

PROJECT OVERVIEW
JUNE 2019

The High Road to Water

Jewish Vocational Service (JVS) is a nonprofit organization that provides in-demand skills training to job seekers and connects them to good jobs. For over 40 years, JVS has developed and implemented sector-based, employer-driven training programs that have helped youth and adult job seekers transform their lives and become self-sufficient. Through education and training, JVS prepares Bay Area residents with the skills employers need and connects them with ready-to-hire employers in industries with in-demand occupations.

As a training and workforce development leader, JVS is partnering with BAYWORK, a consortium of 33 water and wastewater utilities, to create a high road training partnership (H RTP) that identifies in-demand occupations, training programs, and opportunities to build cross-sector recruitment pipelines for public utilities systems in the Bay Area. Through the Water Utilities Career Pathways Project (WUCPP), JVS is creating an industry partnership by helping BAYWORK increase its membership of public utility employers and by convening a consortium of water industry union leaders. Together, they partner with educational institutions, union-based pre-apprenticeship programs, career centers, and community-based organizations to recruit, train, and upskill job seekers and build new career pathways for workers in the water and wastewater industries.

The WUCPP is addressing critical industry needs in the water and wastewater industry, providing opportunities for underrepresented job seekers to access high-quality jobs with good benefits and long-term stability, and resolving labor shortages created by the increase in retirees and changes in the nature of work. The WUCPP convenes a network of partners to inform outreach, recruitment, and training programs that focus on critical occupations in the water and wastewater industry.

With support from the CWDB's H RTP initiative, the WUCPP will address critical workforce issues in the water and wastewater sector in three major ways:

BUILDING A HIGH ROAD TRAINING PARTNERSHIP IN THE WATER INDUSTRY

Through the WUCPP, BAYWORK and JVS will expand and strengthen its infrastructure by increasing the engagement of utility employers and labor unions in the region and connecting with community organizations and educational partners to develop solutions that will address employer and worker needs.

CREATING A REGIONAL TRAINING MODEL FOR UTILITY WORKERS

The WUCPP is creating a regional training model to address the need for a trained workforce by piloting internships that give community college students a preview of work in the industry, bridge programs to prepare job seekers for exams and to navigate public-agency employment systems, and pre-apprenticeships at community colleges that connect workers to apprenticeships. The WUCPP is expanding training locations and piloting program models to increase recruitment, prepare workers for public utility jobs, and improve accessibility to apprenticeships for underrepresented populations. By creating a regional training infrastructure, the WUCPP is aggregating employer demand and ensuring that all public utilities agencies, including small employers with limited training capacity, have a highly skilled and diverse workforce.

EDUCATING YOUTH ABOUT CAREERS IN WATER AND WASTEWATER MANAGEMENT UTILITIES

To increase the pool of applicants in water and wastewater utilities jobs, the WUCPP is promoting career opportunities to youth (ages 14 to 21) through externships, which bring water and wastewater curricula into the classroom, and career fairs that offer skills training after high school.

Ultimately, employers gain a technically trained, skilled, and diverse workforce. Underrepresented job seekers receive the training and wraparound services they need to secure employment in an industry that provides good jobs with career pathways.

The California Workforce Development Board (CWDB) designed the High Road Training Partnership (H RTP) initiative to model a sector approach that can address critical issues of equity, job quality, and environmental sustainability. H RTPs are industry-based, worker-focused training partnerships that build skills for California’s high road employers—firms that compete based on quality of product and service achieved through innovation and investment in human capital and can thus generate family-supporting jobs where workers have agency and voice.

**For more information, see
<https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>**

THE EVOLUTION OF THE JVS-BAYWORK PARTNERSHIP: A BRIEF TIMELINE

BAYWORK is founded

BAYWORK is formed to identify employers' needs and improve the ability of the workforce to serve its customers and protect the environment.

Career pathways report assesses need for industry training

BAYWORK, JVS, and the Centers of Excellence collaborate on a report, Water and Wastewater Career Pathways, that assesses the industry's needs and existing training programs and identifies gaps in career pathways from high school to journey-level jobs in the skilled trades, with the goal of aligning impending hiring needs with training programs in the Bay Area.

