

TRAINING AND EMPLOYMENT NOTICE	NO. 4-15
	DATE July 31, 2015

TO: STATE WORKFORCE AGENCIES
STATE WORKFORCE LIAISONS
STATE APPRENTICESHIP AGENCY DIRECTORS
STATE WORKFORCE INVESTMENT BOARDS AND STAFF
LOCAL WORKFORCE INVESTMENT BOARDS AND STAFF
OFFICE OF APPRENTICESHIP FIELD STAFF
OFFICE OF APPRENTICESHIP STATE AND REGIONAL DIRECTORS

FROM: PORTIA WU 
Assistant Secretary
Employment and Training Administration

JENNIFER SHEEHY 
Acting Assistant Secretary
Office of Disability Employment Policy

SUBJECT: Expanding Registered Apprenticeships and Pre-Apprenticeships to Create a Pathway to Good Middle Class Jobs for Youth and Adults with Disabilities.

1. **Purpose.** To disseminate a white paper and provide information and resources on promising strategies to promote the inclusion of youth and adults with disabilities in registered apprenticeships and pre-apprenticeships.
2. **References.**
 - TEN NO. 13-12, Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources. Visit: http://wdr.doleta.gov/directives/attach/TEN/TEN_13-12_Acc.pdf.
3. **Background.** The U.S. Department of Labor (DOL) is committed to promoting policies and programs that make full use of America's talent and ensure all workers, including those with disabilities, are trained with the skills employers need to fill jobs now and in emerging growth industries. In support of this vision, the Employment and Training Administration (ETA) and the Office of Disability Employment Policy (ODEP) understand that expanding

registered apprenticeships¹ and pre-apprenticeships² will help more Americans, including youth and adults with disabilities, access this proven path to employment and the middle class.

According to the Organisation for Economic Co-operation and Development, many of America's jobseekers desire to participate in the modern global economy, but lack the skills and education needed to succeed. As a result, businesses report that they cannot find qualified staff. This trend not only affects recent high school graduates, but also adults in disadvantaged populations - women, minorities, and people with disabilities - where the unemployment rate is much higher than the average. If needs for training and education are not addressed, the U.S. will face critical shortages as the baby boomer generation begins to retire.

Registered Apprenticeship is an effective "earn and learn" model with a long history of providing career ladders and pathways to the middle class; 87 percent of apprentices are employed after completing their programs, and the average starting wage for apprenticeship graduates is over \$50,000.³ Studies from other countries show that employers reap an average return of \$1.47 for every dollar they invest in apprenticeships in increased productivity and performance.⁴ Unfortunately, too few American workers and employers have access to this proven training solution to prepare for better careers or meet the need for a skilled workforce. This is particularly true for people with disabilities.

Although Federal legislation mandates that youth and young adults with disabilities have equal opportunity to benefit from the full range of career/technical educational programs and services available to their peers without disabilities, research conducted by ODEP in 2007 and 2012 revealed that youth and young adults with disabilities rarely participate in apprenticeship programs. To capitalize on the potential that apprenticeship holds for improving employment opportunity and self-sufficiency for youth and young adults with disabilities, the call by the Obama Administration to double the number of apprentices over the next 5 years, and the \$100 million in American Apprenticeship Grants funding that is being made available to reward partnerships that help more workers participate in apprenticeships (see <http://www.doleta.gov/oa/aag.cfm>), ODEP and the ETA's Office of Apprenticeship are collaborating to disseminate the aforementioned research paper and to highlight innovative

1 Registered apprenticeship is a time-tested system that uses an effective "earn and learn" model that is accessible to all levels of the labor force. The registered apprenticeship program, administered by ETA's Office of Apprenticeship, offers paid on-the-job learning with related technical classroom instruction that can lead to a long-term career pathway and sustained employment.

2 Pre-apprenticeship is defined as a program or set of strategies designed to prepare individuals to enter and succeed in a registered apprenticeship, and has a documented partnership with at least one, if not more, registered apprenticeship programs. In order to be considered a pre-apprenticeship program, programs must demonstrate required components of a quality pre-apprenticeship program as outlined in the TEN 13-12, entitled Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources. Visit: http://wdr.doleta.gov/directives/attach/TEN/TEN_13-12_Acc.pdf.

3 "American Job Training Investments: Skills and Jobs to Build a Stronger Middle Class," White House Fact Sheet (April 2014).

4 "It Pays to Hire an Apprentice: Calculating the Return on Training Investment for Skilled Trades Employers in Canada," Canadian Apprenticeship Forum (June 2009).

ways in which registered apprenticeship can be used to promote employment opportunities for people with disabilities.

The research paper, entitled *Registered Apprenticeship Programs: Improving the Pipeline for People with Disabilities*, provides an overview of registered apprenticeships and pre-apprenticeships, highlights prior apprenticeship initiatives that have focused on persons with disabilities, and discusses challenges associated with providing apprenticeships programming. In addition, recommendations are provided regarding actions that Federal agencies could take to promote apprenticeship and strategies are presented for increasing employment of people with disabilities through registered apprenticeship. The report also:

- Highlights the registered apprenticeship program as a career planning strategy.
- Emphasizes the need for career and technical education preparation and planning.
- Identifies job growth industries in the registered apprenticeship program.
- Underscores the continuing need for increased pre-apprenticeship opportunities to ensure youth and adults develop the skills and transferable competencies needed to enter, retain, and advance in registered apprenticeship programs.

To view the report, visit: <http://www.dol.gov/odep/pdf/ApprenticeshipReport.pdf>. For more information about registered apprenticeship and pre-apprenticeship programs, including information on how apprentices can find opportunities and employers can start a program, visit the Office of Apprenticeship's website: <http://www.doleta.gov/OA/>.

4. Technical Assistance and Resource Materials. DOL continues to create resource materials and to provide technical assistance resources to aid the American Job Center network, employers, Federal agencies, and others to support expanded partnerships with quality pre-apprenticeship programs and registered apprenticeship programs. These materials include:

- **Labor Standards for the Registration of Apprenticeship Programs (Title 29, CFR Part 29).** To ensure that apprenticeship remains a highly successful talent development strategy, DOL and other key stakeholders have worked closely to revise the regulations governing the National Apprenticeship System. These revised regulations, published on October 29, 2008, update Title 29 CFR, Part 29, and provide a framework that supports an enhanced, modernized apprenticeship system. Under these regulations, registration agencies can issue interim credentials to apprentices for completing components of the occupation and registered apprenticeship programs may be competency-based, time-based, or a hybrid of the two approaches. See <http://www.doleta.gov/OA/regulations.cfm>.
- **Employers FAQs.** Registered apprenticeships hold many benefits for employers and their employees. Employers can learn about how to develop a business-driven, registered apprenticeship program to attract companies, increase wages, and benefit their communities. Visit: <http://www.doleta.gov/OA/employer.cfm>.

- **Registered Apprenticeship College Consortium (RACC).** RACC is a national network of postsecondary institutions, employers, unions, and associations working to create opportunities for apprenticeship graduates who may want to further enhance their skills by completing an Associate's or Bachelor's Degrees. Visit: <http://www.doleta.gov/oa/racc.cfm>.
 - **TEN No. 10-09, *Toolkit and White Paper on Improving Transition Outcomes of Youth with Disabilities through Apprenticeship (2009)*** provides information on a white paper and toolkit which focuses on expanding apprenticeship opportunities for youth and young adults with disabilities. Visit: <http://www.dol.gov/odep/categories/youth/apprenticeship/TEN10-09acc.pdf>.
 - Improving Transition Outcomes of Youth with Disabilities by Increasing Access to Apprenticeship Opportunities issue paper. Visit: <http://www.dol.gov/odep/categories/youth/apprenticeship/ApprenticeshipIssuePaper.pdf>.
 - Apprenticeship Toolkit. Visit: <http://www.dol.gov/odep/topics/youth/Apprenticeship.htm>.
 - **Apprenticeship Community of Practice (CoP) website** provides free information about innovations in registered apprenticeship programs. For first-time users of the CoP, go to the homepage, and click on the "join this community" button in the top right corner of the screen to acquire a username and password. Visit: <http://21stcenturyapprenticeship.workforce3one.org>.
5. **Action Requested.** DOL asks recipients to distribute this information to appropriate managers and staff in State Workforce Agencies, State Workforce Investment Boards, Local Workforce Investment Boards, American Job Centers, State Apprenticeship Agencies, and other public workforce system partners.
6. **Inquiries.** Questions about this TEN may be directed to Ms. Franchella Kendall of the Office of Apprenticeship at (202) 693-3798 or Kendall.Franchella@dol.gov or Rhonda Basha of the Office of Disability Employment Office at (202) 693-4732 or Basha.Rhonda.L@dol.gov.
7. **Attachment.**
- *Registered Apprenticeship Programs: Improving the Pipeline for People with Disabilities*



REGISTERED APPRENTICESHIP PROGRAMS: IMPROVING THE PIPELINE FOR PEOPLE WITH DISABILITIES

July 2015| Final Report

**U.S. DEPARTMENT OF LABOR
OFFICE OF DISABILITY EMPLOYMENT POLICY**

The findings and conclusions in this report are those of the authors and do not necessarily represent the views, official opinion or policy of the U.S. Department of Labor. This document was developed by Economic Systems Inc.

