

Workforce Development Solutions

**National Academy of Construction
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Executive Summary

Since 2009, the National Academy of Construction (NAC) has sponsored four National Construction Forums (NCFs) as part of its focus on improving the construction industry. The vision for holding these NCFs is to identify and promote awareness of industry issues, ultimately driving improved efficiency and effectiveness of the capital project process through integrating the efforts of key organizations. One of the first topics identified in the initial NCF was concern over the upcoming craft workforce shortage facing the construction industry.

This publication provides a history of development activities over the past five years, providing an overview of several promising initiatives. Lessons learned and techniques for enhancing workforce development are provided. A suggested path forward and immediate actions items are also outlined, including a brief outline of the establishment of the Construction Careers Alliance.

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1. INTRODUCTION

This document describes the National Academy of Construction's (NAC)¹ ongoing National Construction Forum work addressing the pressing needs of the construction industry, in particular Workforce Development Issues.

The vision of the NCF is to identify and promote awareness of industry issues, ultimately driving improved efficiency and effectiveness of the capital project process through integrating the efforts of key organizations. The NAC convenes periodic workshops and other working groups to identify major issues impeding the development and deployment of work force and capital project best practices, and facilitating the formation and execution of work streams to resolve these issues. The genesis and history of NCF is given in Appendix B. Many organizations have participated in the NCF and its focus on workforce issues since its inception and the organizations with representatives at these forums is given in Appendix C.

The Purpose of the National Construction Forum is to provide a significant national voice for the engineering, design, and construction industry to help drive positive change.

The Problem

At its 2009 National Construction Forum, the anticipated future shortage of craft workforce was identified as a critical area for study and action in order to fill a perceived deepening void.

Problem Statement:
For more than twenty years, the construction industry has recognized the emerging and growing shortages of skilled craft workers, but the broad industry-wide support needed to solve the problem has not been obtained. The issue will intensify in the coming years as the industry recovers

Since the early 1980's there has been a growing attitude that career success can only be gained through four-year college diploma. Vocational courses in high schools have all but disappeared, and the perception by many is that skilled labor is not a viable and rewarding career path. Industry is now at a critical point with growing skilled worker needs, not only in construction but in manufacturing and other areas, but without the trained people to fill the jobs. With growing unemployment in certain demographic areas, indebted college graduates who cannot find a job in their field of study, and an unjustified negative image of the construction industry in society are real problems that must be overcome. The potential of the USA taking advantage of real economic opportunities will be slowed due to lack of skilled workers, making this situation critical. Indeed, one barrier to overcoming this situation is that many people who should know we have a problem (especially politicians and business leaders) just do not understand how it affects every aspect of our society.

Several relevant questions were raised for discussion and future consideration during past NCF's. These include:

- How do we leverage what has been developed by existing workforce development programs to new programs and new regions that will face similar issues?

¹ For more information on NAC, see Appendix A.

- How do we prioritize future regions with craft workforce shortages by greatest need? After the U.S. Gulf Coast regions such as Houston, Lake Charles, and Corpus Christi, where is the next potential imbalance of construction workforce demand and supply?
- How do we better manage diversity issues? It is believed by some that there is currently some English language bias that may cause workforce development issues.
- How do we address vertical versus horizontal opportunities for construction craft employees?

Workforce development efforts are mainly local or regional in nature. NCF needs to be a proponent of the workforce development activities currently ongoing nationally, with the NAC taking a leading role in pushing for improvement through the efforts of its members.

NCF activities have addressed these issues in more depth, bringing together representatives from many organizations in pursuing this area and yielding a promising path toward addressing this issue as outlined later in this publication.

2. POTENTIAL WORKFORCE SOLUTIONS AND LESSONS LEARNED

Initiatives Studied

The NCF workforce workstream committee examined a number of work force development initiatives in order to understand the key issues surrounding workforce recruitment. This paper compares several local workforce solutions that can be replicated. In some cases, the leaders of these initiatives gave presentations and participated in the NCF meetings. The initiatives studied are listed below; brief descriptions of each and the websites for these initiatives are included in Appendix C.