JVS/BAYWORK raise youth awareness of industry jobs

JVS and BAYWORK launch teacher externships to increase awareness of the water and wastewater industry among middle school and high school students. High school teachers learn how STEM skills are applied in the workplace and work with agency staff to identify a work-based challenge and address it in a classroom setting.

EMT internships expand job candidate pools

JVS launches Electronic Maintenance Tech (EMT) internships in partnership with BAYWORK, local water and wastewater agencies, Los Medanos College, and Opportunity Junction to increase awareness of the water and wastewater industry among students and expand the pool of qualified candidates for EMT positions.

1973

JVS is founded

JVS is founded by the Jewish community to help Bay Area residents find jobs.

Report supports coordination between industry and community trainers

BAYWORK, in partnership with the Centers of Excellence, produces the Environmental Scan report, which provides industry data and hiring projections to support coordination between the water and wastewater industry and community training partners.

2009

Auto Mechanic Pre-Apprenticeships lead to better jobs

JVS, City College of San Francisco, the City and County of San Francisco, and International Association of Machinists and Aerospace Workers (IAM) Local 1414 launch the first of three cohorts of Auto Mechanic Pre-Apprenticeship trainings leading to apprentice mechanic positions with the City and County of San Francisco and auto industry employers and to mechanic jobs in the water and wastewater industry.

2016

2018

BAYWORK increases staff capacity

JVS and BAYWORK partner to secure funding to hire a BAYWORK manager to strengthen ties between BAYWORK and constituent utilities and to develop relationships with unions and community colleges to pilot training and educational programs.

2019

Teachers tour water and wastewater work sites

JVS partners with BAYWORK and high schools to offer the Workshop on Wheels for Teachers program, which includes tours of local water and wastewater work sites and the opportunity to interview agency staff.

Industry Partnerships: Where Demand Meets Supply

The water and wastewater industry ensures that communities have reliable water systems. Maintaining those systems requires a highly trained, skilled workforce. Although it is difficult to ascertain the size and scope of the workforce because of the complexity of government classifications, in 2006 in the United States, there were 110,000 treatment plant and systems operator jobs, with four in five held by local governments.

The water and wastewater industry is experiencing a number of challenges that affect employment in the sector, including technological advances, new water quality and other environmental regulations, infrastructure growth, an increase in the number of retirees, increasing complexity of the work, and a shortage of highly skilled and trained workers. According to the State of the Industry report from the American Water Works Association, workforce development is one of the top concerns facing this sector.

To understand workforce needs and barriers to hiring, JVS partnered with BAYWORK and the Centers of Excellence to research the possibility of building a regional training infrastructure for a local talent pipeline into water and wastewater skilled trades. The research culminated in a report, Water and Wastewater Career Pathways, which assessed industry needs, took inventory of existing training programs, and identified gaps in career pathways from high school to journey-level jobs in the skilled trades. The goal of the report was to develop a regional approach to align impending hiring needs with training programs.

According to the report, an estimated 828 job openings will become available in the next three years in the Bay Area. These jobs are in nine mission-critical skilled occupations within the water and wastewater industry that are essential to maintain water agency operations and services to guarantee safe and reliable sources of water: wastewater treatment operator, wastewater collections operator, water treatment operator, water distribution operator, heavy equipment operator, mechanic/machinist, electrician, electronic maintenance technician/instrument

technician, and high voltage electrician. The majority of these openings stem from impending retirements and vacancies. As many as 600 jobs will become available as workers retire, on top of 236 openings due to vacancies in the past 12 months. The top three mission-critical positions with the highest retirement risk and vacancy rate include electrician, mechanic/machinist, and EMT/Instrument tech. Over the next five years, half of the regional water and wastewater utilities workforce will be eligible to retire.

At the same time, employers are facing difficulties in recruiting and hiring qualified candidates. In the nine occupations with the highest demand, 50 percent of employers are struggling to find qualified candidates because of 1) lack of awareness of the industry and trades, 2) barriers to employment, 3) lack of classroom training, 4) lack of relevant work experience, and 5) training costs (i.e., tuition, fees, and income lost by taking unpaid internships).

Water and wastewater utilities jobs are high-quality, stable jobs with good wages and benefits. These jobs provide economic stability and professional development opportunities for those who do not have a four-year college degree.

