



Summary of Workforce Development Programs Led by Water Utilities

Willamette Partnership researched various workforce development programs led by water utilities throughout the country to see what type of solutions water utilities are implementing to address their workforce needs. Although a variety of program types exist and many have overlapping goals and methods, most programs can be generally categorized by the following common program types:

- Outreach, Awareness, and Education
- Youth Workforce and Internships
- Summer Labor
- Apprenticeships
- Internal Training, Mentorship, and Knowledge Transfer
- Procurement, Contracting, and Hiring
- Support Services

The typical purpose, structure, and key lessons learned from each program type are described below along with a prominent example of a water utility implementing such a program.

OUTREACH, AWARENESS, AND EDUCATION

Purpose: To raise general awareness of the water utility's function, its value and benefits, and what factors affect the water utility's facilities and work. These programs also provide people (typically targeted at youth or the general public) with education on the basic systems of water utilities and how the public interacts and depends on those systems. These programs are intended to increase public awareness of jobs in the water utility sector and the value that these services provide.

Structure: Outreach, awareness, and education programs typically involve visits to classrooms (typically K-12) for presentations, hosting fieldtrips (i.e. a tour of water utility facilities), general public outreach through communications, artwork installations and signage, and basic class instruction.

Key Lessons Learned:

- Recruitment via general outreach, awareness, and education programs, particularly those targeted at high school students or younger, is generally low.
- These programs can best be utilized to promote education about particular projects, facilities, or functions of a water utility as part of an overall strategy to convey the value and benefit of their services (sometimes implemented in conjunction with communication for funding through grants, rates, or bonds).
- Prolonged and comprehensive classroom-based learning programs generally take a large amount of lead time to establish relationships with educational institutions.
- These programs typically require varying amounts of resources both for a funding budget and staff time.

Example: *San Francisco Public Utilities Commission Project Learning Grant Partnership Program* – The program has formed partnerships with over 25 local community organizations and provides grant funding for these nonprofit organizations to expand youth programming and project-based learning in disadvantaged communities in San Francisco. The goal is to have youth meaningfully and actively engage in project-based learning to increase their awareness and understanding of water, power, and sewer services as well as environmental stewardship and civic-community engagement. ■

YOUTH WORKFORCE AND INTERNSHIPS

Purpose: To raise awareness of specific jobs and occupations at water utilities, provide a learning experience and basic training for youth and interns on skills needed at water utilities, and to provide potential post-graduation recruitment of interns as full-time employees.

Structure: Youth and interns typically work within a specific department at a water utility under supervision of a managing employee. Interns perform basic work involved with the water utility's mission as part-time or full-time and paid or unpaid employees, usually during summers. Additionally, some internships offer structured mentorship, trainings, and networking opportunities to expose interns to a variety of job opportunities at the water utility. Youth workforce and internship programs can also be connected to formal education programs for high school credit, college credit, or for certification requirements.

Key Lessons Learned:

- Negotiations with labor unions may be required for hiring unpaid interns.
- Effective programs require development of a formal or semi-formal program guideline to focus intern work and learning experiences, often pairing one existing employee with one intern for supervision.
- Recruitment for full time employment can be successful through these programs, but unpaid internship positions can result in high turnover due to the need for the interns to typically find a paid work opportunity.
- These programs require staff time for supervision, training, and recruitment. Costs typically include intern salary, safety gear purchases, liability insurance coverage, and sometimes certification testing fees.

Example: *City of Groton Water Pollution Control Authority Summer Internship Program* – The internship program is designed to help young scholars develop and understand the skills needed to participate in the wastewater industry. Interns spend the summer before their senior year of high school working a 320-hour internship where the hours count towards earning a Class I Wastewater Operator Certification, and participants can also take operator training courses at a local technical high school to supplement their internship experience. Alumni of the



Young people in action on an internship with San Francisco Public Utilities Commission. / SFPUC

program are given the opportunity to continue their involvement through a second internship during their senior year of high school. ■

