had ended. Of the 38 respondents that did not submit forms, nearly all were in rounds 1 and 2. This is likely because the reporting forms only came into use later in the initiative, and the earlier initiatives may have ended their programs by this time. Thus, the analysis is skewed towards the reported outcomes of the round 3 and 4 grants, which may not have completed activities yet.

The following sections provide an overview of the summary performance data for the grant recipients that responded to the survey and submitted the designated performance report. An analysis is provided using cross-tabulations of the different activities and approaches the grant initiatives undertook, and whether initiatives have met or will likely meet the performance goals for their grants. From these data, some promising strategies emerge to offer insight into how future demonstrations may work best.

Overview of Summary Performance Data

The performance data submitted by the grant organizations provided aggregate data on participant characteristics and outcomes and grant initiative outcomes on capacity-building activities and leveraged resources.²⁴ As discussed, 182 of the grant initiatives responding to the survey had submitted forms and provided data on most of the data categories requested.

The grant organizations responding to the survey and submitted performance data served 106,856 participants. As shown in Table V.1, an average of 590 participants was enrolled in CBJTG training activities by survey respondents, with a median number of 403. Some grant initiatives enrolled as few as 37 participants and several enrolled over 8,000 participants,

²³ See U.S. Department of Labor, Employment and Training Administration. 2008. *High Growth and Community-Based Job Training Grants: General Quarterly Reporting Forms & Instructions*. Washington, DC.

²⁴ The performance form also provides a place for the Department of Labor "Common Measures" to be calculated. However, few forms showed the data on these measures so they are not reported.

skewing the averages high for the performance data. Thus, for the remainder of this section, medians are reported rather than averages to more accurately reflect the performance of the grants. Of these participants, there were more male participants (median of 159) than female participants (median of 98). Grant initiatives that responded to the survey also served more white participants than other races with a median of 201 participants. These respondents served a median of 17 black or African American participants and fewer than a median of 4 participants for other races including American Indian or Alaska native, Asian, native Hawaiian or other Pacific Islander, or having more than one race. Survey respondents served a median of 15 participants of Hispanic or Latino ethnicity and a median of zero Hispanic/Latino of more than one race. Survey respondents also served a median of 11 veterans and 4 persons with disabilities.

Table V.1: Participant Characteristics of Survey Respondents Based on Performance Forms Submitted as of December 31, 2010

Participant Characteristics	Mean	Median	N
Total Participants Served	590	403	181
Male	341	159	180
Female	235	98	180
Hispanic/Latino	73	15	178
American Indian or Alaska Native	15	3	178
Asian	14	4	178
Black or African American	87	17	178
Native Hawaiian or Other Pacific Islander	2	0	178
White	359	201	178
More Than One Race	10	3	178
Hispanic/Latino and More Than One Race	6	0	178
Eligible Veterans	29	11	178
Persons with a Disability	10	4	178

On their performance forms, grantees also provided the outcomes of participants who were enrolled in their CBJTG training activities. These grant organizations had 110,478 participants started training, 59,813 completed the training, and 45,627 earned a degree or certificate as of December 31, 2010. As shown in Table V.2, the survey respondents had an average of 382 participants begin an education or job training activity that was CBJTG-funded, with a median completion number of 173. A median of 113 completers received a degree or certificate as a result of the training activity. Of the participants that completed the education or job training activity, a median of 23 participants found employment and 23 found employment that was in an industry that was related to the training they received.

Of the grantees that responded to the survey and provided performance data, a total of 17,203 participants found employment in the quarter in which they completed training and 14,628 of these employed participants found a job that was in the industry for which they had received training. While the employment rate of all training completers in the quarter of completion may not seem large (29 percent), it is important to keep in mind that many participants may have found employment in the quarters after completion or non-completers may have found employment that may not have been counted in the performance data. Also, some training programs were too long for participants to finish during the period of performance, so

some participants who may have subsequently become employed are not counted in the numbers. Thus, the employment rate is likely to be higher than is reflected in the performance data.²⁵

Table V.2: Participant Outcomes of Survey Respondents Based on Performance Forms Submitted as of December 31, 2010

Participant Outcomes	Mean	Median	N
Began Education/Job Training Activities	610	382	181
Completed Education/Job Training Activities	330	173	181
Received Degree or Certificate	252	113	181
Entered Employment	97	23	178
Entered Training-Related Employment*	84	23	174
Agriculture, Forestry, Fishing & Hunting	91	10	5
Mining (Including Oil and Gas Exploration)	203	170	9
Utilities	45	3	9
Construction	106	47	16
Manufacturing	46	16	41
Retail Trade	12	5	13
Transportation & Warehousing	45	10	20
Information	13	5	7
Finance & Insurance	1	1	5
Professional, Scientific and Technical Services	41	5	12
Administrative & Support and Waste Management & Remediation Services	10	7	6
Educational Services	15	2	16
Healthcare & Social Assistance	100	60	61
Arts, Entertainment and Recreation	75	2	5
Accommodation and Food Services	18	4	12
Other Services (except Public Administration)	21	6	12
Public Administration	49	2	8

* Industries with fewer than 3 respondents were eliminated from the table.

Source: CBJTG Grantee Survey 2011; CBJTG performance reports.

From the data presented in the previous table, it appears that many of the grant initiatives were able to demonstrate that their participants found employment in their field of training. The industries that had more than 50 participants on average who found employment were: agriculture, forestry, fishing and hunting; construction; mining; healthcare and social assistance; and arts, entertainment and recreation. Many industries had an average number of participants finding employment between 20 and 50 including: utilities; manufacturing, transportation and warehousing; professional, scientific, and technical services; other services (other than public administration); and public administration. Industries with fewer than 20 participants on average finding employment were: retail trade; information; administrative and support and waste management and remediation services; educational services; and accommodation and food services. It is important to note that some grant initiatives purposely chose to train larger

²⁵ Due to the performance reporting definitions, grantees are limited in what completion and employment data can be reported on the form. Grantees only report aggregate results for the total number of individuals that entered employment and individuals that entered training-related employment (noted above) if participants enter employment and complete training in the same quarter. As a result, participants that enter employment in quarters after they complete training are captured in the Common Measures, and the total number of individuals that ultimately enter employment and training-related employment are likely to be higher than the results above indicate.

numbers of participants in shorter-term programs, and others trained fewer participants in longer-term ones.

The grantees were required to track their capacity-building outcomes and their leveraged resources to better understand the potential impact of the grant activities. As discussed earlier, these capacity-building activities could include curriculum development, creation of new facilities, faculty and staff development, and product development. Capacity building could also involve career awareness activities for youth. The data provided does not offer much context to understand the types of activities in which instructors, students, and others participated. However, it does provide us with a sense of the magnitude of the reach of the capacity-building activities for grantees. As shown in Table V.3, survey respondents had a median of 20 instructors who participated in capacity-building activities. These respondents also saw a median of 448 students benefit from a grant-funded capacity-building activity. Finally, a median of 597 other individuals, many of who were part of career awareness programs, participated in capacity-building activities.

Table V.3: Grant Outcomes of Survey Respondents Based on Performance Forms Submitted as of December 31, 2010

Grant Outcomes	Mean	Median	N
Capacity-Building Outcomes			
The number of instructors who participated in grant-funded capacity building activities	40	20	182
The number of students who participated in grant-funded capacity building activities	1,156	448	182
The number of other people who participated in grant-funded capacity building activities	15,266	597	182
Leveraged Resources			
Amount of federal leveraged resources	\$315,062	\$35,111	182
Amount of non-federal leveraged resources	\$1,535,176	\$589,271	182

Source: CBJTG Grantee Survey 2011; CBJTG performance reports

Table V.3 also captures the leveraged resources, both cash and in-kind, grant initiatives were able to garner for their grant activities. The grant organizations that responded to the survey and provided performance data were able to use a median of \$35,111 in leveraged federal resources and \$589,271 in non-federal leveraged resources. As discussed earlier in the report, these non-federal resources, which include contributions from the grant organizations, colleges, and employers, provided an important source of support for the grant activities.

