

# Identify Train Place

A playbook to build tomorrow's  
highway construction workforce



U.S. Department of Transportation  
**Federal Highway Administration**

# **RoadsToYourFuture**

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## Contents

Introduction .....	3
The Highway Construction Workforce Pilot .....	4
About This Playbook.....	6
Play 1: Let Industry Quarterback Your Team.....	7
Play 2: Organize Your Players for Success.....	8
Play 3: Focus on Fundamentals .....	12
Play 4: Communicate the Value of Highway Construction Careers .....	14
Play 5: Find and Fill the Small Cracks.....	17
Play 6: Bring Community Colleges Into the Game.....	20
Play 7: Start With Proven Strategies.....	21
Play 8: Keep Your Eye on the Ball.....	22
Post-Game Takeaways .....	24
Play Summary .....	26
Acronym List.....	27





Source: FHWA

## Introduction

**America depends on the highway system. The highway system depends on qualified workers.**

Roads and bridges are in need of repair. There is also a growing shortage of highway construction workers to make those repairs and other improvements critical to the highway system. A 2019 survey conducted by the Associated General Contractors of America found that construction firms across the country are struggling to fill open positions.

Eighty percent of those surveyed indicated they have difficulty filling jobs in occupations that are essential to highway construction and include heavy equipment operators, cement masons, and iron workers, among others.

There is a consensus in the highway community that something needs to be done to address the workforce problem. The U.S. economy and its citizens depend on an efficient, effective, and safe highway system. Without a skilled workforce, safe travel, economic development, and taxpayer return on investment are compromised.

## From Part-time Restaurant Worker to Heavy Equipment Operator

Francisco “Frank” De La Torre was looking for a new opportunity.

“I was working at a restaurant,” Frank said. “It was bad hours and low pay, so I wanted to try something new.”

He saw a sign-up sheet for a highway construction training program at a local Workforce Development Center. He signed his name and received a call from a program representative the next day.

Frank completed the training through [ARIZONA@WORK](#), a part of the American Job Center network. Now he is a heavy equipment operator, driving scrapers, dump trucks, and other machinery at job sites throughout Arizona.

“The training really changed my life,” Frank said. “Now I’m doing something that is really cool. I don’t know what I would be doing if I didn’t do this.”



Source: Rummel Construction



## The Highway Construction Workforce Pilot (HCWP)

To help build the workforce needed to make transportation improvements, the U.S. Department of Labor (USDOL), Employment and Training Administration (ETA), the U.S. Department of Transportation (DOT), Federal Highway Administration (FHWA), the American Association of State Highway and Transportation Officials (AASHTO), the Associated General Contractors of America (AGC), and American Road & Transportation Builders Association (ARTBA) designed a Pilot Program to provide for partnerships between the highway community and the public workforce system to identify, train, and place individuals in highway construction jobs.

The national partners selected 12 locations to participate in the Pilot Program: six cities: Atlanta, Pittsburgh, Dallas, St. Louis, Denver, and Los Angeles; and six states: Rhode Island, Connecticut, Alabama, South Dakota, Arizona, and Idaho. Each location established a Working Group composed of industry, workforce system representatives, and other partners that worked together to identify and implement successful workforce practices and programs.

Several factors were considered in choosing locations, including workforce data, union and non-union operations, urban and rural areas, existing relationships between state/local association member organizations and state/local Workforce Development Boards (WDBs), and connections to workforce development projects already underway.

Stakeholders in the pilot locations worked throughout the two-year Pilot to identify successful strategies. This playbook provides an opportunity to learn from their experiences and use that knowledge to more effectively address pressing highway workforce development issues.

*“This has been wonderful. It brings everyone together. Each group has a piece to this puzzle to get people into jobs where they can support themselves and their families.”*

*- Lisa Neie (ret), FHWA*





Source: Fotosearch

## About This Playbook

Teams need a playbook for success on the field. This Playbook was developed to do the same for the highway and public workforce system partners. The Playbook is specific to the HCWP Pilot and provides a concise set of approaches. Eight “Plays” are included to help the partners form a Working Group that is organized and equipped to identify, train, and place individuals into highway construction jobs and start them on rewarding careers.

The playbook includes:

- Best practices for organizing state, local, and tribal stakeholders
- Success stories from the pilot locations
- Game-ready programs that can be implemented immediately and other resources to assist the Working Groups
- Observations about issues the Pilot Working Groups faced in identifying, training, and placing workers in highway construction jobs



## How to Use the Plays

The plays that follow provide helpful tips and guiding principles, not strict rules. Like any list of strategies, they are not all-inclusive, nor will all be relevant to a location's specific needs. The knowledge and expertise they provide can be used in part or in whole, in any combination, and in any order.

The Playbook represents many experiences, some shared from multiple locations across the country. It is likely that some of the challenges they address will to be familiar to your location's situation.

## It's Okay to Call Audibles

When using this Playbook, feel free to change up the plays to suit local needs. This pilot did not solve every problem in the highway construction workforce system. It was a first step, and there are still many open questions.

As the plays are executed and new ones are developed, the Working Groups are encouraged to share their experiences with the HCWP community. The FHWA Center for Transportation Workforce Development, on behalf of the HCWP National Partners and all program participants, has established the "Roads to Your Future" website as an important communication tool for the HCWP program. The website link is: [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/).

You are encouraged to send any comments, questions, or program updates to the Roads to Your Future email at: [RoadsToYourFuture@dot.gov](mailto:RoadsToYourFuture@dot.gov). By adding your experiences and expertise to the knowledge base including information about successful strategies and program updates, you will help others be successful in their HCWP programs as others have shared their experiences in the Playbook to help you. And you will know that you played a role in helping to institutionalize successful highway construction workforce practices throughout the United States.

FHWA has also developed outreach materials, positive messaging, and a social media hashtag—#RoadsToYourFuture—for your use. This way, we can keep up with each other and build on our collective efforts. The outreach materials can be downloaded for free from the "Engage" tab on the Roads to Your Future website at: [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/).

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Share your experiences by using **#RoadsToYourFuture** on social media!

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## Play 1: Let Industry Quarterback Your Team

The most successful pilot locations put industry and trade groups in the lead to explain the needs of the highway construction industry at the ground level—job positions, required skills, and core competencies. Some government programs could be tailored to meet those needs or new programs or partnerships could be formed to meet the need.

Construction firms have the best sense of the skills and number of workers needed to fulfill project requirements. Participation of individual firms in the HCWP workforce development effort is critical to success. They bring direct knowledge from the frontlines to the Working Group.

**TIP:** Participation of individual construction firms in your efforts is invaluable.

Defining a lead role for industry in your Working Group also helps align your other partners towards more meaningful outcomes, bringing greater focus and accountability to your team. Many of the critical lessons learned from the pilot locations result from aligning stakeholders from government, education, and the community to directly address the needs of local construction firms.

## AGC Leads the Way in the Arizona Pilot

Arizona faces many of the same highway construction workforce challenges that others do—lack of qualified candidates, low retention rates, and worker transportation issues. The Arizona AGC chapter leads the effort because it was better connected to individual construction firms and could help direct the effort toward practical solutions.