The WUCPP is building a local talent pipeline that will fill critical occupations in the water and wastewater utilities sector and testing innovative ways of solving critical workforce needs. As an intermediary, JVS is leveraging and brokering relationships with BAYWORK members, other utility employers, and unions to ensure employers have sufficient staff with the skills to maintain utilities operations essential to providing water and maintaining healthy communities.

The WUCPP engages key industry leaders, including labor organizations such as the American Federation of State, County and Municipal Employees (AFSCME), International Brotherhood of Electrical Workers, and IAM; and BAYWORK public utilities agencies such as the San Francisco Public Utilities Commission, Valley Water, San Francisco Municipal Transportation Agency, City of San Jose, East Bay Municipal Utility District, Napa Sanitation District, and San Jose Water Company. Also included as WUCPP partners are educational organizations, such as the San Francisco Unified School District, Los Medanos College, Laney College, City College of San Francisco, local union-based pre-apprenticeship programs, and local career centers (CareerOneStops).

Each partner in the WUCPP contributes specialized knowledge that collectively shapes and informs workforce development strategies for the water and wastewater industry. As industry leaders, employer and union representatives identify skills gaps, workforce challenges, and sector-specific goals and solutions. Intermediaries such as JVS then implement those solutions by identifying strategies and organizing supply-side mechanisms that respond to industry needs. For example, JVS meets with BAYWORK every two weeks to identify needs common to multiple employers

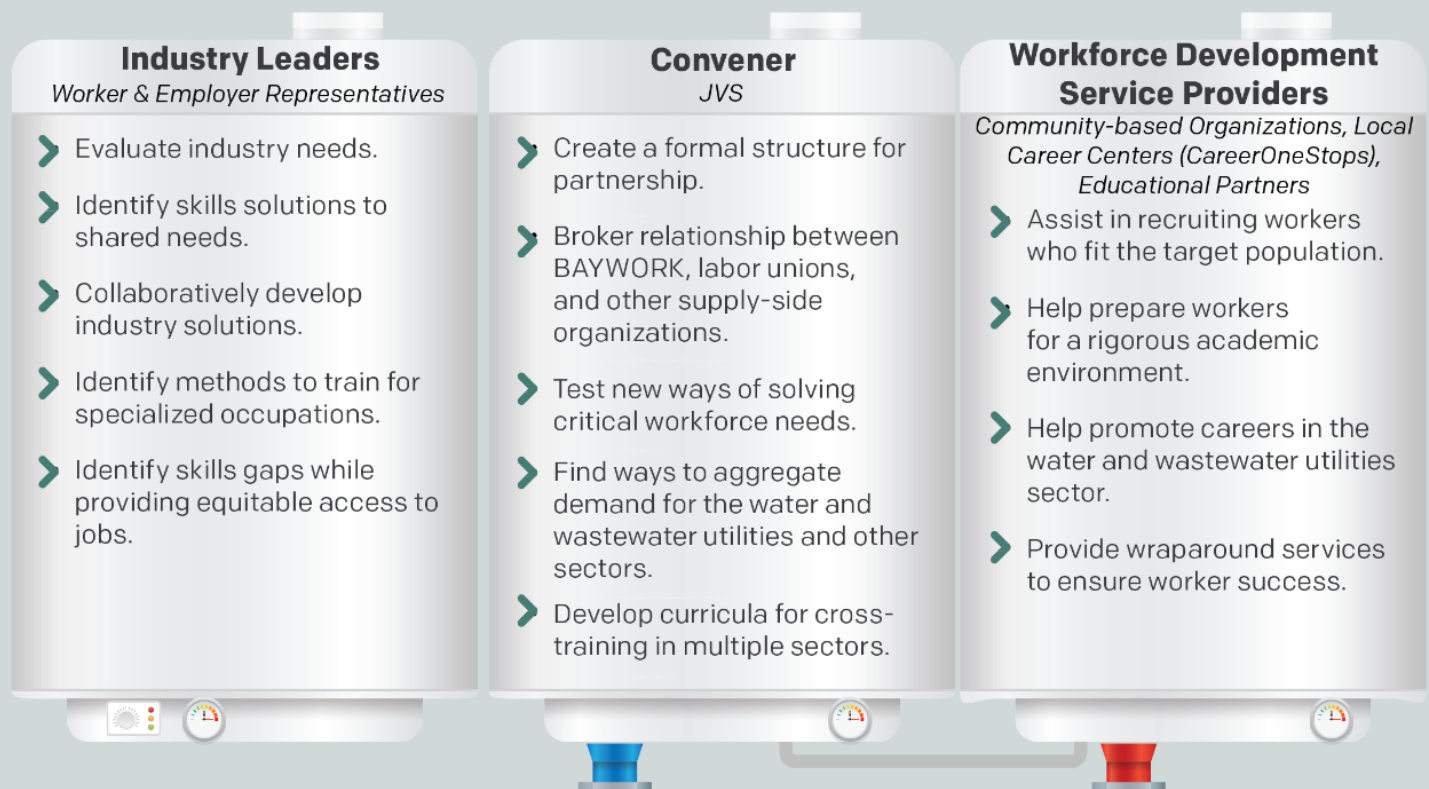
and to develop solutions. JVS then convenes with unions to identify cross-training opportunities for workers and finally partners with community colleges, career centers, and community-based organizations to develop bridge programs, pre-apprenticeships, support services, and outreach strategies that meet the skills needs of employers and provide opportunities for local job seekers to enter the industry.