As discussed earlier, grant initiatives had many goals for their grant activities including recruitment, training, and capacity-building goals. Many initiatives also provided quantitative goals for enrollment of participants in grant activities, completion or graduation from education and job training programs, receipt of credentials (e.g., degrees or certificates), employment after completing a program, and bringing in leveraged funds to support the grant activities. In the survey, respondents were asked to provide quantitative targets. Those initiatives not yet meeting their goals were also asked if they were on track to meet the stated goal as many (80 percent) of the grant recipients that responded to the survey and provided a performance form were still in operation. A measure of whether the grant recipient met the goal (per the data in the performance form) or was on track to meet it (by their own estimate in the survey) was created.

Table V.4 provides a summary of the average goals set by each survey respondent, their average outcomes, and the percentage that have met or were on track to meet the goals. Grant recipients that responded to the survey had an average enrollment goal of 704 participants and have had an average enrollment of 590 participants to date. Based on these numbers and survey responses, nearly 60 percent of the survey respondents had met or were on track to meet their enrollment goal. As many of the initiatives were still in operation as of the survey, it is possible that many more grant programs will meet enrollment goals by the end of their grant.

Table V.4: Performance Goals Met by Survey Respondents as of December 31, 2010

Performance Measures	Average goal	Average outcome	Percent meeting goal or on track to meeting goal	N
Enrolled in program	704	590	59	164
Completed or graduated program	488	330	49	150
Received credential (degree or certificate)	398	252	44	148
Entered employment after completion or graduation	340	97	57	117
Leveraged resources	\$2,430,941	\$1,850,239	85	182

Source: CBJTG Grantee Survey 2011; CBJTG performance reports

Of the grant initiatives that responded to the survey, 150 had an average completion and graduation goal of 488 participants. To date, the survey respondents had an average completion and graduation outcome of 330 participants, with 49 percent meeting the goal or on track to meet it. Grant organizations that responded to the survey also had an average goal of 398 participants for receiving a credential such as a degree or certificate with an average outcome of 252. Forty-four percent of these initiatives met this goal or were on track to meet the goal. The average employment goal of survey respondents was 340 participants, with a current average outcome of 97 participants who completed the program finding employment. Of survey respondents, 57 percent met their employment goal or anticipate they will meet this goal by the end of their grant.

Performance of Grants by Grant Characteristics and Activities

Understanding the performance of the grant initiatives and how various grantee characteristics such as industry, organization type, and implementation practices may have contributed to performance is important to identifying strategies and models that may demonstrate some promise. Because of the limits of the data (e.g., small cell size), analysis employing statistical significance testing was not used. Thus, it is not possible to derive any statistical relationships or causal inferences.

The most prevalent industries for which grant organizations developed programs were advanced manufacturing, construction, energy, and healthcare. Grant organizations selected these industries because of an identified need for skilled workers in their regions. As shown in Table V.5, these four most common industries had rates of meeting or being on track to meet their enrollment goals similar to all industries, with advanced manufacturing exceeding the rate of all industries at 63 percent. Three of the industries – advanced manufacturing, energy, and healthcare – had a greater percentage of grant initiatives meeting their completion, graduation, and credential attainment goals than the average for all industries. Grant initiatives that focused on construction seemed to have more challenges meeting completion and credential attainment goals with rates of 36 percent and 25 percent, respectively.

Table V.5: Performance Outcomes by Most Prevalent Industries, Percent

Performance Measures	Industry				All Industries
	Advanced Manufacturing	Construction	Energy	Healthcare	
Met enrollment goals	63	60	59	59	59
Met completion goals	59	36	50	54	49
Met credential attainment goals	50	25	50	47	44
Met employment goals	58	63	59	51	57
Met leveraged resource goals	80	88	74	91	85

Source: CBJTG Grantee Survey 2011; CBJTG performance reports

Construction industry respondents seemed to have greater success than other respondents in finding employment for their participants who completed the program. Over 60 percent of the grant initiatives that focused on construction met or were on track to meet their employment goals. Grant initiatives that focused on advanced manufacturing and energy had similar rates of meeting their employment goal. However, grant initiatives focused on healthcare had a percentage meeting the employment goal lower than all industries at 51 percent. Grant initiatives in construction and healthcare industries had more success in achieving their goals for leveraging resources than those in advanced manufacturing and energy.

Nearly all grant initiatives were led by educational institutions such as community and technical colleges, community college districts, and state community college systems, but five percent of initiatives were carried out by a workforce investment organization such as a One-Stop Career Center or a workforce investment board. In nearly all of the goals (enrollment, completion, credential attainment, and employment), educational institutions outperformed workforce system organizations. The one goal that workforce investment organizations were 100 percent successful was in reaching or being on track to reach was their leveraged resource goal.

Survey respondents that targeted dislocated workers had greater success in their ability to meet their performance goals, especially enrollment (65 percent), completion (52 percent), and employment goals (69 percent), compared with those targeting other groups. This may be because dislocated workers have work experience and a base of skills that allowed them to successfully complete training and move to a job with fewer needs for support services or remedial education. During this time, many dislocated workers could continue to collect unemployment insurance while participating in approved training.

Survey respondents that targeted low-income individuals had a different experience in meeting their performance goals. Grant initiatives that targeted this population had greater difficulties with meeting their enrollment (50 percent) and completion (45 percent) goals. Depending on the occupation of training, it may have been harder to enroll lower-income individuals who may also have had basic skills deficiencies that prevented them from meeting enrollment criteria for programs without developmental education or remediation. However, survey respondents that targeted low-income individuals had greater success in meeting their employment goal (67 percent) compared to those targeting other groups.

Incumbent workers were another challenging target group in terms of meeting performance goals. Fifty-two percent of survey respondents who targeted incumbent workers met or were on track to meet their enrollment goals, compared to 59 percent of all grantees.

Targeting incumbent workers can be challenging as it requires working with employers and asking individuals who already have work to spend time in training. The survey respondents also had difficulty in meeting their completion (24 percent) and credential attainment goals (32 percent). Again, it may have been challenging to retain incumbent workers in training as they currently work.

Partnerships to support the training and capacity-building activities were a major component of the CBJTG initiatives. Survey respondents were asked to name their top partners and the types of organization they represented. For most respondents, the performance goals by the top partners that were involved in the grant activities were very similar across all grant initiatives. One slight exception was that the survey respondents that had school districts and other post-secondary education institutions as partners had higher rates of meeting or being on track to meet enrollment goals with 63 and 64 percent, respectively, compared to the all-partner average of 59 percent. However, grantees with such education partners showed lower rates of achieving completion, credential attainment, and employment goals. Perhaps, because school districts may be encouraging youth to enter into the program, such enrollees may be taking longer to complete programs or are participating in additional educational opportunities prior to entering the workforce.