“Having AGC leading the pilot group was the key to our success because that brought industry to the table,” said Lisa Neie (ret), the FHWA representative for the Arizona pilot. “We’ve had engagement from all sectors and they brought ideas that we probably would not have thought of otherwise.”

Neie said that full engagement set the stage for their activities to continue beyond the pilot time frame.

“Everyone’s invested and everyone works at it,” she said. “I don’t see people at the end of this pilot saying, ‘Okay, we have this process. Now we’re moving on.’ I see it continuing and growing.”

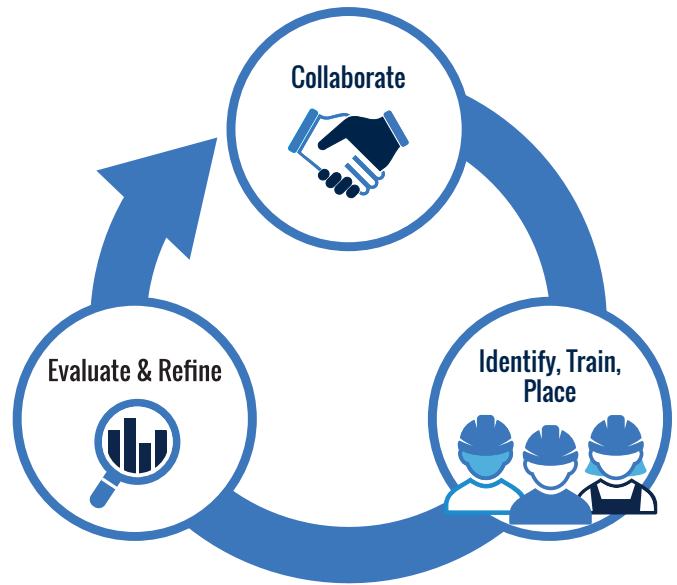
## Play 2: Organize Your Players for Success

### Working Group Organization

The most successful pilot Working Groups had the deepest bench, with all important players in transportation workforce development and the workforce system represented on the team.

This includes the highway construction industry, the Federal government (FHWA and USDOL ETA), State DOTs, tribal agencies, WDBs, other state, city and local government agencies, community colleges, and local community groups, among others.

The WDBs have Job Centers that provide important services to identify, train, and place individuals into jobs. The Job Centers can be a great asset to the HCWP. The USDOL ETA also supports 123 Jobs Corp programs throughout the United States that focus on at-risk youth, ages 18 to 24. Job Corp Programs should also be considered when developing an HCWP program. For more information, see: <https://www.jobcorps.gov/>.



Collaborative partnerships require structure with consistent communication and coordination. All partners need to know the functions and goals of each collaborating agency or organization. When reaching out to potential partners to form a Working Group, recruit as far and wide as possible. Ask the primary partners to identify others who should be included—anyone who can bring the skills and expertise necessary to bring new ideas to the table should be encouraged to participate. Having a broad coalition of partners will help provide for an effective and efficient HCWP.

See the Roads To Your Future website “State and Local Contacts” tab for U.S. maps listing by state of contacts for the State Workforce Boards, Job Centers, Job Corp Centers, Apprenticeship Offices, and State Labor/Workforce Departments.

The tab also has listings, by state for the AGC and ARTBA Chapters, and the FHWA Divisions. The FHWA Division will know the contacts for the State DOTs. Many State DOTs have thousands of employees and varying organization units. The FHWA Divisions will know the right individuals to contact at the State DOTs.

For programs that also want to include outreach to high schools, “Advance CTE” is an organization that represents Career Technical Education (CTE) programs for each of the 50 State Departments of Education. Their website provides good information about CTE programs nationally and for each state. The Advance Career website is: <https://careertech.org/>.

For information about the CTE program in your state, go to: <https://careertech.org/cte-your-state> and click the state of interest on the U.S. map.

**TIP:** Commit to frank discussion and honest appraisal of successes and failures.

The Associated Contractors of South Dakota as a key HCWP Working Group partner has developed a very good highway construction outreach and education program for high schools. South Dakota AGC has other workforce programs of interest. See their programs at: <http://www.buildsouthdakota.com/>.



## Learn From Each Other

The highway and public workforce system, and other partners will, for the most part, be new to each other, but through good communication and coordination, each will see their role in the program and that they can make an important contribution to the HCWP and highway workforce development.

Take some time in the early going for the Working Group members to explain what they do and how they do it. They should also describe why working with the HCWP is important to their organization. Understanding what the key players do took some time in the Pilot locations, but provided for a good foundation on which to build.

## Develop a Charter

An operating charter is a best practice for collaborative partnerships. Charters can identify partnership organizational structure and provide avenues for communication, dissent, and conflict resolution. This Charter will clarify the process of aligning strategies and developing collective outcomes.

## Identify a Facilitator

The HCWP is very much a partnership activity with highway, workforce system, and other key players coming together to identify, train, and place individuals into highway construction careers. But there needs to be a lead. That person whom others can look to set the meetings, lead the discussion, and generally facilitate the process. A facilitator can help ensure efficiency, provide for less wasted effort, and greater communication and accountability among the partners, which in turn leads to improved program outcomes.

While HCWP is focused on highway industry workforce development, the facilitator does not have to necessarily be an industry representative. That is not to say that the facilitator has to do it all. A good approach is to have some division of labor: the facilitator, a notetaker, and any other administrative support that will help ensure good communication and coordination for the Working Group.

The HCWP National Partners were careful not to be too prescriptive in working with the Pilot locations to organize their programs. They made it a point not to identify or even suggest a particular organization or individual to serve as a facilitator. That decision was better left to the Working Groups. There were a variety of facilitators or leads for the Pilot location Working Groups. In some locations, it was an industry organization representative. In others, the State DOT, and still others the FHWA Division or Workforce Board.

The variation in facilitators is an indication of the strength of the Working Group participants and their varied roles, responsibilities, and organization focus. A benefit to the HCWP program planning, development, and implementation is the diversity of the Working Group participants organizations and what they bring to the table.

## Use Shared Platforms for Communication

Shared technology offers better alignment among partners; for more effective communication and coordination, it is best to use a platform common to all parties. If operating on different platforms, the databases should be able to communicate with each other. There is less possibility that tasks are duplicated or compartmentalized. Overall, shared metrics and database access increase accountability.

## Jointly Develop Work Plans/SOWs/MOUs

All stakeholders—labor, training and education, industry, workforce development and community-based nonprofit organizations, and other partners should develop Work Plans, memoranda of understanding (MOUs) and statements of work jointly so that there is a clear understanding of roles and responsibilities of the partner groups. The Working Group should also jointly agree upon key performance indicators.

## Introduce Workforce Language in Contracts and MOUs

Introduce workforce language in contracts, after negotiation, to make training and hiring intentional, targeted, and with mutually agreed upon outcomes. Examples include metrics of number or percentage of hires expected after a career exploration/job hiring event or completion of a training program.

