



CAREER & TECHNICAL EDUCATION

A SNAPSHOT OF CAREER AND
TECHNICAL EDUCATION IN
ALLEGHENY COUNTY

JUNE 2019



ALLIES
FOR CHILDREN

TABLE OF CONTENTS

WHY CAREER AND TECHNICAL EDUCATION?
CTE IN ALLEGHENY COUNTY
ENROLLMENT IN CTE
STRUCTURE OF CTCs
FUNDING CTE
COMMON FUNDING CHALLENGES
CAREER EDUCATION STANDARDS - WORK IN THE MIDDLE GRADES
THE FUTURE OF CTE
APPENDIX I: MAP OF SENDING SCHOOL DISTRICTS BY CTC
APPENDIX II: CTE ENROLLMENT BY PROGRAM AND CAREER CLUSTER
APPENDIX III: CTE BY SCHOOL DISTRICT
APPENDIX IV: PROJECTED HIGH PRIORITY OCCUPATIONS

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ALLIES FOR CHILDREN SERVES AS A BOLD VOICE FOR POLICY AND PRACTICE CHANGES
THAT IMPROVE THE WELLBEING OF ALL CHILDREN AND YOUTH IN ALLEGHENY COUNTY



Allegheny County's workforce and job market have evolved, and the avenues to achieve gainful employment have changed along with it. The county's education system is responding by aligning career and technical education (CTE) opportunities to the growing demand for skilled workers in the region's business and industry. Through the CTE system, students have the opportunity to explore career fields and receive credentials, including job training, apprenticeships, associate degrees, and certificates that properly prepare them to enter postsecondary and the workplace following graduation. Although these opportunities are available to all students, not all have equal access due to misconceptions of CTE programming and financial constraints.

CTE has recently received a lot of attention from business leaders, policymakers, educators, and others who are seeing a viable opportunity readily available in our K-12 system. In the General Assembly, legislators are finalizing legislation to improve CTE policy and investing in CTE through the CTE subsidy and PAsmart. The business community is highlighting CTE. For example, the Allegheny Conference's Inflection Point report discusses CTE's role in meeting the needs of business and industry. Similarly, education advocates are also recognizing CTE and its struggles through recent reports by the University of Pittsburgh's Institute of Politics, Education Policy and Leadership Center, PA Partnerships for Children and others. For additional reading, please see reports and references.

CTE is a vast subject with many different topics to discuss. This report is intended to be a "snapshot" of CTE programming throughout Allegheny County, focused primarily on CTCS, including key takeaways for CTE to continue to grow and thrive. Allies for Children supports and encourages additional dialogue on this subject in areas related to business demands, CTE programming delivered through traditional high schools and comprehensive high schools, governance of CTE, and other topics that are crucial to CTE's continued success.

PASmart -

AN INITIATIVE LAUNCHED IN 2018 THROUGH THE GOVERNOR'S OFFICE PROVIDING GRANTS TO LOCAL EDUCATION AGENCIES (LEAS) FOR STEM AND COMPUTER SCIENCE INSTRUCTION AND PROFESSIONAL DEVELOPMENT. WITH AN ESTIMATED 300,000 STEM JOBS PROJECTED TO BECOME AVAILABLE IN PENNSYLVANIA BY 2026, THIS INVESTMENT IS CRUCIAL TO ENSURE A SKILLED WORKFORCE.¹

CTE IN ALLEGHENY COUNTY

CTE officially got its start in the 1960s when Congress passed the Vocational Education Act of 1963. This legislation recognized the need and provided funding for career-focused education.² During that time, the Superintendent of Allegheny County Schools, Dr. Alfred Beattie, is credited with bringing CTE programming to county school districts. He oversaw the creation of Forbes Trail, the first vocational school in the county, which opened in Penn Hills in the early 1960s.³

Today, Allegheny County's CTE system is composed of four regional career and technical centers (CTCs) - A.W. Beattie Career Center, Forbes Road Career and Technical Center, Steel Center for Career and Technical Education, and Parkway West Career and Technology Center (See Appendix I). Additionally there are two comprehensive high schools: McKeesport Area School District and Pittsburgh Public Schools. These districts have their own CTE programming embedded within the school buildings where they are made available to all students. Schools throughout the county also have CTE-like courses built within the school day, however the courses typically do not lead to credentials like those offered at the CTCs.

CTE programs today are equipped with state of the art technology to ensure students are being trained on the most up-to-date equipment. By providing career tracks from computer programming, to medical training, to veterinary clinics, CTE is paving the way for students to excel after high school graduation in a career field that matches their interest and abilities, while aligning with the demands of the industry. Students who attend a regional CTC typically split their day between their traditional high school and their CTC. This model allows the students to complete their required academic coursework and then be transported to the CTC for work in their program of study. Both comprehensive high schools and CTCs offer "approved courses" meaning they offer courses that are reviewed and audited by the Pennsylvania Department of Education and are recognized as a program of study that is leading to industry-recognized credentials.

To create an approved CTE program, each school or center must create high-quality business-aligned courses and curricula that go through a rigorous approval process with the Pennsylvania Department Of Education (PDE)- see page three.

Business partnerships are required in each approved program of study offered at the CTC and are known as the Occupational Advisory Committee (OAC). This committee provides not only guidance on program curriculum, equipment, and other items, but can also provide career opportunities for students, promotion of the CTC, equipment donations and other areas that are directly linked to ensuring students leave the CTC prepared and ready to enter the workforce arena and/or postsecondary education. Business partnerships are key to the success of a CTC program, and opportunities to continue to get business involved in the overall governance should be analyzed and discussed.⁴

ENROLLMENT IN CTE

Throughout Allegheny County, around 3,600 students identify as CTE concentrators, students who are taking at least three CTE courses in a specific program of study - see Appendix II. Enrollment for CTE has remained relatively steady with around 3,500 students enrolled over the past ten years.⁵ Both Parkway West and Forbes Road enroll students in grades 9-12, while Steel Center and A.W. Beattie have a three-year program for 10-12 graders. Parkway West's four-year program includes ninth graders in all programs of study, and Forbes Road offers a ninth grade career exploration program.

