



**OPERATOR
WORKFORCE
DEVELOPMENT
SUMMIT**

**Sept. 19, 2018 9 a.m. – 4 p.m.
Grange Insurance Audubon Center
505 West Whittier Street
Columbus, Ohio**

Background

Having well-trained, qualified operators is crucial to safe and effective operation of Ohio's water and wastewater treatment plants. According to research over the past several years, including the *2010 Water Sector Workforce Sustainability Initiative Report* by the *Water Research Foundation* (Denver, CO) it is estimated that 30 to 50 percent of the water/wastewater workforce could retire within the next 10 years. As a matter of public interest, it is important for states to better understand the potential implications of this trend and work to avoid or mitigate a possible shortage of certified operators.

Proposal

On Sept. 19, 2018, Ohio EPA and the Ohio Water Development Authority (OWDA) convened stakeholders at a one-day summit to discuss the challenges associated with developing and retaining qualified plant operators in Ohio and identify strategies to address these challenges.

The goals of the summit were to:

- Convene (and facilitate networking between) a statewide group of key stakeholders and solution providers including municipalities, educational institutions, governmental policy makers and regional assistance providers.
- Share information about the status of the certified operator workforce in Ohio, as well as some efforts at the state, regional and local levels to address this issue.
- Generate ideas that may help produce/retain operators.
- Facilitate the creation of volunteer groups to work on developing and implementing these ideas.

Summit Outcomes and Deliverables

Based on attendee feedback, many appreciated this first-time opportunity to network with others within their region or specialty area that are working on this subject. Through a brainstorming session, attendees generated ideas in the following categories:

- Marketing the Profession
- Educational Opportunities
- Succession Planning
- Other Opportunities and Barriers

Many attendees also volunteered to serve on implementation teams to further develop and implement proposed ideas.

To facilitate the creation of implementation teams, this document along with the names of the attendees that volunteered to participate on the teams will be shared with all summit attendees. It is envisioned that these implementation teams will continue to look for solutions that help produce and retain operators. It is requested that the implementation teams regularly share their recommendations with Ohio EPA and OWDA.

Details and supporting information are provided in the appendices.

Appendices

- A. Agenda
- B. Attendee List
- C. Brainstorming Ideas by Topic
 - 1) Session #1: Marketing the Profession
 - 2) Session #2: Educational Opportunities
 - 3) Session #3: Succession Planning
 - 4) Session #4: Other Topics
- D. Volunteer List for Follow-Up Activities (by Topic)
- E. Presentations
 - 1) Program Background and Survey Results – Andy Barienbrock, Ohio EPA Division of Drinking and Ground Waters
 - 2) Apprentice Ohio – Becky DeMatteis, ODJFS
 - 3) City of Akron Apprenticeship Program – Brian Gresser, Akron Water Reclamation
 - 4) Building Bridges to Careers (Washington County) – Tonya Davis, BB2C

Appendix A – Agenda

9 a.m.	Registration
9:30 a.m.	Introduction/Welcome
	<i>Alauddin Alauddin, Assistant Chief, Ohio EPA Office of Environmental Education</i>
9:40 a.m.	Keynote Address
	<i>Craig W. Butler, Director, Ohio EPA</i>
10 a.m.	Present State
	<i>Program Background and Survey Results – Andy Barienbrock, Manager, Ohio EPA Division of Drinking and Ground Waters Apprentice Ohio – Becky DeMatteis, ODJFS City of Akron Apprenticeship Program – Brian Gresser, Akron Water Reclamation Building Bridges to Careers (Washington County) – Tonya Davis</i>
11 a.m.	Networking Break
11:15 a.m.	Brainstorming Sessions
	<i>Session 1: Marketing the Profession Session 2: Educational Opportunities Session 3: Succession Planning Session 4: Other Topics</i>
12:15 p.m.	Lunch
1 p.m.	Report Back: Discussion of Solutions and Next Steps
	<i>Ken Heigel, Assistant Director, Ohio Water Development Authority</i>
3 p.m.	Closing Remarks/Adjourn

Appendix B — Attendee List

Operator Workforce Development Summit – September 2018

First Name	Last Name	Organization	Phone	Email	Title
Thomas	Abraham	Village of Shreve	330-567-2500	toma@agrsludge.com	Operator of Record
Eric	Akin	Northeast Ohio Areawide Coordinating Agency (NOACA)	216-241-2414	eakin@mpo.noaca.org	Senior Water Quality Planner
Alauddin	Alauddin	Ohio EPA, Office of Environmental Education	614-644-3675	alauddin.alauddin@epa.ohio.gov	Assistant Chief
Ed	Albright	Ohio Municipal League	614-221-4349	ealbright@omloho.org	Deputy Director
Bret	Allphin	Buckeye Hills Regional Council	740-376-1028	bretallphin@buckeyehills.org	Development Director
Leah	Amstutz	Ohio Department of Education	614-644-5924	leah.amstutz@education.ohio.gov	Associate Director (Office of Career-Technical Education)
Andy	Barienbrock	Ohio EPA, Division of Drinking and Ground Waters	614-728-1216	andrew.barienbrock@epa.ohio.gov	Environmental Manager
Kelly	Barron-Holcomb	Hocking College	740-753-6275	barron-holcombk@hocking.edu	Program Manager (Water/Wastewater Management)
Jeff	Bates	Columbus State Community College	614-287-3652	jbates@csc.edu	Professor
Mark	Bennett	Ohio Rural Water Association	614-256-1771	mdbennett62@gmail.com	Board Member
Tyler	Black	City of Mason	513-356-1427	tyleritjblack@icloud.com	Intern
Ryan	Blackburn	Ohio Department of Veterans Services	614-296-5892	ryan.blackburn@dvs.ohio.gov	Veterans Workforce Manager
Tom	Bleidorn	County Sanitary Engineer Association of Ohio	740-652-7120	tbleidorn@clarkcountyohio.gov	President
Jeff	Bronowski	City of Akron	330-375-2964	jbronowski@akronohio.gov	Water Supply Manager
Craig	Butler	Ohio EPA	614-644-2782		Director
Elizabeth	Cisar	Joyce Foundation	312-795-3819	ecisar@joycefdn.org	Senior Program Officer
Tyler	Converse	Ohio American Waterworks Association	330-438-6574	tyler.converse@cantonohio.gov	Vice Chair
Nush	Courlas	Ohio EPA, Division of Drinking and Ground Waters	614-705-1142	tanushree.courlas@epa.ohio.gov	Environmental Supervisor
Ryan	Curtis	Ohio Department of Education	614-644-5924	ryan.curtis@education.ohio.gov	Program Specialist
Tonya	Davis	Building Bridges to Careers	304-482-1366	bbccoord@gmail.com	BB2C Coordinator
Rebecca (Becky)	DeMatteis	ODJFS - Apprenticeship Council	614-466-1184	rebecca.dematteis@jfs.ohio.gov	Program Manager
Dave	Douglas	U.S. Dept of Agriculture - RD	614-255-2391	david.douglas@oh.usda.gov	Director, Community/Water & Environmental Programs
Joe	Dragovich	Ohio EPA, Division of Environmental and Financial Assistance	614-644-3710	joseph.dragovich@epa.ohio.gov	Environmental Supervisor
Pejmaan	Fallah	Ohio EPA, Division of Environmental and Financial Assistance	614-644-3666	pejmaan.fallah@epa.ohio.gov	Environmental Supervisor
Ann	Fallon	Cincinnati State College	513-569-1750	ann.fallon@cincinnatiastate.edu	Professor/Program Chair
Jonathon	Field	Ohio Department of Veterans Services	614-466-8722	jonathon.field@dvs.ohio.gov	Deputy Director, Veterans Educational Programs
Tom	Fishbaugh	Ohio Rural Community Assistance Partnership	419-332-2032	tafishbaugh@wsos.org	Sr. Rural Development Specialist