The grant initiatives developed and implemented many types of training activities to provide participants the help they needed to find employment in their field of training. In particular, survey respondents with training approaches such as cooperative education/work-study programs and English as a Second Language classes had higher average rates of meeting their enrollment (70 percent and 68 percent, respectively) and employment goals (67 percent for both) than the average across all approaches. Using mentoring as a component of training programs may also have been important to survey respondents in achieving employment goals. Survey respondents that used this strategy had an average of 70 percent meeting or on track to meet their employment goal. Mentors, who may be knowledgeable in the industry, may have been a key employment search contact for CBJTG participants as they sought employment after completing the program. One strategy that demonstrated some challenges for survey recipients in meeting their performance goals was long-term on-the-job training (OJT) such as registered apprenticeship. Because of the time commitment involved in participating in a long-term work experience, it may have been challenging for grant recipients to recruit and enroll individuals. Challenges may also have arisen as a result of the economic downturn and the reduced willingness of employers to invest in long-term OJT.

The intent of supportive services is to help participants persist in and complete an education or job training program. Survey respondents with child care, personal/family counseling, and financial counseling had higher rates of meeting or being on track to meet their completion goals. Fifty-six percent of survey respondents that offered child care to participants met or were on track to meet their completion goal. Fifty-eight percent of respondents that offered personal and family counseling met or were on track to meet their completion goal. Finally, 54 percent of respondents that offered financial counseling met or were on track to meet their completion goal. For their training activities, it is likely that the survey respondents that offered these services to participants understood the population they were serving and its needs. Employment services are also an important component of supporting CBJTG participants as they move from training into employment. However, services that grant recipients may have provided

– career counseling, interview/resume assistance, job search assistance, and job referrals – did not appear to affect grantees’ ability to meet employment goals.

As discussed earlier, capacity-building activities could cover a broad range of efforts including developing curriculum and training programs, expanding current programs, hiring and training staff and faculty, and using new instructional tools and technologies. Survey respondents that developed degree programs had higher rates of meeting completion (53 percent) and employment goals (62 percent) than across all capacity-building activities. This could be a factor of the individuals they were attracting to the program who were focused on earning a degree. In addition, survey respondents that had employers provide faculty to teach in their education and job training programs also saw higher completion (56 percent) and employment goals (63 percent). It is possible that stronger links to industry may help students persist in training and become employed.

Accomplishments

The survey asked respondents to indicate the three greatest accomplishments of the CBJTG-funded initiatives. The respondents’ answers indicated their ability to make good on their plans. They developed state-of-the-art training facilities, strengthened existing partnerships and built new ones, developed the ability to serve more students, grew their enrollment, created pipelines for the future, and devised career pathways.

A few programs took pride in being the first in the nation or in their state to accomplish something:

- “Establishment of the first Green Data Center in the Nation. The online component was developed between the MCC and IBM's Academic Initiative, a project that provides online training to more than 3,000 schools worldwide. As a result, the courses in MCC's green data center program will be offered online to remote students.”
- “Bringing together for THE FIRST TIME IN HISTORY the entertainment industry unions AND producers to work together to train new workers” (emphasis indicated by respondent).
- “Development of first online ADN program in GA.”
- “The first (and only) Medical Sonography program in the state of Maine was established.”

The case study participants illustrate the types of CBJTG initiative accomplishments, as shown in Table V.6. When asked about their accomplishments, they also typically listed their official program goals, how they did in relation to them, and the strategies where they succeeded. However, discussions with the case participants yielded deeper information as well about accomplishments of CBJTG initiatives that went beyond the direct activities funded and beyond the time period of the grant itself. The case study participants also indicated that the CBJTG allowed them to create consortia across colleges in their states, to create within-system

articulation to foster better career pathways, to build capacity in their communities – not just within their colleges – and to extend the reach of the college through enhanced technologies.

Table V.6: Key Accomplishments of Case Study Sites

Selected Initiatives	Grew program to serve more students	Developed State-of-the-Art Training Facilities	Created Youth Pipelines	Enhanced Career Pathways	Strengthened Partnerships
CT SMART	✓		✓	✓	✓
	Improved partnering among five community colleges in the state involved in the initiative, including implementation of similar curriculum across colleges.				
CCBC Healthcare 1	✓	✓	✓	✓	✓
	An important part of creating an articulated health career path within CCBC was creating an articulation agreement between the Continuing Education department and the Health department within the college. Rather than forming a singular articulation agreement, however, to handle a particular step in a particular career path, CCBC created a college-wide process for articulations between continuing education and academic programs call the Continuing Education and Economic Development (CEED) Articulation Procedures.				
CCBC Build		✓		✓	✓
	Built a consortium of 16 Maryland community colleges to foster collaboration in the area of energy efficiency workforce development.				
CCBC Healthcare 2	✓	✓		✓	✓
	“Taking Risks: Often it is not feasible for the institution to entertain new program start up in light of broader needs and competition for resources. At times outside resources provide the opportunity to prove the viability of the program and its ability to attract students and respond to community needs. It becomes the process of ‘I will show you it will work; now please sustain the effort’. That has worked for us.”				
SPC RN	✓	✓	✓		✓
	“The SCENE not only enhances the regular classroom experience by simulating real health scenarios to which the students learn how to react without endangering lives, it sometimes serves in place of clinical rotations. This is particularly true for obstetrics and pediatrics rotations which are harder to schedule.”				
SPC Informatics		✓	✓	✓	✓
	This grant project was a really positive experience – they got to be first in the state to create a program like this.				
OCTC Biotech	✓	✓	✓	✓	✓
	Increased biotech training capacity at OCTC and served as a recruitment tool to attract new biotech firms to the area.				
MSUB-COT Energy	✓	✓	✓	✓	✓
	Equipment purchased for HAZMAT/NIMS training is interoperable with local fire department and emergency personnel. This means that building the capacity of the college also built the capacity of the community to respond to emergencies.				
Tri-C Healthcare	✓	✓	✓		✓
	With grant funds, CCC was able to build a primary care clinic with state-of-the-art biotech laboratory equipment.				
EICCD Logistics		✓	✓	✓	✓
	Developed EICCD’s capacity to offer hybrid coursework, which increases the ability to connect students with high-caliber instructors (provided example of one instructor currently deployed to Afghanistan).				
SBCC Nanotech		✓	✓		✓
	Universities and community colleges can work together to create economic development and job growth in communities.				

Source: CBJTG Evaluation Case Studies 2011

Implementation Issues

Survey participants were provided with an open-ended question, “What were the biggest challenges and/or obstacles that your organization encountered as you tried to accomplish goals?” They were instructed to list up to three. Likewise, case study participants were asked to reflect on their key challenges. These appear to fall into roughly four types: the general economic situation, operational, programmatic, and participant-related. Each of these is described here and reflected in Table V.7.

The Economic Situation

It was the case for nearly every grant examined in the case studies that the economy was booming when the applicant wrote its proposal, but by the time it received its funding, the economy was in decline. The case study participants generally were able to articulate particular challenges that resulted from the change in the economy, but some survey respondents (15 percent) simply indicated “the economy.”