## Identify, Train, Place

There is a tendency in any far-ranging activity like this for each group to focus only on its area of expertise or “silo.” This tunnel vision can lead to efforts being done piecemeal and some important elements being left out. For instance, there may be quality training available in your area, but if there are no mechanisms for identifying quality candidates, the training will be underutilized. The Working Group must represent and address all three steps in the workforce development process: identify, train, and place.

## Evaluate and Refine

The HCWP will be new to the partner groups and so too will be the HCWP program that is planned and implemented. It is important for the Working Group to build into their planning time an opportunity to evaluate activities regularly, then refine the processes to incorporate what was learned and what should be changed.

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**TIP: Commit to frank discussion and honest appraisal of successes and failures.**

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A common theme from the Pilot participants was, “We want to know what others are doing,” and “We don’t want to reinvent the wheel.” The FHWA Center for Transportation Workforce Development, working with key partner organizations from the Pilot locations, provides HCWP webinars periodically about programs and activities that worked for the Pilots and what they learned from their experiences. A schedule of upcoming webinars and recordings for past webinars is available on the Roads to Your Future website. See the “Webinars” and “Future Webinars” tabs on the website.

## Improve With Experience

Solving the highway construction worker problem will not be a quick hit, one-off effort. Continuing baby boomer retirements, other turnovers, new projects, new technologies, and better ways of doing things in the highway industry will continue to make workforce development a priority for government and industry. Working Groups should be organized for the long term. Set expectations within the group so that members know they are committing to continuing cycles of collaboration, worker training, placement, and program evaluation.

The good news is that, like anything, we get better with practice. Experience counts for a lot, and you have the benefit of the Pilot location experiences. Build on those experiences and tailor the program to the state and local needs for success. The HCWP and the HCWP Working Groups have the opportunity to institutionalize effective workforce development policies and programs throughout the United States.



## L.A.'s Diverse Team and Deep Bench Build Career Pathways

To tackle their construction workforce problems, stakeholders in Los Angeles developed a streamlined process that transitions interested candidates into certified construction workers.

It starts with outreach. The South Bay Workforce Investment Board Job Center or “One Stop” developed a Construction Utilities Pathway Program that conducts information sessions for potential workers every other Friday afternoon. Sessions are alternated between those with little or no skills, and more experienced workers that are unemployed or want to improve their skill levels for a better job. The sessions build a potential local talent pool for local construction projects. The Center also provides counseling to address issues specific to that individual (e.g., child care, transportation, remedial learning, drug and alcohol rehabilitation).

Additional help for candidates interested in further pursuing career opportunities is provided by the California Department of Transportation for pathway counseling and access to training through a pre-apprenticeship program called the Multi-Craft Core Curriculum.

Coastline Community College also provides potential workers with nationally accredited training specific to construction, including the the Occupational Safety and Health Administration (OSHA) 30-hour Construction course, 7405-Fall Protection Awareness, and 7300 defined Space Awareness, among other trainings. The college even works with unions and firms to provide participants with tools and uniforms for the job.

The most successful pilot working groups used this kind of integrated approach—bringing everyone together and then assigning roles based on strengths. The result is a start-to-finish process that works to get new workers on construction projects.



## Play 3: Focus on Fundamentals

In most cases, construction companies prefer to train workers on the specific trade skills of their job. This includes construction techniques and practices, as well as equipment operations, from power drills to motor graders.

What they say they need most, however, are workers who have the basic job and life skills to succeed on a construction site. These include basic math, oral and written communication skills, and some safety training (e.g., OSHA 10-hour). If workers are rushed into more advanced construction training before they have those foundational skills, they can fail to get or stay on jobs.

### Assess Your Local Needs

Performing a needs assessment is an important first step to help identify the skills that your local firms require. Often, stakeholders in the transportation workforce development community “don’t know what they don’t know.” They assume that national workforce needs and trends are always applicable to their location and situation. Some of these gaps may track to national workforce data, but some may not.

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**TIP:** Don’t assume the training needs of industry. Assess them before developing training programs.

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A workforce needs assessment also measures job readiness in the community. Best practices for survey assessments include 1) clearly defining and identifying goals and recommendations for connecting local residents to employment and 2) maximizing responses by strategically targeting potential participants, using high touch strategies (repeat phone calls and emails from members of the same organization after deployment). One Pilot Program based the assessment on skillsets rather than on occupation. Some of the more common workforce needs are for Heavy Equipment Operators (HEO)s, first line supervisors, carpenters, line installers, pipe layers, laborers, truck drivers, cement finishers, operating engineers, heavy civil mechanic, crane operators, asphalt paving, construction project managers, and superintendents.

But, that may not provide a complete picture. In Pittsburgh, for example, a needs assessment performed by the pilot working group found a need for frontline supervisors that was not indicated in national workforce data. They addressed this by matching candidates to the mid-level managerial and job skill uptraining needed to fill the gap.

### Issue Certificates and Certification

A primary goal of pre-apprenticeship training is offering industry-recognized credentials that will add value to the participant when searching for a job. The most common certifications offered through the Pilot Program training programs are OSHA-10, OSHA-30, and Cardiopulmonary Resuscitation Automated External Defibrillator. Also offered are Flagger Certification, Dig Safe Certification, and OSHA Fall Protection.

### Develop Programs With Career Pathways and Articulation Agreements

Career pathways refers to showing participants how to advance from one step to the next to a career. Articulation Agreements are agreements between entities that will provide a formal recognition of programs that will allow individuals to move from one phase in a career pathway to the next. Pittsburgh’s HCWP created a pre-apprenticeship app called Future Road Builders that prepared participants to enter Pittsburgh Job Corps’ eight-week highway construction program and other career development opportunities.

The Pittsburgh Job Corp Program developed a Heavy Highway Construction Curriculum for their students as part of the Pittsburgh HCWP. Once participants complete this eight-week program, they can enter year two of the four-year Laborers Union anywhere in the country. There is also an MOU with the local labor union that helps students with their career opportunities. The Pittsburgh Job Corp also offers a heavy equipment operator training program and a program for heavy construction equipment mechanics. More information is available at: <https://pittsburgh.jobcorps.gov/careers/206>

## Motivating Workers

Use Certifications and Certificates, Journeyman and Journeywoman Cards to Motivate Participants. Arizona HCWP participants receive Journeymen and Journeywomen cards if they complete a set number of apprenticeship trainings. This card will give them access to union jobs, including benefits and further training.

Also, consider exposing participants to highway construction activities to maintain interest. Site visits, speaker series, career exploration events, and job fairs are options to keep participants interested in training. Provide the entire picture of the occupation through site visits and mentor relationships so that participants can make informed decisions about what trade(s) they are interested in pursuing.

## Provide Work-Related Equipment

Providing equipment for participants is a widely cited service among the HCWP pilots: personal protective equipment bags with a hard hat, safety glasses, and work gloves. Some participants also received boots and tools for specialized training. Funding for equipment can come from industry associations and from donations from vendors.