TABLE OF CONTENTS

Executive Summary	3
<i>Actions for the Office of Disability Employment Policy to Consider</i>	3
<i>Other Strategies That Could Be Used to Promote Registered Apprenticeships at the Federal Level</i>	4
Introduction	5
<i>Background</i>	5
Federal Regulations	6
Revised Regulations	6
The Evolution of Registered Apprenticeships	7
Registered Apprenticeship Partners Information Data System	10
<i>Registered Apprenticeship Initiatives Focused on People with Disabilities</i>	10
Transition into Registered Apprenticeship Careers and Employment	10
Wisconsin Youth Apprenticeship Program	11
Home Builder Institute	12
Apprenticeship and Pre-Apprenticeship Grant Initiative – WorkPlace, Inc. and SkillSource Group, Inc.	12
<i>Other Federally-Funded Initiatives Related to Apprenticeship</i>	14
YouthBuild	14
High-Growth Industry Initiatives	15
<i>Discretionary Grants</i>	15
Women in Apprenticeship and Nontraditional Occupations Grants	16
Expanding Apprenticeships for Good Middle Class Jobs	17
Broad Challenges for Registered Apprenticeship Programs	18
<i>Employer Costs Associated with Apprenticeship Programs</i>	18
<i>Limited Connection to Education and Workforce Systems</i>	18
<i>Lack of Integration with Workforce Development</i>	18
<i>Low Female Enrollment</i>	19
<i>Workplace and Academic Competency</i>	20
<i>Low Completion Rates</i>	20
Challenges for People with Disabilities	20
<i>Self-Disclosure</i>	20
<i>High School Diploma or High School Equivalency (HSE)</i>	20
<i>Transportation</i>	21
<i>Lack of Pay During Training</i>	21
<i>Community Based Organizations' Lack of Awareness</i>	21
<i>Workplace and Academic Competency</i>	21
<i>Employers' Attitudes Toward Hiring People with Disabilities</i>	22
Interview Findings	22
<i>A Business Case for Hiring People with Disabilities for Apprenticeship Sponsors</i>	23
<i>Federal and State Collaboration</i>	23
<i>Flexibility in Updating Occupational Codes</i>	23
<i>Flexibility in Updating Competency Models</i>	23
<i>Pre-Apprenticeship Programs Linked to Registered Apprenticeship Programs</i>	23
<i>Appealing to Apprentices with Undiagnosed Learning Disabilities</i>	24
Strategies and Recommendations	24
<i>Actions for the Office of Disability Employment Policy to Consider</i>	24
<i>Other Strategies Agencies That Could Be Used to Promote Registered Apprenticeships at the Federal Level</i>	25
Appendix A. References	26

EXECUTIVE SUMMARY

Many of America's jobseekers desire to participate in the modern global economy, but may lack the skills and education needed to be successful. Although jobs increasingly demand it, quality education is costly and may therefore be unattainable for some people. According to the Organization for Economic Co-operation and Development (OECD) 2013 report entitled [*Time for the U.S. to Reskill? What the Survey of Adult Skills Says*](#), "Of the three skills domains, and comparing the U.S. with other countries, the U.S. performance is weak on literacy, very poor on numeracy, but only a little worse than average on problem solving in technology rich environments. Broadly speaking the weakness affects the entire skills distribution, so that the U.S. has proportionately more people with weak skills than some other countries and fewer people with strong skills." As a result, businesses are reporting that they cannot find qualified staff. This trend not only affects recent high school graduates, but also adults in disadvantaged populations - women, minorities, and people with disabilities - where the unemployment rate is much higher than the average. If needs for training and education are not addressed, the U.S. will face critical shortages as the Baby Boomer generation begins to retire.

Historically, people with disabilities face several barriers to employment, including employer biases, employability skills, attitudes, and misinformation (Ju, Zhang, Pacha, 2012). Employment outcomes among people with disabilities have consistently been lower than employment outcomes among people without disabilities (Houtenville, Stapleton, Weathers & Burkhauser, 2009). In July 2012, the U.S. Senate Committee on Health, Education, Labor and Pensions released their report, [*Unfinished Business: Making Employment of People with Disabilities a National Priority*](#). The report calls for continued engagement with the business community to significantly improve recruiting, hiring, and retaining practices and to address any policy or practical barriers that would hinder employment of people with disabilities. Completion of a Registered Apprenticeship (RA) program should be considered as a possible option for promoting successful long-term employment outcomes for people with disabilities at competitive salaries and with little or no educational debt.

Apprenticeship is a time-tested system where entry-level professionals "earn while they learn," and it is accessible to all levels of the labor force. RA programs sponsored by employers, joint labor management organizations, and others, and overseen by USDOL, offer paid on-the-job learning with related technical classroom instruction that can lead to a long-term career pathway and sustained employment. Recent regulation changes and new occupations in emerging industries make RA a valuable resource for jobseekers, particularly those without a postsecondary education.

The following strategies, if implemented, could help to improve the pipeline into RA for people with disabilities:

Actions for the Office of Disability Employment Policy to Consider

1. **Convene a roundtable of employers who hire people with disabilities and introduce the concept of developing apprentice able occupations.** Companies that are leading the way in hiring people with disabilities should be publicized in mainstream media so that more employers can learn from their experiences.
2. **Showcase an apprenticeship model among disability-friendly businesses.** The Office of Disability Employment Policy (ODEP) can promote the apprenticeship model to disability-friendly employers. Corporations might be interested in developing a RA program.

3. **Collaborate with Rehabilitation Services Administration (RSA) to promote apprenticeship for people with disabilities.** Agencies that provide employment services to people with disabilities need to know the benefits of adopting the RA model. ODEP could partner with RSA, the Office of Special Education Programs (OSEP), and other offices under the U.S. Department of Education (ED) to promote this career strategy to Vocational Rehabilitation (VR) counselors, service providers and special education coordinators, and transition specialists.
4. **Launch a pre-apprenticeship career path awareness campaign.** ODEP and OA could orchestrate an awareness campaign, “Pre-apprenticeship should always lead to Registered Apprenticeship.” The campaign could highlight the benefits and the importance of developing a program that is directly tied to the RA and its link to a career path.
5. **Feature RA on its website.** Consideration could be given to including an employer focus area that includes a checklist on how to create an apprenticeship program that recruits people with disabilities, hiring practices, sample diversity statements, descriptions of tax incentives, resources for finding workers, and samples of best practices.

Other Strategies That Could Be Used to Promote Registered Apprenticeships at the Federal Level

1. **Issue Policy Guidance to promote alignment of RA with workforce development.** Additional policy guidance could be issued by DOL to encourage better collaboration between the workforce system and state and federal apprenticeship offices.
2. **Establish RA programs in growth industries.** The Department of Health and Human Services, the Department of Education (ED), the National Science Foundation, and DOL could consider establishing a competitive grant initiative to develop and expand apprenticeship programs in emerging growth industries such as health and technology for people with disabilities. This would expand apprenticeship programs beyond typical construction programs and manufacturing fields.
3. **Recruit people with disabilities for RA.** ODEP, OA, and ED should consider developing a joint strategy for recruiting more youth and adults with disabilities into RA.
4. **Incorporate apprenticeships into transition planning.** The Individuals with Disabilities Education Act (IDEA) is the federal act designed to protect the rights of students with disabilities by ensuring that everyone receives an appropriate public education. IDEA requires that transition planning begin no later than at age 16. Transition planning is a component of the Individualized Education Program (IEP) which is mandated by IDEA. In transition planning, the IEP team, comprised of the student, educators, specialists, and parents, considers areas such as postsecondary education or vocational training, employment, independent living, and community participation. ED and DOL should work together collaboratively to ensure that information is provided regarding RA as a possible option during transition planning.