Across Pennsylvania, Allegheny County enrolls the greatest number of students in CTE programs. However, when comparing the percent of eligible students enrolled, Allegheny County is behind. According to CTC enrollment numbers reported to PDE, compared to the other 66 counties in Pennsylvania, as a percent of total high school enrollment in CTE, Allegheny County ranks 41st. The statewide average enrollment in CTCs compared to total high school enrollment is over 13 percent. Only eight percent of high school students in Allegheny County are enrolled in a CTE program.⁶ **To reach the state average, Allegheny County would need to increase participation by nearly 65 percent or roughly 2,400 students.**

Forbes Road CTC offers a career exploration program for ninth graders focusing on safety, theory, and lab areas. Participants are given an opportunity to experience different program areas to see if a CTE pathway is the right choice for them. As sending districts continue to struggle financially, participation in this program is declining. Overall, enrollment at Forbes Road CTC has been increasing over the last few years. However, numbers remain lower than at its peak over ten years ago.

APPROVED PDE CTE PROGRAMS

- PREPARE STUDENTS FOR EMPLOYMENT IN HIGH PRIORITY OCCUPATIONS & ARE SUPPORTED BY LOCAL EMPLOYERS.
- UTILIZE INSTRUCTIONAL EQUIPMENT & MATERIALS THAT ARE COMPARABLE TO INDUSTRY STANDARDS.
- HAVE CERTIFIED TEACHING STAFF WITH A MINIMUM OF 4 YEARS OF INDUSTRY EXPERIENCE.
- PROGRAM COMPLETION PROMOTES SEAMLESS TRANSITION TO ENSURE THE MAXIMUM OPPORTUNITY FOR STUDENT PLACEMENT, INCLUDING OPPORTUNITIES FOR CONCURRENT ENROLLMENT UNDER DUAL ENROLLMENT, OR OTHER STRATEGIES THAT PROMOTE ACQUISITION OF POSTSECONDARY CREDIT WHILE STILL IN HIGH SCHOOL.
- PROGRAM SPONSORSHIP OR INVOLVEMENT, OR BOTH, IN CAREER AND TECHNICAL STUDENT ORGANIZATIONS.
- FOLLOW AN EDUCATIONAL PLAN AND HAVE AN OCCUPATIONAL OBJECTIVE.

CTE IN THE COMMUNITY

NOT ONLY DO CTCs PROVIDE FOR THEIR STUDENTS, THEY ALSO SERVE THEIR COMMUNITIES. FOR EXAMPLE, A.W. BEATTIE CAREER CENTER OPENS THEIR DINING ROOM UP TO THE COMMUNITY WHERE THE STUDENTS ARE RESPONSIBLE FOR EVERYTHING FROM BAKED GOODS PREPARATION TO MERCHANDISING AND DINING ROOM SERVICE. THE CENTER ALSO HAS A PROFESSIONAL SALON THAT IS OPEN TO THE PUBLIC. AT FORBES CTC, EACH YEAR STUDENTS IN THE COLLISION REPAIR PROGRAM REBUILD A "RECYCLED RIDE" THAT IS THEN GIVEN TO AN IN-NEED COMMUNITY MEMBER. PARKWAY WEST CTC OFFERS PET SERVICES, HAIR AND SPA SERVICES, AS WELL AS A CATERING MENU TO THE PUBLIC. STEEL CENTER FOR CTE HOSTS A SPA NIGHT WHERE COSMETOLOGY STUDENTS OPEN UP SERVICES TO THE COMMUNITY.

STRUCTURE OF CTCs

It takes a strong partnership between the school district and the CTC to ensure a student's success. Each CTC's overarching structure is outlined in its joint operating agreement with its sending districts. These agreements are created with the intention of existing for a significant number of years, and outline the structure of the CTC, school district contribution to the CTC's operating budget, and term limits for the Joint Operating Committee (JOC).

To provide guidance and oversight, each CTC is governed by a JOC. This group is composed of one to two school board directors from each sending school district serving three-year terms. These individuals serve as liaisons and are charged with keeping the sending school district informed of the happenings within the CTC. Also, due to the fact that the CTC's budget has to be approved annually by the sending school districts, the JOC members help usher the budget through the school district approval process by helping explain the rationale between finances and the district's responsibility.⁷



FUNDING CTE

CTE programs at the secondary level are funded through local, state, and federal dollars. Like so many education programs, CTE relies heavily on local funds and is underfunded at the state and federal level. This reliance has resulted in districts having to limit participants to the CTC, due to the high costs associated with quality programming. In addition, at the state level, the CTE subsidy formula has not been reviewed in many years and does not align with the current funding structure of public schools. Additional investments and an examination of the formula are essential to ensure the programs are able to engage and educate students properly, while working to develop the skills needed to meet the demands of business and industry.

Career Technical Center	% of Federal CTE Funding	% of State CTE Funding	% of Local CTE Funding
A.W. Beattie Career Center	3%	13%	84%
Forbes Road CTC	7%	19%	74%
Parkway West CTC	5%	14%	81%
Steel Center for CTE	5%	19%	76%

Local funding is typically based on sending school district enrollment in the CTC. While the amount paid by a district varies, the sending school district bears the brunt of costs, by contributing more than 90 percent of the CTCs' budgets statewide and 79 percent on average in Allegheny County. If a student wants to enroll in a program of study not offered at their local CTC, they are able to attend a neighboring CTC that offers the program and the district pays the CTC's tuition rate for that program. In Allegheny County, school districts spend a combined \$45.5 million on CTE each year - see Appendix III.

State funding is distributed through the CTE Subsidy. Similar to the federal Carl D. Perkins Career and Technical Education Act (Perkins Act), this allocation is determined each year through the budget and appropriations process. Designated funds are distributed by an antiquated formula. The subsidy had remained stagnant for many years at \$62 million until the 2018-2019 budget, when an increase of \$30 million was allocated.⁸ Also, similar to the Perkins Act, secondary CTE funding through the subsidy is delivered directly to the CTC or to school districts providing CTE through a comprehensive high school model. On average, the subsidy makes up approximately eight percent of CTC funding statewide and 16 percent in Allegheny County. Competitive equipment grants are also available, but must be used for equipment upgrades, and most awards do not cover the total expense. Recently, the Governor's office began awarding grants for STEM and computer science instruction and professional development through the PAsmart program. Since CTCs are already preparing students for careers in the STEM fields, caution must be given that this competitive grant funding does not supplant funding from the CTE state subsidy.