1. Go Build Alabama
2. Go Build Georgia
3. Go Build Tennessee
4. Go Build America
5. Build Your Future, Build America
6. Build Your Future, Build Louisiana
7. Build Your Future, Build Indiana
8. Corpus Christi ABC
9. United Association of Journeymen and Apprentices
10. Greater Houston Partnership – Construction Citizen
11. Steel Toe Pro
12. Skills USA

Examination of these initiatives as a whole has revealed that there are a number of critical functions needed in any Workforce Development system. The tenets of these functions are given below. Table 1 gives background of the initiatives listed above in relation to these tenets.

1. **Recruitment** – Construction careers provide good wages and excellent career advancement opportunities. A good workforce development system must educate the public, and change the perception that construction is not a good place to work. Two key elements that must be addressed include: 1) construction pays very well in today's marketplace, and 2) construction careers are not dead ends, they contain pathways that can lead to high-level technical, engineering and management positions. Construction occupations are not well known. A good system must educate the public on work activities and explain jobs and the career path. In addition, the youth of today want to be involved with activities that better society. The benefits of construction to society are a great selling point.
2. **Training** – Logistics for entering training, the types of training available (task training, craft training, accredited craft training, registered apprenticeship (often done simultaneously), secondary and post-secondary resources, etc.) and the training requirements for the numerous skilled craft careers along with the pathways associated with each craft need to be portrayed. The requirements for successful career progression in each craft/career pathway should be included as well. A full inventory of educational institutions, trade schools, trade organizations and organizations that provide training must be included. In addition, "soft skills" that are common to the construction industry should be included as part of training.

3. **Placement** – A system including actual job postings is a big plus to new entrants to the construction industry. Having human resource (HR) groups cooperate in keeping these new entrants employed is imperative. Projects start and end HR professionals within the industry know this and have connections to find the next job. If a new entrant is brought into the profession, then there should be a responsibility to mentor this person until they “learn the ropes”. Hopefully there will be enough work to keep them employed at their initial job placement, but a system needs to be in place if that is not the case. One system we examined, Steel Toe Pro, has the capability to keep a data base on all local workers.
4. **Retention** – There are several elements of retaining skilled labor in the industry: 1) keep individuals gainfully employed; 2) maintain safe work sites; 3) provide competitive wages; 4) provide site amenities (nice place to eat, clean bathrooms, parking close to the work area); and above all others, treat individuals in a professional and considerate manner. Companies that are better at doing these things will be able to attract and retain a quality workforce where others may not.
5. **Advancement opportunities** – This attribute of the system is as important to recruiting new entrants into the industry as providing a description of skilled workforce duties. Skilled craft wages are good, but jobs one can grow into over a career are much more attractive. Clear description of these jobs and the pathways to get there are important, whether by experience, community/junior colleges, colleges/universities or a combination thereof. Success stories should be included. For instance, the CEO of a Construction Company can come up through the ranks with craft training and career progression. Many individuals have worked in construction and paid their way through college without ending up with a huge loan debt.

Workforce development efforts must integrate recruitment, training, placement, retention, and advancement foci to be successful in the long run.