Table V.7: Survey Respondent Top Three Self-Identified Challenges to CBJTG Implementation

Types of Challenges	Implementation Challenges	Number Respondents Indicating	Percent Respondents Indicating
Economic Situation	Economy – General	29	14.9
Operational	Lack of experience with management of Federal grants	6	3.1
	Tight schedule for grant completion	5	2.6
	US DOL-caused delays or didn’t provide enough support	11	5.7
	Difficulties with tracking and reporting of participant or financial data to meet grant requirements	26	13.4
	Internal rigidity of processes and systems in organizations that receive funds	25	12.9
	Internal resistance to goals and strategies of the program	9	4.6
Programmatic	Difficulties with recruiting or training appropriate staff or faculty	50	25.8
	Complexities of partner relationships	52	26.8
	Adapting technology to training programs and individuals	11	5.7
	Complexities of administering programs	11	5.7
Participant-related	Difficulties with recruiting or retaining participants	62	32.1
	Decline in employer support due to the economic situation	61	31.4
	Developmental needs of program applicants (math, writing, and behaviors)	26	13.4

N = 194

Source: CBJTG Grantee Survey 2011

Operational Challenges

Operational challenges refer to internally or externally caused barriers to implementation, which appear not to be related to the substantive nature of the grant activities. These challenges are frequently expressed as conflicts between sets of rules or procedures that occur because each system has not been designed to accommodate the other. The most frequently cited challenges

by survey respondents were in the areas of tracking participant data (13 percent) and internal process rigidities (13 percent).

Six of the 11 case study initiatives indicated challenges around internal organizational rigidity and procurement that frequently delayed their planned timelines, as shown in Table V.8. For example, CCBC received its *Expanding Healthcare in a Recession Economy* CBJTG funding with a start date of February 13, 2009. This was a few weeks after the start of their spring semester, and most of their programs do not operate in the summer. While CCBC want to make progress quickly, it was difficult to begin at a time when the college would not normally be processing hiring requests or changing staff assignments. MSUB-COT experienced a different frustration when it entered the procurement process for the mobile training unit funded by CBJTG for its *Energy for Tomorrow* initiative. Staff were not familiar with the college purchasing processes for high-cost items, nor was it particularly knowledgeable about drawing up specifications for needed specialty items. The intricacies of the procurement process caused unexpected delays.

While 6 percent of survey respondents indicated that they experienced operational challenges because of perceived delays in ETA responses or more support needed from the agency, some of the case sites talked about the value of the ETA-grant recipient relationship, including the networking opportunities that ETA provided. The case participants from *MSUB-COT Energy* and the *EICCD Logistics* initiatives both indicated that they valued the networking opportunities that ETA had provided; staff in both projects indicated that they were able to learn from the experiences of at least two other states as they planned their program implementation.

Table V.8: Implementation Challenges – Operational Issues

Selected Initiatives	Lack of Federal Grants-Management Experience	Perceived Delays in ETA responses or more ETA support needed	Organizational Rigidity or Complicated Procurement	Long Curriculum Approval Process
CT SMART				
CCBC Healthcare 1		✓	✓	
CCBC Build	✓		✓	
CCBC Healthcare 2			✓	
SPC RN	✓		✓	
SPC Informatics	✓	✓		
OCTC Biotech			✓	
MSUB-COT Energy			✓	
Tri-C Healthcare	✓	✓		
EICCD Logistics	✓			✓
SBCCD Nanotech				✓

Source: CBJTG Evaluation Case Studies 2011

Programmatic Challenges

Some challenges were tied to the implementation of specific program elements. Survey respondents indicated problems with recruiting and training faculty and staff (26 percent) and the complexities of partner relationships (27percent) more frequently than with adapting technology (6 percent) or the complexities of administering programs across a large geographic area (6 percent).

As shown in Table V.9, case study participants in nine of the 11 sites indicated challenges in hiring, retaining, and/or training staff or faculty. One of the sites that did not indicate this as a challenge of the grant had received the grant to address nursing faculty shortages as a long-term problem, while the other site had access to graduate students to teach the classes. *MSUB-COT Energy* discussed the difficulties it had in competing with industry. When oil was in a boom period, experienced individuals who could teach are recruited back to the companies at a pay rate, with which the college system cannot compete. Thus at the same time that the demand for trainers peaks, trainers are not available.

Although many of the case sites experienced the complexities of partnering, the *EICCD Logistics* initiative had one of the most acute challenges. When conceptualizing its initiative, it built on the work of five chambers of commerce that had together created a Logistics Roundtable to meet the expected industry growth in the Quad cities area. By the time the CBJTG funding had been awarded, these five chambers had merged into one because so many businesses had gone under due to the tanking economy that they could not sustain separate memberships. In addition, EICCD had planned to jointly manage the project with its primary partner Black Hawk College (BHC), but when the funding was awarded BHC was not in a position to hire a project manager due to union hiring requirements.

Table V.9: Implementation Challenges – Programmatic

Selected Initiatives	Faculty/Staff Recruitment and Retention	Adapting New Technologies	Administrative Complexities (large geographic or rural area)	Complexities of Partnering
CT SMART	✓	✓	✓	
CCBC Healthcare 1	✓			
CCBC Build				✓
CCBC Healthcare 2	✓			✓
SPC RN		✓		
SPC Informatics	✓	✓		
OCTC Biotech	✓			
MSUB-COT Energy	✓	✓		✓
Tri-C Healthcare	✓		✓	✓
EICCD Logistics	✓		✓	✓
SBCCD Nanotech			✓	

Source: CBJTG Evaluation Case Studies 2011

Participant-Related Challenges

Participant-related challenges are manifested in actions designed to increase the number of participants, support participants during their academic experience, provide them with on-the-job training opportunities, and/or support their employment after program completion. This is the area where both case study and survey participants were likely to mention the effects of the economy. Examples provided indicate that the economy caused many employer-partners to scale back their commitments or plans. This reduced demand for incumbent worker training, as employers were not willing to underwrite it or give their staff time off to participate. It also affected the training of traditional students who had hoped to obtain internships; as many employers were laying off staff, they were not willing to take on interns. The decline in the economy also made it harder to help graduating students find the jobs that they wanted. Nearly a

third (31 percent) of survey respondents indicated a decline in employer support due to the economy.

Seven of the 11 CBJTG initiatives visited described challenges related to reduced employer support in regard to demand for interns, hiring, or supporting incumbent workers, as shown in Table V.10. *CCBC Healthcare 1* experienced the swing in employer demand for incumbent worker training indicating that employers had been pushing for more such opportunities when the economy was booming, but then became less willing to invest in training when the downturn happened. *CT SMART* project found it nearly impossible to place interns, a major goal of theirs, as the advanced manufacturing industry contracted and many employers were instituting layoffs as the grant got underway.

Recruitment and retention of participants was noted as a challenge by nearly a third of survey respondents (32 percent). While many survey respondents simply said “recruitment” or “retention,” some indicated the apparent reasons for their challenges including the length of time to complete their programs, “recruiting for jobs that didn’t exist” (because of changes in the economy), “life occurrences,” transportation, drug testing, or finding the particular kinds of students the grant had intended to target.

Table V.10: Implementation Challenges – Participant-Related

Selected Initiatives	Participant Recruitment and Retention	Employers Lowered Demand for Interns or Hiring (economy)	Less Employer Support for Incumbent Workers (paid training, training time off, etc.)
CT SMART	✓	✓	✓
CCBC Healthcare 1	✓	✓	✓
CCBC Build	✓		
CCBC Healthcare		✓	✓
SPC RN			
SPC Informatics			
OCTC Biotech		✓	✓
MSUB-COT Energy		✓	
Tri-C Healthcare			
EICCD Logistics		✓	
SBCCD Nanotech		✓	

Source: CBJTG Evaluation Case Studies 2011

Sustainability of Programming

At the time respondents completed the survey, 154 respondents (70 percent) were representing grant initiatives that were still operating within their period of performance, and 66 respondents (30 percent) were representing grant initiatives that were not operational (were past their period of performance). This analysis regarding sustainability represents both the actual experiences of the non-operational grant initiatives and the plans to sustain activities by the operational grant programs. The analysis also includes the perspectives of case study participants affiliated with the 11 initiatives visited during the evaluation. Six of these initiatives are beyond their period of performance, and all of them have sustained at least part of their programs. Five are still

operating, and all have reflected about sustainability and hope to maintain at least some elements of their programs.