Federal funding is distributed to CTCs via the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV). This formula-driven grant program has recently been reauthorized and will subsequently be known as the Strengthening Career and Technical Education for the 21st Century Act (Perkins V). In Pennsylvania, Perkins funding contributes approximately two percent of overall CTC funding. In Allegheny County, Perkins funding accounts for an average of five percent of CTC funding.⁹ Funding ranges from as low as \$100,000 to as high as \$660,000, while budgets range from \$1.3 million to over \$8.5 million.¹⁰

COMMON FUNDING CHALLENGES

A recent report released by Pennsylvania Partnerships for Children identified the fiscal challenges that impact CTE. Costs related to running a quality CTE program continue to increase as equipment and materials become more advanced and, in essence, expensive. In addition, to ensure students are prepared, equipment and materials have to be current and aligned to what is used in industry. With school districts paying the majority of a CTC's budget, as a district struggles financially, they are more likely to limit participation at the center.¹¹

Both the CTE equipment line and the CTE state subsidy need to be increased in order for CTE to continue to provide stellar training to their students that reflects the modernization of the trades. In addition, the CTE funding formula must be re-examined to ensure that as much money as possible is directed to the CTC to remove the financial burden CTE has on school districts.



EVOLVING PROGRAMS

AN EXAMPLE OF HOW CAREER FIELDS HAVE EVOLVED IS MOST VISIBLE IN THE AUTOMOTIVE TECHNOLOGY PROGRAM OF STUDY. THIS PROGRAM USED TO INCLUDE SIMPLY THE MECHANICS OF HOW A CAR WORKS. THROUGH TECHNOLOGICAL ADVANCES, A VEHICLE IS PREDOMINATELY A COMPUTER AND ANY CTE CONCENTRATOR MUST BE PREPARED TO LEARN ADVANCED COMPUTER SKILLS. THIS ADVANCEMENT HAS MADE VEHICLES MORE EXPENSIVE TO PURCHASE AND REPAIR. INCREASES IN THE COST OF EQUIPMENT AND TECHNOLOGY ARE OCCURRING AS BASIC EDUCATION COSTS ALSO CONTINUE TO RISE, LEAVING SCHOOL DISTRICTS WITH LESS FUNDS TO SEND STUDENTS OUTSIDE OF THE DISTRICT.

CAREER SIGNING DAY

IN MAY 2019, GRADUATING CTE STUDENTS GATHERED TOGETHER TO CELEBRATE THEIR NEXT STEPS AT THE FIRST ANNUAL "CAREER SIGNING DAY." THIS EVENT SHOWCASED STUDENTS' ACCOMPLISHMENTS AND INCLUDED REPRESENTATIVES FROM HIGHER EDUCATION, BUSINESS AND INDUSTRY, AND MILITARY. STUDENTS JOINED THEIR FUTURE EMPLOYERS AND HIGHER EDUCATION INSTITUTIONS WITH REPRESENTATIVES BEING PRESENT FROM DIEHL AUTOMOTIVE, MASCARO CONSTRUCTION, LOCAL 66 OPERATING ENGINEERS UNION, LA ROCHE COLLEGE, GENEVA COLLEGE, U.S. MARINE CORPS, U.S. NAVY, AND OTHER REPRESENTATIVES FROM REGIONAL BUSINESSES AND HIGHER EDUCATION. POLICYMAKERS AND WORKFORCE ADVOCATES ALSO JOINED IN CELEBRATING THE STUDENTS AND THEIR ACCOMPLISHMENTS.

CTE STANDARDS: WORK IN THE MIDDLE GRADES

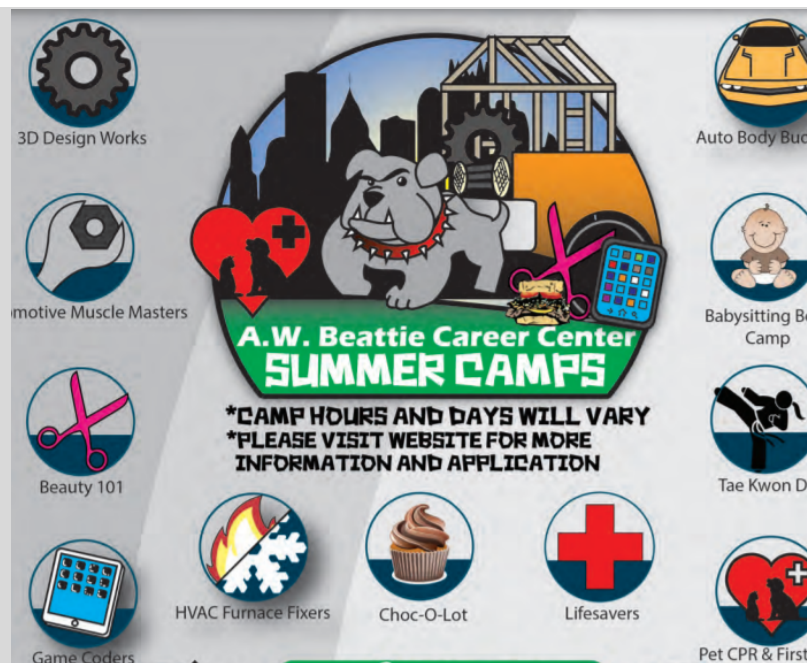
Pennsylvania has recognized that if we want to have a skilled workforce for the most in-demand careers, then we must expose students earlier to these lucrative opportunities. In 2015, the commonwealth adopted Career and Education Workplace (CEW) Standards, requiring school districts to develop career guidance plans that outline career exploration activities with students in grades Kindergarten, 3, 5, 8, and 11. For each grade level, there are specific measures that must be met and compiled into a portfolio for each student.¹² This provides early opportunities for students and parents to learn about the business community, projected job openings, wages earned, and the necessary educational attainment to be successful.

Through the new CEW standards, CTCs and districts are hopeful that CTE programming will be viewed as a viable opportunity for all students. There is a common misconception that the students enrolled in CTE are unlikely to succeed in traditional education. Through early information sharing, recruitment, and center tours, students, parents, school counselors and even teachers have the opportunity to see and understand that enrollment in CTE is a true career exploration that leads to success in postsecondary and the workplace.