Table 1. Tenets of Work Force Development Initiatives

	Go Build Alabama	Other Go Build Initiatives	Build Your Future	Work Force Development Programs in Corpus Christi*	UA Trade Union	Greater Houston Partnership	SteelToePro	SkillsUSA
Recruit								
- Image, Change Perception	✓	✓	✓	✓	✓	✓	✓	✓
- Wages	✓	✓	✓	✓	Reference	✓	✗	✗
- Career Path	✓	✓	✓	✗	✓	✓	✓	✗
- Education of Jobs	✓	✓	✓	✓	✓	✓	✓	✗
- Explain Social Benefit	✓	✓	✓	✗	✓	Reference	Reference	✗
- Compare to College Degree	✓	✓	✓	✗	✓	✓	✗	✗
- Targets of Recruitment	✓	✓	✓	✓	✓	Reference	✗	✗
Train								
- Training Requirements by Occupation	Reference	Reference	✓	✓	✓	Reference	Reference	✗
- Where to Train	Reference	Reference	✓	✓	✓	Reference	Reference	✗
- Soft Skills	Reference	Reference	✗	✓	✗	Reference	✗	✓
Place								
- Job Postings	Reference	Reference	✓	Reference	Reference	Reference	Reference	✗
- Local Database	✗	✗	✓	Reference	Reference	✗	✓	✗
- Human Resource Sharing	✗	✗	✓	✗	Reference	✗	✓	✗
Retain								
- Wages	✗	✗	✗	✗	Reference	✗	✗	✗
- Amenities	✗	✗	✗	✗	✗	✗	✗	✗
- Safety	✗	✗	✗	✗	✓	✗	✗	✗
- Keep Employed – Transfer / HR Sharing	✗	✗	✗	✗	✓	✗	✗	✗
- Personal Treatment	✗	✗	✗	✗	✓	✗	✗	✗
Advance								
- Advancement Opportunities	Reference	Reference	✗	✗	✓	Reference	✗	✗
- On the Job	✗	✗	✗	✓	✓	✗	Reference	✗
- Community/Junior College	Reference	Reference	✓	✗	✓	✗	Reference	✗
- College	Reference	Reference	✗	✓	✗	✗	✗	✗
- Success Stories	✓	✓	✓	✗	✓	Reference	✓	✓

*Note: four Corpus Christi Training/Resource Centers evaluated under this one heading

Legend: ✗:Not Included; ✓: Included; Reference: the effort refers to another website, rather than being integral to the effort

3. LESSONS LEARNED AND AREAS OF OPPORTUNITY

Issues driving workforce development efforts are mainly local or regional in nature. Workforce and recruitment efforts such as those identified earlier currently require grass roots organizational efforts.

Workforce development efforts are mainly local or regional in nature. Companies and associations in the industry need to be proponents of the workforce development activities currently ongoing nationally; with the NAC taking a leading role in pushing for improvement through the efforts of its members.

However, local or regional needs are always impacted on a national scale. A number of initiatives and a change in attitude will be needed to knit the regional workforce development efforts together into a national imperative; these are outlined below:

1. Although work force issues are regional and local, they are influenced by shifts and demand in other regions. The national industry needs a better sense of demand for construction craft workforce. There is currently much discussion and data developed about workforce demand in the U.S. Gulf Coast area and timing associated with that demand. A better understanding of labor resource requirements in the rest of the country is needed, as well as timing of those needs to plan for workforce development.
2. The workforce development activities of NCF and others need to be linked to the broader concept of vocational skill needs in the US because that conversation seems to be getting considerable attention recently. The idea is to provide some synergy for construction workforce development, but care should be taken to not sacrifice a focus on construction.
3. From a political context, it seems the current national discourse does not involve construction. Most discussions of job creation and workforce preparation are about advanced manufacturing, health care, information technology (IT), etc., but never about construction. Efforts should be made to include construction in these conversations.
4. The typical construction business contracting process related to workforce development is problematic. In general, the cost competitive nature of construction contract awards tends to drive contractors out of providing resources for training. If training is not addressed as a contractual requirement, then the contractor that includes training in the price to perform the work is at a disadvantage to the competition that does not include training in their price. To offset this negative influence on training, it would be helpful for owner organizations to demand the use of contractors that support workforce development.
5. NCF participants feel we are currently entering a period of higher construction craft wages coupled with lower productivity as we are required to bring in many new entrants to the construction workforce as demand climbs and retirements increase. A short term solution to meet increasing skilled craft workforce demand may be to take workers already in the industry and close the skills gap. There was discussion concerning the balance required between knowledge and experience to achieve craft competency in our industry. A way must be found to provide both to facilitate entry of future candidates into the construction workforce.
6. Technology has become an enabler of these efforts, with websites, video, social media and other outlets providing access in ways not available in the past. The caution in using technology is that these venues must be integrated and robust.

7. As noted earlier, a well-developed workforce development program will require many components to attract, train, place, retain, and advance the craft workforce. These are not trivial efforts.

4. WORKFORCE PATH FORWARD SUMMARY

The advancement of workforce development efforts currently underway is encouraging. It is imperative for organizations and key leaders to get involved in looking for solutions to this pressing problem. Any successful path forward will have to include the following.