## From Unemployed to Career Passion

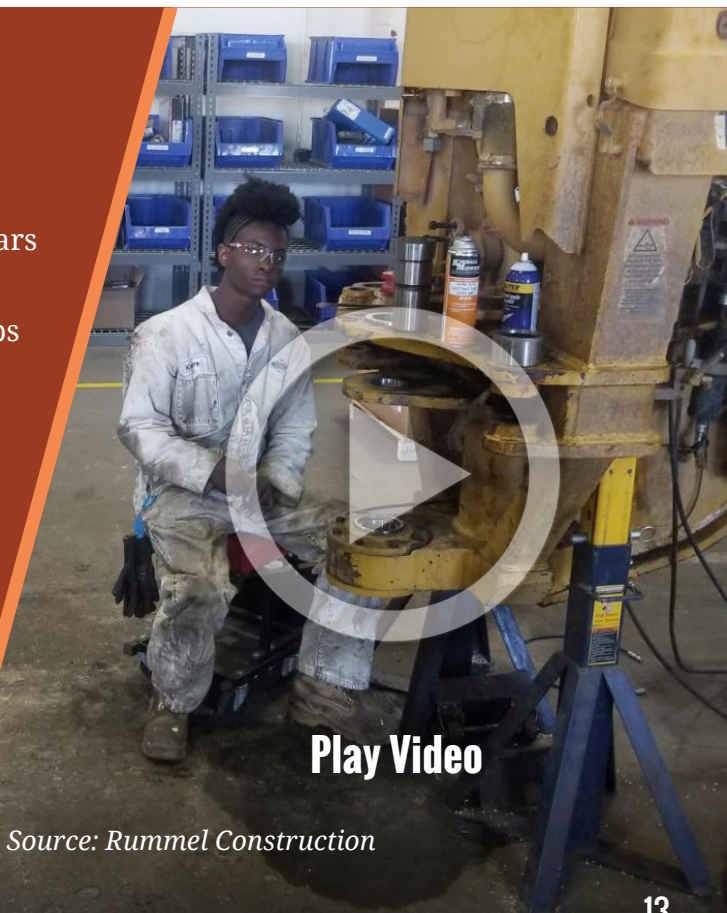
Kierre McMorris-Hayes had been unemployed for four years when he saw a flier that changed his life.

The flier was for a program called Youth Build, which helps people get their GED and job training. “I decided to give it a try and did really well,” Kierre said. “Through that program, I was introduced to a highway construction training program through **ARIZONA@WORK**.”

Kierre was unsure at first, but quickly took to the program, finding a passion in heavy mechanics. “I just felt like there was something there,” he said. “And when I saw all the machines on the job site, I wanted to know how they worked.”

After graduating the program, Kierre was hired as a mechanic helper by local firm Rummel Construction.

“And a year later, I’m still here,” Kierre said.



**Play Video**

*Source: Rummel Construction*

## Play 4: Communicate the Value of Highway Construction Careers

Many pilot locations expressed two overarching challenges to getting sufficient applicants for highway construction jobs:

- **Poor understanding of the career opportunities in highway construction.** Working group discussions from across the pilot community identified a gap between the perception of highway construction careers and the reality. Young people aspiring to join the workforce in the 21st century are more aware of the impact of technology on society and the workplace, and they see the construction trades in general as requiring nothing more than manual labor. It is important to communicate that highway construction involves many cutting-edge technologies, including light detection and ranging (LIDAR), geographic information system (GIS), and joystick-operated heavy machinery, among others.
- **A social perception that a college degree is preferable to a career in highway construction.** The push for college attendance by many school systems also presents a challenge. Students are often advised of the career opportunities that require a college degree, but not those in the trade areas. It is crucial to work with educators, school advisors, and guidance counselors in your area to communicate that highway construction is a viable option for a rewarding career.

Workers start earning money on day one and their wages increase sharply after as little as six months. There is also great upward mobility in construction, where it is possible to rise to lead an entire company without a college degree.

### Help Potential Participants in Choosing the Trade That's Right for Them

A common refrain from Pilot Programs was that potential participants often do not know what trade they would like to enter. Los Angeles' South Bay Workforce Investment Board job counselors divide potential participants into three categories:

1. Those without construction work experience for Pre-Apprenticeship
2. Those with some work experience, but no union connection
3. Union members (This addresses applicants' need to identify possible career pathways so that primary, secondary, and union options are discussed.)

Los Angeles and Denver meet with individuals to understand their interests and provide direction. Many Workforce Development Boards provide similar services and can be critical in giving participants their best chance to succeed.

### Coordinate with State and Local Unemployment Offices

State and local unemployment offices and programs can be helpful in making a connection to those who may be interested in a career in highway construction. Adult Education Programs, Community Colleges, Military Bases and Correctional Programs for Men and Women are also good opportunities to recruit workers. Reach out to these entities in your area to tell them about rewarding careers in highway construction through the HCWP. Unemployment offices can use their communication avenues to advise unemployed individuals about employment opportunities including HCWP. The use of banners on construction sites can also be a good tool to market and recruit.

### Work With "Influencers" Such as Social Workers, Guidance, Counselors, and Mentors

Workforce development efforts should include advising influencers of the value of a career in the trades and highway construction. Those involved with outreach should understand the benefits of entering highway construction training programs. Building the staff's construction knowledge strengthens the pathway for participants to follow.



One obstacle identified by a Pilot Program Working Group was that the K-12 system has a bias against construction jobs partly because the state's benchmark metrics include number of graduates who entered college. This bias against Career Technical Education is nationwide and deep-rooted.

Programs like Future Road Builders, a computer application developed with an FHWA On-the-Job Training Support Services grant is an easy to follow program that helps the user understand highway construction jobs. The program is used extensively in the Pittsburgh HCWP Pilot and can be replicated in other areas and for other applications including high schools.

A good resource for career information is the Employment and Training Administration's Career One Stop website at: <https://www.careeronestop.org/>. The site provides information about careers, available training, and even job placement for most careers including highway construction.

To help with marketing highway construction careers, FHWA created a suite of marketing materials that are available for free download at [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/marketing\\_materials/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/marketing_materials/).

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**TIP: Work with your local school system to communicate the value of highway construction opportunities during student counseling.**

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## Social Media and Other Outreach

- Using Facebook in three major cities, South Dakota was able to reach over 5,000 people.
- In Rhode Island, graduate tradeswomen continue to use social media to reach potential participants.
- Idaho's Heavy Equipment Operator program was promoted to local unions and community groups. After a local newspaper article about the program was picked up by the Associated Press, the program received coverage on local radio, several newspapers and industry blogs, and two television stations. From there, industry advertised the program. In total, the Idaho Transportation Department (ITD) received 770 responses, reviewed 678 applications, and interviewed over 150 applicants from multiple states and countries for 20 positions. Testimonials from graduates about their success can bolster future marketing.
- The Arizona Industry Readiness Program got a boost in participants when a Phoenix television station did a segment about the program on the local news.