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First Name	Last Name	Organization	Phone	Email	Title
Brandon	Fox	Ohio Water Environment Association	614-645-3138	bdfox@columbus.gov	SE Section Delegate
Marissa	Ganzfried	Ohio EPA, Division of Drinking and Ground Waters	614-644-3140	marissa.ganzfried@epa.ohio.gov	Environmental Specialist II
Dan	Gill	Ohio Water Development Authority	614-466-5822	dgill@owda.org	Engineer
Heidi	Griesmer	Ohio EPA	614-644-3122	heidi.griesmer@epa.ohio.gov	Deputy Director Communications
Brian	Gresser	City of Akron	330-375-2964	bgresser@akronohio.gov	Manager, Water Reclamation Services
Brian	Hall	Ohio EPA, Division of Surface Water	614-644-2001	brian.hall@epa.ohio.gov	Assistant Chief
Ken	Heigel	Ohio Water Development Authority	614-466-0257	kheigel@owda.org	Assistant Executive Director
Steve	Heimlich	Ohio American Waterworks Association	419-707-2222	sheimlichalmu@gmail.com	
Shawn	Hollon	City of Mason	513-229-8500	shollon@masonoh.org	Director, Public Utilities
Kevin	Jarrell	Ohio EPA, Division of Drinking and Ground Waters	614-728-1226	kevin.jarrell@epa.ohio.gov	Environmental Specialist II
Tiffani	Kavalec	Ohio EPA, Division of Surface Water	614-644-3538	tiffani.kavalec@epa.ohio.gov	Chief
Daniel	Kelley	Hocking College	740-753-6292	kelleyd@hocking.edu	Dean, School of Natural Resources
Amy	Klei	Ohio EPA, Division of Drinking and Ground Waters	614-644-2871	amy.klei@epa.ohio.gov	Chief
Amanda	LeFevre	Kentucky DEP	502-782-6398	amanda.lefevre@ky.gov	Director - Compliance Assistance
Sherry	Loos	Ohio Rural Community Assistance Partnership	330-677-3438	smlaos@wsos.org	State Coordinator
Franco	Lucarelli	Ohio American Waterworks Association	330-841-2710	flucarelli@warren.org	Director of Utilities (Warren)
Bud	Mason	Ohio Rural Community Assistance Partnership	740-341-2536	bmason@wsos.org	Technical Assistance Provider
Beth	Messer	Ohio EPA, Division of Drinking and Ground Waters	614-644-2752	beth.messer@epa.ohio.gov	Assistant Chief
Brenda	Metcalf	Environmental Education Council of Ohio	740-653-2649	director@eeco-online.org	Executive Director
Paul	Mikita	ODRC	740-845-3228	paul.mikita@odrc.state.oh.us	OCSS Apprenticeship Grant Director
Chris	Moore	City of Springfield	937-525-5800	cmoore@springfieldohio.gov	Service Director
Dana	Moore	City of Wadsworth	330-335-2832	dmoore@wadsworthcity.org	Water Treatment Superintendent
Marcie	Moore	Zane State College	740-588-1229	mmoore3@zanestate.edu	Academic Dean for Engineering and Science
Marc	Morgan	Ohio Water Environment Association	614-488-5800	marc.morgan@cantonohio.gov	OWEA Training Coordinator
Bridget	Murphy	Indiana DEM	317-234-2579	bsmurphy@idem.in.gov	Section Chief
Linda	O' Connor	Ohio Department of Education	614-644-6095	linda.oconnor@education.ohio.gov	Assistant Director
Sherri	Pennington	ODRC	614-595-1382	sherri.pennington@odrc.state.oh.us	HCM Senior Analyst
Anthony	Ponder	Sinclair College	937-512-2918	anthony.ponder@sinclair.edu	Dean, Science, Math & Engineering
Tracey	Porter	Zane State College	740-588-1377	tporter2@zanestate.edu	Associate Dean of Workforce Development
Kim	Reynolds	Ohio Valley Regional Development Commission	740-947-2853	natebrady9@aol.com	Development Director

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First Name	Last Name	Organization	Phone	Email	Title
Cheryl	Rice	Ohio Department of Higher Education	614-466-6000	crice@highered.ohio.gov	Assoc. Vice Chancellor
Kim	Riddell	Ohio Water Environment Association	419-223-1362	kim.riddell@alloway.com	OWEA President-Elect
Jerry	Rouch	Ohio EPA, Division of Environmental and Financial Assistance	614-644-3660	jerome.rouch@epa.ohio.gov	Assistant Chief
Adam	Schwiebert	County Commissioners Association of Ohio	614-220-7981	aschwiebert@ccao.org	Policy Analyst
Jim	Shepherd	Zane State College	740-588-5000	jshepherd@zanestate.edu	Professor
John	Simpson	Ohio Rural Water Association	740-591-6730	jsimp@le-ax.com	Legislative Committee Chair
Amy	Stacy	Springfield City School District	937-505-2910	stacyad@scsdoh.org	Connected Learning Coordinator
Mark	Stanifer	Indiana Department of Environmental Management	317-232-8431	mstanife@idem.in.gov	Branch Chief
Laurie	Stevenson	Ohio EPA	614-644-2798	laurie.stevenson@epa.ohio.gov	Deputy Director/Chief
Kathleen	Temple-Miller	Hocking College	740-753-6282	templek3907@hocking.edu	Department Chair, Hocking College School of NR
Curtis	Truss	Operator Training Committee of Ohio, Inc	937-215-6554	curtis@otco.org	Executive Director
Holly	Tucker	Ohio EPA, Southeast District Office	740-380-5239	holly.tucker@epa.ohio.gov	Chief
Jon	VanDommelen	Ohio EPA, Division of Environmental and Financial Assistance	614-580-5096	jon.vandommelen@epa.ohio.gov	Environmental Specialist II
Carolyn	Watkins	Ohio EPA, Office of Environmental Education	614-644-3768	carolyn.watkins@epa.ohio.gov	Chief
Melinda "Mimi"	White	Montgomery County	937-781-2636	whitem@mcOhio.org	Human Resources Consultant
Jeanette	Wierzbicki	Ohio Mid-Eastern Governments Association	740-439-4471	jeannettew@omegadistrict.org	Executive Director
Jessica	Wilhoite	KY DEP	502-782-6477	jessica.wilhoite@ky.gov	Branch Manager
Tim	Wojdacz	Village of Wellston	740-384-2679	wellstonengr1@midohio.twcbc.com	City Engineer

Appendix C — Brainstorming Ideas by Topic

Brainstorming Ideas by Topic

Session 1 – Marketing the Profession

The tables discussed different ways to market the profession of being a water or wastewater operator. The following are the most popular ideas that surfaced after 10 minutes of brainstorming (entire list provided at the end of this section).