INTRODUCTION

In July 2012, the U.S. Senate Committee on Health, Education, Labor and Pensions released their report, *Unfinished Business: Making Employment of People with Disabilities a National Priority*. The report calls for continued engagement with the business community to significantly improve recruiting, hiring, and retaining practices and to address any policy or practical barriers that would hinder employment of people with disabilities. This paper provides an overview of RA and how it can be utilized to increase the employment of people with disabilities.

DOL describes apprenticeship¹ as a combination of on-the-job training and related classroom instruction in which workers learn the practical and theoretical aspects of a highly skilled occupation. RA² is a program that connects jobseekers looking to learn new skills with employers looking for qualified workers. Employers, employer associations, and joint labor-management organizations, known collectively as "sponsors," provide apprentices with paid on-the-job learning and academic instruction that reflects industry needs. The goal of such instruction is to provide workers with advanced skill sets that meet the specific needs of their employers.

The current report provides an overview of RA and presents strategies for increasing employment of people with disabilities through participation in it. The aim of the report is to:

- Highlight the RA program as a career planning strategy.
- Emphasize the need for career and technical education preparation and planning.
- Identify job growth industries in the RA program.

The methodology used to develop this report consisted of conducting a literature review and discussions with community-based organizations, state apprenticeship agency contacts, public school transition coordinators, disability serving non-profit organizations, American Job Centers, unions, and vocational rehabilitation offices. The report, initially produced by Economic Systems in 2012, was updated for public release in 2014 in response to the Obama Administration's April 14, 2014 call to double the number of U.S. Registered Apprenticeships within five years.

Background

Wisconsin created the first state RA system in 1911, and in 1937 Congress passed the National Apprenticeship Act (also known as the Fitzgerald Act) to regulate apprenticeship and on-the-job training programs. This law was enacted "to promote the furtherance of labor standards of apprenticeship to extend the application of such standards by encouraging the inclusion thereof in contracts of apprenticeship, to bring together employers and labor for the formulation of programs of apprenticeship, to cooperate with State agencies in the formulation of standards of apprenticeship."³ Following the passage of the Act, RA programs operated mainly in the manufacturing, construction, and utilities industries. After World War II, new programs emerged to train emergency responders, police, firefighters, and health and safety workers. In August 2012, America celebrated the 75th anniversary of the Fitzgerald Act. Current regulations acknowledge the role of state agencies to register and oversee apprenticeship programs. The Office of Apprenticeship (OA) located in DOL's

¹<http://www.doleta.gov/jobseekers/apprent.cfm>, accessed August 10, 2012

²<http://www.doleta.gov/OA/apprenticeship.cfm>, accessed August 10, 2012

³http://www.doleta.gov/OA/fitzact_code.cfm, accessed August 10, 2012

Employment and Training Administration (ETA), oversees and works in partnership with 26 State Apprenticeship Agencies (SAAs) including the District of Columbia and Guam. For the remaining states that do not have SAAs, Federal staff is assigned to register programs and apprentices. Collectively, these agencies register programs that meet Federal and state standards and issue Certificates of Completion to apprentices.

In order to become RAeligible, apprenticeship sponsors must adhere to government rules regarding length of training, safety, wage, quality, and equal employment protections for apprentices (Alstadt, 2011). From an operational perspective, RA programs include a minimum of 2,000 hours of on-the-job learning and 144 hours of classroom training. In some cases, time-based requirements are reduced if competency-based assessments are implemented. Upon program completion, an apprentice receives an industry-recognized certificate. This Registered Apprenticeship Certificate of Completion is a portable credential and appealing to apprentices and employers. A 2012 study released by Georgetown University's Center on Education and Workforce suggests that certificates are the fastest growing form of postsecondary credentials in the United States. Carnevale, Rose, and Hanson (2012) showed that, on average, workers with certificates earn 20 percent more than workers with high school diplomas. According to ETA's Ten Notice No. 44-11 (May 2012), the average starting wage for an apprentice was \$16.01 per hour (\$33,301 per year), with wages upon completion of a three- to four- year apprenticeship at \$26.36 per hour (\$54,829 per year).

Federal Regulations

The Federal regulations governing the apprenticeship programs are found in Title 29, Parts 29 and 30 of the Code of Federal Regulations (CFR). The Equal Employment Opportunity in Apprenticeship and Training regulations include policies and procedures to promote equality of opportunity in apprenticeship programs registered with DOL and recognized by state apprenticeship agencies (SAAs). Title 29, Part 30 states, "The purpose of this part is to promote equality of opportunity in apprenticeship by prohibiting discrimination based on race, color, religion, national origin, or sex in apprenticeship programs, by requiring affirmative action to provide equal opportunity in such apprenticeship programs, and by coordinating this part with other equal opportunity programs."⁴ The term "disability" is not referenced in the Equal Opportunity Standards.

Revised Regulations

On December 29, 2008, DOL published a rule to update the National Apprenticeship System. The new regulations made the following changes:

- Apprentice completion: Program sponsors now have three ways for apprentices to complete a program. They are: competency-based, time-based, and a hybrid of the two approaches.
- Interim credentials: Registration agencies can issue interim credentials to apprentices for completing components of the occupation. Apprentices' benefit by formal acknowledgement of their proficiency.
- Technology-based learning: Distance learning and broader uses of technology in related instructions are supported.
- Program performance standards: The new framework enhances the focus on improving overall program quality.

⁴http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title29/29cfr30_main_02.tpl, accessed August 10, 2012

- Provisional registration: After one year, newly registered programs are evaluated for quality control. During the provisional status, program sponsors have an opportunity to receive technical assistance.

The Evolution of Registered Apprenticeships

Even though the concept behind the apprenticeship model has not changed much, the types of industries using apprenticeship to develop and build their workforce has changed greatly.

Apprenticeships can be found today in all industries, from traditional sectors like construction and manufacturing to emerging sectors like energy (including agribusiness and biofuels), health care, information technology, tourism, transportation, distribution and logistics, and service industries. More than 950 occupations are available in RA. Table 1 shows the top 30 occupations and Table 2 shows new programs and apprentices by industry from traditional industries such as construction and manufacturing to emerging industries like health care and information technology.

Table 1. Top 30 Occupations by Active Apprentices, FY 2013—Federal Workload

Occupational Title	Total
Electrician	36,237
Carpenter	13,685
Plumber	12,116
Pipe Fitter	8,665
Construction Craft Laborer	7,901
Sheet Metal Worker	7,101
Roofer	5,285
Structural Steel/Ironworker	4,651
Painter	3,254
Pipe Fitter – Sprinkler Fitter	3,052
Line Maintainer	2,751
Dry-Wall Applicator	2,712
Line Erector	2,453
Millwright	2,286
Chief, Cook (Water Transportation)	2,196
Operating Engineer	2,191
Boilermaker I	1,720
Heating & Air-Conditioner Installer Service	1,535
Cement Mason	1,401
Elevator Construction Mechanic	1,383
Insulation Worker	1,352
Line Installer-Repairer	1,317
Electrician, Maintenance	1,116
Truck Driver, Heavy	1,121
Glazier	1,065
Housekeeper, Commercial, Residential, Industrial	1,030
Floor Layer	1,018
Telecommunications Technician	986
Correction Officer	976
Machinist	974

Source: Registered Apprenticeship Partners Information Data System (RAPIDS) database, Fiscal Year 2013, extract as of June 2014.