SUMMER LABOR

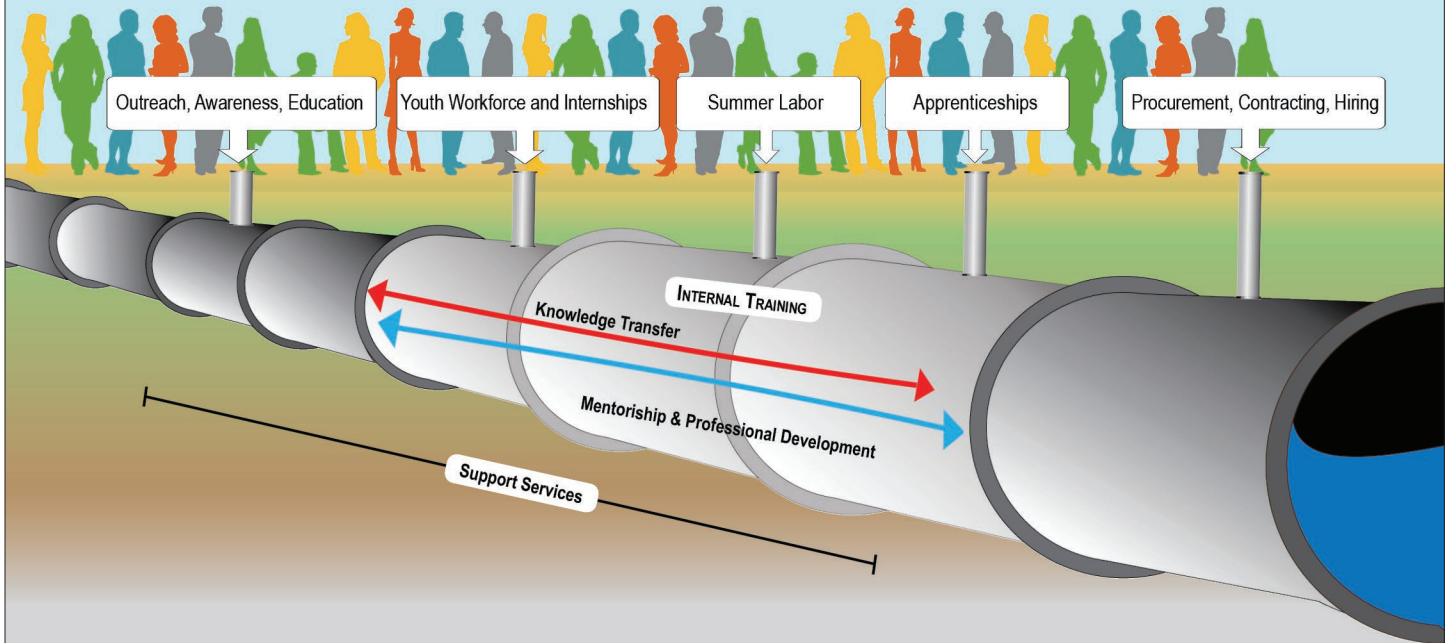
Purpose: To provide a paid summer work opportunity for adults and young adults, often focused on jobs with low educational requirements. This allows participants an opportunity to build a network and be exposed to other potential career opportunities at the water utility, while providing the water utility sufficient staffing levels for summer maintenance and potential recruitment into vocational positions or training programs.

Structure: Adults and young adults are placed in summer work jobs for three months helping with field support and maintenance or administration efforts at the water utility. Typically one manager can oversee multiple participants that are formed or integrated into existing teams for field maintenance and cleanup of facilities.

Key Lessons Learned:

- These programs can require a fair amount of safety training and licensing, depending on the type of maintenance work.

Water Utility Workforce Development Pipeline



The programs described here support people entering the workforce at multiple stages and advancing within their organization. This diagram shows how these programs, when used together, can form a “pipeline” that feeds the water workforce from entry-level through more skilled positions.

- Some programs are effective at engaging with underprivileged communities served by the water utility or with community college students to recruit them into vocational training and certification programs and eventual full-time employment.
- Successful programs are able to identify potential future employees and communicate training and job opportunities throughout the duration of the program.

Example: *San Jose Water Company Summer Laborer Program* – The program provides college students and at-risk young adults in the local community the opportunity to obtain professional work experience in the water utility industry as summer laborers working with distribution system maintenance crews and performing occasional office work. Simultaneously, the program fulfills the utility’s need to maintain required staffing levels during busy summer months. ■

APPRENTICESHIPS

Purpose: To train and recruit skilled technicians to meet the current and future workforce needs of the water utility through classroom education and hands-on learning experience. This can include simultaneously achieving the certifications required for entry-level technician positions.