Top Marketing Ideas

- Social media
- High school access-promote in high schools
- Tours/open house of facilities
- Need to introduce/make people aware of job duties
- Videos on social media
- Middle school lessons/tours
- Career tech schools
- Reach out to people who care about the environment
- Value of public services/fulfilling a passion
- Target students in technical fields

Some of these topics were discussed in more detail.

Social media

Use social media to market the career by interviewing an employee or sharing information about employees on Facebook to create local celebrities.

Middle school lessons/tours

Schools should do tours of water and wastewater plants as early as 4th grade. Consider giving virtual tours which can be shown in the classroom. Expose the profession early as children are only aware of a few professions at that point in life (for instance, their parents and grandparents). Earlier exposure also teaches the value of drinking water and wastewater.

Reach out to people who care about the environment

In order to attract people who would not consider the field, share the impact the profession has on the environment as a critical way to help.

Target students in technical fields

The operation of treatment plants is changing to be computer centric. Consider advertising to career tech schools. There are a number of different groups who would be interested. For example, 4H, boy and girl scouts, high school students (STEM), community colleges, technical career center for both high school and adult learning.

Partner with Youngstown State University

Partner with Youngstown State University and their environmental science students. Students in high school can also receive dual credit. You need to find a professor who is eager to do it. The city of Warren allows students to come in and use the plant lab, so they expose the students (both high school and college) to the field. The students and professors are interested as they get out of the classroom.

Websites for facilities/municipalities

Create a website for the facility or municipality to garner interest and awareness.

College credit

Encourage that community colleges are an avenue to fix the problem. It's important to partner with career tech and community colleges. Find out where the need is and start to compile where the programs are. Using college credit plus is key and talking to high schools about this profession. Ohio Department of Higher Education plans to have a more concerted effort to include this field into the curriculum.

Offering online courses, so they can get a certificate and contact hour credit. Montgomery County works closely with Sinclair Community College by opening up facilities for their classes. This is not only offered to their employees but the public as well. It helps that they come to the facility and sit beside operators. Columbus State has offered water and wastewater certificates and two-year degree for 25 years and Zane State College has had courses since the 1970s. Work with municipalities to do tours and develop the courses.

Video game technology

The treatment plants are very computerized now. The younger generation is computer savvy and use their phones. Advertise the positions as very technical. Potentially use video game technology to garner interest.

Partner with regional local development districts

This is an opportunity to promote workforce development in local development districts.

Marketing to displaced workers

In Appalachian region there are a lot of coal-fired power plants and there is funding assistance for displaced workers and coal miners. Power plant workers may have skills that they can move to water plants. Some of these facilities have an NPDES permit or deal with water treatment in some fashion. When contacted by local officials and agencies who complain about loss of jobs and workforce then share this profession as a possible transition to another career.

Session 1 – Initial Brainstorm List

- Be aware of employee needs
- Who should we target? A variety of skills are needed so seek out
- Make people aware of the job duties or a day in the life
- Advertise the importance of the work
- Market on social media
- Videos on social media
- Promote in high schools
- Career days with high schools
- Tours/open house of facilities
- Booths at fairs, industry festivals and/or conferences
- Market/promote to other organizations
- Market/promote to mayors/council
- Market to Veterans services
- Reach out to county leadership
- Outreach to social groups (church, youth groups, adult groups) like the 4H club, boy and girl scouts, Moose, Eagle
- Working with Ohio Means Jobs and other organizations
- Talking with students at community colleges like Sinclair Community College
- Partner with county for student workers
- Partner with Youngstown State or other universities/colleges
- Message box in bills/fliers
- Use Akron's program as a template
- In demand jobs week (statewide recruitment event, municipalities to tour)
- Begin discussing the profession early in school. Give middle school lessons/tours.
- Co-program with Metropolitan Sewer District
- Websites for facilities/municipalities
- Work on improving the image--similar to first responders
- Training recognized as high school graduation credential
- Advertise the technical side of the field
- Make students aware of college credit options
- Inform the high school counselor of the career option
- Advertise at career tech schools/educational service centers
- Advertise the impact the job has on environment
- Recession proof employment
- Career path-entry level to operator/administration
- Move to other cities/states with education/certification, jobs exist in every community
- Value of public service and/or fulfilling a passion
- Use video game technology to attract the younger generation
- Partner with local development districts (LDD)
- Develop resources for parents to understand the field
- Market to displaced workers such as coal workers
- Do more outreach to women
- Market success stories
- Start mentoring programs
- Shadowing with peer training
- Connect to the "some college no degree" population

Session 2 – Educational Opportunities

During the second session of brainstorming, tables discussed different educational opportunities which exist for water and wastewater operators. This included ideas on apprenticeships, internships, degrees and certificates (entire list provided at the end of this section). Here are the most popular ideas.

Top Education Ideas

- Two-year programs
- Middle and high school programs
- Apprenticeship programs
- Vocational programs
- DW and WW in curriculums
- Partner with OTCO, AWWA, watershed groups, metroparks, SWCDs, OWEA, WEF
- Classroom tours
- Career center
- Credit flex
- Well-rounded education
- OIT as high school credit
- Employee reimbursement for education costs
- Need for chemistry, math and biology
- Events at treatment facilities
- Akron program

The following topics were discussed in greater detail.

Credit flex for high school students

High school students can get college credit in high school. Internship codes that can be used and internship credit while in class. Credit flex is an awesome opportunity for high school students to get credit through on-the-job site training and equate it to management system class or physics class. If you have a student that goes to the treatment plant with their parent then the student could test out of the environmental management course.

Industry partnership

Industry partners can be a private entity like a commercial lab or a municipality. It would be anyone teaching a certain set of skills, like a pre-apprenticeship. There is some liability and they are taking them with their liability insurance. There are challenges to hiring anyone under 18 because of child labor laws but there are caveats under the Ohio Revised Code on apprenticeships and that's what they help with, child labor and wages. ORWA is creating apprenticeship program which is a two-year program with 2,080 hours and 180 classroom training. There is an increase in income as they go through the program. Hopefully they stay with the system but if they travel then they have a certain level of professional experience. The pay back will be good for them because they will have this industry specific training.

Internal apprenticeship program

Montgomery County realizes they cannot hire people that have all the licenses which are required. They bring them in with a lower pay and they give them everything they need to be licensed. They can become an OIT and can start their career there. The county partners with Sinclair and has an internship program. If they have gone through the certificate program, which shows interest, then we hire them. The county pays for any fees associated with them wanting to grow, which helps with their succession planning. As long as they are a county employee the county pays their fees. If they are a field person, then the county will get you all the tools to become an operator. City of Columbus has started OIT jobs allowing them to step into a job critical in forming the pipeline.