- Link the training to real work, providing an experience basis and also an income stream for those students. Talent is needed both at the work face and supervisory levels, so programs should address training for each.
- Link manufacturing growth projections with the subsequent demand increase for construction labor, while at the same time looking at labor attrition due to demographics.
- Implement forward-looking training and close the skill gap for those who do not pass training programs the first time.
- Pay special attention to diverse and underrepresented sources of workers such as minorities, female, under-employed, and veterans. Funding for such programs are regionally specific, but could include owner's support groups, legislative appropriations, federal grants, fees paid by employers for works, and incremental hourly wage contributions among others.
- Understand the time required and importance of developing political alliances to promote these efforts. Governors and local politicians can enhance or impede these efforts.
- Link economic growth and improvement to these efforts in order to Increase political influence
- Look for Increasing and stabilized funding sources for these efforts, perhaps including hourly wage set asides, or governmental fees.
- Integrate an organization's current workforce processes and capabilities into the regional solution.
- Work hard through NAC and others to leverage and push current efforts ongoing at the regional level as outlined earlier in this report, in order to accelerate the pace of workforce improvement.

Many lessons have been learned in developing regional workforce development efforts. Each situation will be unique, but keep the issues identified above in mind as you start or revise your efforts.

Construction Careers Alliance

The Construction Careers Alliance was spun out of the NCF efforts with an initial organizational meeting in April 2016. Its mission is to foster construction as an industry of choice that speaks with a single voice and consistent messages to promote and advance careers in construction. Its effort is being spearheaded by the National Center for Construction Education and Research (NCCER) and its initial founding members include:

- American Council for Construction Education (ACCE)
- American Fuel & Petrochemical Manufacturers (AFPM)
- Associated Builders and Contractors (ABC)
- Associated General Contractors (AGC)
- Association for Career and Technical Education (ACTE)
- Construction Industry Institute (CII)
- Construction Industry Roundtable (CIRT)
- Construction Users Roundtable (CURT)
- Home Builders Institute (HBI)
- National Academy of Construction (NAC)

- NCCER
- SkillsUSA

The demand for skilled construction professionals is projected to exceed the supply well into the 2020's. Some estimates project a need for 2 million craft professionals by 2020 and construction management professionals and engineers face similar shortages. Since the early 1990's, this demand – supply imbalance has been a consistent and persistent issue facing all sectors of the construction industry including industrial, commercial, infrastructure, and residential. Projections are that the demand for skilled construction professionals will continue to increase over the next seven to 10 years. Two specific items make the challenge even greater:

- 1) The pool of available young talent from which to recruit is shrinking – Statistics tell us that, today, the percentage of the U.S. population that is under 18 is declining and the percentage of our population that is over 50 is increasing.
- 2) Competition from other industries is increasing – As the economy continues to rebound, industry specific recruiting programs are growing at a rapid rate. More than ever before, construction must compete with automotive, maritime, healthcare, aerospace, transportation, manufacturing, and many other industries that have similar demand – supply imbalances.

The Construction Careers Alliance is committed to making construction an industry of choice that speaks with a single voice and consistent messages to promote and advance the rewarding careers it provides. Considering the significant negative economic implications of an underperforming industry, the members of CCA commit their support and collaboration to ensure a skilled, sustainable and productive workforce.

Collectively, if successful, CCA will be able to leverage formidable resources in support of it's critical mission:

- Nearly 100,000 Contractors
- Over 500 Construction Users
- Over 2 Million Craft Professionals
- Nearly 800,000 Construction Students
- Over 200,000 CTE Professionals
- Over 250,000 Counselors
- Nearly 80,000 Instructors/Teachers
- Over 120 University Programs
- Over 1,000 Industry, Secondary and Postsecondary Training Programs
- Nearly 10,000 Training Locations

The time to get engaged in workforce development efforts is now, whether regionally or nationally.