This section describes the extent to which survey respondents and case study participants indicate that program elements created during the CBJTG period of performance have been or will be continued, sustainability strategies they are implementing or have implemented, partnerships, funding sources, and challenges. The extent to which non-operational initiatives have been sustained is discussed first, followed by plans to sustain by operational initiatives.

Grant-Funded Programs Sustained

Of the 66 survey respondents representing non-operational initiatives, all but two (97 percent) indicate that they continued at least part of their grant activities following the end of the period of performance. All but four (94 percent) indicated that they had begun planning for how to continue grant activities before the end of the performance period. Case study participants described a variety of ways to plan for sustainability. For example, MSUB-COT Energy indicated that every decision it made throughout the grant period took sustainability into account. When it priced noncredit classes, it was thinking about affordability for students but also a cost structure it could maintain when the CBJTG funds were no longer there to underwrite it. In addition, the incumbent worker training was designed with the idea of working hard during the grant period to demonstrate the project's relevance so that after the grant period (and no more money for outreach) it would already have a solid base of customers. CCBC Healthcare 1 always knew the plan would be to incorporate the on-going costs of its new programs into the regular college operating budget. It made sure to adhere to the timeline for doing so (more than a year out) and kept the college leadership informed throughout the grant process to ensure buy-in. SPC RN worked hard to establish industry-loaned faculty partnerships that could be maintained beyond the grant period.

The 66 survey respondents representing non-operational initiatives were asked to indicate whether they were using old funding sources, new funding sources, or a combination of both to sustain their programs. Old funding sources would have been developed or used during the grant period and may include leveraged resources that partners agree to continue beyond the CBJTG period of performance, pre-existing sources of financial aid, and student tuition payments. New funding sources may be new federal, state, or foundation grant funds secured to continue training and services, new leveraged funds, or any other funding sources that did not exist during the CBJTG period of performance. The largest proportion of the 61 responding (38 percent) indicated that they were supporting continuation through a combination of new funding resources developed and old ones still in use. Twenty-six percent indicated that they were continuing to use the same funding sources as they had during the grant period, but an equal proportion did not know whether the funds/resources supporting their programs were old or new. Only 10 percent of respondents indicated that their funding sources/resources were entirely new.

When asked specifically about maintaining new training slots that had been created, 77 percent of non-operational initiatives have maintained and 83 percent of operational respondents expect to maintain the training slots they created. Increasing training slots was a major focus of the *SPC RN* initiative. One of their key strategies for increasing slots was partnering with hospitals to loan faculty. More than two years after their period of performance has ended, while

not as many hospitals partner, the initiative continued to have successful hospital-loaned faculty partnerships to sustain the slots gained through the CBJTG initiative. Creating new training slots was also a particular focus of *Tri-C Healthcare*. One of its primary strategies to increase enrollment was to offer students substantial scholarships with the CBJTG funding underwriting much of that cost. While *Tri-C Healthcare* case study participants indicated that they expected to sustain their key program elements following the end of the grant period, staff also noted that students would have to secure their own sources of financial aid in the future.

Another training element that CBJTG-initiatives may or may not be able to continue past their period of performance is the new training programs that they created. Comparing survey respondents' answers to the questions of how many training programs they created and how many training programs they have sustained or expect to sustain, yields the proportion of training programs sustained or expected to sustain as displayed in Table V.11. Most operational initiatives (74 percent) and most non-operational initiatives (67 percent) expect to or have sustained 100 percent of their training programs. About a quarter of operational and non-operational initiatives expect to maintain or have maintained at least half, but not all, of their training programs.

Table V.11: Percentage of Training Programs Sustained or Expected to Sustain by Operational Status		
Proportion of Training Programs Sustained or Expected to Sustain	Operational Initiatives (N=125)	Non-Operational Initiatives (N=58)
0%	0.8	3.5
1-49%	1.6	3.5
50-79%	17.6	10.3
80-99%	6.4	15.5
100%	73.6	67.2
Total	100	100

Source: CBJTG Grantee Survey 2011

Non-operational survey respondents were also asked to comment on the level of effort required to sustain program elements created during their CBJTG period of performance. Focusing specifically on training programs, Table V.12 reveals that level of effort does not correspond directly to the proportion of training programs maintained. While about half of the respondents who indicate they will maintain 100 percent of their programs say it will require the same level of effort, almost a quarter indicate it will require either a greater level of effort or a smaller level of effort. Similarly, three initiatives (60 percent) indicating that they plan to maintain 50-79 percent of their training programs say that doing so will require less effort, but one initiative each (20 percent) indicates the level of effort required is either more or the same. The case study participants may shed some light on these differences. Case participants in CCBC Healthcare 1 discussed the important role of the grants manager in coordinating “the cast of staff, faculty, and partners” who contribute to elements of grant success. While many parts of what needed to be coordinated during the period of performance and startup would no longer apply during the maintenance of the program, there would still be a certain need for coordination, but there will no longer be a grants manager to take on that role. In addition to

staffing to coordinate the programs, it may also be an issue of whether funding has already been secured to support program continuation.

Table V.12: Required Level of Effort to Sustain Training Programs Beyond Period of Performance among Non-Operational Initiatives by Percentage of Training Programs Sustained				
Proportion of Training Programs Sustained	Same Level of Effort	Greater Level of Effort	Smaller Level of Effort	Total
0%	0	0	0	0
1-49%	0	0	100	100
50-79%	20.0	20.0	60.0	100
80-99%	37.5	25.0	37.5	100
100%	52.6	23.7	23.7	100

N=53

Source: CBJTG Grantee Survey 2011

Looking more broadly at other program elements, survey respondents of non-operational programs indicate differing levels of effort to sustain various program elements. As indicated in Table V.13, just over half of the respondents found that maintaining their capacity-building initiatives required a smaller amount of effort than starting them up, but 10 percent indicated a greater level of effort. The level of effort needed may depend on the degree of integration of the initiatives in the institutions before the period of performance ended or the proportion of resources coming from the CBJTG funds. In general, few respondents (10 to 20 percent) indicated that sustaining different program elements required more effort than before.

Table V.13: Percentage of Non-Operational Survey Respondents' Expected Level of Effort to Sustain Program Elements Beyond Period of Performance

Program Areas	Same Level of Effort	Greater Level of Effort	Smaller Level of Effort	Not Sustained at All	Not Applicable
Capacity-building initiatives	35.6	10.2	52.5	0.0	1.7
Organizational/ institutional partnerships	38.3	20.0	36.7	3.3	1.7
Recruitment	38.3	15.0	41.7	1.7	3.3
Training programs/ initiatives	45.0	20.0	31.7	0.0	3.3
Other project components	3.6	5.5	3.6	0.0	87.3

N=60

Source: CBJTG Grantee Survey 2011

Among the 11 initiatives visited, over half (six) had concluded their CBJTG grant period of performance. All of these six were able to continue their training and educational programs. Two programs transitioned grant operating budgets into the regular operating budgets of their institutions. Another two initiatives utilized other Federal grant awards to support faculty and staff salaries and continued curriculum development as well as to continue access to technology and equipment. For example, two U.S. Department of Education grant awards have made it possible for *SPC Informatics* to continue its subscription to the electronic medical records system, which is a core feature of their training and educational programs that provide hands-on learning for their students.