The WUCPP's partnership is unique in that it is starting with an established infrastructure of public utilities employers through BAYWORK and creating a new network of labor leaders to address water and wastewater industry problems. JVS is helping BAYWORK increase its network of employers to develop a regional training model that will help meet the demand of multiple employers. The regional model would create a pool of skilled workers for all employers, particularly those that do not have the capacity to train a large number of workers or that only need a few workers at a time.

To engage labor leaders, JVS created a regional water sector committee of over 20 union representatives. The committee of union staffers and stewards meet quarterly to identify opportunities to increase recruitment, training, and placements in mission-critical skilled jobs for workers from marginalized communities.

Fig 1. WUCPP Partner Roles

The WUCPP is forging a labor-management partnership of industry leaders to address employers' needs for trained workers by developing internships, bridge programs, and pre-apprenticeships. The WUCPP organizes educational partners, WorkSource career centers, and community-based organizations to find solutions that address recruitment and retention issues in the water and wastewater sector.

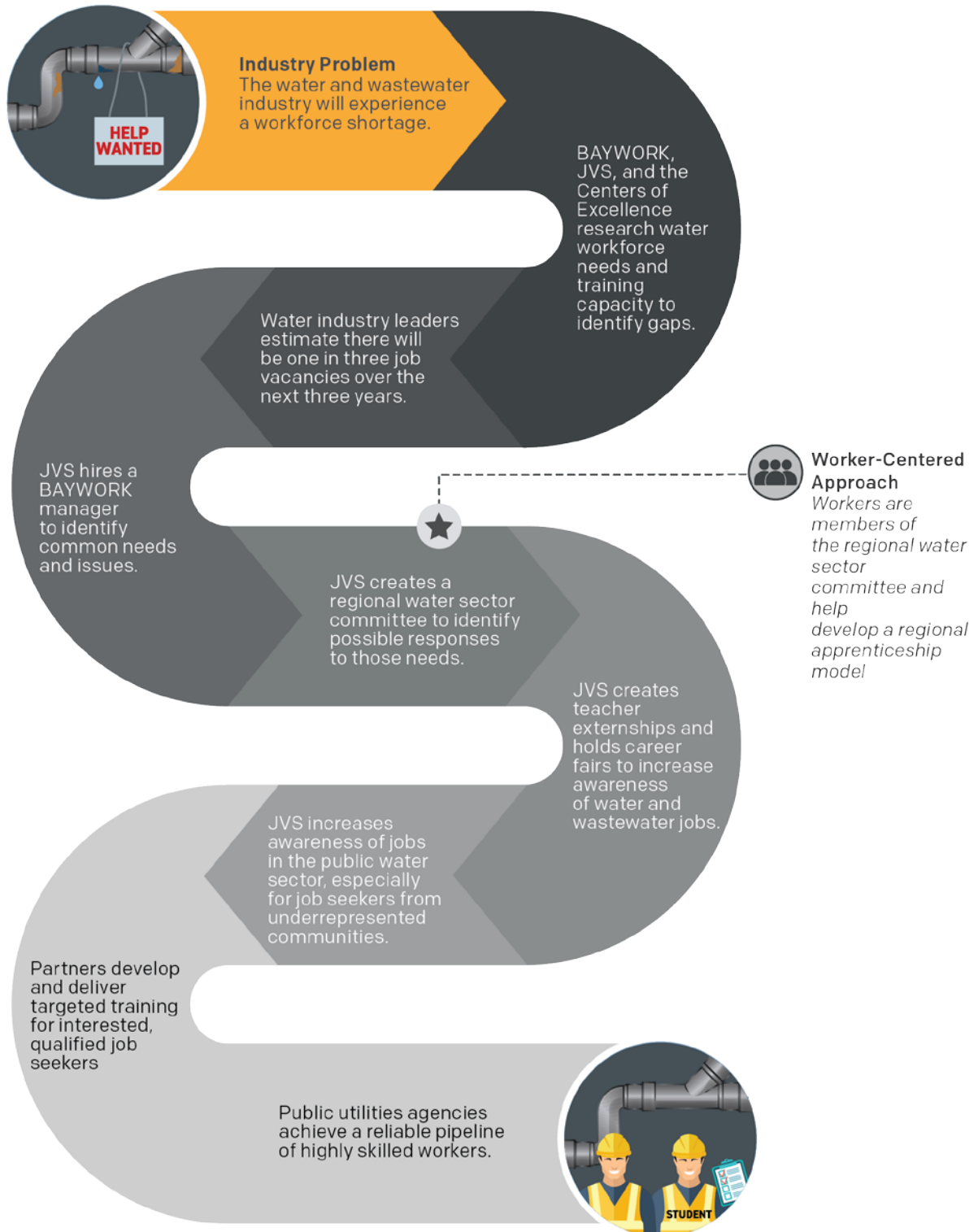


- On the supply side, the WUCPP is identifying skills-development opportunities to help disadvantaged populations access in-demand occupations in the water and wastewater utilities sector.
- On the demand side, the WUCPP is conducting outreach and implementing training programs to help address the industry's hiring needs, barriers to hiring, and gaps in available training resources.

The WUCPP is testing training models that will connect underrepresented populations to good jobs, incorporate worker knowledge and expertise into program delivery, and provide workers opportunities to participate in the selection of training program participants and curriculum development.

Fig 2. The WUCPP's High Road Approach in the Water and Wastewater Sector

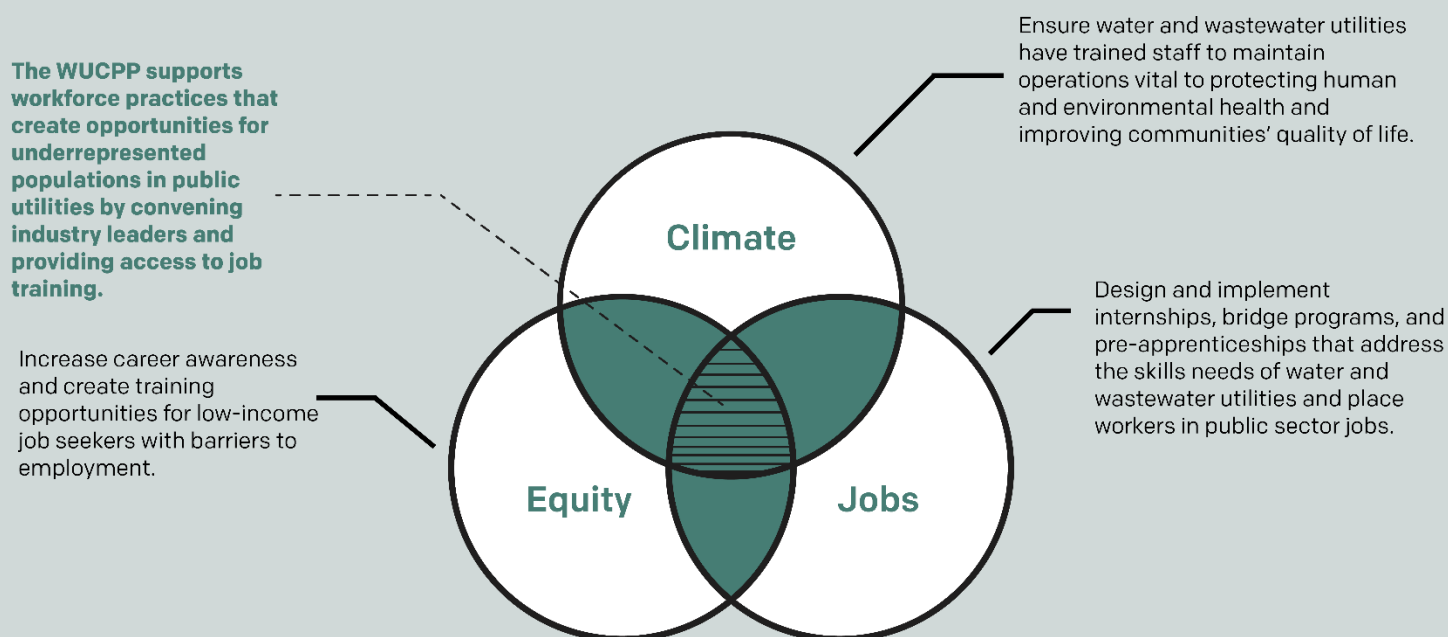
The WUCPP will address the hiring needs of the public water utilities sector by building a regional outreach, training, and support infrastructure that connects vulnerable job seekers to opportunities in high-quality jobs with family-supporting wages.