Table 2. New Programs and Apprentices by Industry—Federal Workload⁵, FY 2013

Industry	New Programs	New Apprentices⁶	Active During Programs	Active During Apprentices⁷
Accommodation and Food Services	11	142	191	613
Administrative and Waste Services	6	325	88	929
Agriculture, Forestry, Fishing and Hunting	0	110	18	515
Construction	344	38,001	5,494	113,227
Educational Services	17	11,191	342	31,246
Finance and Insurance	0	28	21	150
Healthcare and Social Assistance	27	529	578	1,304
Information	2	62	32	326
Manufacturing	140	4,240	1,973	13,796
Mining, Quarrying and Oil and Gas Extraction	0	36	32	221
Other Services (except Public Administration)	25	877	285	1,949
Professional and Technical Services	6	65	75	263
Public Administration and National Security	28	8,268	592	14,415
Retail Trade	7	510	310	1,799
Transportation	3	3,620	75	8,266
Utilities	31	3,024	686	7,702
Wholesale Trade	7	439	51	1,351
All Other Industries	2	43	24	111
Total	656	71,510	10,867	198,183

Source: RAPIDS Performance Score Card Report 01/16/2014

In the past, vocational and technical colleges were the primary educational providers for apprenticeship programs. Now, however, new partnerships have emerged with career and technical education programs offered by public schools and community colleges. Some apprentices even earn associate or bachelor's degrees while they learn on the job. Many apprenticeship programs, particularly in high-growth industries, now offer interim credentials and training certificates based on a competency model that leads to a

⁵ Federal workload - programs and apprentices managed by Federal employees in the 25 Office of Apprenticeship states and Federal administrated programs in State Apprenticeship Agencies.

⁶ New Apprentices/Programs - apprentices/programs registered during the period.

⁷ Active During Apprentices/Programs - active during the period (active at begin of period + newly registered during the period).

Certificate of Completion. There may be beginning, intermediate, advanced, and specialty certification levels. RA programs also allow credit for previous apprenticeship-related experience. Other advantages include higher wages, portable credentials, and ongoing career advancement.

Registered Apprenticeship Partners Information Data System

OA maintains the Registered Apprenticeship Partners Information Data System (RAPIDS), a national database of RA programs and apprentices. The majority of the RA programs are in the building and construction trades. OA reports capture data on the characteristics of registered apprentices beyond gender, age, and minority status. Since disability status is not a required data element, current data do not measure the number of individuals with disabilities participating in RA programs.

Registered Apprenticeship Initiatives Focused on People with Disabilities

There have been only a few Federally-funded RA grants focused on people with disabilities. The distinction of being a RA program requires that the program be registered with OA or SAA. Many career-training programs for people with disabilities call themselves “apprenticeship” programs, although they are not RA.

Transition into Registered Apprenticeship Careers and Employment

One exception was when RSA awarded a grant to the New Mexico Vocational Rehabilitation Agency to develop the *Transition into Registered Apprenticeship Careers and Employment (TRACE)* pilot program exclusively for people with disabilities. Grant activities were carried on from 2000 to 2006. Careers included certified nursing assistants, construction trades, job coaches, and disability adjudicators under the Medicaid-Buy-In program. Under TRACE, vocational rehabilitation (VR) staff assisted employers in developing new apprenticeships in the social services occupations. Their findings demonstrated that people with learning disabilities are very successful in apprenticeship programs because the teaching approach includes one-on-one instruction. Additionally, apprenticeship was found to be an excellent method of training for visual learners, who learn best by being shown how to do something. A few of their major achievements are highlighted in Table 3.

Table 3. TRACE Accomplishments

Criteria Outlined in grant	Number Required	Number Achieved
Numbers served overall	171	514
Apprenticeship Awareness	-	514
Pre Apprenticeship	-	23
Registered Apprenticeship- Existing	25	71
Registered Apprenticeship-New	46	3
Development of New Registered Apprenticeships Standards ⁸	4	10

Source: 2006 Final Performance and Financial Report, New Mexico Public Education Department, Division of Vocational Rehabilitation

⁸ The 2006 TRACE Final Report states “This number reflected only the standards actually registered. Three additional ones were developed, but the employers later on decided not to register the programs.”

According to their 2006 Final Report, the TRACE program accomplished the following:

- Maintained working relationship with clients, parents, apprenticeship coordinators, schools, and the Division of Vocational Rehabilitation (DVR) counselors.
- Created an overall increase in awareness of apprenticeship throughout New Mexico.
- Assisted clients to have a better standard of living. The average salary per hour prior to apprenticeship employment was \$5.60. After apprenticeship employment, the average starting wage was \$9.54 per hour.
- Developed a series of manuals, flyers, vocational counseling guidance sheets, forms, and policies and procedures to replicate in other states. Information was available in Spanish, English, and Braille.
- Produced financial savings with respect to tax dollars spent on DVR clients because employers paid for the training.
- Client surveys indicated that they had a greater job satisfaction after entering apprenticeship.
- DVR counselors had an increased appreciation for apprenticeship options for their clients.

Evaluation Findings

The first two years of the grant was devoted to building relationships with employers and DVR counselors. Even though the TRACE program was only able to place three people in new apprenticeships, they referred many more. The grant found it was easier to place clients in existing programs because there were more employers and employment opportunities. From the TRACE database, the grant evaluator determined the following:

- Average age served was 30.6.
- Among those hired: 94 percent were male, 6 percent were female and 56 percent were Hispanic, 4 percent were American Indian, 2 percent were African American, and 38 percent were White.
- Among those served in general: 79.1 percent were male; and 20.9 percent were female. Ethnicity was 45.8 percent Hispanic, 9.9 percent American Indian, 4.7 percent African American, and 39.6 percent White.
- Average wage before TRACE was \$4.97 and average starting wage in apprenticeship was \$9.54 an hour. The highest wage was \$28.00 an hour and the lowest \$5.60 an hour. (Note: Some clients did not have a previous history of work to use as comparison, so it pulled the average down below minimum wage.)
- Average increase over pre-apprenticeship wages was 92.9 percent.
- Average cost per placement was \$376.

Wisconsin Youth Apprenticeship Program

The Youth Apprenticeship (YA) Program is administered by the Wisconsin Department of Workforce Development in cooperation with the Department of Public Instruction, the Wisconsin Technical College System, and the University of Wisconsin System. High school juniors and seniors in Wisconsin who participate in YA choose a career field in a statewide industry-recognized curriculum. The program, started in 1992, now offers opportunities in health services; hospitality, lodging, and tourism; information technology; manufacturing; science, technology and math; and transportation, logistics, and distribution.

During high school, participants (inclusive of students with disabilities) are placed at a worksite in an entry-level position where they receive on-the-job training (OJT) and work, on average, 10 to 15 hours

per week. Students take three to six hours of technical courses per week. During the two-year program, the youth are rotated through competencies at the workplace and through the technical courses. After two years, youth not only graduate with a high school diploma, but also earn an industry-recognized certificate of occupational proficiency and are eligible to receive advance credits at a Wisconsin university or technical college.

In 2003, the Center on Education and Work conducted an exploratory study, funded by the U.S. Department of Education's Office of Special Education and Rehabilitative Services, to examine the quality of youth experiences while being enrolled in the Wisconsin YA program. Their study involved conducting interviews with former youth apprentices who participated in the YA program between 1994 and 2000. In the graduating Class of 2000, YA produced 545 youth apprentices representing 21 different occupational fields. Ten percent of the youth apprentices documented disability status; approximately 84 percent of those with disabilities cited learning disabilities as their primary or secondary disability (Scholl and Mooney, 2004). The study showed that factors which enhanced overall success were: high levels of program coordination/organization; meaningful communication between stakeholders; a good fit between a young's person abilities and their chosen occupation; an exceptional worksite placement; and relevant classroom instruction that integrated academic and technical competencies.

Home Builder Institute

The Home Builder Institute (HBI), an affiliate program of the National Association of Home Builders, has a long-standing commitment of training youth, young adults, and underserved communities including people with disabilities. HBI's core offerings include training, job placement, mentoring curriculum development, and pre-apprenticeship. HBI's program, Project Hope, has helped more than 600 workers with disabilities in industry-related jobs and careers in the building and construction trades. HBI contracts DOL's Job Corps and works with YouthBuild programs. Job Corps is a residential education and training program for disadvantaged youth, ages 16 to 24, to earn a high school diploma or high school equivalency (HSE). The program offers participants opportunities to obtain academic and career technical credentials and assists them with securing placement in education, employment, registered apprenticeship, or the military upon graduation from the program.

Apprenticeship and Pre-Apprenticeship Grant Initiative – WorkPlace, Inc. and SkillSource Group, Inc.