Across the county, CTCs are working with the sending districts to help achieve the goals of the CEW standards. For instance, some CTCs are organizing tours and workshops, while others operate a summer camp to give students a taste of the program offerings. However, more can be done. By creating a robust guidance plan in conjunction with the CTC, districts can work to expose children to all career paths, especially the most in-demand ones in the county. Additional resources need to be allocated to account for loss of instruction time, research and recruitment, transportation, and other items that entice and educate students on the career opportunities available at the CTC.

IN ALLEGHENY COUNTY-

BOTH PARKWAY WEST CAREER AND TECHNOLOGY CENTER AND A.W. BEATTIE CAREER CENTER OPERATE SUMMER CAMPS FOR MIDDLE SCHOOL STUDENTS. FOR A FEW DAYS IN THE SUMMER, STUDENTS IN MIDDLE GRADES CAN VISIT THE CTC, ENROLL IN A PROGRAM AREA, OR A FEW PROGRAM AREAS, AND GET HANDS-ON EXPERIENCE. THESE PROGRAMS ARE QUITE SUCCESSFUL AND OFTEN FILLED TO CAPACITY. NOT ONLY DO SUMMER CAMPS EXPOSE STUDENTS TO CTC FACILITIES AND HELP BOOST FUTURE ENROLLMENT, THE CAMPS ALSO PROVIDE EXPOSURE TO CAREER PATHWAYS AND SHOW STUDENTS WHAT IT TAKES TO BE SUCCESSFUL IN CTE AND THE WORKPLACE.¹³



THE FUTURE OF CTE

In Allegheny County, career and technical programs are very much an investment in our children, our workforce, and our communities. Since there are many career paths that a student can choose, CTE helps create a clear one that proves high demand and high paying opportunities can be obtained starting in high school and often without years of crushing student debt. In the 2019 report from the Pennsylvania Department of Labor, each high priority occupation listed can begin with training from a CTE program, see Appendix IV. These messages must to be shared regularly with parents, educators and students. This can help to educate families on the offerings at their local CTCs and demonstrate that these programs provide a great opportunity for their child to gain the skills, certifications, experience and education that can lead to post secondary success and to a lucrative career field.

To ensure that CTE continues to be successful, Allies for Children offers these take-aways for policymakers, educators, parents, and other decision makers to consider:

FUNDING

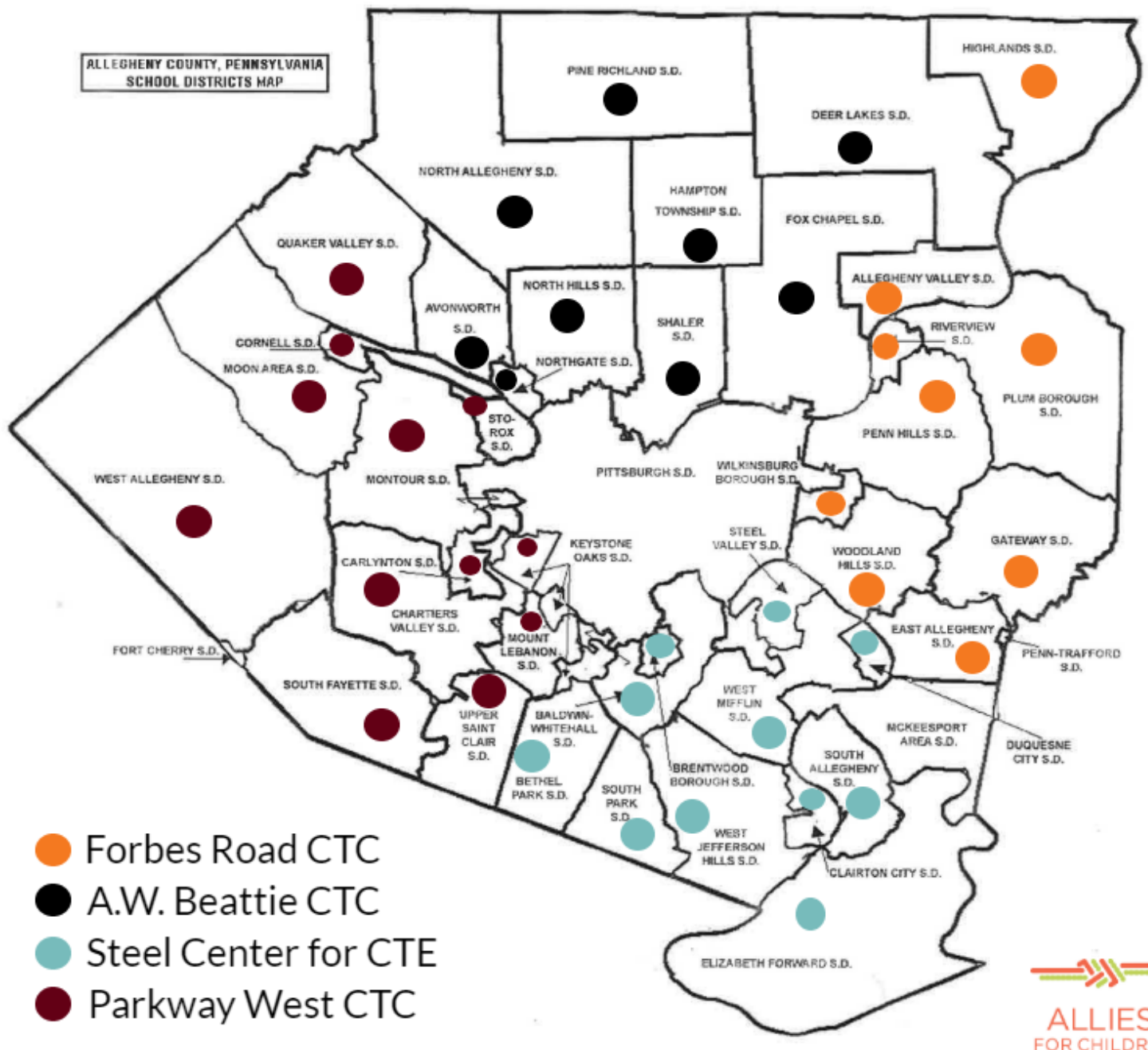
The General Assembly and the Governor should continue to invest in the CTE funding subsidy and the CTE equipment line. In addition, an analysis of the current funding formula must be conducted to ensure that as much money as possible is directed to the CTC to remove the financial burden on school districts. By investing in CTE and easing the funding burden on sending school districts, all students who want to participate in CTE programming are able to do so regardless of their sending school's financial situation.