## Use of Apps Can Be a Plus

- More than 25,000 individuals have downloaded the Future Road Builders app, which is 20-25 downloads per day. The latest marketing campaign included two videos; one was more general, and the other was specifically targeted to women via Facebook. This video showcases a female apprentice who played Future Road Builders through the Intro to the Trade pre-apprenticeship program. She was named Apprentice of the Year. During the first year, 23 percent of 1,000 construction apprenticeship participants who took an apprenticeship test became aware of the apprenticeship program through Future Road Builders. Thirty-seven individuals (or 22 percent) of those who were accepted into the apprenticeship program played Future Road Builders.
- To reinforce Denver's Central 70 Project's overarching goal of providing equitable employment opportunity pathways for all, a skills-based hiring platform for construction employers and workers called Trade Skills Match (TSM) was developed. Candidates create a virtual profile on TSM via the app or website that outlines their skills and experience; the candidate's name and address are hidden until the candidate accepts an invitation from an employer to apply.

Employers search the TSM database for potential workers and invite candidates to apply, or employers may create job postings that will match employers to candidates. TSM Project Partners are able to message candidates that have indicated an interest in working on the Partner Project and are able to utilize a reporting system to see employer and candidate interactions regarding the Partner Project.

Denver's Employment Platforms: WORKNOW is an employment platform presented by Colorado Resource (CORE) Partners. WORKNOW activities are separated into three major categories:

- 1) Targeted Outreach and Recruitment
- 2) Training and Job Readiness
- 3) Placement and Retention

WORKNOW Navigators inform, assess, connect, and advance job candidates from pre-training to 30-days after employment. Their focus is on connecting members to training, placement opportunities, and support services to foster community-centered hiring on regional infrastructure projects.

## Incumbent Participants and Recruiting

Target fast food, retail, distribution and warehouse workers, and veterans. Word-of-mouth and informal networking are effective strategies to recruit. Also consider recruiting at community service organizations and social service agencies, such as daycare and housing centers.

## Find Traction With Niche Contractor Associations

Dallas first worked with the Dallas Regional Black Contractors Association (RBCA) then the Regional Hispanic Contractors Association, organizations that include many heavy civil construction stakeholders who have historically worked in highway construction, operations, and maintenance. RBCA has focused on second chance candidates and is successfully moving them into the workplace with a large group of construction employers.

## The Other Four-Year Degree

Stakeholders in Pennsylvania have developed a few creative ways to market the highway construction industry to potential candidates. The first one involves redefining what the career field actually is.

Richard Barcaskey, the Executive Director of the Construction Association of Western Pennsylvania (CAWP), tells students that a college degree is not the only way to success.

“We call construction apprenticeships ‘The other four year degree,’” Barcaskey said. “But unlike college, construction apprentices start making money day one.”

The CAWP developed the gaming app Future Road Builders that let's users explore a virtual highway construction project to see the skills needed for the job. Learn more at [www.futureroadbuilders.com](http://www.futureroadbuilders.com)

“We educate them about the various apprenticeship programs in the highway industry and what the jobs actually require, lead them through the process, and then let them make a decision,” Barcaskey said.



*Future Road Builder Gaming app*

## Play 5: Find and Fill the Small Cracks

Sometimes there are unexpected places in the employment cycle where viable candidates are lost because they lack the basic abilities we often take for granted—things like basic educational and interpersonal skills, or they have other challenges like child care or getting transportation to and from training or the job site.

It is important to identify those needs early in the recruitment process and ensure that candidates get the encouragement, support and remedial training they need to continue.

In Los Angeles, recruiters and trainers noticed that some candidates stopped pursuing construction training when they failed the basic math test.

“To keep them in the system, we encouraged them not to quit and then we got them some remedial math training at the local community college,” said Will McClure, who represented FHWA in the Los Angeles pilot. “We also helped them with softer skills like interviewing techniques.”

McClure said that in most cases, this just comes down to one person helping another.

“We’re watching our candidates and meeting them at points where they might fail, then offering them options,” he said. “We don’t let them just walk out the door.”

Community partner organizations increase connectivity, insight, and influence for targeted training and hiring. Work with local community organizations beyond the transportation industry to help identify the small cracks where people are leaving your workforce development system. Many provide or have access to supporting efforts that can bridge the gap between industry needs and worker capabilities.

**“We’re watching our candidates and meeting them at points where they might fail, then offering them options. We don’t let them just walk out the door.” - Will McClure (ret), FHWA**



## Supportive Services Are Important

### Assist With Transportation and Driver's License Reinstatement

Lack of transportation can be a major barrier to success. The following strategies have been identified as successful:

- Place participants within a 10-mile radius of home.
- Provide carpool opportunities on contractor yards near participant homes.
- Direct participants to car auctions.
- Provide gas cards or reimbursement.
- Provide Uber/Lyft accounts.
- Provide transit tokens.
- Assist with reinstating driver's licenses (participants can be referred to the public defender's office or nonprofit or pro bono organizations that provide license restoration services).

### Provide Access to Child Care

Rhode Island found that a barrier to retaining women who are interested in the program is a lack of childcare, especially childcare that is available at or before 6:00 AM. One benefit of utilizing community colleges as an educational partner is that many community colleges are able to offer childcare services. Other means of assisting with childcare include providing opportunities for reimbursement of childcare expenses.

### Provide a High Service Provider to Participant Ratio

The South Bay Workforce Investment Board, a partner in the Los Angeles HCWP program, provides a 1:1 ratio of counselor to participant. Denver has a very good counseling program as well. Other Pilot Programs reported having case managers, social workers, and licensed clinicians, some on site.

### Co-Locate Services

Co-locating services allows everything to be in one place so that all services are completely accessible during outreach, training, and retention periods. Co-location provide participants with their best opportunity to take advantages of the services available to them.

### Denver Support Services

An active partner in the Denver Pilot is Gary Community Investments (GCI). GCI invests in for-profit and philanthropic solutions for Colorado's low-income children and their families that may not only yield a financial return but can improve the lives of families as well. GCI provides child care, transportation, and other support for the Denver HCWP with the initial focus on the Central 70 project, a major east-west highway project in Denver. Denver has a varied group of partners working together to improve the highway construction workforce (see next page).

## Other Services to Consider

- Access to Financial Literacy and Home-Buying Educational Services.
- Davis-Bacon Act prevailing wages. One Pilot Program manager mentioned that the rate for a heavy civil construction worker in California is \$51 per hour (depending on the occupation), including benefits. This helps participants start earning a family-sustaining wage and build capital.
- Information for Accessing SNAP and TANF Benefits, Supplemental Nutrition and Health Insurance.
- Information About Substance-Abuse Disorders and Treatment.

## Denver Navigates Workers Toward a Better Future

Stakeholders in the Denver metro area have formed a unique collaborative to identify, train, and place highway construction workers.

CORE Partners was formed to connect local technical training programs including community and technical colleges, trade associations, and registered apprenticeship programs.

Part of CORE is an employment platform called WORKNOW that helps workers get into construction jobs and then advance in the industry. To ensure that workers have the best chance at long-term success, WORKNOW developed the Navigator program.