While operational respondents were not asked to comment on the expected level of effort to sustain their training programs, they were asked what challenges they expected to encounter as they sustained their programs. Of the 92 operational initiatives indicating that they expect to maintain 100 percent of their training programs, only 11 percent expect no major challenges while most (73 percent) expect insufficient funding to be a major challenge. About a quarter of respondents expect either changes in the industry of focus (such as technological, accreditation, or skill-based expectations) or lack of potential students to be major challenges. Only nine percent expect insufficient partner support to be a major challenge. These 154 survey respondents representing operational initiatives were also asked to comment on whether they would be or had already begun developing plans regarding ways to sustain certain elements of their programs. The answers of the 71 percent that responded to this question are reflected in Table V.14. Sixty to seventy percent indicated that they had already developed plans to sustain their capacity-building initiatives, their training programs/initiatives, their organizational/institutional partnerships, and their recruitment efforts. About one quarter to one third, however, indicated that they did not plan to develop sustainability plans.

Table V.14: Percent Operational Survey Respondent Status of Plan Development to Sustain Initiatives

Program Areas	Have Plans	Will Develop Plans	Will Not Develop Plans
Capacity-building initiatives	60.9	5.5	33.6
Organizational/ institutional partnerships	70.0	2.7	27.3
Recruitment	72.7	3.6	23.6
Training programs/ initiatives	68.2	6.4	25.5
Other project components	14.6	29.1	56.4

N=110

Source: CBJTG Grantee Survey 2011

All five operational initiatives visited expected to continue key aspects of their training and educational programs. Two of the grant programs are hoping to secure faculty and staff through leveraged funds from industry or to transition costs into their institutions' operating budgets. Three of the five initiatives plan on reducing or ending the financial assistance currently provided to educational and training program participants. Another program has not yet secured funding for participants but is hoping to utilize Pell or WIA funding as future scholarship sources.

Continued Role of Partners in Sustaining CBJTG Initiatives

As discussed previously, partners have been an important resource in developing and implementing the CBJTG initiatives. This section of the report explores the roles of workforce investment system, industry, and other partners in sustaining the CBJTG initiatives. As indicated in Table V.15, both operational and non-operational grant initiatives had similar expectations of their workforce investment system partners, with more than half of each group viewing the partnership as a continued source of referrals. Of those resources and services for which more than 20 percent of at least one group indicated a continued role of the WIS, the expectations around the "use of ITAs" appeared particularly striking, with only 15 percent of non-operational initiatives indicating they used this service, while 24 percent of operational initiatives were planning to use it in the future. Fewer than 10 percent of respondents in either group plan to use or were using the following WIS resources or services: curriculum development, job shadowing, mentorships, apprenticeships, operation of training activities, or staff as trainers.

Table V.15: Anticipated or Actual Role of Workforce Investment System Partners in Sustaining Programming

Resources/Services Provided (indicated by more than 20 percent of respondents)	Percent of Operational Initiatives (Anticipated Role)	Percent of Non-Operational Initiatives (Actual Role)
Referrals to CBJTG training programs	58.4	54.6
Connections to employers or industry associations	44.8	42.4
Access to support services	42.9	40.9
Job placement services	42.2	34.9
Advisory Committee/Steering Committee	34.4	34.9
Access to financial aid (such as Pell Grants)	28.6	33.3
Direct funding for training	27.9	21.2
Use of Individual Training Accounts (ITA)	24.0	15.2

N=220

Source: CBJTG Grantee Survey 2011

Nearly all of the operational and non-operational survey respondents indicated that they expected to have or already had an ongoing relationship with their industry partners with only one in each group indicating no ongoing relationship, as shown in Table V.16. As was the case in reflecting on future workforce investment system involvement, the expectations of respondents representing operational and non-operational initiatives are similar for most resources/services. The two areas where they are most different are “internships” and “use of staff as trainers,” with a larger proportion of operational initiatives expecting ongoing industry involvement in these areas than the non-operational initiatives receiving them.

Table V.16: Anticipated or Actual Role of Employer or Industry Association Partners in Sustaining Programming

Resources/Services Provided indicated by more than 20 percent of respondents	Percent of Operational Initiatives (Anticipated Role)	Percent of Non- Operational Initiatives (Actual Role)
Advisory committee or steering committee	61.0	59.1
Referrals of employees to training program	52.6	54.6
Interviews of program graduates	44.8	37.9
Internships	43.5	30.3
Use of staff as trainers	38.3	28.8
Use of facilities	35.7	37.9
Referrals of individuals outside partner organization to training program	35.1	28.8
Curriculum development	34.4	34.9
Paid release time for workers in training	33.1	34.9
Job shadowing	29.2	25.8
Financial resources for training	25.3	28.8

N=220

Source: CBJTG Grantee Survey 2011

Similar to the expectations for the ongoing roles of workforce investment system and industry partners, other partners are expected by the largest proportion of respondents to contribute to “referrals to the training program” (76 percent of operational and 49 percent of non-operational respondents) and participation on the “advisory committee/steering committee” (73

percent of operational and 53 percent of non-operational respondents) (see Table V.17).²⁶ Overall, however, there is more variation between the expectations of operational initiatives and the reality of non-operational initiatives around the continued involvement of “other” partners with a higher proportion of the operational respondents consistently expecting involvement than the non-operational respondents indicate is reflective of their experience. Because “other” partners can themselves be so wide-ranging in their resources/services it is difficult to gauge whether this variation is simply a reflection of the different kinds of partners or something else.

Table V.17: Resources or Services Provided by Other Organizations Sustaining or Expected to Sustain Programming After Period of Performance

Type of Resource/Service Provided	Frequency (N=220)	Percent
Access to financial aid (e.g., Pell grants)	61	27.73
Advisory committee/steering committee participation	148	67.27
Apprenticeships	18	8.18
Curriculum development	64	29.09
Direct funding/training contracts	39	17.73
Employment services	75	34.09
Internships	54	24.55
Job shadowing opportunities	34	15.45
Mentorships	24	10.91
Operation of training programs	37	16.82
Referrals to your training program	149	67.73
Support services	70	31.82
Use of facilities	80	36.36
Use of staff	65	29.55
None	18	8.18
Other	4	1.82

N=220

Source: CBJTG Grantee Survey 2011

Challenges for Sustainability

Grant programs encountered, or believe they will encounter, various challenges to sustaining their education and training programs. As shown in Table V.18, the proportion of survey respondents indicating potential and actual challenges is similar across many of the challenge types they were presented within the survey. Across the board, “insufficient funding” is the area of concern for the largest proportion of respondents (64 percent of operational and 56 percent of non-operational). Interestingly, “the economy” and “faculty/staff shortage” are cited by a small proportion of respondents even though these two challenges were cited frequently in regard to implementing their programs.

There are two notable differences between the responses of operational vs. non-operational respondents, having to do with challenges due to “changes in the industry of focus” and “insufficient partner support.” The former can be hard to predict; the non-operational respondents have experienced the change already, and the longer they have been finished, the more changes they are likely to have experienced. In the case of “insufficient partner support,”

²⁶ The survey grouped partners as workforce investment system, industry/employers, and other.

partners may have previously provided an avenue for achieving particular grant goals but only with the grant funding. For example, case study participants in four of the six non-operational initiatives indicated that they could not maintain the portions of their programs focused on youth, especially regarding building youth interest. Generally, the K-12 system had served as an intermediary for reaching the youth populations, but the funding to support the outreach or education activities had come from CBJTG. Neither the grant organization, nor the educational institution had the funding to support these parts of the initiative once CBJTG funding ended.