UTILIZING EARLY EXPOSURE IN CTE TO STRENGTHEN PROGRAMS

The commonwealth, school districts, and CTCs should work together through the CEW standards and career guidance plans to promote high-quality CTE programming that is viewed as a viable opportunity for all students. By working hand-in-hand, partners can ensure that students are exposed to high-demand career fields and the career pathways that exist to help them achieve their career goals. We encourage the creation of resources and incentives that offset costs associated with loss of instruction time at the CTC, research and recruitment, and transportation.



APPENDIX I: MAP OF SENDING SCHOOL DISTRICTS FOR EACH CTC IN ALLEGHENY COUNTY



APPENDIX II: OVERVIEW OF CTE ENROLLMENT BY PROGRAM AND CAREER CLUSTER IN ALLEGHENY COUNTY

Cluster	Program	16-17 Program Enrollment
Agriculture, Food & Natural Resources	Applied Hort Oper Gen	40
Architecture & Construction	Bldg/Property Maintenance	31
Architecture & Construction	Carpentry/Carpenter	162
Architecture & Construction	Construction Trades Oth	86
Architecture & Construction	Elec/Pwr Trans Instal Oth	129
Architecture & Construction	Heating AC Refrig Mech	175
Architecture & Construction	Mason/Masonry	40
Arts, A/V Technology & Communications	Commercial/Advertisng Art	151
Arts, A/V Technology & Communications	Communications Tech Oth	13
Arts, A/V Technology & Communications	Graphic Communication Oth	0
Business Management & Administration	Adm Asst/Secr Sci Gen	28
Business Management & Administration	Accounting Technician	12
Health Sciences	Dental Assistant	20
Health Sciences	Health Prof/Rel Sci Oth	193
Health Sciences	Health/Med Assts Other	216
Health Sciences	Veterinary Asst	90
Hospitality & Tourism	Baker/Pastry Chef	60
Hospitality & Tourism	Institutional Food Worker	322
Human Resources	Cosmetology General	512
Human Resources	Diversified Occupations	15
Human Resources	Child Care/Supprt Srv Mgt	79
Information Technology	Computer Network/Telecom	135
Information Technology	Computer Programming Gen	29
Information Technology	Computer Technology	26
Information Technology	Mgmt Info Systems Gen	30
Information Technology	Web Page Design	131
Law, Public Safety, Corrections & Security	Hmland Secr/Law Enforc Ot	181
Manufacturing	Electronic/Comm Eng Tech	15
Manufacturing	Machine Tool Tech	26
Manufacturing	Welding Technology/Welder	116
Science, Technology, Engineering & Mathematics	Engin Tech/Related Other	39
Transportation, Distribution & Logistics	Autobody Repair Tech	209
Transportation, Distribution & Logistics	Automotive Mechanic Tech	242
Transportation, Distribution & Logistics	Logistics/Materials Mgmt	37
Transportation, Distribution & Logistics	Medium/Heavy Vehicle Tech	82

APPENDIX III: OVERVIEW OF CTE BY ALLEGHENY COUNTY SCHOOL DISTRICT

School District	Partnering Career and Technical Education Center	2016-17 Total District Expenditures	2016-17 CTE Programs Expenditures	2016-17 Percent spent on CTE Compared to Total District Expenditures	2016-17 Total Enrollment in CTE	2016--17 Total District CTE Eligible Enrollment	2016-17 Percent of Student Population Enrolled in CTE
Allegheny Valley SD	Forbes Road CTC	\$21,227,327.00	\$243,677.68	1%	21	309	7%
Avonworth SD	A.W Beattie Career Center	\$28,801,088.37	\$271,861.45	1%	37	360	10%
Baldwin-Whitehall SD	Steel Center for CTE	\$64,358,558.77	\$1,930,329.72	3%	118	1,040	11%
Bethel Park SD	Steel Center for CTE	\$83,477,835.87	\$3,038,562.14	4%	103	1,161	9%
Brentwood Borough SD	Steel Center for CTE	\$21,587,260.22	\$248,062.00	1%	37	275	13%
Carlynton SD	Parkway West CTC	\$26,768,544.50	\$785,821.74	3%	45	424	11%
Chartiers Valley SD	Parkway West CTC	\$60,353,756.31	\$739,182.07	1%	90	1,070	8%
Clairton City SD	Steel Center for CTE	\$17,794,584.00	\$205,718.00	1%	32	137	23%
Cornell SD	Parkway West CTC	\$14,149,582.00	\$160,314.00	1%	28	196	14%
Deer Lakes SD	A.W Beattie Career Center	\$35,473,184.02	\$594,441.62	2%	84	482	17%
East Allegheny SD	Forbes Road CTC	\$32,629,502.19	\$649,621.56	2%	54	513	11%
Elizabeth Forward SD	Steel Center for CTE	\$39,432,380.52	\$1,426,407.34	4%	69	562	12%
Fox Chapel Area SD	A.W Beattie Career Center	\$94,224,939.36	\$664,981.86	1%	56	1,030	5%
Gateway SD	Forbes Road CTC	\$88,491,012.38	\$2,367,033.15	3%	90	1,132	8%
Hampton Township SD	A.W Beattie Career Center	\$49,735,543.23	\$622,208.93	1%	52	771	7%
Highlands SD	Forbes Road CTC	\$43,925,083.66	\$575,725.56	1%	72	760	9%
Keystone Oaks SD	Parkway West CTC	\$40,295,538.17	\$535,910.38	1%	83	612	14%
McKeesport Area SD	McKeesport Area CTC	\$59,796,384.00	\$1,306,233.00	2%	279	754	37%
Montour SD	Parkway West CTC	\$61,656,186.78	\$1,828,278.34	3%	95	990	10%
Moon Area SD	Parkway West CTC	\$74,188,330.00	\$2,029,414.00	3%	72	1,169	6%
Mt Lebanon SD	Parkway West CTC	\$96,069,352.28	\$267,262.27	0%	46	1,769	3%
North Allegheny SD	A.W Beattie Career Center	\$149,789,680.79	\$3,087,791.82	2%	82	2,013	4%
North Hills SD	A.W Beattie Career Center	\$76,488,531.09	\$905,974.00	1%	93	1,100	8%
Northgate SD	A.W Beattie Career Center	\$22,450,876.00	\$834,872.00	4%	74	239	31%
Penn Hills SD	Forbes Road CTC	\$88,336,602.28	\$1,767,487.09	2%	142	1,339	11%
Pine-Richland SD	A.W Beattie Career Center	\$87,520,775.00	\$553,554.00	1%	49	1,155	4%
Pittsburgh SD	Pittsburgh Public Schools CTE	\$649,523,006.65	\$6,941,938.76	1%	529	4,602	11%
Plum Borough SD	Forbes Road CTC	\$69,362,844.08	\$935,248.58	1%	100	1,224	8%
Quaker Valley SD	Parkway West CTC	\$46,040,711.00	\$201,155.00	0%	24	641	4%
Riverview SD	Forbes Road CTC	\$22,515,157.14	\$521,749.59	2%	25	313	8%
Shaler Area SD	A.W Beattie Career Center	\$74,254,961.32	\$1,512,961.51	2%	148	1,063	14%
South Allegheny SD	Steel Center for CTE	\$23,914,806.57	\$856,579.95	4%	52	335	16%
South Fayette Township SD	Parkway West CTC	\$50,000,653.77	\$459,915.98	1%	73	830	9%
South Park SD	Steel Center for CTE	\$33,493,850.18	\$864,897.73	3%	84	471	18%
Steel Valley SD	Steel Center for CTE	\$33,998,983.11	\$380,937.30	1%	57	354	16%
Sto-Rox SD	Parkway West CTC	\$27,819,728.41	\$609,369.14	2%	41	320	13%
Upper Saint Clair SD	Parkway West CTC	\$87,004,938.04	\$263,273.50	0%	37	1,392	3%
West Allegheny SD	Parkway West CTC	\$60,046,572.54	\$2,038,443.91	3%	82	1,083	8%
West Jefferson Hills SD	Steel Center for CTE	\$46,111,890.80	\$463,341.00	1%	69	663	10%
West Mifflin Area SD	Steel Center for CTE	\$95,350,828.06	\$1,052,901.28	1%	72	766	9%
Woodland Hills SD	Forbes Road CTC	\$90,574,286.55	\$679,340.86	1%	88	1,166	8%