In 2009, ODEP launched a grant initiative to provide apprenticeship and pre-apprenticeship training to youth and young adults with disabilities, ages 16 - 27. The WorkPlace, Inc. in Bridgeport, Connecticut received \$200,000 in funding and the SkillSource Group, Inc. in Vienna, Virginia received \$243,631 to develop models of providing inclusive RA and pre-apprenticeship training to youth and young adults with disabilities. Both consortia had a 24-month period of performance to test and evaluate innovative models in high-growth industries with the possibility to continue beyond that period.

The WorkPlace developed a three tier pre-apprenticeship program designed to strengthen youth and young adults with disabilities' work readiness skills by tailoring the services to fit the youth's needs on a customized basis. To identify pre-apprenticeship sites, the WorkPlace leveraged its Summer Earn and Learn Program's employer relationships (e.g., OSA Heating and Cooling, Alpha Community Services, Dave's Auto, Recording Studio, and Melt Restaurant). Youth were recruited from state and local organizations that served youth with disabilities such as the Bureau of Rehabilitative Services (BRS) and the Department of Mental Health and Addiction Services (DMHAS). The Workplace also

positioned the RA initiative as an additional service of its Youth Works program to recruit youth and young adults with disabilities.

The SkillSource Group, Inc. also received funding to provide pre-apprenticeship services to youth and young adults with disabilities by leveraging its relationships with the Summer Youth Employment Program's employers (e.g., Reston Community Shelter, City Café, Columbia Pike Animal Hospital, and Alexandria Seaport). The core pre-apprenticeship services included: 1) voluntary soft skills training sessions; 2) education courses; and 3) paid, pre-apprenticeship work experiences. Relationships were established with the Bridges to Success Program, the SkillSource Group, Inc.'s Ticket to Work program, and Virginia's Department for Aging and Rehabilitative Services (DARS) to recruit youth and young adults with disabilities. Pre-apprenticeship experiences provided participants with on-the-job training, the ability to fulfill meaningful job responsibilities, and the opportunity to hone employment skills.

Both grantees completed their projects in 2013.

Lessons Learned

- **Youth and adults benefit from soft skill development, career exploration, and individualized services:** The Workplace's RA and pre-apprenticeship participants' mean age was 19.5 and the SkillSource's participants' mean age was 22.5. The older mean average of these youth participants would lead one to believe that their soft skills would be better developed. Yet, the Workplace's comprehensive assessment demonstrated that adult participants, like their younger peers, lacked work readiness skills, and that access to soft skills development, career exploration, and individualized services based on participants' interests and strengths actually improved the employment and post-secondary placement levels of both youth and young adults. These practices have now been institutionalized in Workplace's YouthWorks program, and it is now tracking the acquisition of indicators such as soft skills to be considered proficient in either employment or post-secondary rather than only focusing on common core measures.
- **Meaningful partnerships lead to results:** As a result of the SkillSource's coordination with the Northern Virginia Workforce Investment Board and WIA Program, the RA and pre-apprenticeship program received more referrals from the WIA program. The number of young adults with a documented disability enrolled in the WIA Youth Program in Northern Virginia was 30 percent at project inception and increased to 36 percent over the course of the grant.

Another example is in Connecticut, where Workplace, the One-Stop that was the apprenticeship grantee, created a combined orientation that allowed for youth and their parents to hear about the RA and pre-apprenticeship program model. The Workplace also trained the Bureau of Rehabilitation Services (BRS) counselors on its program's eligibility requirements to recruit potential youth apprentices from BRS. BRS in turn trained YouthWorks, the Workplace's WIA-funded youth provider's staff, on servicing customers with disabilities. This program has created stronger relationships that are still bearing fruit today. Because of the collaborative relationships established, YouthWorks has seen an increase of 86 percent enrollment of youth that are attached to either BRS or the Department of Mental Health and Addiction Services (DMHAS).

- **Balance youth's preferences with employers' needs:** The SkillSource and the Workplace staff learned that a comprehensive assessment and career exploration process were important in helping to ensure a good match between employees and employers. This underscored the need to include an employer voice

in the design and implementation of future programming. When employer endorsed skills are built into the program, this ultimately makes hiring easier later on.

- **High quality learning environment:** The WorkPlace grantee noticed that RA and pre-apprenticeship participants tested lower on the final exit exam and/or expressed doubt about leaving the program when the next step was to be placed into a work site. To address this issue, WorkPlace created a simulated workplacetraining site that set the same high expectations that they knew an employer would ask of a participant to mentally prepare youth for the transition to a “real” employment site.
- **Competency models facilitate the acquisition of skills:** Use of the competency models for pre-apprenticeship placements⁹ allowed youth to understand how skills acquisition happens on multiple levels. Often youth only see the hard, technical skills yet the competency models allows for the soft skills to be intertwined with the hard skills. All youth completed a Personal Development Profile to set a strategy to manage their personal and career goals.
- **Guideposts for Success can help steer youth service professionals, families, institutions, and youth themselves through the transition process:** Using the [Guideposts for Success](#),¹⁰ framework encouraged the WorkPlace to engage parents and other significant people to support the growth of participants who are a part of its YouthWorks program.

Other Federally-Funded Initiatives Related to Apprenticeship

YouthBuild

YouthBuild is a community-based academic and occupational skills training program which serves youth ages 16-24 who are high school drop outs. The primary target populations for the YouthBuild program include foster care youth or youth aging out of foster care, youth offenders, children of incarcerated parents, migrant youth, and youth with disabilities. Youth split their time between educational activities leading to the completion of a high school diploma or state-recognized equivalency degree, and occupational skills training in construction while building or renovating homes for low-income or homeless individuals or families. In 2012, YouthBuild expanded occupational skills training beyond construction into other in-demand occupations as evidenced by local labor market information. Under WIOA, activities in high demand industries and occupations in addition to construction are authorized as are both pre-apprenticeship and RA. In order to be considered a pre-apprenticeship program, local YouthBuild programs must demonstrate required components of a quality pre-apprenticeship program as outlined in the Department’s Training and Employment Notice (TEN) 13-12 entitled [Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources](#).¹¹ While there are no targeted services specifically for youth with disabilities,

⁹A competency model is a descriptive tool that documents the foundational and technical skills and competencies required for workplace success in industries. More information about competency models is available on

http://www.careeronestop.org/competencymodel/ETA_industry_competency_initiative.aspx.

¹⁰The *Guideposts for Success* framework, developed by the National Collaborative on Workforce and Disability for Youth (NCWD/Y) in collaboration with ODEP, reflects what research identifies as key educational and career development interventions that make a positive difference in the lives of all youth, including youth with disabilities including: (a) school-based preparatory experiences, (b) career preparation and work-based learning experiences, (c) youth development and leadership, (d) connecting, and (e) family engagement.

¹¹ Under WIOA activities, Youth formula funds can also be used to support pre-apprenticeship training, and RA is recognized as a career pathway under Job Corps.

these youth are eligible to participate in the program and receive training and support services available to all eligible participants.

High-Growth Industry Initiatives

Since their inception, apprenticeship programs in the U.S. have been highly concentrated in construction and, manufacturing, and other selected fields, such as transportation, public safety, and some military occupations, and have been considered to be a lead agent in providing pathways out of poverty for disadvantaged groups such as person with disabilities and women. Between 2009 and 2010, DOL invested roughly \$500 million in green jobs grants under the American Reinvestment and Recovery Act. One category of funding, the Pathways Out of Poverty Grants, disbursed \$150 million to help disadvantaged populations, including people with disabilities, find opportunities, including apprenticeships, to move out of poverty and into economic self-sufficiency through green jobs employment in transportation, utilities, construction, and manufacturing. Health Information Technology (Health IT) is a growing industry. Estimates based on the data from the U.S. Bureau of Labor Statistics (BLS) indicate a shortfall of qualified Health IT professionals required to meet the needs of hospitals and physicians as they move to adopting electronic health care records over the next eight years (BLS Employment Projections: 2010-2020 Summary, Table 3). In response to the shortfall, ETA has focused on increasing skill sets for potential employees in the healthcare information technology industries, and on aligning RA programs with employer needs.

The Public Health Informatics Fellowship Program (PHIFP) is a new public health apprenticeship sponsored by the Centers for Disease Control and Prevention (CDC) and DOL. Health IT is a rapidly growing field that is critical to both public health and health care. In an era of increasing public health responsibilities, increasing use of information systems, and shrinking budgets, few states have the workforce capacity to address these challenges. PHIFP is a two-year, competency-based training program that offers a problem-based learning environment in which fellows apply information and computer sciences and information technology to solve public health problems.