Appendix A – National Academy of Construction

National Academy of Construction Mission

The National Academy of Construction's mission is to share our unmatched reservoir of expertise in service to the nation, in a way that we:

1. are recognized as the industry's honest broker
2. honor individuals and organizations for leadership in and contributions to our industry

So that transformational improvements are made in the industry's capability to create a built environment that is economically, environmentally and socially sustainable

National Academy of Construction Goals and Key Intents

NAC has the following Goals and Key Intents:

- Recognize and honor individuals
- Establish and sustain a collegial environment among members and spouses
- Share our collective body of knowledge by providing:
 - Experts to nationally significant initiatives and projects
 - Information on topics of major importance
 - Creative, unifying leadership
- Sustain and grow the Academy

For more information, see <http://www.naocon.org/>

Appendix B – Genesis and History of NCF

The creation of the forum was first discussed within NAC in 2007. A core steering team was formed and met periodically over a two-year period to plan the effort. The consensus on the forum's vision and mission was that it should identify the most important issues facing the national engineering, design, and construction (EDC) industry (owners, contractors, financiers) and leverage the synergy that exists within the industry to tackle these issues. The intent is to do this without asking any single group to change what it does. Rather, the NAC would like to act as a neutral broker to help the industry as a whole leverage what each group does. In this way, the NCF can emerge as an industry voice. The purpose is to be the national voice (which is currently missing), to integrate efforts, to reduce redundancy, and to drive improved efficiency and effectiveness. During the course of the steering committee meetings, the design for the inaugural NCF workshop was developed, including the meeting process, forum vision and mission, and meeting agenda.

The 105 members of the NAC met at its annual conference in late October of 2009 and discussed the forum; the membership was enthusiastic about its chance to change the industry. They were honored to be able to facilitate NCF meetings since the forum is comprised of so many remarkable individuals from all parts of the industry. There is no NAC staff to do this work, only volunteers stepping up to make it a reality. The number of people attending made the inaugural meeting interesting and exciting.

The first National Construction Forum was held on November 1 and 2, 2009. Twenty-seven participants represented 15 national EDC organizations, also included owners, designers, contractors and academics in total representing 25 employers. The results were published in NAC Publication 2010-1. Highlights of the meeting included alignment and consensus that the NCF is a good idea and NAC is an excellent organization to serve as a neutral broker in this effort. The meeting produced a list of issues that need to be addressed collectively as an industry and a path forward, including an "evergreening" process. Subsequently, a Leadership Team was formed and met in September 2010 in Houston, TX. Four consensus work streams were pared to three and actions assigned to move the process forward.

The Second NCF was planned and conducted in November 2011 again in Washington DC. Detailed workstream plans were developed for the three workstreams (Industry image, Workforce, and Best Practices) and action plans developed. The results of this NCF are detailed in NAC Publication 2012-1. In the intervening time, these action teams have continued to work issues leading up to the Third NCF, which was held on December 10 and 11, 2013, in Washington, DC. The results of this NCF are detailed in NAC Publication 2014-1. In May 2015, the Fourth NCF was held to focus on taking a close look at impacts of activities to date and driving positive outcomes in the near future and its findings are outlined in NAC Publication 2015-1.

Appendix C. Organizations That Have Participated in Past Forums

Air Products	Go Build America
Arizona State University (ASU)	George Mason University (GMU)
Associated Builders & Constructors (ABC)	Hargrove E&C
Associated General Contractors of America (AGC)	Iron Workers Union
American Society of Civil Engineers (ASCE)	KBR
American Fuel & Petrochemical Manufacturers (AFPM)	Mustang
American Subcontractors Association (ASA)	NAC Design Team
AOC (Architect of the Capitol)	National Academy of Construction (NAC)
Barton Malow	National Center for Construction Education and Research (NCCER)
Board on Infrastructure and the Constructed Environment (BICE)	National Institute of Standards & Technology (NIST)
Building & Construction Trades Dpt. AFL-CIO (BCTD)	New York Building Congress
Carnegie Mellon University (CMU)	North Carolina State University (NCSU)
Catholic University of America (CUA)	Society of American Military Engineers (SAME)
Construction Industry Institute (CII)	Southern Company
Construction Industry Round Table (CIRT)	S&B Engineers and Constructors
Construction Management Association of America (CMAA)	STV Inc.
Construction Users Round Table (CURT)	Texas A&M University (TAMU)
Construct - X	The Haskell Co.
CSA Group	The National Academies
Design-Build Institute of America (DBIA)	The TJC Group
Du Pont	University of Houston
Dawson & Associates	University of Southern California (USC)
Engineering & Construction Contracting Association (ECC)	University of Texas at Austin (UTA)
Engineering News-Record (ENR)	University of Wisconsin-Madison (UWM)
ExxonMobil	USACE
Fully Integrated and Automated Project Processes (FIATECH)	Virginia Tech (VT)
Fluor Corp.	Zachary