APPENDIX IV: PROJECTED HIGH PRIORITY OCCUPATIONS

2019 High Priority Occupations for Three Rivers Workforce Development Area

	Potential Career Cluster in CTE Program	SOC Title	Educational Attainment	Entry Level	Annual Average	Exper. Level	Estimated 2016	Projected 2026	Percent Change	Annual Demand
1	Business, Management & Administration	General & Operations Managers	BD+	\$61,980	\$132,000	\$167,020	9,120	9,760	7.0%	823
2	Business, Management & Administration	Purchasing Agents	BD	\$43,430	\$64,960	\$75,730	1,800	1,720	-4.4%	141
3	Business, Management & Administration	Claims Adjusters, Examiners & Investigators	LT OJT	\$40,300	\$60,250	\$70,220	1,760	1,730	-1.7%	137
4	Business, Management & Administration	Compliance Officers	BD	\$43,060	\$65,820	\$77,210	1,900	2,020	6.3%	166
5	Business, Management & Administration	Human Resources Specialists	BD	\$39,380	\$62,880	\$74,630	2,790	2,960	6.1%	289
6	Business, Management & Administration	Logisticians	BD	\$56,710	\$81,470	\$93,840	670	720	7.5%	71
7	Business, Management & Administration	Market Research Analysts & Marketing Specialists	BD	\$39,540	\$66,800	\$80,430	4,030	4,410	9.4%	439
8	Business, Management & Administration	Accountants & Auditors	BD	\$48,010	\$73,940	\$86,910	9,290	9,740	4.8%	874
9	Business, Management & Administration	Financial Analysts	BD	\$53,580	\$90,300	\$108,670	2,150	2,330	8.4%	204
10	Business, Management & Administration	Loan Officers	BD	\$40,540	\$64,190	\$76,020	3,340	3,420	2.4%	277
11	Information Technology	Computer Systems Analysts	BD	\$58,300	\$93,170	\$110,600	5,100	5,350	4.9%	354
12	Information Technology	Software Developers, Applications	BD	\$60,380	\$87,850	\$101,590	5,300	6,350	19.8%	471
13	Information Technology	Software Developers, Systems Software	BD	\$66,630	\$95,330	\$109,680	1,350	1,450	7.4%	98
14	Information Technology	Database Administrators	BD	\$49,800	\$77,360	\$91,130	990	1,090	10.1%	75
15	Information Technology	Network & Computer Systems Administrators	BD	\$50,190	\$72,720	\$83,980	2,500	2,560	2.4%	161
16	Information Technology	Computer User Support Specialists	PS	\$33,220	\$49,050	\$56,960	4,490	4,870	8.5%	374
17	Information Technology	Computer Network Support Specialists	AD	\$37,980	\$62,270	\$74,420	1,350	1,340	-0.7%	96
18	Manufacturing	Civil Engineers	BD	\$47,320	\$93,460	\$116,530	2,610	2,750	5.4%	205
19	Manufacturing	Electrical Engineers	BD	\$68,330	\$98,030	\$112,880	1,450	1,590	9.7%	109
20	Manufacturing	Mechanical Engineers	BD	\$64,560	\$93,060	\$107,310	2,010	2,220	10.4%	152
21	Manufacturing	Electrical & Electronic Engineering Technicians	AD	\$38,440	\$57,290	\$66,720	800	820	2.5%	71
22	Manufacturing	Chemists	BD	\$43,040	\$69,780	\$83,150	800	870	8.8%	79
23	Health Science	Biological Technicians	BD	\$28,810	\$39,350	\$44,620	1,080	1,200	11.1%	119
24	Health Science	Chemical Technicians	AD+	\$31,750	\$44,230	\$50,470	620	680	9.7%	65
25	Health Science	Substance Abuse & Behavioral Disorder Counselors	BD	\$29,610	\$40,440	\$45,860	880	990	12.5%	106
26	Health Science	Community Health Workers	ST OJT	\$28,910	\$40,900	\$46,890	200	220	10.0%	26
27	Business, Management & Administration	Paralegals & Legal Assistants	AD	\$38,630	\$56,670	\$65,690	1,440	1,660	15.3%	177
28	Arts, AV Technology & Communications	Graphic Designers	BD	\$33,410	\$52,040	\$61,360	1,470	1,550	5.4%	146
29	Health Science	Respiratory Therapists	AD	\$43,860	\$54,890	\$60,400	1,060	1,300	22.6%	80
30	Health Science	Registered Nurses	BD	\$53,430	\$66,290	\$72,720	22,480	25,440	13.2%	1,503
31	Health Science	Medical & Clinical Laboratory Technologists	BD	\$31,140	\$47,830	\$56,180	1,980	2,220	12.1%	152
32	Health Science	Medical & Clinical Laboratory Technicians	AD	\$31,140	\$47,830	\$56,180	1,520	1,690	11.2%	115
33	Health Science	Dental Hygienists	AD	\$49,350	\$56,590	\$60,210	1,270	1,360	7.1%	86