Session 2 — Initial Brainstorm List

- Develop middle and high school programs
- Vocational programs
- Classroom tours
- Career center
- Apprenticeship programs
- Credit flex
- Two-year programs
- Well-rounded education
- Hiring firms
- Non-traditional outreach to CBI students
- Industry partnership
- Training info directly to operator
- Training with correctional facilities
- DW and WW in curriculums
- Mandatory classes in 6th and 12th grades
- Need better way to inform folks about education opportunities
- Internal apprenticeship program/develop current county/municipal employees
- Develop more local certification programs
- Scholarship programs
- Employee reimbursement for education costs
- Grants from Ohio EPA
- Waiving test fees for veterans or disadvantaged groups
- Continuing education program
- Two-week crash course prior to test
- Need for chemistry, math and biology
- Schools with successful programs—have grads promote programs
- Partner with OTCO, AWWA, watershed groups, metroparks, SWCDs, OWEA, WEF
- Tailor education pathway for WW and DW careers
- Events at treatment facilities
- Engage school administration to push subject
- Utilities visit the schools
- Present at high school administrator's state conference
- Use the Akron program as a template
- Develop successful training examples
- Allow education to be stackable (certificate to associate, etc.)
- Online training/education
- Mini online training/classes at technical schools for HS — develop statewide model/template
- Starting advanced college credit plan program in high school-8th grade
- Pairing online training with test
- Contact hour training to SE Ohio
- Offer local training options (SE Ohio)
- Practical and low-cost training
- 9-12 month certificate program
- Blended courses (online, lab work, field work at plant)
- Internships
- SMEs (subject matter expert) educate others
- Develop progressive career pathway (low to higher level workforce)
- Employers should provide financial incentive for programs

Session 3 – Succession Planning

The third session covered succession planning which garnered some innovative ideas including the following (entire list provided at the end of this section).

Top Succession Planning Ideas

- Planning for budget and personal retirement is key.
- Unions can get in the way. Unions need to be more flexible.
- Mentorship and training opportunities.
- Cross-training distribution, treatment, streets, different shifts responsibilities.
- Pay rates.
- Retirees are coming back — not sustainable.
- Difficulty for small communities/small communities are territorial.

The following led into some good discussions.

Statewide apprentice program

The Department of Education sees two different levels of apprenticeships: pre-apprenticeships which leads to full apprenticeships. The expectation is that the training would be uniform. The different regions may have different needs but focus on Apprentice Ohio as the statewide apprenticeship program, but each school has its own pathway. If you are thinking of having your own program then ORWA may have pointers as they have been through the process.

Communication between trade associations

Recommend trade associations communicate and keep each other informed.

Cleveland's apprentice program

Use Cleveland as a model for a successful succession planning and apprenticeship program. They use the program for all the trades. They have mentors, shadowing and progress.

Ohio WARN non-emergency assistance

Consider a mutual aid system for water and wastewater facilities. You can coordinate with many organizations under the umbrella of shared resources. Ohio WARN is set up for emergencies and expanding it to non-emergencies would be beneficial. It has been used in other non-emergency situations. It is free to become a member but you have to sign an agreement. You could consider seeking out reimbursement if you do let a situation get to emergency.

Challenges to obtaining Class IV licenses

Obtaining Class IV is challenging, and no one wants to pursue a Class IV because they lose the overtime work. City of Columbus started Class IV mentorship program. What are the incentives? The lower levels make more because of OT.

Cross-training for management roles

It is important that they understand their value, so they are more comfortable passing knowledge along. Opportunities exist when a manager goes on vacation and gives them opportunity to see if the job is for them. They can tell who has worked out of class before and those who haven't.

Session 3 — Initial Brainstorm List

- Statewide apprentice program
- Municipality needs to be interactive
- Buy-in needs to happen from top and bottom for implementation
- Having the right conduit to share information among communities
- Communication between trade associations
- Work with the local area workforce development
- Short video clips (similar to what was done for nursing associations)
- Communication start early (middle school)

- Provide training after-school program and guarantee some employment that requires commitment from students
- Use Cleveland as a model for Ohio succession planning apprentice program
- Research topic for students
- Cross-training distribution, treatment, streets, different shifts responsibilities.
- Include training with emergency responders
- Develop detailed but straight-forward SOPs
- Employee involvement with asset management foster leadership
- Apprenticeship (Columbus, Findlay, Mason)
- Unions need to be more flexible
- Contract negotiations
- Be more open to sharing resources
- Asset management
- Inner utility agreements to share equipment
- Ohio WARN
- Mutual aid agreements for more than just emergencies
- Targeted intern programs for those positions of need or near retirement
- Share personnel 'floaters'
- Increase pay rates
- Bonuses for self-professional development for all positions
- Education benefits for the incumbent workers with bonuses promotions, etc.
- Regionalization is key. Local control needs to be understood with possible cooperative agreements.
- Continue professional development opportunities for advancement.
- Use continued education opportunities on the pay rate.
- Mentorship and training opportunities
- Shadowing
- Awareness in the utility to know where you are with staffing so you have time to adjust
- Funding for training before retirement
- Partner with another group to help allocate cost
- Regionalize the management of the plant
- Duplication of services can't last
- Hard to overcome territorial issues
- Need to overcome political divide to shared services
- Incentivize the move
- Internal development of people
- Retirees are coming back which is not sustainable
- Maintaining class 4 licenses is challenging
- Small communities are territorial
- Require training to develop employees for succession planning
- Have a written plan
- Have money to commensurate to promotion
- Become in-house consultant to mentor replacement
- Flexibility to promote candidates after and before transition occurs
- Go from full-time to part-time after retirement
- Working out of class in higher position to learn skills
- Asset management: accurate record-keeping and contingency plans for next operator
- Mentorship/leadership programs statewide or with other states
- Getting people into management and educating those on the management skills
- Embracing technology, automated systems, technical background of staff need to understand process + tech
- Training staff for changes in technology
- National licensing—reciprocity move to and from any state
- Mandate number of operators funded by local government through property taxes
- Planning ahead for budget and personnel retirement is key
- Getting existing personnel to pay forward. Provide their knowledge before they leave.
- Asset management: recognizing operators are an asset.
- Getting people out of silos.
- Growing your own experience.
- Practice interviewing skills with personnel.
- Speed monitoring
- Open up strategic planning to all staff. Engage everyone to help break down union barriers.
- Succession planning should be an ongoing process
- Identify skill sets ahead of time
- Develop team concept
- Making existing management feel secure for future planning
- Dual path succession planning: some people are not management material, find them opportunities that do not involve management

Session 4 – Other Topics

The fourth session was a catch-all to gather any other ideas that attendees may have to help with recruiting or retaining water and wastewater operators. Here are some of the top ideas (entire list provided at the end of this section).

Top Other Ideas

- Talk to management and elected officials to see the value of operators.
- Increase visibility of the active work being done/raise awareness/marketing.
- Won't take responsibility for low pay, increase pay, increase pay for lower licenses.
- People don't want the responsibility of being ORC or not enough pay for the responsibility.
- Incentives for small communities to come together and hire operators for regional approach.

The following ideas were discussed further.

Small communities should consider a regional approach

If eliminating facilities by connecting smaller communities is not an option, then find a way to regionalize management and oversight of small systems and villages. This can lead to cost savings and improvements in operations.

New idea for funding the water industry

To raise money for the water industry, consider proposing bottled water tax to promote water industry.

State auditor may need more oversight on water rates

Enterprise money that is coming in needs to stay in water and wastewater accounts. There are many small communities who have not had a rate increase in decades. The asset management requirements are anticipated to help keep money in the correct funds.