Table V.18: Major Challenges to Sustaining Grant-Funded Education and Training Programs After the End of the Grant Period

Challenge	Percent Overall (N=220)	Percent Operational (N=154)	Percent Non-Operational (N=66)
No major challenges	10.0	9.1	12.1
Insufficient funding	61.4	63.6	56.1
Changes in the industry of focus	24.1	20.8	31.8
Lack of potential participants/students	20.9	19.5	24.2
Insufficient partner support	11.8	9.1	18.2
Economy	4.1	3.3	6.1
Faculty or Staff Shortage	2.7	2.0	4.6
Recruiting Challenges	1.4	.65	3.0
Other	8.2	7.8	9.1

Source: CBJTG Grantee Survey 2011

VI. Summary of Key Findings and Conclusions

The Community-Based Job Training Grant (CBJTG) program has been a landmark federal effort in focusing workforce investment funds on building the education and training capacity of community and technical colleges to develop the skills of the American workforce. Nearly 280 grants were awarded during the first four rounds to community and technical colleges, community college districts, state community college systems, universities, and workforce investment system organizations to implement training and capacity-building activities in high-growth, high-demand industries and occupations. Many partners such as industry, educational institutions, community and faith-based organizations, unions, and the workforce investment system provided support to the grant initiatives. Of the 181 grant recipients that responded to the survey and provided performance data, over 106,856 participants were served. The grant recipients trained many individuals for jobs in industries such as advanced manufacturing, construction, energy, and healthcare.

To better understand the CBJTG program, the Urban Institute and its partner Capital Research Corporation conducted an implementation evaluation that documented the different models and projects developed, examined and assessed the implementation of the grant-funded initiatives, and identified innovative features and promising strategies. A survey of all CBJTG recipients and eight case studies were carried out to collect information on the investments in community colleges, the education and training programs created, the partnerships supporting the initiative, connections with employers and industry, financing used, sustainability, and lessons learned and challenges overcome. The following section provides an overview of the key findings from the implementation evaluation and implications for future demonstrations or policy developed to support industry-focused job training initiatives.

Summary of the Key Findings

Investing in Many Colleges and Multiple Industries across States and Regions

The CBJTG program addressed workforce issues through investments in community and technical colleges that covered a range of industries with healthcare as the dominant industry of focus by CBJTG recipients. In later rounds of the CBJTG initiative, a broader range of industries was served by the grant-funded initiatives including advanced manufacturing, aerospace/aviation, construction, energy, and transportation. Most of the grant organizations serving these industries were community colleges but many were also technical colleges, which offer credentials, earned through career and technical education. A small portion of grant organizations were workforce investment organizations such as One-Stop Career Centers and workforce investment boards that worked with the community and technical colleges to develop the grant-funded initiatives. Moreover, 49 states had grant-funded initiatives and a majority of grant organizations that responded to the survey had training programs that served multi-county regions.

Increasing the Supply of Workers to Meet Employer Demand

Nearly all of the survey respondents indicated that their grant-funded initiative addressed an insufficient supply of workers with particular occupational skills and credentials, and most identified a need to remedy the challenge of low education and skill levels in their communities.

In this vein, over three-quarters of the grant-funded initiatives were focused on low-income or disadvantaged individuals and many were focused on the need to improve the training capacity in their community to meet employer demand for skilled workers.

Grant-funded organizations used a variety of recruitment practices. Most used flyers and other distributional materials, Web sites, public presentations, media campaigns, and partnerships with employers and the workforce investment system to generate interest in and attract participants to the programs. However, survey respondents indicated that they thought that Web sites and their partnerships with employers and the workforce investment system were the most effective recruitment strategies. Case study participants conveyed that they needed a community-wide approach to recruitment through presentations and partnerships that could then lead to word-of-mouth interest in the education and job training programs. Some survey respondents also said that some of the greatest challenges to recruitment were the economic downturn, the low skill level of applicants, and gaining referrals from partners.

Developing Training and Pathways to Meet Current and Future Workforce Needs

The education and training programs highlight the range of possible training approaches but were highly dependent on the occupation of training. Many survey and case study respondents indicated an emphasis on developing career pathways as a part of the education and job training programs to move participants starting in entry-level occupations to higher-skill, higher-wage positions. Most participants trained for occupations in the healthcare field but some focused on traditional trades such as welder and electrician. Training in cutting-edge fields such as nanotechnology and renewable energy was less common. Nearly all survey respondents said that they targeted adults but many were creating programs to get youth interested in training for the occupation as well, with a focus on educating parents and K-12 school system teachers. As some case study respondents expressed, building the future workforce means striving to hear young children say, “I want to grow up to be a ...logistician or biotechnologist or....” This approach also required educating career advisors within the K-12 systems, the workforce investment system, and colleges so that potential workers could be guided to enter these new or growing fields and training programs.

Creating Flexible and Responsive Training Opportunities

Most of the CBJTG-funded initiatives, nearly 90 percent, provided for-credit courses that would lead to a degree or certificate, but many of the case study participants indicated that it was important to have a mix of short- and long-term training programs so that students could experience success quickly and to meet the requirements to receive funding from other programs such as unemployment insurance and WIA. The development of degrees and certificates valued by employers was a common activity across survey respondents and the case study participants interviewed. This was a key goal of the CBJTG program overall and the grant organizations and institutions focused on this purpose. Many grant recipients also developed and employed new instructional technologies to create distance learning or online programs as key components of their education and training activities. The case study participants emphasized the use of some form of work-based learning components through simulation laboratories (prevalent in healthcare or technology fields), internships, work-study, on-the-job training, or apprenticeships.

A key activity in developing new training programs was to integrate industry-recognized credentials into an academic degree or a career and technical education certificate into these

programs. Many grant organizations developed a career ladder or occupational pathway to improve participant skills in order to find not only gainful employment but a long-term career. This required addressing a number of different articulation issues including: dual credit/enrollment for high school students, intra-school articulation between continuing education and academic programs, inter-school articulation between community and technical colleges and four-year colleges and universities, inter-institutional articulations between pre-apprenticeship programs and apprenticeship or union-sponsored training programs, and experience-based articulations that allow students to earn credit for skills mastered on-the-job.

Supporting Individuals to Enter and Complete School, and Obtain Employment

CBJTG-funded initiatives also provided services to participants to help retain them in the education and job training programs and to help them find employment afterwards. Most grant-funded initiatives offered financial aid to participants – through scholarships, stipends, and assistance in accessing Pell grants and WIA training funds. While many survey respondents said that they were focusing on disadvantaged populations, only about a third of the survey respondents provided any coordination with public assistance programs. Less than a third of survey respondents offered support services such as child care, transportation, or emergency assistance through the grant organization or partners. Workforce or employment-focused services to participants were more common among grant-funded initiatives than support services, with over 70 percent offering referrals to job openings, career counseling, interviewing and resume workshops, and job search assistance. Case study respondents indicated that these employment services were often provided through the workforce investment system, but with additional career counselors funded by CBJTG to provide services specifically targeted to the focus industry.

Addressing the Challenge of Staff and Faculty Shortages

To support their efforts, grant organizations were especially focused on finding qualified faculty and instructors, which could be challenging due to pay differences between what they could earn in the industry and what the community college system offered. Many grant recipients sought industry's help with this issue by having them lend or “share” their internal training or highly experienced staff to become instructors for the education or job training program. Forty-four percent of survey respondents indicated that employer and industry partners provided staff and employees as trainers. In many of the healthcare initiatives, employer partners were particularly crucial in providing staff and facilities for clinical rotations. One case study initiative indicated that offering distance learning allowed them to access a larger pool of instructors because faculty members did not have to reside in the same city or state. A number of initiatives used their CBJTG funds to create train-the-trainer programs to update faculty skills or other faculty professional development initiatives to expand the pool of available faculty.