Appendix D. Work Force Development Initiatives

Go Build Initiatives

Go Build Alabama

Go Build Alabama was the first of the Go Build initiatives that started as a pilot program in 2010 to educate young people on the value of learning a trade. The success of the program led to implementation of Go Build programs in others states including Georgia and Tennessee. Go Build continues to work with a variety of states throughout the United States to launch and implement Go Build. The Go Build Alabama section above provides core initiative details common to the other states however each state tailors every component of the campaign to the unique needs of industry, students and educators in that state.

Website: <http://gobuildalabama.com/>

Facebook: <https://www.facebook.com/gobuildalabama/>

Go Build Georgia

Georgia was the second state to launch the Go Build program in 2012 under the direction of the Georgia Department of Economic Development's Workforce division. The Go Build Georgia Foundation is the private arm of the public/private partnership of the Go Build Georgia program. The Foundation was established to support the Go Build Georgia program by rolling out an educational campaign using television, print, online, social media outlets and promotional events. The Foundation Board in comprised of leadership from private industry companies with significant operations in the State of Georgia that directly or indirectly employ those in the skilled trades.

In Georgia, Go Build features additional construction related occupations in the fields of manufacturing and IT. Additional trade videos and commercials were created to reflect the additional occupations. Go Build Georgia has an aggressive statewide grassroots effort and recently rolled out a scholarship and grant program awarding tuition funding to students pursuing careers in construction related career technical education. In general, Go Build Georgia's operational platform is similar to Go Build Alabama in regards to recruitment, training and placement opportunities.

Website: [Go Build Georgia website: gobuildgeorgia.com](http://gobuildgeorgia.com)

Go Build Tennessee

Tennessee was the third state to start a Go Build program. Go Build Tennessee was enacted through legislation passed in 2015 with industry support from the Associated Builders and Contractors, the Associated General Contractors, the Home Builders Association, and the Tennessee Road Builders Association. The program is administered by a 501(c)(3) nonprofit comprised of representatives from commercial, industrial, residential, and road building contractors and subcontractors. The program is funded by excess revenue collected by the Board of Licensing Contractors from fees for applications, renewals and fines.

Go Build Tennessee launched in May of 2016 with the most aggressive and robust program launch to date. In a press conference event featuring Gov. Haslam, industry leaders announced the launch of the multi-year Go Build Tennessee effort that coincided with a massive statewide media rollout, online business journal homepage advertising takeovers, social media campaigns and more. Like the Alabama and Georgia Go Build initiatives, Go Build Tennessee was tailored specifically, to the needs of the state including the development of additional trade profiles assets for road construction related occupations. In general, Go Build Tennessee's operational platform is similar to Go Build Alabama in regards to recruitment, training and placement opportunities. See website location below:

Website: [Go Build Tennessee website: gobuildtennessee.com](http://gobuildtennessee.com)

Facebook: [Go Build Tennessee Facebook presence: facebook.com/gobuildtennessee](https://facebook.com/gobuildtennessee)

GoBuildAmerica.com

GoBuildAmerica.com is the website for Go Build, the 501(c)(3) nonprofit organization that licenses the Go Build program and intellectual property to each of the state partners. Go Build is administered by a board comprised of Bob Woods (CEO/President, Go Build), Steve Sandherr (CEO, Associated General Contractors of America) and Mike Bellaman (President/CEO, Associated Builders and Contractors).

The program has received endorsements from the United States Department of Labor, National ABC, AGC, CURT, CII, and the Trimmer Foundation organizations.