Training and resource providers working together (OTCO, OWEA, RCAP, OAWWA)

All organizations' goals are the same so working together to ensure there are training opportunities makes sense. Many are membership-driven so there is competition but can continue to look for ways to work together.

Session 4 Brainstorm List

- Unions provide assistance rather than ultimatum for licensure. Certification takes precedence over seniority in unions.
- Talk to management and elected officials to see the value of operators
- Legislation to protect the position (state level)
- Find most qualified candidates
- Reduce nepotism
- Recognize industry recognized credentials
- Reach out to farms or locals looking for a steady day job
- Reach out to rural kids
- Increase visibility of the active work being done/raise awareness/marketing
- Gopro of minor repair onto YouTube
- Develop high school commercial through OEEF
- Training by county administrators for communities
- Pull out people from comfy positions to key position in smaller communities
- Funding for training and education
- People don't want the responsibility of being ORC or not enough pay for the responsibility
- State auditor may need more oversight on water rates
- Rate increases
- Sewer and water fees are not for water and sewer but are more for police and parks
- Won't take responsibility for low pay, increase pay for lower licenses
- Obtain Operator in Training designation, all you need is time, so you are an attractive applicant
- Employees in cities need to attend career fairs
- Training providers need to work together (OTCO, OWEA, RCAP, OAWWA)
- Need opportunities after schooling
- Need to advertise career opportunities
- Make sure all training opportunities are in one spot (website)
- Make EPA website more user friendly

- Contact hours for things like this make this more worthwhile
- Loosening up regulations on what is considered contact hours
- Respect for operators by employer, including mayors and councils
- Address public perception of water quality (bottle vs tap)
- Statewide bottle water tax, funding goes to statewide program to promote operators
- Incentives for small communities to come together and hire operators for regional approach
- More bottle filling water fountains in public places
- Combining water and wastewater systems
- Shared resources for cooperatives and various systems
- Promote the success of our systems
- Raise awareness of these services and life lines
- Lack of legacy with family careers
- Marketing to keys sectors
- Learn from other sectors and the creative efforts to attract people
- Industry leads, strategic planning like today
- Marketing to: some college no degree, incarcerated, K-12, community college, OTCO, veterans, farmers, 4H/scouts, females
- Market to new collar workers
- Increase communication skills
- Is state willing to put together a grant fund?
- Financial incentives/bonus as operators get their licenses
- Increase baseline salary
- Utilize director to be more involved and participate in chambers of commerce and other programs
- Bring workforce from other states
- Outreach campaign, statewide billboard
- Eliminate or reduce the operator testing fees
- Have a strategic plan, 5- to 10-year outlook
- Have a contingency plan for worst-case emergencies
- Funding is needed for OM
- Improve operator training materials
- Establish adequate rates to fund OM and salaries
- Value of the service of water and wastewater needs to be communicated to public and council members
- Is technology advancing too quickly?
- Conduct labor audit? Do we need programmers, electricians and instrumentation techs?
- Catch 22, can't earn license until employed and vice versa
- Make it easier?
- Getting by issues some have with testing, giving extra credit for operation experience, hands-on component to testing
- Getting more hands-on experience as part of training
- Unbury information for Jobs Ohio resources
- Deferral of education cost for working in under-served areas
- Issues with recruitment compared to retention
- Promote benefits, job security, peers, transferrable skills, etc.
- Match outreaches to audience to relate better
- Who delivers the message matters, hearing it from important people

Appendix D — Volunteer List for Follow-Up Activities (by Topic)

Marketing the Profession

First Name	Last Name	Organization	Title	Phone	Email
Bret	Allphin	Buckeye Hills Regional Council	Development Director	740-376-1028	bretallphin@buckeyehills.org
Jeff	Bates	Columbus State Community College	Professor	614-287-3652	jbates@csc.edu
Tom	Fishbaugh	Ohio Rural Community Assistance Partnership	Sr. Rural Development Specialist	419-332-2032	bretallphin@buckeyehills.org
Brian	Gresser	City of Akron	Manager, Water Reclamation Services	330-375-2964	bgresser@akronohio.gov
Franco	Lucarelli	Ohio American Waterworks Association	Director of Utilities (Warren)	330-841-2710	flucarelli@warren.org
Cheryl	Rice	Ohio Department of Higher Education	Assoc. Vice Chancellor	614-466-6000	crice@highered.ohio.gov
Mark	Stanifer	Indiana Department of Environmental Management	Branch Chief	317-232-8431	mstanife@idem.in.gov
Ann	Gliha	OTCO	NE Training Coordinator	216-392-6041	ann@otco.org

Education Opportunities

First Name	Last Name	Organization	Title	Phone	Email
Bret	Allphin	Buckeye Hills Regional Council	Development Director	740-376-1028	bretallphin@buckeyehills.org
Kelly	Barron-Holcomb	Hocking College	Program Manager (Water/Wastewater Management)	740-753-6275	barron-holcombk@hocking.edu
Jeff	Bates	Columbus State Community College	Professor	614-287-3652	jbates@csc.edu
Ryan	Curtis	Ohio Department of Education	Program Specialist	614-644-5924	ryan.curtis@education.ohio.gov
Steve	Heimlich	Ohio American Waterworks Association		419-707-2222	sheimlichalmu@gmail.com
Cheryl	Rice	Ohio Department of Higher Education	Assoc. Vice Chancellor	614-466-6000	crice@highered.ohio.gov
Ann	Gliha	OTCO	NE Training Coordinator	216-392-6041	ann@otco.org

Succession Planning

First Name	Last Name	Organization	Title	Phone	Email
Steve	Heimlich	Ohio American Waterworks Association		419-707-2222	sheimlichalmu@gmail.com
Sherry	Loos	Ohio Rural Community Assistance Partnership	State Coordinator	330-677-3438	smlaos@wsos.org
Chris	Moore	City of Springfield	Service Director	937-525-5800	cmoore@springfieldohio.gov
Dana	Moore	City of Wadsworth	Water Treatment Superintendent	330-335-2832	dmoore@wadsworthcity.org
Kim	Riddell	Ohio Water Environment Association	OWEA President-Elect	419-223-1362	kim.riddell@alloway.com

Training

First Name	Last Name	Organization	Title	Phone	Email
Brandon	Fox	Ohio Water Environment Association	SE Section Delegate	614-645-3138	bdfox@columbus.gov
Steve	Heimlich	Ohio American Waterworks Association		419-707-2222	sheimlichalmu@gmail.com
Franco	Lucarelli	Ohio American Waterworks Association	Director of Utilities (Warren)	330-841-2710	flucarelli@warren.org
Kim	Riddell	Ohio Water Environment Association	OWEA President-Elect	419-223-1362	kim.riddell@alloway.com
Ann	Gliha	OTCO	NE Training Coordinator	216-392-6041	ann@otco.org

Shared Services

First Name	Last Name	Organization	Title	Phone	Email
Bret	Allphin	Buckeye Hills Regional Council	Development Director	740-376-1028	bretallphin@buckeyehills.org
Dave	Douglas	U.S. Dept of Agriculture - RD	Director, Community/Water & Environmental Programs	614-255-2391	david.douglas@oh.usda.gov
Steve	Heimlich	Ohio American Waterworks Association		419-707-2222	sheimlichalmu@gmail.com
Sherry	Loos	Ohio Rural Community Assistance Partnership	State Coordinator	330-677-3438	smloos@wsos.org