Taking the High Road: Improving Equity, Job Quality, and Climate Resilience

The WUCPP focuses on sector strategies and interventions that integrate the Equity, Climate, and Jobs (ECJ) approach. The WUCPP partners implement strategies that offer low-income job seekers access to high-quality jobs - with advancement opportunities and family-supporting wages and benefits - in the water and wastewater industry, through internships, bridge programs, wraparound services, and pre-apprenticeship opportunities.

Fig 3. Taking the High Road: Improving Equity, Job Quality, and Climate Resilience



ADVANCING ECONOMIC OPPORTUNITY

JVS specializes in training low-income job seekers in the Bay Area with skills that are in demand and connecting them to high-quality jobs in the water and wastewater industry. To make the industry more equitable, JVS focuses on early awareness of careers in critical skills trades, paying special attention to barriers to training and employment for workers as well as employer training capacity.

With support from educational partners, the WUCPP is engaging high school and community college teachers and school counselors in outreach efforts to increase student awareness of careers in public utilities and other trades. One strategy includes an externship program in which participants are paired with employers to learn about public utilities work and which provides STEM curriculum with a real-world context.

JVS makes training and employment more accessible for underrepresented populations. The Bay Area auto industry, for instance, which includes the City and County of San Francisco, employs about 2,300 mechanics, all of whom are men. JVS is targeting women for pre-apprenticeship programs to prepare them to be successful apprentices and job candidates. Participants will be placed in City and County of San Francisco pre-apprenticeship and apprenticeship positions secured by IAM Local 1414, and they can eventually be placed in water and wastewater jobs.

JVS is providing more equitable access to a skilled workforce for small and large employers alike by creating a regional training model in water and wastewater occupations. Small companies have limited capacity to invest in training programs to upskill or reskill their workforce and often lose workers to larger companies that offer better pay and career opportunities. Large companies experience high turnover as employers poach workers from one another to fill workforce demands. Through the regional training approach, JVS is helping reduce the burden on small companies and decreasing turnover rates for both small and large companies.

BUILDING ECONOMIC AND ENVIRONMENTAL RESILIENCE

Water and wastewater utilities play a critical role in protecting both human and environmental health. As the industry adapts to technological advances - to increase operational efficiencies and/or reduce pollution, for instance - and climate change challenges such as water availability and changes in temperatures and precipitation patterns, water and wastewater utilities agencies have to rethink how to move and clean fresh water, how to recycle wastewater, and how to prevent these changes from adversely affecting the workforce.

The lack of skilled staff to fill mission-critical occupations will threaten services essential to providing safe and reliable sources of water. For example, in San Francisco, the switch from traditional water meters to smart meters marked a dramatic change in the industry. Hundreds of workers were once required to read water meters in the field; now, automated meters feed data directly into the San Francisco Public Utilities Commission (SFPUC). The industry had to redevelop its operations and acquire fewer but more specialized workers to manage the water readings databases.

The WUCPP is addressing the workforce skill gap by creating training programs that ensure its employer members have a qualified pool of applicants to maintain the water services essential to safeguarding human and environmental health and improving the local community's quality of life.