Website: [Go Build website: gobuildamerica.com](http://gobuildamerica.com)

Facebook: [Go Build Facebook presence: facebook.com/gobuild](https://facebook.com/gobuild)

Build Your Future Initiatives

History

The Build Your Future (BYF) campaign started in 1997 at NCCER's Board of Trustees meeting in Nashville, TN where members discussed the immediate need for industry recruitment and image enhancement. The decision to begin BYF started with a successful teleconference called Careers in Construction, and fourteen state governors declared October 15, 1998 as Careers in Construction Day. The satellite broadcast reached 300,000 students, 3,750 schools and made its mark in the industry. From that point forward, BYF began producing promotional materials and videos that focused on educating America about the career opportunities available in the construction industry. It is estimated that over 20 million students have viewed the BYF career awareness videos since the program began.

In 2010, NCCER saw the need to develop Build Your Future (BYF) into a full initiative that would do more than produce marketing materials. So in 2011, Build Your Future expanded and set three goals: make career and technical education a priority in secondary schools, shift the public's perception about careers in the construction industry and provide a path from ambition, to training, to job placement for craft professionals. This national initiative has seen great success due to its comprehensive approach that includes recruitment resources, training

programs and placement opportunities. Over the past 19 years, millions of people have benefited from the BYF resources.

Website : <http://byf.org>

Facebook : <https://www.facebook.com/BYFcampaign/>

Twitter : <https://twitter.com/BuildYourFuture>

Build Your Future, Build Louisiana

2015 marked the fourth year of the Louisiana Workforce Commission and NCCER's BYF partnership for construction recruitment and image enhancement in the state of Louisiana. Since the [*Build Your Future/Build Louisiana*](#) initiative began in 2011, NCCER training module completions have increased by approximately 94 percent throughout the state. Additionally, NCCER training level completions within the Louisiana Community and Technical College System have risen by an astounding 145 percent.

"Our employers have long recognized the value of NCCER's programming and credentials and have helped spread their adoption throughout the state," said Curt Eysink, executive director of the Louisiana Workforce Commission. "The customized marketing materials created by BYF have helped us develop outreach strategies that continue to be effective."

Website : <http://louisiana.byf.org/>

Build Your Future, Build Indiana

In late 2015, BYF and the Indiana Construction Roundtable Foundation started a partnership. Since *Build Your Future, Build Indiana* was created, 1.1 million people viewed the three TV commercials that BYF customized for the partnership. In addition, a Build Your Future Indiana magazine was published featuring craft professional profiles, salaries and training center locations. As a result, the partnership has already met its initial goal of reaching 20,000 individuals by June 2016. More than 1,000 high schools were sent customized Build Your Future Indiana material and an ambassador program was developed for skilled craft professionals to visit local high schools and present Build Your Future Indiana's mission to students, discuss the value of construction careers, share their personal stories and provide guidance.

"The partnership between Build Your Future and the Indiana Construction Roundtable Foundation is yielding great results in Indiana," said Ali Brown, executive director of the Indiana Construction Roundtable Foundation. "We are able to meet a need in the construction industry by connecting schools with student-friendly promotional materials and industry ambassadors. The results so far have been amazing, and we are only getting started."

Website : <http://indiana.byf.org/>

Work force Development Programs In Corpus Christi, Texas

History

In the Corpus Christi and the Texas Coastal Bend area, there are four major organizations whose combined efforts in training, employment services and career planning provides resources for new job seekers, craft professionals, those exploring a career change and employers alike. Together they provide workforce development programs that enrich the industrial and commercial industries that they serve. The four programs are the Craft Training Center of the Coastal Bend, Coastal Compass Education & Career Resource Center, Contractors Safety Council of the Coastal Bend and Workforce Solutions of the Coastal Bend.

Craft Training Center of the Coastal Bend

The Associated Builders and Contractors (ABC) Merit Shop Training Program, Inc., doing business as the Craft Training Center of the Coastal Bend (CTCCB) strives to meet the shared manpower needs of the Community, Business, and Industry by providing an education in six (6) crafts within the construction industry. The goal of the CTCCB is to develop craft professionals who are drug free, experienced and capable to work to the highest professional standards. They offer training in welding, pipefitting, instrument fitting, instrument tech, industrial painting, scaffold building, mobile crane operations, and field safety/safety technology. The center also provides industry assessments in all craft areas including an NCCER Accredited Crane Performance Center and Rigger/Signal Person Performance Center. Each year between 150 and 175 students graduate from the Craft Training Center of the Coastal Bend. Follow-up statistics confirmed by Workforce Solutions of the Coastal Bend reflect that 95 percent of graduates are employed in their respective craft within two to three months of graduation.