Appendix E — Presentations



OPERATOR

WORKFORCE

DEVELOPMENT

SUMMIT

September 19, 2018



Ohio Water and Wastewater Operator Workforce Development Summit

September 19, 2018

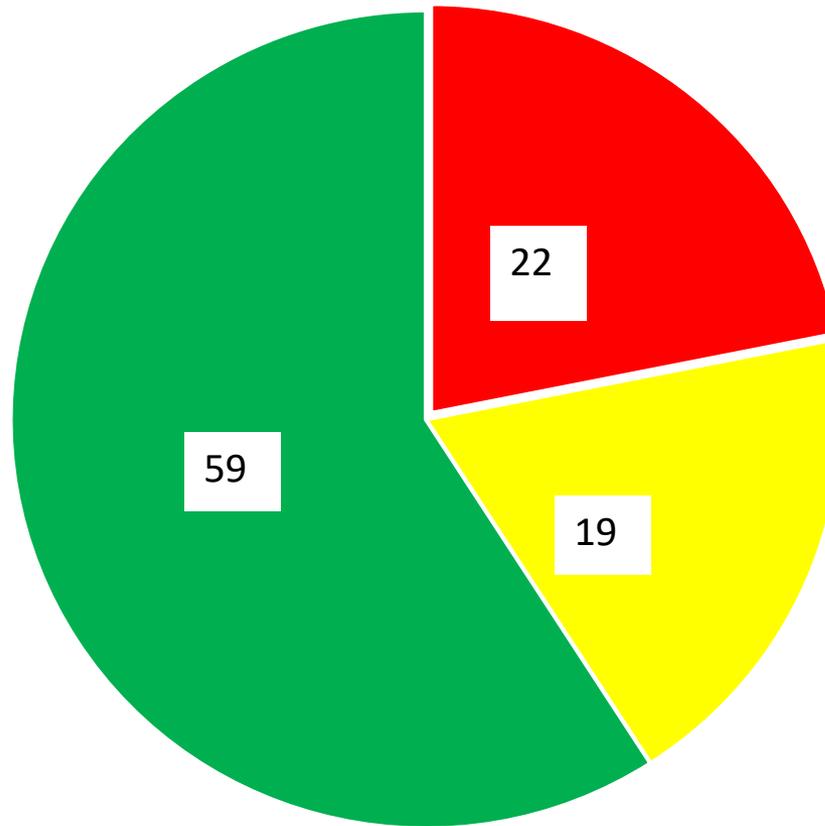
**Andrew Barienbrock, Manager
Division of Drinking and Ground Waters**



Operator Certification Program Background

- Ohio's Water and Wastewater Certification Program was established in 1935
- 14 Classifications
- Exams
 - Historical
 - Modern Day
- Workforce Initiatives
 - Operators as Professionals
 - Veterans
 - Career Resources tab on website

Water Operators Eligibility for Retirement

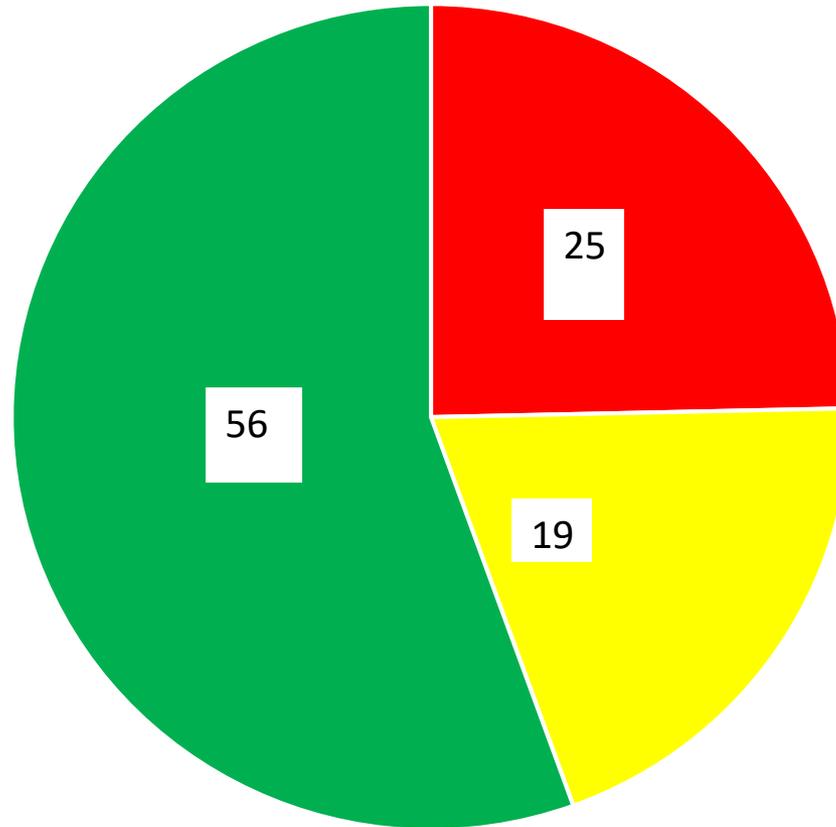


- # Eligible for retirement < 5 yrs
- # Eligible for retirement 6-10 yrs
- # Eligible for retirement > 10 yrs

Water Operator Outlook by District

	Districts (# of operators)						
# of years until retirement	NWDO	NEDO	CDO	SWDO	SEDO	Overall	Overall %
<5	75	118	84	152	65	494	21.9%
6-10	75	91	86	98	77	427	18.9%
>10	242	224	256	393	218	1,333	59.1%
Total	392	433	426	643	360	2,254	

Wastewater Operators Eligibility for Retirement



- # Eligible for retirement < 5 yrs
- # Eligible for retirement 6-10 yrs
- # Eligible for retirement > 10 yrs

Wastewater Operator Outlook by District

	Districts (# of operators)						
# of years until retirement	NWDO	NEDO	CDO	SWDO	SEDO	Overall	Overall %
<5	111	168	44	126	66	515	24.6%
6-10	88	148	40	86	41	403	19.2%
>10	249	295	94	364	177	1,179	56.2%
Total	448	611	178	576	284	2,097	

Statewide Water Operator Wages

	Average	Min	Max
WD1	\$22.50	\$8.30	\$45.90
WD2	\$25.79	\$15.00	\$41.32
WSA	\$19.75	\$14.50	\$27.00
WS1	\$22.89	\$8.50	\$48.69
WS2	\$24.98	\$15.75	\$45.00
WS3**	\$27.56	\$9.40	\$50.96
WS4	\$37.52	\$15.00	\$61.00

**One Village indicated they paid their WS3 and WW1 operators \$5.63 an hour. This is less than minimum wage. These values have been taken out of the average calculation.