34	Health Science	Radiologic Technologists	AD	\$39,690	\$49,630	\$54,600	1,770	1,950	10.2%	112
35	Health Science	Emergency Medical Technicians & Paramedics	PS	\$26,780	\$37,900	\$43,460	1,260	1,410	11.9%	93
36	Health Science	Pharmacy Technicians	MT OJT	\$20,510	\$27,730	\$31,340	2,080	2,210	6.3%	178
37	Health Science	Licensed Practical & Licensed Vocational Nurses	PS	\$38,180	\$44,730	\$48,000	4,310	4,960	15.1%	389
38	Health Science	Medical Records & Health Information Technicians	PS	\$27,420	\$35,820	\$40,020	1,210	1,320	9.1%	86
39	Health Science	Nursing Assistants	PS	\$24,600	\$29,350	\$31,720	8,150	8,810	8.1%	1,010
40	Health Science	Physical Therapist Assistants	AD	\$38,730	\$52,300	\$59,090	390	490	25.6%	61
41	Health Science	Dental Assistants	PS	\$27,050	\$36,570	\$41,330	1,010	1,080	6.9%	121
42	Health Science	Medical Assistants	PS	\$26,100	\$31,030	\$33,490	3,640	4,470	22.8%	511
43	Health Science	Phlebotomists	PS	\$28,090	\$34,740	\$38,060	900	1,050	16.7%	113
44	Law, Public Safety & Security	Police & Sheriff's Patrol Officers	MT OJT	\$37,400	\$66,520	\$81,080	2,960	3,080	4.1%	203
45	Hospitality & Tourism	Supervisors - Food Preparation & Serving Workers	WK EXP	\$22,490	\$36,840	\$44,010	4,280	4,670	9.1%	665
46	Hospitality & Tourism	Supervisors - Housekeeping & Janitorial Workers	WK EXP	\$29,960	\$42,330	\$48,520	830	880	6.0%	100
47	Hospitality & Tourism	Supervisors - Personal Service Workers	WK EXP	\$29,690	\$40,800	\$46,360	1,340	1,440	7.5%	140
48	Health Science	Fitness Trainers & Aerobics Instructors	ST OJT	\$24,470	\$46,290	\$57,200	2,070	2,240	8.2%	374
49	Business, Management & Administration	Supervisors - Retail Sales Workers	WK EXP	\$27,640	\$46,500	\$55,930	5,430	5,460	0.6%	571
50	Business, Management & Administration	Insurance Sales Agents	MT OJT	\$32,110	\$76,810	\$99,150	2,530	2,640	4.3%	256
51	Business, Management & Administration	Sales Representatives	MT OJT	\$37,640	\$75,480	\$94,400	6,700	6,830	1.9%	688
52	Business, Management & Administration	Supervisors - Office & Administrative Support Workers	WK EXP	\$40,060	\$61,180	\$71,730	8,490	8,360	-1.5%	800
53	Business, Management & Administration	Bill & Account Collectors	MT OJT	\$26,720	\$37,400	\$42,740	2,040	1,880	-7.8%	187
54	Business, Management & Administration	Billing & Posting Clerks	MT OJT	\$29,060	\$38,010	\$42,490	3,240	3,510	8.3%	357
55	Business, Management & Administration	Bookkeeping, Accounting & Auditing Clerks	PS+	\$27,290	\$38,710	\$44,410	9,700	9,370	-3.4%	1,015
56	Business, Management & Administration	Payroll & Timekeeping Clerks	MT OJT	\$30,220	\$42,430	\$48,540	870	830	-4.6%	81
57	Business, Management & Administration	Brokerage Clerks	MT OJT	\$35,290	\$48,540	\$55,160	1,120	1,150	2.7%	117
58	Business, Management & Administration	Customer Service Representatives	ST OJT	\$25,040	\$36,350	\$42,010	15,810	15,800	-0.1%	1,993
59	Business, Management & Administration	Production, Planning & Expediting Clerks	MT OJT	\$28,900	\$46,570	\$55,400	1,660	1,760	6.0%	181
60	Business, Management & Administration	Shipping, Receiving & Traffic Clerks	ST OJT	\$24,010	\$34,940	\$40,400	2,130	2,080	-2.3%	202
61	Business, Management & Administration	Executive Secretaries & Executive Administrative Assistants	WK EXP	\$40,520	\$55,870	\$63,550	3,030	2,450	-19.1%	234
62	Health Science	Medical Secretaries	MT OJT	\$28,570	\$35,280	\$38,640	2,740	3,200	16.8%	361
63	Business, Management & Administration	Secretaries	ST OJT	\$25,720	\$36,640	\$42,090	13,830	12,620	-8.7%	1,284
64	Business, Management & Administration	Office Clerks, General	ST OJT	\$22,010	\$33,750	\$39,610	17,770	17,130	-3.6%	1,958
65	Architecture & Construction	Supervisors - Construction Trades & Extraction Workers	WK EXP	\$52,500	\$74,710	\$85,820	2,360	2,630	11.4%	263
66	Architecture & Construction	Brickmasons & Blockmasons	LT OJT	\$38,480	\$58,510	\$68,520	660	690	4.5%	60