DELIVERING SKILLS FOR QUALITY JOBS

The WUCPP is creating a regional network of employers, labor representatives, and training providers to increase job-seeker awareness and build a pipeline into water and wastewater utilities jobs. Together, JVS, BAYWORK, union partners such as AFSCME and IAM Local 1414, and other partners are piloting bridge programs, pre-apprenticeships, and other career support services that will lead to a regional training model that is responsive to multiple employer and job-seeker needs. These labor-management training programs and support services will provide career pathways to journey-level positions with competitive wages and benefits for low-income workers.

To prepare workers for employment in the public utilities sector, the WUCPP is creating a bridge program model with local community colleges. For example, Laney College offers a civil service prep course that introduces students to water agency jobs and prepares students for certain job requirements, such as the math exam. The WUCPP is also creating a mentoring program with employer and labor partners, who will identify and train mentors and develop a curriculum. Pre-apprentices will be assigned journey-level mentors who will support and guide their professional development. And pre-apprentices will gain enhanced knowledge of the industry, learn about career pathways, obtain tools for personal growth, and receive support to transition into apprentices.

The WUCPP also launched a pre-apprenticeship pilot, developed in conjunction with AFSCME, to create access to mechanic and machinist apprenticeships and jobs. Participants receive classroom and on-the-job training with opportunities to earn while they learn. Experienced journey-level staff provide on-site supervision and core competency training. Pre-apprentices will be well positioned to apply and compete

for mechanic and machinist apprenticeships at the East Bay Municipal Utility District.

Expanding the High Road

An H RTP's work is never done. H RTPs provide infrastructure for industry problem-solving, and partnerships evolve along with industry problems and leaders. H RTPs must therefore attend to and strengthen their partnerships' commitment to operating with high road values, to influencing their industries, and to improving their communities. The WUCPP is developing a network of industry leaders to address the needs of workers and employers in the water and wastewater industry and is creating a regional training model with opportunities for underrepresented populations to access good jobs with career pathways and family-sustaining wages. To continue to build the high road in the water and wastewater sector, the WUCPP will expand and strengthen its H RTP in these ways:

PARTNERSHIP OPERATIONS

The WUCPP will develop a regional infrastructure and strengthen its organizational capacity to cross-train in multiple sectors.

INDUSTRY SYSTEMS CHANGE

The WUCPP will develop new partnerships, expand or replicate effective internships, increase apprenticeship opportunities, provide contextualized basic skills training, and promote career awareness in middle schools, high schools, community colleges, and beyond.

SOCIAL IMPACT

The WUCPP will increase the representation of underrepresented populations in the water and wastewater sector and ensure that local communities have safe and reliable water and wastewater operations

Sources

BAYWORK. (2019). "About Us." Retrieved from <https://baywork.org/about-us/>

Chancellor's Office, California Community Colleges Centers of Excellence, Economic and Workforce Development Program, and BAYWORK. (2009). Environmental Scan: Water and Wastewater Occupations: Bay Region. Retrieved from <https://baywork.org/resource/water-wastewater-occupations-in-the-bay-region-key-findings-2009/>

Jewish Vocational Service. (n.d.). "Who We Are." Retrieved May 16, 2019, from <https://www.jvs.org/who-we-are/>

Jewish Vocational Service, BAYWORK, and the Centers of Excellence. (2016). Water and Wastewater Career Pathways: Connecting People to Water Industry Jobs in the Bay Area. Retrieved from http://coeccc.net/reports/Water_and_Wastewater_Career_Pathways

Runge, Jon, and John Mann. (2008). "State of the Industry Report 2008: Charting the Course Ahead." *Journal of the American Water Works Association*, 100(10): 61-74.

About this Series

Through the H RTP initiative, the CWDB has invested close to \$10 million to develop, refine, and expand a series of skill-focused, industry-based training partnerships that advance equity by linking workforce innovation to regional challenges of job quality, economic mobility, and environmental sustainability. The UCLA Labor Center, commissioned by the CWDB, is leading a two-year evaluation process to understand the successes and challenges of the funded partnerships in building a workforce infrastructure that can holistically address key issues related to equity, climate, and jobs. This is one of a series of eight partnership overviews from UCLA evaluators Ana Luz Gonzalez-Vasquez, Magaly Lopez, and Saba Waheed. For additional overviews and more information about the H RTP initiative, see <https://cwdb.ca.gov/initiatives/high-road-training-partnerships/>.