Discretionary Grants

To advance the RA framework, DOL and other federal agencies and programs have provided discretionary funding. According to ETA's Solicitation for Grant Application (SGA) Program Year (PY) 2011 Grant Overview, ETA has awarded approximately \$6.5 million in grants in support of RA programs. The following activities are supported by the grants:

- Developing new or modifying existing standards for apprenticeship programs (including national guideline standards);
- Developing curricula to support these standards;
- Using technology-based learning strategies;
- Developing skill assessment tools for competency-based models;
- Training and education on the new regulatory requirements; and
- Outreach and training efforts to educate members, affiliates, staff and partners on the new model.

As shown in Table 4, various organizations received grants including national industry and employer associations, labor-management organizations, and other organizations that demonstrated the capacity to advance through the development of new or modified apprenticeship standards. Project implementation has occurred on a national level and included local community-based organizations, American Job Centers, and other entities.

Table 4. ETA Solicitation for Grant Application (SGA) Program Year 2011 Grant Recipients

Organization	Amount
American Culinary Federation Education Foundation St. Augustine, FL	\$481,200
Finishing Trades Institute Hanover, MD	\$622,757
Home Builders Institute Washington, D.C.	\$623,297
International Masonry Institute Bowie, MD	\$622,757
National Institute for Metalworking Skills Fairfax, VA	\$624,300
National Ironworkers and Employers Apprenticeship Training and Journeyman Upgrading Fund Washington, D.C.	\$536,499
National Joint Apprenticeship and Training Committee Upper Marlboro, MD	\$614,943
New Horizons Computer Learning Center, Inc. Carmel, IN	\$580,685
Operative Plasterers and Cement Masons International Association Beltsville, MD	\$622,562
Trimmer Education Foundation Arlington, VA	\$624,300
United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada Anne Arundel, MD	\$624,300

Source: Advancing Registered Apprenticeship SGA PY 08-11 Grant Overview. August 2009

Although discretionary grants generate many activities that have the potential to influence the outcomes of people with disabilities, the SGA does not require reporting on the impact or outcomes of their project on people with disabilities (e.g., creating curricula based on universal design principles designed with accessibility features and outreach efforts directed towards disability-serving agencies).

Women in Apprenticeship and Nontraditional Occupations Grants

The Women in Apprenticeship and Nontraditional Occupations (WANTO) Act was created in 1992 to close the income gap between women and men by recruiting, training, and developing women for high-wage nontraditional careers. A non-traditional career typically involves an employment sector with 25 percent or less held by one gender, such as advanced manufacturing, construction, energy, and transportation. DOL's Women's Bureau (WB) and OA jointly administer and support innovative projects funded by the WANTO Act to improve the recruitment, hiring, training, employment and retention of women in apprenticeships in nontraditional industries. Within these industries, the grants fund activities focused on three occupational areas: existing occupations expected to experience an increase in employment demand; existing occupations with significant changes to work and worker requirements; and new and emerging green occupations.

In 2012, six community-based organizations received grant awards (see Table 5). A grant stipulation was to form a consortium with a local workforce investment area and at least one RA program sponsor. This consortium-based approach was intended to ensure that women served by WANTO grants have access to a range of supportive services and training, as well as to specific nontraditional employment opportunities. Each grantee was required to place at least 50 participants annually and at least 100 participants over the life of the two-year grant.

Table 5. Women in Apprenticeship and Nontraditional Occupations Grants

Grantee	Location	Amount
Action for Boston Community Development Inc.	Boston, MA	\$300,000
Chicago Women in the Trades	Chicago, IL	\$300,000
Goodwill of North Georgia	Atlanta, GA	\$300,000
Oregon Tradeswomen Inc.	Portland, OR	\$300,000
West Virginia Women Work	Morgantown, WV	\$300,000
Women in Non Traditional Employment Roles	Los Angeles, CA	\$300,000

Source: ETA News Release, 06/26/2012

Women in Apprenticeship and Nontraditional Occupations Technical Assistance Grants – SGA-DFA-PY-13-08

On April 2, 2014, DOL’s ETA and WB announced the availability of \$1.8 million in Federal grant funds authorized by the [Women in Apprenticeship and Nontraditional Occupations \(WANTO\)](#) Act of 1992, Pub. L. 102-530, 29 U.S.C. 2501 et seq. DOL plans to disburse Program Year (PY) 2013 and PY 14 WANTO grant funds to up to four (4) community-based organization grantees within the range of \$400,000 to \$650,000 for a 2-year grant period to develop and operate innovative technical assistance projects to improve outreach, recruitment, hiring, training, employment, and retention of women, women of color and women with disabilities in apprenticeships and nontraditional occupations.

Expanding Apprenticeships for Good Middle Class Jobs

On April 16, 2014, the President and Vice President announced new Federal investments using existing funds to support job-driven training, like apprenticeships, that will expand partnerships with industry, businesses, unions, community colleges, and training organizations to train workers in the skills they need. Employers, unions, and foundations are joining these efforts with new commitments to support job-driven training. DOL is making \$100 million in existing H-1B funds available for American Apprenticeship Grants to reward partnerships that help more workers participate in apprenticeships. This competition will help more Americans access this proven path to employment and the middle class: 87 percent of apprentices are employed after completing their programs and the average starting wage for apprenticeship graduates is over \$50,000. For more details, take a look at the American Apprenticeship Initiative website: <http://www.doleta.gov/oa/aag.cfm>.

BROAD CHALLENGES FOR REGISTERED APPRENTICESHIP PROGRAMS

Several challenges face RA programs involving the workforce system, employers and jobseekers. This section focuses on challenges RA programs face generally. The next section discusses challenges that are specific to people with disabilities participating in RA programs.

Employer Costs Associated with Apprenticeship Programs

Engaging employers and industry sectors to offer apprenticeships can be a challenge because developing an apprenticeship program is costly (Alstadt 2011). Historically, the public sector's contributions have been low compared to contributions of employers and apprentices with investment of at least \$1 billion per year (Alstadt, 2011; GAO, 2001). In order to expand programs, creative solutions must be found to defray these costs.

Limited Connection to Education and Workforce Systems

The relationship between community colleges and apprenticeship programs varies by state, trade, and local area. Historically, apprenticeship sponsors have worked with community colleges to award college credit to apprentices for education and job-related skills. Alstadt (2011) suggests that a closer collaboration between postsecondary institutions and the workforce development system could increase employer outreach and reduce training costs. Growing the partnership could expose students to new fields while building a career pathway that includes a college degree.

Lack of Integration with Workforce Development

Two recent DOL policy documents have focused on greater integration of RA into the workforce development system. To encourage workforce system leaders to build partnerships and leverage resources in order to increase jobseekers' access to career pathways utilizing RA programs, ETA prepared Training and Employment Notice (TEN) 44-11 entitled [*Encouraging Enhanced Partnerships and Collaboration between the Workforce Investment System and Registered Apprenticeship Programs*](#) in 2012. The document provided policy guidance, information, and examples designed to support the full integration of RA into state and local workforce system activities.

OA's Advisory Committee on Apprenticeship commissioned a white paper to explore barriers to RA sponsors' access to states' Eligible Training Provider Lists (ETPLs), obtaining financial support for pre-apprenticeship training and/or related instruction utilizing Individual Training Accounts (ITAs) funded by the Workforce Investment Act (WIA). The report, [*Partnering for Success: Recommendations to Facilitate Greater Collaboration between the Registered Apprenticeship and Public Workforce Systems*](#), was released in May 2011.

In recent years, a push has been made for the workforce investment system to leverage and work with OA. Progress has been made, including the release of ETA's TEN, but barriers still exist. At the local level, Workforce Investment Boards (WIBs) and American Job Center staff may be unfamiliar with RA as an option for their participants. Under WIOA, however, RA is now a mandated State Board partner.

Qualifying as a training provider on the Eligible Training Provider List (ETPL) and obtaining Individual Training Account (ITA) funding for apprenticeship program participants have also been major challenges for RA sponsors in the past. Rules around how the local WIB and workforce development entities operated varied from state to state and from WIB to WIB within a given state.