Average Water Wages by District

	NWDO	NEDO	CDO	SWDO	SEDO
WD1	\$22.30	\$23.69	\$21.90	\$23.75	\$20.67
WD2	\$25.51	\$26.70	\$28.87	\$26.31	\$23.03
WSA	\$16.64	\$19.88		\$17.48	\$22.15
WS1	\$22.55	\$22.58	\$21.46	\$23.71	\$19.46
WS2	\$23.11	\$26.22	\$23.10	\$26.00	\$20.64
WS3**	\$25.98	\$29.51	\$31.10	\$28.00	\$23.44
WS4	\$32.30	\$39.75	\$39.98	\$38.02	\$34.30

**One Village indicated they paid their WS3 and WW1 operators \$5.63 an hour. This is less than minimum wage. These values have been taken out of the average calculation.

Statewide Wastewater Operator Wages

	Average	Min	Max
WC1	\$23.71	\$15.03	\$41.32
WC2	\$24.84	\$15.86	\$33.40
WWA	\$18.80	\$15.00	\$26.08
WW1**	\$21.45	\$10.30	\$33.37
WW2	\$22.90	\$9.40	\$38.00
WW3	\$26.70	\$14.33	\$63.00
WW4	\$36.35	\$20.00	\$61.00

One Village indicated they paid their WS3 and WW1 operators \$5.63 an hour. This is less than minimum wage. These values have been taken out of the average calculation.

Average Wastewater Wages by District

	NWDO	NEDO	CDO	SWDO	SEDO
WC1	\$25.06	\$24.91	\$22.32	\$23.06	\$21.40
WC2	\$25.19	\$26.98	\$22.22	\$24.53	\$20.44
WWA	\$16.06	\$19.18		\$17.48	\$21.94
WW1**	\$22.64	\$21.83	\$20.94	\$22.84	\$18.27
WW2	\$22.47	\$23.65	\$22.19	\$23.29	\$21.06
WW3	\$27.96	\$26.63	\$28.30	\$27.60	\$23.25
WW4	\$29.08	\$38.11	\$38.01	\$39.64	\$25.21

**One Village indicated they paid their WS3 and WW1 operators \$5.63 an hour. This is less than minimum wage. These values have been taken out of the average calculation.

Questions?

Andy Barienbrock, Manager

Operations, Resiliency and Certification
Division of Drinking and Ground Waters

614-728-1216

Andrew.barienbrock@epa.ohio.gov



Registered Apprenticeship: A Proven Workforce Strategy

Becky DeMatteis – Program Support Supervisor

ApprenticeOhio

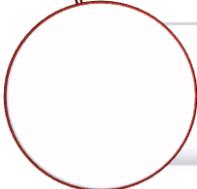




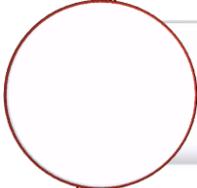
REGISTERED APPRENTICESHIP



Contractual agreement with sponsor, apprentice, and the state



Involves technical skills & theoretical knowledge



Structured on-the-job training & supplemental related instruction (classroom)



Employment and wages

PROGRAMS IN WATER TREATMENT





COMMUNITY COLLEGES

Columbus
State

Washington
State

Marion
Technical

Stark State

Sinclair

Edison State

Lorain County
Community
College

Cuyahoga
Community
College

Rhodes State

North Central
State

PROGRAM REGISTRATION INQUIRY

Ohio
MEANS
Jobs.com About | Resources | Contact

Ohio.gov State Agencies | Online Services



On average, apprentices who complete their program earn \$60,000/yr upon graduation.

Earn while you learn. Become an apprentice.

Apprentice.Ohio.gov



BENEFITS FOR VETERANS



About | Resources | Contact

Ohio.gov State Agencies | Online Services

Earn while you learn. Become an apprentice.



Apprentices 

Employers 

Resources

Below are several resources that you can use to get more information about apprenticeship and apprenticeship opportunities.

- [OhioMeansJobs](#) is a proud partner of the AmericanJobCenter network.
- [State Approving Agency for Veterans Training](#) map and contact information of Ohio's Area Consultants.
- [Ohio State Apprenticeship Council Meeting Schedule for 2018](#)





- SAA Contacts
- Program Approval
- Program Categories
- Resources
- Register for Updates

Our Mission

"...to approve education and training programs for veterans and their eligible dependents throughout the state of Ohio."

Ohio Opportunities

Employment with the state is more than a job – it is a privilege to serve our families, friends and neighbors across this great state.

[See further details](#)

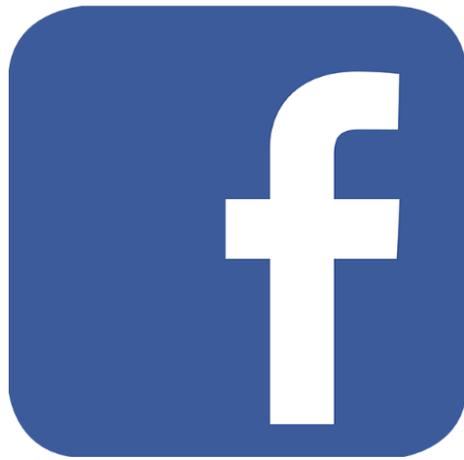
Contact Your Area Consultant

- Area A: Melissa Triplett | 614-387-2280
- Area B: Bill Schroeder | 614-466-8719
- Area C: Deborah Shinall | 614-907-2188
- Area D: Kevin Edwards | 614-644-1213
- Area E: Karol Scheetz | 614-466-4283



Large map & contact list

Follow @ApprenticeOhio



FROM HIGH SCHOOL TO HIGHLY SKILLED –AKRON’S UTILITIES INTERN PROGRAM



September 19, 2018

Drinking Water & Wastewater Operator
Workforce Development Summit



Brian M. Gresser, P.E., WW4
Manager, Water Reclamation Services



Program Development

- Idea conceived at a utility manager's retreat.
- Akron Public Schools.
- Multi-departmental involvement to define and create program.



Program Development

- Task identification
- Job description
- Compensation plan
- Civil Service Commission approval
- Child labor laws



UTILITIES INTERN

226

DEFINITION

This is an in-service training position designed to lead to a full-time entry level position in one of the operating divisions of the Public Utilities Bureau.

CHARACTERISTIC WORK

Assists skilled operations and maintenance employees of the Water Pollution Control, Water Supply and Utilities Field Operations Divisions. Assists skilled mechanics in overhauling and repairing pumps, valves, motors, piping systems, and other treatment plant equipment and systems. Assists in building repairs and cleaning. Assists in repairing water mains; installing and repairing water services, hydrants, and valves; building and repairing manholes and inlets; laying sewer pipe; cleaning and televising sewer lines; etc. Assists treatment plant operators in placing equipment in and out of service, hosing and cleaning equipment, monitoring process parameters, and performing routine process control tests. May assist engineers and other technical staff in taking samples, measuring distances, making sketches, entering information into personal computers, calculating volumes and areas, and gathering geospatial data for entry into the City's GIS system. Uses hand tools, pneumatic equipment, chain saws, mowers, etc., in the performance of assigned tasks. Performs related work as required.

MINIMUM QUALIFICATIONS

Completion of the 11th grade and enrollment in a high school or vocational school cooperative education program. Possession of a valid State of Ohio driver's license.