Structure: Typically programs include a relationship with a community college or community-based learning institution to provide a combination of classroom education and first-hand experience working with technicians at the water utility. Programs can last around three years with participants earning community college credits, certifications, and technical skills required for full-time positions. Apprenticeships often require tens of hours of classroom learning with thousands of hours of on-the-job training for graduation from the apprenticeship program.



CityBuild is a community-based construction pre-apprentice program that provides San Francisco residents with comprehensive pre-apprenticeship and construction administration training. / SFPUC

INTERNAL TRAINING, MENTORSHIP, AND KNOWLEDGE TRANSFER

Purpose: Internal training, mentorship, and knowledge transfer programs can span a wide variety of purposes. Internal training programs are typically focused on increasing employee retention, improving employee’s skills and certifications, growing diversity and cultural competencies, and creating a flexible workforce that can adapt to meet new knowledge and skill demands in the industry. Mentorship programs similarly seek to increase employee retention and provide valuable training and network opportunities for entry-level employees to learn the skills necessary to advance into management-level positions. Knowledge transfer programs seek to diversify and solidify institutional knowledge and history among different generations of workers or departments, to create an adaptable workforce that is less susceptible to employee turnover and retirement.

Structure: Promoting internal training, mentorship, and knowledge transfer can take the form of individual programs or larger initiatives and plans implemented by a water utility. For example, a larger initiative for internal training could include data collection, feedback, and outreach to employees and employee organizations to identify areas of needs, programs to fill those gaps, and criteria for evaluating their success. Individual programs can include support for attending internal or external trainings, formal or informal mentorship programs, formal feedback or outreach processes to employee diversity or resource groups, as well as inclusion of worker engagement goals in formal performance review processes. For example, an individual mentorship program may involve a coordinator to recruit and pair entry-level staff with manager-level staff. These programs often have structured check-in meetings and provide a variety of suggestions for how to structure mentorship opportunities to enhance learning. Knowledge transfer programs can be coordinated through mentorship programs as a method of generational knowledge transfer, but can also include on-boarding or new employee training programs that are structured to inform new employees on the history, context, and story of the utility and community.

Key Lessons Learned:

- These programs can be effective at recruiting and hiring skilled worker positions needed by the water utility but often require additional communication and outreach to meet desired participation levels.
- College-aged and older participants have demonstrated higher interest, participation, and completion levels of apprenticeship programs.
- Most programs require a relationship with a local community college that can require large amounts of time to integrate the program within a community college curriculum.
- Improving and enhancing remote learning options help to facilitate access to the classroom education components of an apprenticeship program and changing.
- Performance could be improved by changing program graduation requirements from an hour-based graduation and onerous evaluation requirements to skill-based requirements and evaluation.

Example: *City of Peoria Registered Apprenticeship Program* – This program is a federally-registered apprenticeship program where participants work under an experienced journey-level trainer, attend scheduled classes, and complete a job-related study to progress to journeyman status in a selected water utility trade. The program requires over 6,000 hours of on-the-job training and college courses completed over three to four years to earn ADEQ certifications, 40 college credits, CDL Class “A” certification, NASSCO certification, and Utility System Operator II status. ■

Key Lessons Learned:

- For mentorship programs and additions to performance review criteria, it is critical to clearly establish responsibilities, communicate and provide support for opportunities to achieve those responsibilities, and to maintain a flexible definition of success.
- Institutionalizing continuous evaluation and implementation of improvements is crucial for both the program structures and the employee participants.
- It is most effective to involve managers and colleagues in recruitment for voluntary programs and to link desired program outcomes to broader organizational priorities.

Example: *Santa Clara Valley Water District Engaging Our Diversity Program* – A master plan was developed for workforce diversity and engagement with the goal of sustaining and enhancing a diverse workforce, advancing workplace inclusion and engagement, and to strengthen community engagement. The plan intentionally connects to other utility priorities, including hiring and retaining skilled and knowledgeable staff as well as enhancing education and training for employees. The program partners with nine Employee Resource Groups that are formed by employees to unite around a shared vision and common identity (e.g., ethnicity, professional association, or work-related interest area) by providing feedback and opportunities for employee engagement. Additionally, demonstrating a commitment to diversity, inclusion, employee morale, and community engagement has been added as a formal criteria to annual employee performance and development plans. ■



Santa Clara Valley Water District “Say No to Racism” employee resource group, part of the district’s diversity and inclusion master plan. / SCVWD

PROCUREMENT, CONTRACTING, AND HIRING

Purpose: To provide inclusive opportunities for hiring and benefits to target groups, such as local, minority-owned, women-owned, and disadvantaged businesses, from water infrastructure planning, design, and construction. Procurement and contracting programs may also seek to enhance selection, retention, and career development of an inclusive workforce that is representative of the populations they serve.