APPENDIX IV: CONTINUED

2019 High Priority Occupations for Three Rivers Workforce Development Area

	Potential Career Cluster in CTE Program	SOC Title	Educational Attainment	Entry Level	Annual Average	Exper. Level	Estimated 2016	Projected 2026	Percent Change	Annual Demand
67	Architecture & Construction	Carpenters	LT OJT	\$37,610	\$55,650	\$64,670	5,900	6,360	7.8%	598
68	Architecture & Construction	Construction Laborers	ST OJT	\$29,970	\$43,070	\$49,610	5,480	6,170	12.6%	658
69	Architecture & Construction	Operating Engineers & Other Construction Equipment Operators	MT OJT	\$38,050	\$53,890	\$61,810	1,880	2,130	13.3%	241
70	Architecture & Construction	Electricians	LT OJT	\$42,720	\$65,520	\$76,920	2,400	2,510	4.6%	278
71	Architecture & Construction	Plumbers, Pipefitters & Steamfitters	LT OJT	\$43,770	\$64,280	\$74,530	1,860	2,040	9.7%	219
72	Architecture & Construction	Sheet Metal Workers	LT OJT	\$25,950	\$51,170	\$63,780	360	380	5.6%	40
73	Architecture & Construction	Construction & Building Inspectors	WK EXP	\$42,160	\$53,050	\$58,490	1,050	1,100	4.8%	119
74	Transportation, Distribution & Logistics	Highway Maintenance Workers	MT OJT	\$31,090	\$45,870	\$53,260	770	800	3.9%	81
75	Manufacturing	Supervisors - Mechanics, Installers & Repairers	WK EXP	\$46,420	\$70,080	\$81,910	1,890	2,000	5.8%	173
76	Business, Management & Administration	Computer, Automated Teller & Office Machine Repairers	PS	\$26,010	\$39,190	\$45,780	760	750	-1.3%	72
77	Transportation, Distribution & Logistics	Automotive Body & Related Repairers	LT OJT	\$32,870	\$44,130	\$49,750	670	730	9.0%	72
78	Transportation, Distribution & Logistics	Automotive Service Technicians & Mechanics	PS	\$23,130	\$38,690	\$46,480	3,740	3,900	4.3%	366
79	Transportation, Distribution & Logistics	Bus & Truck Mechanics & Diesel Engine Specialists	LT OJT	\$34,390	\$46,640	\$52,770	1,070	1,160	8.4%	107
80	Architecture & Construction	Heating, A/C & Refrigeration Mechanics & Installers	PS+	\$34,100	\$56,460	\$67,640	1,710	1,880	9.9%	187
81	Manufacturing	Industrial Machinery Mechanics	LT OJT	\$36,280	\$49,130	\$55,550	890	920	3.4%	81
82	Manufacturing	Maintenance & Repair Workers, General	MT OJT	\$26,090	\$39,990	\$46,940	6,590	6,990	6.1%	693
83	Manufacturing	Supervisors - Production & Operating Workers	WK EXP	\$43,880	\$62,460	\$71,760	1,860	1,870	0.5%	179
84	Science, Technology, Engineering & Mathematics	Electrical & Electronic Equipment Assemblers	MT OJT	\$27,000	\$37,280	\$42,430	1,400	1,210	-13.6%	132
85	Manufacturing	Team Assemblers	MT OJT	\$20,870	\$33,460	\$39,760	1,370	1,190	-13.1%	128
86	Science, Technology, Engineering & Mathematics	Computer-Controlled Machine Tool Operators, Metal & Plastic	MT OJT	\$29,930	\$42,640	\$49,000	610	640	4.9%	63
87	Manufacturing	Grinding, Lapping, Polishing & Buffing Machine Operators, Metal & Plastic	MT OJT	\$31,080	\$39,610	\$43,870	210	190	-9.5%	19
88	Manufacturing	Machinists	LT OJT	\$29,080	\$41,720	\$48,030	1,780	1,830	2.8%	185
89	Manufacturing	Tool & Die Makers	PS+	\$40,360	\$47,270	\$50,720	300	280	-6.7%	26
90	Manufacturing	Welders, Cutters, Solderers & Brazers	MT OJT	\$33,230	\$45,460	\$51,580	830	890	7.2%	96

Short-term or Moderate-term training (**ST OJT** or **MT OJT**) – basic tasks and skills are learned through a period of on-the-job training. A high school diploma may be required.

Long-term training (**LT OJT**) – a high school diploma and at least one year of on-the-job training or an apprenticeship.

Related work experience (**WK EXP**) – a high school diploma and training gained through hands-on work in a similar occupation.

Postsecondary training (**PS** or **PS+**) – training is gained through a postsecondary training program. Some period of related work experience may be required.

Associate Degree (**AD** or **AD+**) – degree completed after two years of full-time schooling beyond high school. Some period of related work experience may be required.

Bachelor's Degree (**BD** or **BD+**) – degree completed after four years of full-time schooling beyond high school. Some period of related work experience may be required.

Master's Degree (**MD** or **MD+**) – degree completed after two years of full-time schooling beyond a bachelor's degree. Some period of related work experience may be required.

Doctoral (**PhD**) or First Professional Degree (**PROF**) – degree programs requiring 3-6 years of education at the college or university level beyond a four-year bachelor's degree.

Source: <https://www.workstats.dli.pa.gov/Documents/High%20Priority%20Occupations/2019%20Draft%20VDA%20HPO%20Lists.xlsx>

CTE REPORTS



Inflection Point 2017-18 Supply, Demand and the Future of Work in the Pittsburgh Region
Allegheny Conference on Community Development



Skilled Workers Needed: Ensuring Investments in Career and Technical Education
Pennsylvania Partnership for Children



Moving Beyond 20th Century Education: Emerging Trends in CTE and Project-based Learning
University of Pittsburgh, Institute of Politics



High School Career and Technical Education: Serving Pennsylvania's Student and Workforce
Needs Education Policy and Leadership Center

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Appendix III: "AFR Data: Detailed" Department of Education, Commonwealth of Pennsylvania, <https://www.education.pa.gov/Teachers%20-%20Administrators/School%20Finances/Finances/AFR%20Data%20Summary/Pages/AFR-Data-Detailed-.aspx>

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Appendix IV: "High Priority Occupations." Department of Labor and Industry Center for Workforce Information and Analysis, Commonwealth of Pennsylvania, www.workstats.dli.pa.gov/Products/HPOs/Pages/default.aspx.



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