Building and Maintaining Strong Partnerships to Enhance Training

As discussed throughout the report, partners were a key part of the CBJTG-funded initiatives, especially industry, school districts, post-secondary education institutions, and the workforce investment system. The most widely cited “significant” partner was industry, which included employers, industry associations, and chambers of commerce, with workforce investment boards and school districts not far behind. It is notable that these partners were not as involved in the planning stages of the initiatives and some partnerships may not be sustained past the end of the grant, based on the survey and case study results. In addition, many survey respondents noted

that the economy caused challenges in engaging employers, especially to help participants find jobs and internships or obtain program resources. However, over 80 percent of survey respondents indicated that their partnerships with industry and the workforce investment system would continue for the foreseeable future. Case study interviews provided some insight into the relationships indicating that the knowledge and insights employers provided were among the most valuable resources for shaping programs and designing curricula. Some case study interviews indicated a long-standing practice of partnering with industry that was further strengthened through CBJTG, while others indicated that the capacity building made them relevant to industry for the first time.

Leveraging Resources to Better Support Grant Activities

Grant organizations marshaled significant resources for their initiatives with a median of nearly \$600,000 in nonfederal cash and in-kind donations used. Survey respondents indicated that staff time (86 percent) and training facility space (82 percent) were the two most frequently used types of leveraged in-kind resources. Training or office equipment (68 percent), supplies (61 percent), and expert consultants (57 percent) were also frequently leveraged. Of the options listed on the survey, curriculum (41 percent) was the least frequently leveraged. The value of in-kind leveraged resources should not be underestimated. Discussions with case study participants indicated that some of the leveraged equipment was essential to out-fitting their hands-on laboratory experiences for students. Leveraged resources were significant in proportion to the value of the grants. Three of the CBJTG-funded initiatives participating in the site visits generated more leveraged funds than their original CBJTG award, and another four leveraged funds totaling 75-93 percent of their CBJTG award.

Sustaining the Initiatives beyond the Grant Period

All but two of the non-operational grants that responded to the survey indicated that their programs were continuing, at least in part, after the end of the grant. Many found new funding sources but they were still utilizing ones they had during the grant. Survey respondents planned on using federal financial aid, ITAs, and direct funding from partners to support continued levels of participation in the education and job training programs. Another measure some case study participants noted was incorporating the education and job training programs as a regular offering in which they could receive state higher education funding to support faculty for the programs. This was feasible for community colleges if the program had an academic component, often as a part of healthcare programs, because of how state higher education funding is structured.

Accomplishing Goals and Creating Foundations for Future Success

The grants that served the most common industries – advanced manufacturing, energy, and healthcare – more often met their goals for enrollment, program completion, credential attainment, and employment for participants. Respondents to both the survey and case studies noted the challenges in meeting goals with the downturn in the economy and sometimes in tracking participants, especially after they completed or left the program. Some CBJTG recipients were successful with targeting dislocated workers. Low-income individuals may have been more challenging for grant initiatives to enroll and retain because of their low education levels and need for support services. However, the grant recipients serving this population saw greater than average rates of meeting employment goals, possibly as these participants found entry-level work, especially in healthcare.

The survey and case study findings showed that the grant organizations saw their greatest accomplishments as the creation of state-of-the-art training facilities, strengthened and new partnerships lasting beyond the grant, the ability to serve an increased number of students, the development of pipelines of new workers to the industry, and the creation of career pathways that will be sustained. Case study participants also emphasized that their grant allowed them to create consortia across colleges in their states, better develop articulation across programs to foster career pathways, and to extend the reach of the college through new technologies. According to several of the case study participants, all of these accomplishments helped these grant organizations build capacity within their college and in the community.

Some types of training activities show special promise. The CBJTG initiatives that used cooperative education/work-study approaches and offered English as a Second Language saw success in meeting their enrollment and employment goals. Offering mentoring to participants was also a strategy that showed some success for grant recipients, as these mentors were likely connected to the industry in which participants were seeking jobs. Grant initiatives that created degree programs using their CBJTG funds also saw success in meeting completion and employment goals. In addition, grant initiatives that had employers lend or share their staff as faculty for the program saw higher rates of meeting completion and employment goals. These strong links to industry may have helped students in these programs persist in training and find employment.

Implications for Future Industry-Focused Job Training Initiatives

With many industry-focused job training or “sectoral” initiatives underway, the lessons from the CBJTG program can inform their development or help to create new initiatives, especially those focused on community colleges, career pathways and show how industry and the workforce investment system can be key players in these activities. These new initiatives, funded by the federal government and foundations, are focused on healthcare but the need for mid- to high-level skills in other industries such as advanced manufacturing and energy are a factor for many communities looking to provide occupational pathways to better jobs.

Partnerships with Industry Help Colleges Be Proactive in Ensuring that Training Programs Teach In-Demand Skills

Case study participants echoed the importance of ongoing partnerships with industry to be able to anticipate new trends in employer skill needs rather than reacting to changing skills needs and technology. For example, hands-on training on up-to-date technologies emerged as an industry preference, but frequently the only place to get this training was in an on-campus laboratory. Purchasing much of this equipment and creating the laboratory space to make hands-on learning possible is very expensive and, according to case study interviews, typically beyond the means of community and technical colleges to support on their own. While the CBJTG funds often supported the initial purchase of the technology or equipment needed for training, industry partnerships were needed to ensure that the technology and equipment are up-to-date and the college can maintain the equipment.

Facilitation of Institution-to-Institution Learning Is Critical

Case study participants talked about the important role that ETA played in facilitating peer-to-peer learning among the grant recipient institutions. Newer grant recipients learned from earlier grant recipients' strategies for managing their grants, techniques for handling the challenges of grant participant tracking, designs for curriculum and career path development in particular industries, and models for laboratory design and equipment purchasing to facilitate hands-on learning. In addition to communicating with each other during facilitated calls and meetings, the grant recipients supported each other by phone and through site visits to each other's institutions.

Industry-Focused Job Training Initiatives in Colleges May Need a Longer Start-Up Period

As with many of the grant initiatives, nine of 11 case study initiatives were provided a no-cost extension to allow them to fully carry out the programs they had intended. Interviews with case study participants indicated that these no-cost extensions were frequently needed because grant start dates often did not align with college calendars which delayed start-up timelines, college procurement processes typically took a substantial amount of time, curriculum development and approval frequently requires many levels of review and has a timeline all its own, and strategic deployment of grant resources to ensure the ability to sustain programs beyond the grant period may require a more deliberative decision-making process. The cumulative effect of these delays can make it challenging to implement a program during the grant period, and grant applicants cannot adequately anticipate these challenges because many actions that occur during the grant period do not regularly occur – for example, renovating facilities or purchasing equipment.

Providing Supports for Low-Income, Low-Skill Participants Is Important to Improving Program Success

One area of need identified by the grant initiatives was to better prepare and support low-income, low-skill participants so they can succeed in occupational training. Survey respondents that targeted low-income individuals had greater difficulty with meeting their enrollment and performance goals. Grant organizations reported that many of the individuals they initially recruited had education levels that were too low to meet enrollment requirements for these programs and many needed developmental or adult education. Less than a third of the grant initiatives that responded to the survey offered support services such as child care or transportation, which many low-income individuals need to continue to participate in training. Additional efforts to bring these resources to the table in these initiatives may lead to greater success.