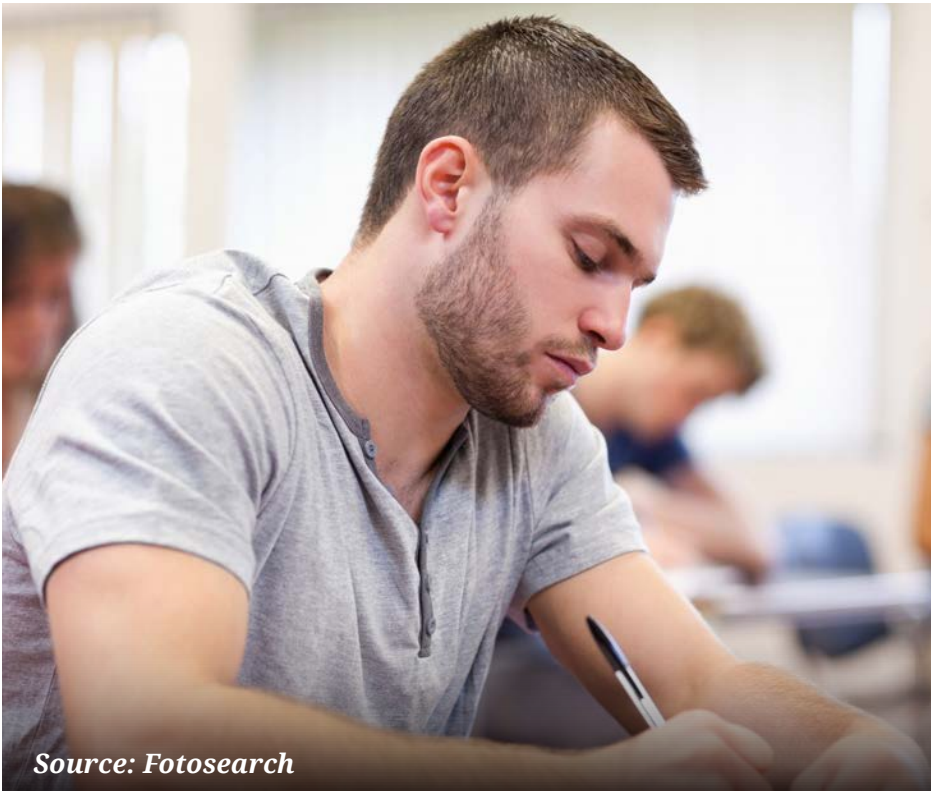
WORKNOW Navigators provide one-on-one help to job candidates in four primary areas:

- **Inform**—They work to understand the worker’s goals and provide options for training, employment, or advancement.
- **Assess**—Navigators help members identify their relevant skills and strengths, and then enroll them in support services.
- **Connect**—Navigators share upcoming employment events with members, submit enrollment forms, and connect members with mentorships and coaching services.
- **Advance**—They provide a 30-day check-in with workers and promote up-skill and peer-to-peer mentoring.

Navigators and members report numerous benefits to this approach, including more job placement connections, convenient Navigator locations, increased retention rates, and whole-person family support.

To learn more about WORKNOW, visit [www/work-now.org](http://www/work-now.org)

## Play 6: Bring Community Colleges Into the Game



Source: Fotosearch

Community colleges have proven to be partners of choice for a number of pilot locations, including Los Angeles, Alabama, and Pittsburgh, among others.

These schools, as well as tribal colleges, are especially suited to addressing the workforce development needs of local communities. They bring extensive experience in providing continuing education and training services to the very people that pilot activities target as potential highway construction workers.

Community and tribal colleges can help define training needs, provide needed curricula and training aids, host training classes or events, and identify instructors.

They can also be a great resource for marketing highway construction careers to job seekers. Tribal and community colleges are accustomed to launching advertising campaigns to build their student body and have advising staff that are already in touch with people who are considering career options. Advisors can even vet candidates for the jobs you need to fill and help steer them your way.

The Illinois Department of Transportation has an extensive highway training program that involves a number of community colleges across the state. See: <http://idot.illinois.gov/about-idot/employment-opportunities/specialized-training/highway-construction-careers-training-program>

Hawkeye Community College in Waterloo, Iowa, also provides training for highway construction. See: <https://www.hawkeyecollege.edu/business-community/training/transportation/highway-construction-training>

Funding tuition and services offered such as Supplemental Nutrition Assistance Program, Temporary Assistance for Needy Families, reimbursement for books, childcare, and access to transportation. This allows training to be a more affordable option for participants.

Adult education programs provide high school diploma or high school equivalency programs, English language courses, and contextualized math and language courses for workforce preparation. Workforce-related terminology is included in some programs. Adult education programs also provide a market to recruit potential apprentices.



## Play 7: Start With Proven Strategies

Many groups found success by leveraging existing, game-ready programs and re-purposing them to meet highway construction needs. These additional resources can come from other service providers, other funding sources, and even other industries.

For example, the working group for the Arizona pilot designed its training program by pulling parts and pieces from training designed for the vertical construction industry.

Some pilots relied on curriculum and education programs developed by the National Center for Construction Education and Research (NCCER). NCCER recently developed a highway construction training curriculum. See NCCER at [nccer.org](https://www.nccer.org) and the highway training program at: <https://www.nccer.org/workforce-development-programs/disciplines/craft-details/heavy-highway-construction>

**TIP:** Existing Programs and Products offer the quickest path to addressing local highway workforce development needs.

### Avoid Attempts to “Reinvent the Wheel”

Existing programs and products offer the quickest path to addressing local highway workforce development shortfalls. Chances are someone, somewhere has developed and delivered a training or education solution that you can use. This will save your group considerable effort and preserve scarce resources. In fact, most products can be modified to meet any local need.

Products developed by pilot locations are only the first step. Your stakeholder group may identify different, additional, or altogether new products to pursue. This is where creating a vibrant and focused working group can pay off—the more participants and viewpoints you bring into the fold, the more likely your group will be able to identify resources and possibly funding sources to complete the projects you identify.