The process for becoming an ETPL was time consuming which often served as a deterrent, although according to TEN 44-11, the Workforce Investment Act statute and regulations provided flexibility to allow their inclusion. Under WIOA, however, one of these problems has been eliminated; RA programs are included on the eligible training provider list for Adult and Dislocated Worker programs as long as they remain registered.

Low Female Enrollment

Female apprentices currently account for less than six percent of participants in Registered Apprenticeship programs in the 25 Office of Apprenticeship states managed by Federal staff (FY 2013 RAPIDS data). At the time that this report was being prepared, WANTO, as previously mentioned, included women, but there was no equivalent program for the training and retention of people with disabilities. Table 6 shows number of active apprentices in Fiscal Year 2011.

Table 6. Active Apprentices Demographics, Fiscal Year13

		Ethnicity			
Gender	Race	Hispanic	Non-Hispanic	Unknown	Grand Total
Female	Asian	19	187	70	276
	Black	43	1,551	840	2,434
	Hawaiian-Pacific Islander	28	180	30	238
	Native	77	172	50	299
	Unknown	441	90	483	1,014
	White	384	4,606	1,456	6,446
Female Total		992	6,786	2,929	10,707
Male	Asian	125	2,480	744	3,349
	Black	318	12,337	5,176	17,831
	Hawaiian-Pacific Islander	545	2,284	579	3,408
	Native	3,908	1,603	553	6,064
	Unknown	19,255	2,131	9,692	31,078
	White	7,697	83,371	24,948	116,016
Male Total		31,848	104,206	41,692	177,746
Unknown	Unknown			2	2
	White		1		1
Unknown Total			1	2	3
Grand Total		32,840	110,993	44,623	188,456

Source: Registered Apprenticeship Partners Information Data System (RAPIDS) database, Fiscal Year 2013, extract as of June 2014.

Workplace and Academic Competency

A skills gap exists between employee readiness and employer requirements. Many job seekers in the United States demonstrate low literacy or educational levels (Karoly and Panis, 2004). In some areas, employers have to rely on workforce development programs to teach basic skills such as reading and mathematics. In addition, technology built for today's workforce may be obsolete in the near future due to the rapid pace of innovation. Given the constantly changing workforce trends and demands, more pre-apprenticeship opportunities are needed to help ensure that people interested in becoming apprentices, including people with disabilities, have the requisite skills and transferable competencies needed to enter apprenticeship programs and to succeed. A multitude of studies have been conducted on the skills shortage crisis in the current workforce system (Bjelland, Bruyere, von Schrader, Houtenville, Ruiz-Quintanilla, and Webber, 2010). Weakness in high school performance and job training programs led in the decline of generating a highly skilled workforce. In order to be competitive in a global economy, the United States will have to address the growing mismatch between the needs of the marketplace and skills of the workforce pipeline.

Low Completion Rates

When an employer sponsors a RA program, they are looking to receive a qualified group of skilled apprentices at the end of the training. Within the construction trade, 6 out of 10 registered apprentices fail to complete the program (Glover and Bilginsoy, 2005). Reasons for failing to complete the program include unreliable transportation, unstable housing, and balancing work/life demands. In some cases, an apprentice acquires certain skills and is hired by another employer (Lerman, Eyster and Chambers, 2009). Collaborating with other entities to assure that apprentices have a strong support network in place is therefore a key strategy to their successful completion and their ability to meet the sponsor's needs.

CHALLENGES FOR PEOPLE WITH DISABILITIES

This section discusses the challenges for people with disabilities to participate in apprenticeship programs. Even though some of these barriers may be seen as problematic to other groups, the barriers are particularly challenging for people with disabilities. To facilitate the effective use of apprenticeships that include people with disabilities, the following barriers should be addressed.

Self-Disclosure

Knowing whether a person has a disability is usually contingent on their self-disclosing. People with disabilities often hesitate to disclose because of negative reactions they may encounter. An apprentice may choose not to disclose in a workplace setting because of a fear of discrimination, or perhaps because their disability is undiagnosed. Title I of the Americans with Disabilities Act prohibits discrimination in recruitment, hiring, training, and other privileges of employment (P.L. 101-336). However, the responsibility to disclose and seek accommodations rests solely on the individual.

High School Diploma or High School Equivalency (HSE)

Most apprenticeships require a minimum of a high school diploma or HSE. The data shows that overall youth with disabilities graduate from high school at lower rates than youth without disabilities. Moreover, some youth with disabilities graduate high school without earning the standard diploma (Hartwig and Sitlington, 2008). Employers do not recognize alternative completions, which could become a major barrier for people with disabilities (GAO Report, 2012). Students with disabilities who

are no longer in high school, but wish to acquire more preparedness for postsecondary education or employment services, may experience a delay because adult programs cannot accommodate additional clients (e.g., higher education, vocational rehabilitation, workforce agencies, etc.)(GAO Report, 2012).

Transportation

For many people with disabilities, transportation is a major barrier. Since RA is a combination of hands-on-training and classroom instruction, people with disabilities may find it difficult to participate because of the need to have access to daily reliable transportation to various locations. Transportation to work is an issue not only for people with disabilities, but also for many members of historically underrepresented and economically challenged populations.

Lack of Pay During Training

People with disabilities as well as other disadvantaged population groups often have lower household incomes than the general population. In some RA programs, apprentices do not earn a wage or stipend until completing their related technical training program, especially in the social services and correctional officer areas. In a recent study (Mathematica, 2012), women participating in a correctional officer apprenticeship program did not receive wages during the related technical training portion of their program. They only received wages when they entered their probationary work period after completing training. That is not the case for other apprenticeships, such as construction apprenticeships where paid OJT and training are done simultaneously. Another consideration is that the high cost for education in post-secondary institutions, which may be part of the RA program, may restrict opportunities for participation in disadvantaged groups including minorities and people with disabilities (Carnevale, Smith & Strohl 2010).

Community Based Organizations' Lack of Awareness

DOL funds several community based-organizations (CBOs) that are working to produce career paths for job seekers. Depending on whether they serve youth or adults, their career planning strategies may involve paid/unpaid internships, job shadowing, or part-time work. These work experiences have value, but they may not translate into a career path. If CBO programs, including those focused on providing training to people with disabilities, were aligned to registered apprenticeship occupations, it could create more opportunities for people to acquire relevant skills for an occupation that is in demand and the potential to raise their income. Although CBOs may not have the knowledge or resources needed to build a program based on an RA occupation alone, they have an important role to play in partnering with other organizations including businesses.

Workplace and Academic Competency

In the building and construction trades, applied mathematics is an integral component. Mathematics, which is a needed skill in many career fields, may be a problematic area for some people with disabilities (Moon, Todd, Morton, and Ivey, 2012). In addition, the National Longitudinal Transition Study-2 (NLTS2)¹² data

¹²The [National Longitudinal Transition Study-2 \(NLTS2\)](#), commissioned by the U.S. Department of Education, is 10-year-long study of the characteristics, experiences, and outcomes of a nationally representative sample of youth with disabilities. It includes 11,270 youth nationwide who were ages 13 through 16 at the start of the study (2000). Information was collected over 10 years from parents, youth, and

indicate that of 392,200 students with disabilities, ages 14 - 21, in the United States, outlying areas, and freely associated states who left school during the 2011 - 2012 school year, only 63.9 percent exited high school with a regular high school diploma, and 20.5 percent, dropped out of school. The remaining 15.6 percent students with disabilities, ages 14 - 21, which left school during the 2011 - 12 school year, were reported as having received a certificate, reached maximum age, or died (U.S. Department of Education, 2012).¹³ Because having a high school diploma or high school equivalency (HSE) is a requirement for most apprenticeship programs, some people with disabilities may require pre-apprenticeship training, and/or remedial education before they will be able to participate in an apprenticeship program.

Lack of Accessibility of Career Readiness Assessments and Other Standardized Tests

As discussed previously, one of the major concerns in the workforce community is the gap between applicants' skills and employers' needs. This concern also relates to employers' apprehensions about hiring people with disabilities; they fear that the applicant may not be suitable due to limited work experience or skills. Several organizations in workforce development are using the National Career Readiness Certificate™ (NCRC) that was established as an industry-recognized, portable credential that certifies skills required to succeed in today's workplace. Features include:

- Critical reasoning
- Problem solving
- Utilizing mathematical reasoning to solve work-related problems
- Summarizing and analyzing information presented in graphics
- Reading and using work-related text

Although NCRC is becoming increasingly accepted as the standard for basic workplace skills in several states, concerns have been raised about this test's accessibility. Given the increased use of this and other similar standardized testing to assess career readiness, it is imperative that these tests be accessible to people to ensure that people with disabilities are not left behind.