Website: <http://www.ctccb.org/>

Coastal Compass Education & Career Resource Center

Coastal Compass Education & Career Resource Center is affiliated with The Craft Training Center of the Coastal Bend and Workforce Solutions of the Coastal Bend. Coastal Compass is a non-profit organization that assists with financial aid, admissions, resume writing and job placement. All services are free of charge.

Website: <http://www.coastalcompass.org/>.

Contractors Safety Council of the Coastal Bend

Contractors Safety Council of the Coastal Bend, Inc. (CSCCB) is a non-profit training and education organization located in Corpus Christi, Texas. CSCCB delivers safety training and site specific job safety orientations to contractors, as well as employees of the local Refining and Chemical plants.

Roots of the organization are firmly entrenched in the Petro-Chemical and refining Industry. With cutting edge technology, CSCCB also responds to the challenge of other industries by applying its acquired regulatory and compliance expertise in training. Included are Specialty Courses, Site Specific Courses and New Hire Orientations.

Website: <http://www.csccb.org/>.

Workforce Solutions of the Coastal Bend

Workforce Solutions of the Coastal Bend (WSCB) invests in regional economic success through access to jobs, training, and employer services. Workforce Solutions of the Coastal Bend is a non-profit organization and one of 28 local workforce boards located throughout the State of Texas.

WSCB provides business services to provide a qualified pool of potential employees ready for work. Career centers provide access to an array of programs and services to place people in the right job.

Website: www.workforcesolutionscb.org

United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada (UA)

History

Starting from 40 delegates representing 23 independent unions in 10 states and the District of Columbia, the United Association has grown to a union that represents over 370,000 members in more than 300 local unions throughout the United States and Canada, as well as affiliates in Australia and Ireland. The UA is part of the Building and Construction Trades Department of the AFL-CIO. (Taken from the website at <http://www.ua.org/history>).

Website : <http://www.ua.org/>.

Greater Houston Partnership's - UpSkill Houston

History

The Partnership's UpSkill Houston initiative is the nation's first business-led, community-wide, integrated workforce effort. The initiative focuses on closing the skills gap in Houston by increasing the number of Houstonians trained for great careers across the region. The Partnership forecasts nearly 75,000 annual jobs openings in these "middle skills" careers that require more than a high school education but less than a four-year college degree". The above paragraph is a quote from the UpSkill Houston website.

website: <https://www.houston.org/upskillhouston>

STEELTOEPRO.com

Purpose of Organization

Today's construction craft professional finds a job in one of the following four ways:

1. He or she is transferred by current employer to another job.
2. He or she has a friend who is connected to an employer and is able to arrange an interview or an assignment.
3. The construction craft professional logs onto a jobs service or to each potential employer's website and search for job opportunities, fill out an electronic application and wait.
4. The construction craft professional must physically visit the hiring office of each potential employer, waiting in line for confirmation that an opportunity is available, and then completing an interview and if selected will begin a pre-employment testing and validation process.

STEELTOEPRO.com is envisioned to become the “**LinkedIn**” for the construction craft professional. Its mission is to facilitate connecting construction craft professionals with potential employers as simply and efficiently as possible. This internet site began operation in the second quarter of 2016 and is currently undergoing BETA testing.

website: <http://steeltoepro.com>

SkillsUSA

SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. We provide educational programs, events and competitions that support career and technical education (CTE) in the nation's classrooms.

Website: <http://www.SkillsUSA.org>.

Appendix D: Contacts for Gaining Additional Information

Reports from the 2009 (NAC Publication 2010-1), 2011 (NAC Publication 2012-1), 2013 (NAC Publication 2014-1), and 2015 (NAC Publication 2015-1) Forums can be obtained by contacting any of the following individuals:

*G. Edward Gibson, Jr., Arizona State University; edd.gibson@asu.edu

*James G. Slaughter, Jr.; S&B Engineers and Constructors, LTD; jgslaughterjr@sbec.com

James Porter, Consultant, DuPont, Retired; porterjb@comcast.net

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