## Alabama Uses Higher Ed. to Get Workers Hired

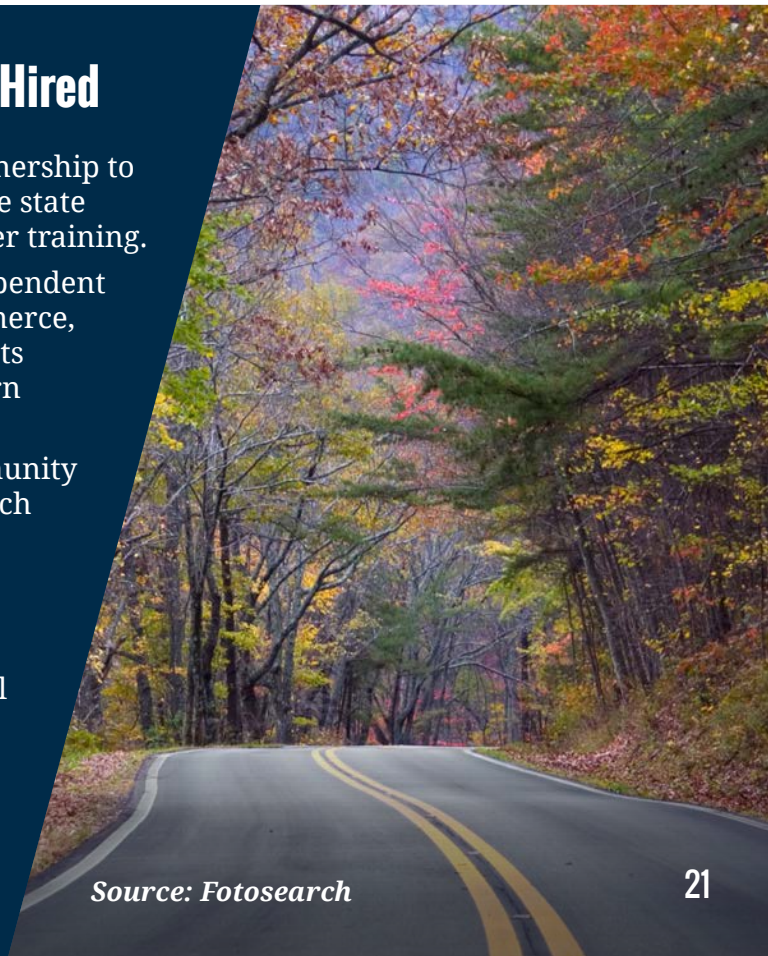
The pilot working group in Alabama expanded its partnership to include representatives from community colleges in the state and developed a scalable model for construction worker training.

It started with curriculum development. AIDT, an independent agency under the supervision of the Secretary of Commerce, created a course of study that starts by teaching students basic skills needed for construction and helps them earn initial certificates.

AIDT made the curriculum available to Alabama community colleges, and the schools developed courses and outreach to fill them up.

“The partnership between AIDT and the colleges was crucial,” said Mark Bartlett, Alabama FHWA Division Administrator. “Once the colleges had the curriculum and knew there was a demand, they really took the ball and ran with it.”

Bishop State Community College is a key training provider for the Alabama HCWP. Learn more at: <https://www.bishop.edu/programs/workforce-development/aldot-heavy-highway-construction>



## Play 8: Keep Your Eye on the Ball

The objective of the Pilot was to find innovative ways to identify, train, and place workers into highway construction jobs. HCWP Programs are not short-term undertakings and, with time, it can be easy to lose focus on the overriding mission. As time goes on and as circumstances change, it is critical that the Working Group maintain its vision.

For partner working group members, this means you should:

- **Identify needed skills and job requirements.** As mentioned in Play 1, this information should come from industry as much as possible. Then your partners in education and training can hone their offerings directly to those occupations, skill levels, and job needs.
- **Find existing training programs that provide those skills, or build new ones.** Many times training resources are available, but the key players do not know about them. This is one area where having a diverse team that communicates well from the beginning will pay off.
- **Recruit trainees to attend and complete the training.** This can be as simple as a flyer in a workforce development center or a presentation at a high school. However you choose to do it, marketing available training is essential to raising awareness. Several pilots found that just making an individual aware of training was all it took to get started.
- **Place graduates into jobs with construction firms.** By building close relationships with these firms through your working group and crafting training programs to meet their immediate needs, you set everyone up for an easy transition to the work site, both workers and companies.
- **Evaluate success and refine your strategies.** Evaluation is part of any effective strategy. Define “what success looks like” for each strategy, measure your results against that benchmark, and then continue to make well-informed decisions. This could even mean tracking individuals who are placed into highway construction jobs. And remember, it is okay for a strategy to fail. The only lasting failure is when you don’t adjust and do better next time!

The HCWP Roads To Your Future website has additional information and resources that can help. [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/)

## Game-Ready Training

Some programs stood out as proven, scalable items that others can adopt immediately. They include:

- **Arizona Industry Readiness Course**—This one-week training course prepares potential workers for additional training in highway construction. Covering the basic work and life skills required to obtain a position, trainees also participate in field trips to highway construction sites where they are directly exposed to the real-world conditions they will encounter on the job.
- **Pittsburgh Heavy Highway Construction Course**—Developed by the Pittsburgh location of the USDOL’s Job Corps program, this training covers a wide range of skills needed by the highway transportation industry, including rigging and signaling, scaffolding, rod tying, pipe laying, and forklift operations. Students between the ages of 17.5 and 24 graduate with industry-recognized construction credentials.
- **Alabama Road Construction Training Course**—This curriculum takes a modular approach to preparing workers for highway construction jobs. An initial orientation phase provides trainees with foundational skills, including basic math, written and interpersonal skills, and the OSHA 10-hour Safety Certificate. Other sessions teach more advanced skills, such as team building, critical thinking, and conflict resolution. The course culminates by connecting graduates to construction firms for job interviews.



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**TIP:** Ask yourself this question any time your group considers a new idea:  
“How will this help us identify, train, and place people into needed highway construction jobs?”

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## Expect Some Surprises

Some states/cities faced barriers to assessment and implementation that could not be foreseen, such as:

- Tight local labor markets (low unemployment), reflecting the improved national economy.
- Uncertainty in public funding, which can contribute to an “up and down” highway or bridge program in your area.

One size won't fit all. Workforce development is different in LA than it is in South Dakota. Reach out to locations with similar circumstances. The Roads To Your Future website can help.

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We want to hear from you! Email your takeaways to [RoadsToYourFuture@dot.gov](mailto:RoadsToYourFuture@dot.gov)

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## Post-Game Takeaways

As the stakeholders start new transportation workforce development activities that build upon the plays in this Playbook and what others have done or are doing, consider some of the national outcomes and lessons learned from the Pilot locations listed below as guidance.

### Plan for the Long Game

Setting up pilot locations and active working groups proved to be more difficult than expected, especially the time frames for those groups to identify and implement pilot activities. That is why Play 2, Organizing for Success is so important for the efficiency and longevity of your team.

The highway and public workforce system, and other partners will, for the most part, be new to each other, but through good communication and coordination, it will be clear that each can make an important contribution to the HCWP and highway workforce development. Create lasting management and communication ties among all players from the outset. Also, consider succession planning to transition new people onto the team as others rotate out.

### Account for Short Highway Construction Seasons in Some Places

Training for multiple crafts increases employability, regardless of climate, supports workforce development initiatives, and increases program utility. For locations that have highway construction “seasons” due to weather and/or other requirements, consider how and when you plan your local workforce development activities—particularly for train and placement efforts.

Fall training sessions, for example, will turn out potential employees at the time of year when they are least needed. So, time your activities so trainees graduate directly into the construction season—generally February to April for most cold-weather states.

Also, provide supplemental training if possible. A combination of commercial driver’s license (CDL) (Class A, 160 hours) and HEO training is a good option so that participants have skills for construction slowdown months in the winter. When construction slows down, workers can maintain their livelihood.