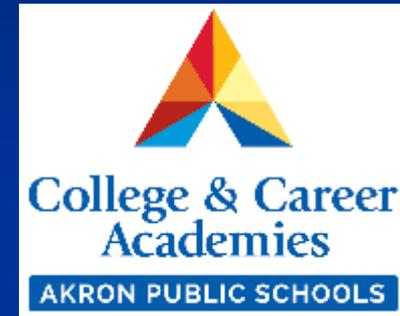
Some knowledge of basic plumbing, electrical, and mechanical drive maintenance and safety procedures.

Ability to perform strenuous and/or repetitive physical tasks. Ability to work outside in inclement weather. Ability to make routine arithmetic calculations and tabulations. Mechanical aptitude. Ability to understand and follow oral and written instructions. Ability to establish and maintain effective working relationships with others.

Established: 7/20/2006

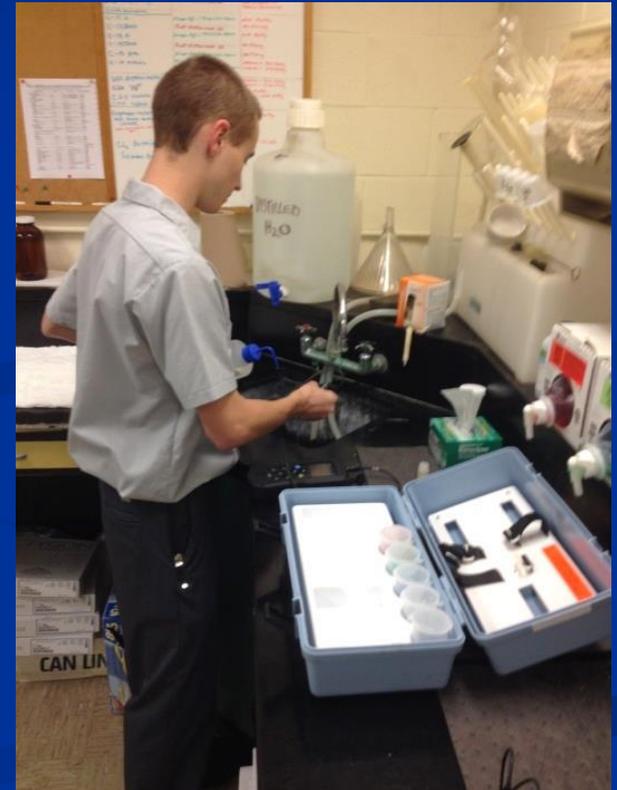
Program basics

- Akron Public Schools -
College & Career Academies
- “Earn while they Learn”
- Academies include
construction & building
technology, HVAC,
automotive technology,
energy and environmental
protection.



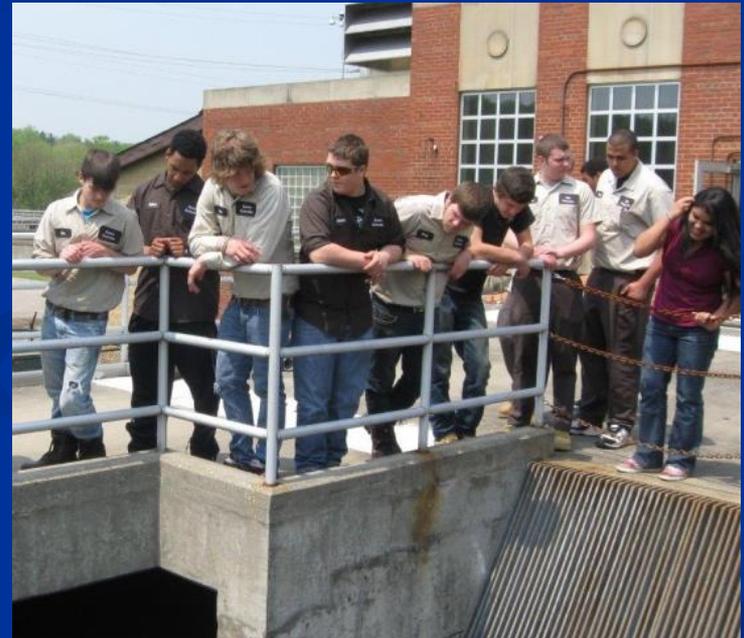
Program basics

- Must meet requirements including minimum gpa, attendance and progression towards diploma.
- Work begins end of Junior year, thru summer and Senior year.
- Students work 4-hour days when school is in session, full days in summer.



Selection process

- Orientation day / tours
- Students submit application and one-page letter why they are interested and where they would prefer to be assigned.
- Students interviewed in group-setting.
- Selection/placement by committee.



Mentoring

- Akron Public Schools conducted training for COA employees involved in program.
- Need to partner students with knowledgeable employees supportive of program.
- Students need direction, constructive feedback, and evaluation of learned skills.



Results

- Program is 12 years running.
- 51 students have entered the program.
- 34 students have been hired full-time.
- 27 former students are still employed by the utility.



Results

- wastewater plant operator
- water plant lead operator
- equipment operator II
- sewer service worker
- utilities maintenance mechanic
- utilities maintenance worker



Results

- Year long interview.
- Promote into an entry-level position.
- What do you want to do with your life?



Challenges

- The youth factor can go both ways.
- Driver's license.
- Life skills.
- Sometimes feast or famine on applicants.
- Sufficient permanent openings?



Final thoughts...

- Program has been a win-win-win for the student, Akron Public Schools and the City of Akron.
- Student gains experience, application of learned concepts, compensation.
- APS placement of successful vocational students.
- City gains young, eager to learn staff, validated through a year-long interview.



QUESTIONS?



For more information, contact
BGresser@AkronOhio.gov





SUCCESSFUL STUDENTS
Prosperous Communities



Our Goal:

To bridge the gap between education and employment

Our Mission:

To develop and facilitate **community networks that support career development**

Our Vision:

Successful Students, Prosperous Communities



SUCCESSFUL STUDENTS
Prosperous Communities

BB2C Projects

- Family Career Awareness Day
- Job Shadowing
- Internship
- Student Ambassador
- Epicenter
 - Business Incubator
 - Makerspace
- Career Pathway Stories
- Discover Series
- Career Mentoring
- Problem Scenarios



Collaboration



SUCCESSFUL STUDENTS
Prosperous Communities

Funding

General funding for BB2C projects

- Grants-Local, state, federal and private foundations
- Private donations
- School contributions
- Sponsorships
- Fee for services

OTCO Internships

- Money from municipalities
- Job and Family Services



Jared's Journey

OTCO



Jared



SUCCESSFUL STUDENTS
Prosperous Communities

FCAD

Student
Ambassador

Job Shadow

Internship



Workforce Development



SUCCESSFUL STUDENTS
Prosperous Communities



OTCO

RAMPP

Micro Machine Works

Janisource



SUCCESSFUL STUDENTS
Prosperous Communities

Patrick



Patrick's Meeting



SUCCESSFUL STUDENTS
Prosperous Communities

System Intern Sites Since June

Village of Stockport

Village of Malta

Morgan-Meigsville

Village of Newport

City of Marietta

1) Village of Stockport

Village of 2) Malta

3) Morgan-Meigsville



SUCCESSFUL STUDENTS
Prosperous Communities

RR



SUCCESSFUL STUDENTS
Prosperous Communities

Questions



SUCCESSFUL STUDENTS
Prosperous Communities