Structure: Contracting policies can take the form of numeric or percentage-based goals for the amount of the contractor workforce from target groups. These programs may also implement strategies or programs to identify and overcome institutional barriers to employee attraction, selection, participation, and retention such as outreach in disadvantaged communities regarding opportunities and requiring minimum levels of participation by women- and minority-owned businesses through awarded contracts. These programs are often supplemented by community support and communication to provide access to contracting and hiring opportunities at the water utility.

Key Lessons Learned:

- Plan ahead for staff time and funding for real time data collection and reporting to track continual progress towards annual goals and allow for constant evaluation of program effectiveness. These resources should also be put towards sharing contractor databases and other best practices across departments and related organizations or agencies.
- Evaluate how projects are being delivered so that the size and delivery structure or method is not disadvantaging target procurement, contracting, and hiring groups.
- For long-term projects, proactively identify project components throughout the entire timeline of project development that provide opportunities for target procurement, contracting, and hiring groups.
- Communicate and educate local elected officials and decision-makers on the legal and economic aspects of inclusive procurement and contracting.
- Establish community support programs to increase access to knowledge and opportunities for target procurement, contracting, and hiring groups.

Examples: *D.C. Water Works Program* – This program is an initiative to boost local hiring on D.C. water projects that encourage and support the development and participation of local residents in the contractor workforce. The initiative establishes a goal for at least 51% of the total construction and service contractor workforce and 60% of new jobs created by contracts or procurements on D.C. water projects to be comprised of local residents. Additionally, the initiative has created job centers to provide application and referral opportunities, advertisements, employment events, and mentorship/internship opportunities that support a skilled local workforce.

San Francisco Public Utilities Commission’s Women on the Rise Program – The Women on the Rise Program is part of the commission’s Infrastructure Division, which is responsible for the modernization and upkeep of the vast water systems improvement program and water delivery. The Workforce & Economic Programs Bureau leverages the two improvement programs to fund specialized training that provides employment opportunities to residents throughout the commission’s service delivery territory. Through partnerships with community organizations, local government agencies, Oakland Tradeswomen Inc., the San Francisco Construction and Building Trades Council, unions and contractors, the commission is expanding its endeavors to engage large numbers of women to enter the construction trades and prosper from the middle class jobs that union trades provide. ■

SUPPORT SERVICES

Purpose: To support and develop a workforce that meets the staffing and contracting needs of a water utility while increasing opportunities for and participation from local, minority-owned, women-owned, and disadvantaged employees/businesses.

Structure: Support services often include intentional community communications and presence for the dissemination of opportunities and skills related to water utility jobs and contracts. This can involve physical locations within communities that can be used for skills and information-based trainings, to provide pre-qualification or registration services, or to post and communicate job and contracting opportunities. This can also include support between water utilities that involves the collaboration of multiple water utilities in a region to coordinate and enhance the development of local workforce programs. These



Students talk with staff at Dublin San Ramon Services District, a water utility company in California, about careers in the water and wastewater industry at a BayWork career fair. / DSRSD

that can meet current and future employment and contracting needs.

Key Lessons Learned:

- Sharing information and lessons learned can create efficient program designs and reduce overall funding and staffing requirements for redundant programs.
- The value of these partnerships should focus on the additive value of programs to those already being implemented by water utilities or other entities and that can take advantage of a larger set of pooled resources.
- Engagement across multiple water utilities can require time and staffing to identify shared-objectives and to create a cohesive vision for workforce development that allows for efficient workforce development programs.

Example: *BayWork Program* – This program is a consortium of San-Francisco-Bay-area water and wastewater utilities working together to ensure the reliable workforce that is needed to serve customers and protect the environment. The program brings together 34 members to unify workforce development plans, implement strategies to support development of a high-performance workforce to meet utility staffing needs and responsibilities, build relationships with stakeholders, provide a framework to discuss workforce development issues, as well as to document and communicate workforce development program successes. ■