Employers' Attitudes Toward Hiring People with Disabilities

Poor employment opportunities and outcomes for people with disabilities can stem, in part, from employers' negative attitudes toward hiring people with disabilities. Recent literature points to the persistence of stereotypes, prejudice, discrimination, and stigma in organizations and their negative effects on individuals and employers (Lengnick-Hall, 2009). Sometimes employers erroneously fear that most people with disabilities: lack necessary knowledge, skills, abilities, and other characteristics; have lower job performance and productivity; and incur higher costs than employees without disabilities.

INTERVIEW FINDINGS

The study team conducted interviews with representatives from community-based organizations, state apprenticeship agency contacts, public school transition coordinators, disability serving non-profit organizations, American Job Centers, unions, and vocational rehabilitation offices. The respondents were identified through their prominence in the field, based on informal online research and

schools and it provided a national picture of the experiences and achievements of young people as they transition into early adulthood.

¹³ According to, 20 U.S.C. § 1418(a) States report data in what is known as the "618 data collection", using the EDFacts data system. One data element is IDEA Part B Exiting.

discussions with experts. The following information was derived from these conversations regarding possible strategies to improve the pipeline both into RA generally and into RA for people with disabilities.

A Business Case for Hiring People with Disabilities for Apprenticeship Sponsors

State Apprenticeship Agencies (SAAs) suggested brainstorming sessions on building the business case for hiring people with disabilities with agencies that provide services or advocate for people with disabilities. For example, ODEP could facilitate meetings and develop talking points that the SAAs could use when they are speaking to prospective employer sponsors.

Federal and State Collaboration

Two retired state workers from New Mexico's Transition into Registered Apprenticeship Careers and Employment (TRACE) Program attributed their program's success to establishing relationships with the Federal and state apprenticeship offices. They described state agencies as usually working in silos. Through working with the SAA, they were able to recruit consultants with experience in developing apprenticeship programs.

Flexibility in Updating Occupational Codes

ETA's Occupational Information Network (O*NET) contains occupational definitions to match jobseekers with jobs. The database is used by businesses, educators, jobseekers, human resources professionals, and the Workforce Investment System. The Canadian and European manufacturers that are building facilities in U.S. are familiar with the apprenticeship model and are requesting their own occupational titles.

Flexibility in Updating Competency Models

ETA works with business leaders and educators to create competency models that reflect the technical skills and competencies for industries. The models serve as a resource to curriculum development, tests and certifications. Manufacturing jobs have changed with the introduction of technology. The length of training time has been reduced and work processes are more efficient.

Pre-Apprenticeship Programs Linked to Registered Apprenticeship Programs

Several respondents did not understand why programs were called pre-apprenticeship, if they were not feeding into registered apprentice occupations. At the time, SAA representatives were looking forward to ETA providing technical assistance and policy guidance on pre-apprenticeships, which subsequently occurred on November 30, 2012. See [Training and Employment Notice 13-12; Defining a Quality Pre-Apprenticeship Program and Related Tools and Resources](#).¹⁴

¹⁴ In this TEN, pre-apprenticeship was defined as a program or set of strategies designed to prepare individuals to enter and succeed in a Registered Apprenticeship program that has a documented partnership with at least one, if not more, Registered Apprenticeship program(s). Moreover, the TEN also describes elements of a quality pre-apprenticeship program.

Appealing to Apprentices with Undiagnosed Learning Disabilities

As stated earlier, RAPIDS does not collect data on disability status, so the proportion of apprentices with disabilities is not known. SAA representatives and training instructors believe a substantial portion of RA entrants may have undiagnosed learning disabilities. They believe people with learning disabilities are entering RA programs because they are attracted to the instructional model-hands on training and repetitive tasks.

STRATEGIES AND RECOMMENDATIONS

Registered Apprenticeship is an effective “earn and learn” model with a long history of providing career ladders and pathways to the middle class, particularly for the building and construction industry, but increasingly in other industries as well. In Fiscal Year 2011, the average starting wage for an apprentice was \$16.01/hour (\$33,301/year), with wages upon completion of a three to four year apprenticeship at \$26.36/hour (\$54,829/year). These results demonstrate the advantages apprenticeship offers in providing both a significant wage gain and clear career path for entry-level workers.

Current unemployment rates suggest that education and training systems inadequately serve people with disabilities, low-income adults, and out-of-school youth. In addition, these systems are not generating enough skilled workers to fill available jobs. In order to improve the pipeline for people with disabilities in RA programs, states need to expand opportunities as well as strengthen entry and completion for low-skilled and disadvantaged workers (Alstadt, 2011).

Despite DOL’s initiatives promoting apprenticeship, a majority of disability-serving organizations that work with people with disabilities may not be aware of the potential that exists for creating pre-apprenticeship or RA programs. The paucity of apprenticeship programs for people with disabilities suggests that disability service providers need to be made aware of RA and of the important role they can play in partnering with RA sponsors to support making RA opportunities available to more people with disabilities.

Promoting more apprenticeship training through apprenticeship-community college collaboration can help to reduce costs for RA sponsors and disadvantaged students, including youth with disabilities, while also offering apprentices the benefit of earning college credits from community colleges.

Other actions that could be taken to increase the pipeline for people with disabilities include the following:

Actions for the Office of Disability Employment Policy to Consider

1. **Convene a roundtable of employers who hire people with disabilities and introduce the concept of developing apprentice able occupations.** Companies that are leading the way in hiring people with disabilities should be publicized in mainstream media so that more employers can learn from their experiences.
2. **Showcase an apprenticeship model among disability-friendly businesses.** ODEP can promote the apprenticeship model to disability-friendly employers. Corporations might be interested in developing a RA program.
3. **Collaborate with RSA to promote apprenticeship for people with disabilities.** Agencies that provide employment services to people with disabilities need to know the benefits of adopting the RA model.

ODEP could partner with RSA, OSEP, and other offices under U.S. Department of Education to promote this career strategy to VR counselors, service providers and special education coordinators, and transition specialists.

4. **Launch a pre-apprenticeship career path awareness campaign.** ODEP and OA could orchestrate an awareness campaign, “Pre-apprenticeship should always lead to Registered Apprenticeship.” The campaign could highlight the benefits and the importance of developing a program that is directly tied to the RA and its link to a career path.
5. **Feature RA on ODEP’s website.** Consideration could be given to including an employer focus area that includes a checklist on how to create an apprenticeship program that recruits people with disabilities, hiring practices, sample diversity statements, descriptions of tax incentives, resources for finding workers, and samples of best practices.

Other Strategies Agencies That Could Be Used to Promote Registered Apprenticeships at the Federal Level

1. **Issue Policy Guidance to promote alignment of RA with workforce development.** Additional policy guidance could be issued by DOL to encourage better collaboration between the workforce system and state and federal apprenticeship offices.
2. **Establish RA programs in growth industries.** The Department of Health and Human Services, the Department of Education, the National Science Foundation, and DOL could consider establishing a competitive grant initiative to develop and expand apprenticeship programs in emerging growth industries such as health and technology for people with disabilities. This would expand apprenticeship beyond typical construction programs and manufacturing fields.
3. **Recruit people with disabilities for RA.** ODEP, OA, and ED should consider developing a joint strategy for recruiting more youth and adults with disabilities into RA.
4. **Incorporate apprenticeships into transition planning.** The Individuals with Disabilities Education Act (IDEA) is the federal act designed to protect the rights of students with disabilities by ensuring that everyone receives an appropriate public education. IDEA requires that transition planning begins at age 16. Transition planning is a component of the Individualized Education Plan (IEP) which is mandated by IDEA. In transition planning, the IEP team, comprised of the student, educators, specialists, and parents, considers areas such as postsecondary education or vocational training, employment, independent living, and community participation. ED and DOL should work together collaboratively to ensure that information is provided regarding RA presented as a possible option during transition planning.

APPENDIX A. REFERENCES

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