

CONSTRUCTION

The NEXT Generation

By Peter Eisenhauer

Bringing in the next generation of construction industry professionals is an indispensable factor in workforce development. There are many ways to attract, interest and educate students about careers related to construction. There are also many opportunities for professionals to get involved. Here is a brief survey of some of the programs that have been developed and are ongoing in recent years. We are also including links for further information about these and other programs.

A lot of what goes on nationwide has roots in the "Construction Career Days" project that began in Texas about 15 years ago. Humberto Martinez worked for many years in Fort Worth, Texas, as the Assistant Director of Professional Development for the Federal Highway Administration. In 1999, he was part of a small circle of construction industry leaders who were discussing the problems of workforce recruitment, retention and development at a time when there were 2,000 unfilled construction jobs in the local area. They took action by reaching out to area schools and initiating the first Career Construction Day. Making the event very much a hands-on activity, they gave 1300 students in the

retention and development, and a veteran of the road-building industry. Over the years, he has set up Construction Career Day programs all over the eastern seaboard and is now based at the University of Rhode Island Transportation Center (URITC) as the Director of Technology Transfer and Outreach. URITC is a hub of workforce development activity that has grown from the experience with Construction Career Days.

URITC has developed a series of summer programs for middle school and high school students that feature the same emphasis in hands-on activities and connections with working professionals.



One of these programs is the Construction Academy, a one-week summer program for high school juniors, seniors



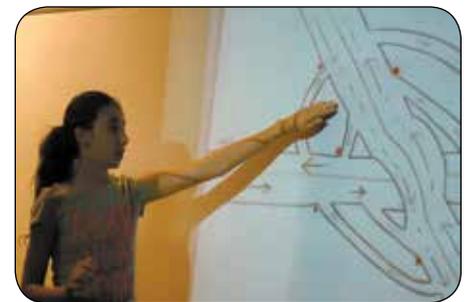
time Freight. For middle school students, there is a two week Transportation Institute that exposes students to highway and bridge design, construction and maintenance of roads, transportation of people and cargo, laws, regulations, safety and career opportunities. The program also includes field trips, computer training and student projects.

Cathcart's experience has shown him the value of building enthusiasm for the trades in the education community.

"Having educators that are passionate about it makes a great impact," he said. "Teachers who have a real feeling for the career possibilities and can relate that in personal terms to students they know can provide a powerful influence."

To encourage that process, URITC has developed a program of teacher externships that give selected middle and high school teachers 40 hours of time shadowing industry professionals and then integrate what they learned into their lesson plans. The teachers come from a variety of subject areas. This year for example, the program is sponsoring a math teacher who was paired with a welding contractor doing testing on bridges. A history teacher is learning about the work of the historic preservation unit of the state transportation department. Teacher experiences with surveyors and safety professionals will also find their way into future lesson plans. The experience gives teachers real life examples of how science, math, technical and communication skills are applied in the real work. It also expands their awareness about career possibilities, which they can pass on to their students.

Meanwhile, back in Texas, one advocate for increased industry outreach to students is Tim Newton, President of the American Society of Civil Engineers (ASCE) Texas Section. Newton, who is also Transportation Market Leader, Gulf Coast for KBR, says that student outreach has been part of ASCE's activities since it was founded in 1913. But with a looming shortage of skilled professionals and the decline of science, technology, engineering and math (STEM) preparation among U.S. students in recent decades, the outreach is "more critical than ever



before." Eight of the 15 ASCE branches participate in STEM outreach already and Newton just set up a new task force for STEM outreach to create more focus on the issue at a state level. Newton says the ASCE Texas Section is also stepping up their relations with student chapters.

Getting Involved

There are many ways to get involved in the process of encouraging the next generation of construction professionals.

NCCER's Build Your Future initiative promotes construction careers through a variety of programs. Tools and resources are available at byf.org.

One upcoming initiative is the Careers in Construction Month, which takes place in October. Visit byf.org/events/careers-in-construction-month-october-2014 for more information.

Opportunities and resources for mentoring students interested in Architecture, Construction and Engineering program are here: ACE (acementor.org)

Information on opportunities to work with ASCE programs is here: ASCE (tex-asce.org)

There are further resources at asce.org/outreach

SkillsUSA is a partnership of students, teachers and industry working together to ensure America has a skilled workforce. SkillsUSA helps each student excel. Information about the Texas branch of the organization can be found at skillsusatx.org.

URITC sponsors a variety of programs designed to recruit the transportation workforce of tomorrow by introducing career options to middle school, high school and college students by providing early exposure to transportation career options. More information can be found at uri.edu/uritic/workforce_development

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**Jeff Cathcart
J. Cathcart, Incorporated**

Dallas/Fort Worth area the opportunity over four days to handle machinery, solve some problems, and get first-hand knowledge from working construction professionals about what they loved about their work. Educators were excited about the program and spread the word. By 2012, that program was in 46 states and had reached 500,000 students.

One of the exponents of this outreach was Jeff Cathcart, with J. Cathcart, Incorporated, a consulting firm focusing on providing and delivering strategies for construction workforce recruitment,



and recent high school graduates. The curriculum includes the OSHA 10-Hour certification, flag person certification, work zone safety, hands on activities at the Operating Engineers Center, blue print reading, estimating, construction math, surveying and layout, and starting your own construction business. On the last day, students hear from various companies about the interview process and what employers look for in an employee. Union representatives also talk to them about what it takes to become a member. Cathcart notes that communication skills are an important part of the student programs. Students are required to journal and have presentation projects. An example is an exercise in which participants redesign a dangerous intersection and then make a presentation to their peers about it. This helps the students understand the importance of communication skills on the job.

Other summer programs at the high school level include a Business Academy, Engineering, Green Design, and Mari-