A CDL also allows participants to be highly valued employees who can both operate and transport equipment. Combination of HEO and CDL skills is a strong asset to industry for retention. Sometimes, once a participant receives CDL training, he/she leaves and doesn’t complete the HEO portion. It is best to offer the joint program with CDL at the end of the program (rather than first) to retain participants.

### Train for Multiple Crafts, Including Vertical (Building Construction)

Pilot Programs encouraged participants to learn different trades to increase their marketability upon program completion, even within a vocation. A heavy equipment operator who can work a front end loader, backhoe, and road grader has flexibility, mobility, and retention for the worker and their employer.

### Minimize the Distinction Between Vertical and Horizontal Construction

Many highway construction skills are transferable across various construction modes, whether a crew is working on buildings (vertical) or highway (horizontal) construction projects. So, training workers for non-highway projects may add good candidates to the future pool of available highway workers and eventually benefit the highway construction industry.

The LA Pilot focused to some extent on recruiting and training workers for the new NFL football stadium and a major addition to the car rental facility at LAX airport. These high-profile projects got prospective workers attention and helped with recruiting. The skills they learned, including apprenticeship programs, were in high demand for highway construction. Up next, a new area for the LA Clippers NBA basketball team.

## Consider Worker Transportation Issues

It is important to assess the transportation status of the trainee or worker as part of the enrollment or hiring process. Keep in mind that it may be more difficult to convince a firm to hire a worker who does not have reliable transportation to a job site. Traditional solutions include distributing bus tickets and passes, as well as gas cards to help get workers into employment. Also, explore how philanthropic or community-based organizations may be able to help. Like the HCWP Working Group, they want what's best for the community, too.

## Additional Information

FHWA is available to answer questions about your workforce challenges, point you toward a specific resource, or even connect you with others across the country. FHWA also hosts HCWP webinars. For the webinar schedule and recordings of previous webinars go to the Roads To Your Future website at: [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/)

## Roads To Your Future Communication Network

FHWA has developed an email database of pilot participants and others related to this effort. FHWA plans to use this network to share news and valuable information, and also to hear from you. To be added to this distribution list, please send your request with your email address to [RoadsToYourFuture@dot.gov](mailto:RoadsToYourFuture@dot.gov).

## Winning Examples

- **Denver WORKNOW Navigator Program.** WORKNOW saw a need to help potential construction workers with the smaller life needs that were keeping them from getting, or sometimes even seeking, employment. Volunteer “Navigators” assist candidates with everything from finding training to help filling out job applications and more. [www.work-now.org](http://www.work-now.org)
- **Construction Apprenticeship Readiness Program.** This eight-week, 180-hour training offered by Long Beach City College, CA, exposes participants to the construction industry and prepares them for apprenticeship opportunities. Trainees receive hands-on trade skills and safety training using nationally-recognized curricula. [www.lbcc.edu/post/construction-apprenticeship](http://www.lbcc.edu/post/construction-apprenticeship)
- **Future Road Builders Gaming App.** This free game has videos, images, and assessment questions that give users a better understanding of the highway construction industry. The app allows prospective workers to interact with each phase of a virtual highway construction project across a number of skilled trades. [www.futureroadbuilders.com](http://www.futureroadbuilders.com)

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Find more resources, ideas, and information at  
[https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/  
marketing-materials/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/marketing-materials/)

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## Play Summary

Here's a one-page summary of the plays to help you and your team focus on identifying, training, and placing workers. Use it as a handout at meetings, a takeaway after presentations, or just tack it to your bulletin board.

### Play 1: Let Industry Quarterback Your Team

Define a lead role for the industry representatives on your working group. Construction firms have the best sense of the kinds of workers they need and the number needed to fill available and upcoming work.

### Play 2: Organize Your Players for Success

The most successful pilot locations had the deepest bench. Recruit as far and wide as possible from potential partners to form your working group and work with the partners to define the roles and responsibilities for each.

### Play 3: Focus on Fundamentals

Construction firms generally prefer to train workers on the specific trade skills of their job. Look to provide workers with basic job and life skills, including basic math, oral and written communication skills, and initial safety training like OSHA 10-hour. Companies also benefit from employees with some experience. Industry representatives should be aware of and support any training programs advocated through the HCWP.

Other industry and state DOT workforce resources are available at:

- Alabama AGC:  
<https://www.alagc.org/workforce-development>
- Colorado AGC and the Colorado Contractors Associations:  
<https://www.buildcolorado.com/>
- Florida DOT:  
<https://www.floridaroadjobs.com/>
- Oregon DOT:  
<https://www.oregon.gov/ODOT/Business/OCR/Pages/Workforce-Development.aspx>

### Play 4: Communicate the Value of Highway Construction Careers

Communicate the value of highway construction careers. To help you get the word out, FHWA created a suite of free marketing materials that are available for download at: [https://www.fhwa.dot.gov/innovativeprograms/centers/workforce\\_dev/hcwp/marketing\\_materials/](https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/hcwp/marketing_materials/). Consider reaching out to high schools to make students aware of rewarding careers in highway construction.



## Play 5: Find and Fill the Small Cracks

Work with local community organizations beyond the transportation industry to help identify and fill the small cracks where people are leaving your workforce development system. Identify foundations, community-based organizations, and focus organizations for the need you are trying to address (e.g., local transit operations for transportation or local remedial education programs) can be a big help.

## Play 6: Bring Community Colleges Into the Game

Community and tribal colleges are especially suited to addressing the workforce development needs of local communities. They can help define training needs, provide needed curricula or training, host training classes or events, and identify instructors.

## Play 7: Start With Proven Strategies

Existing programs and products offer the quickest path to addressing local highway workforce development shortfalls. Chances are someone, somewhere has developed and delivered a training or education solution that you can use.

## Play 8: Keep Your Eye on the Ball

Your efforts will not be a short-term undertaking, so do not lose focus on the overriding mission. As time goes on, it is imperative that your team maintain its vision.

## Acronym List

American Association of State Highway and Transportation Officials (AASHTO)

American Road & Transportation Builders Association (ARTBA)

Associated General Contractors of America (AGC)

Automated external defibrillator (AED)

California Department of Transportation (Caltrans)

Cardiopulmonary resuscitation (CPR)

Colorado Resource (CORE)

Commercial driver's license (CDL)

Construction Association of Western Pennsylvania (CAWP)

Construction Utilities Pathway Program (CUPP)

Employment and Training Administration (ETA)

Federal Highway Administration (FHWA)

Gary Community Investments (GCI)

Heavy Equipment Operator (HEO)

Memorandum of understanding (MOU)

Multi-Craft Core Curriculum (MC3)

National Center for Construction Education and Research (NCCER)

Occupational Safety and Health Administration (OSHA)

On-the-Job Training Support Services (OJT/SS)

Regional Black Contractors Association (RBCA)

Statement of work (SOW)

Trade Skills Match (TSM)

U.S. Department of Labor (USDOL)

U.S. Department of Transportation (USDOT)

Workforce Development Board (WDB)

Now that you have the Plays, Get in the Game!  
Post your experiences using **#RoadsToYourFuture**.

