

# Appendix 11: Overview of Career and Technical Education and Training in Alaska

## Alaska's Schools Overview

Building our future workforce starts with our schools, students, and disconnected youth (not in school), who are our largest source of future workers. K-12 schools are located in most Alaska communities: there are 54 school districts with a total of about 39,800 high school students and approximately 7,500 graduates annually.<sup>1</sup> Just over 20% of students in Alaska schools are Alaska Native or American Indian, while less than 50% are Caucasian.

District and school sizes vary by location. The largest district, Anchorage, for example, covers nearly 2,000 square miles and has over 40,000 students, 50% of whom are minority populations and 25% of whom speak one of 100 languages other than English at home, with about 50 elementary, 10 middle, and 8 comprehensive high schools, one Career and Technical Education-focused high school, and over 20 alternative or charter schools. Contrast that with several single-school districts, serving anywhere from 10 to 350 students total in grades K-12. Many rural schools are not on the road system and are only accessible by air or water.

Alaska is a local-control state, with the state Department of Education and Early Development, overseen by the Board of Education and Early Development, determining curriculum standards and high school graduation requirements, and administering and setting the proficiency levels for statewide assessments. Each district makes its own decisions on textbooks, curriculum, teaching methods, and teacher pay. Schools receive state funding through the Base Student Allocation or BSA, currently at \$5,960 per student, which has remained essentially flat for the last 7 years. The state legislature sets the BSA, which is then subject to the Governor's approval or veto, as with any other budget item. Overall, state funding accounts for over 60% of school funding, local funding over 20%, and federal funding about 15%.<sup>2</sup> The more than 7,000 classroom teachers in Alaska are part of the state's Teachers' Retirement System (TRS), which does not participate in the Social Security system, and since 2006, provides a defined contribution pension instead of the previous defined benefit pension in effect until then. This makes Alaska the only state in the union that does not offer a defined-benefit pension for new teachers. This, along with declining teacher pay compared to the rest of the nation, is contributing to the state's teacher shortage and hampers recruitment and retention, with teachers "leaving faster than they can be replaced."<sup>3</sup>

At the postsecondary level, the University of Alaska system is overseen by the Alaska Board of Regents (BOR), whose members are appointed by the Governor and confirmed by the state legislature. The BOR selects the University President, who oversees statewide administration. There are three universities, each independently accredited – University of Alaska Anchorage (UAA), University of Alaska Fairbanks (UAF), and University of Alaska Southeast (UAS) – and each overseen by a chancellor who reports directly to the University President.

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<sup>1</sup> Alaska Department of Education and Early Development Statistics and Reports, <https://education.alaska.gov/data-center#>

<sup>2</sup> [Alaska's Public Education Revenues, Expenditures, and Outcomes | Alaska Policy Forum](#)

<sup>3</sup> Alaska Economic Trends Magazine, December 2023, Alaska Department of Labor and Workforce Development Research & Analysis <https://live.laborstats.alaska.gov/trends-magazine/2023/December/alaska-aquaculture-is-blooming>

The University of Alaska (UA) is an open enrollment institution with a variety of education and training programs, including pre-apprenticeship and apprenticeship, hands-on competency-based training, and traditional learning labs and classroom settings, leading students to industry-recognized certifications, endorsements, and degrees ranging from short-term certificates to two and four-year degrees, as well as post-graduate degrees. At UA, students may be eligible for credit for prior learning through military or prior work experience, and dual enrollment opportunities in a variety of programs are available for high school students. UA enrolls approximately 21,000 full and part-time students annually through about 400 unique degree, certificate, and occupational endorsement programs.

UA's workforce development focus aligns with the Alaska Workforce Investment Board's and regional priorities, including the health, mining, construction, oil and gas, education, and maritime occupations. The UA system includes 13 community campuses across the state, offering many distance learning courses for greater program access. Rural campuses serve as regional training centers, providing local training geared towards local/regional jobs.

UA participates in apprenticeship programs through membership in the Registered Apprenticeship College Consortium, developing new federally Registered Apprenticeship programs, providing apprenticeship completers with credit for prior learning opportunities, and sponsoring apprenticeship programs. The UA system also works closely with school districts to offer dual credit opportunities for career and technical education students so they may quickly attain postsecondary certificates and degrees after completing high school. UA also partners with K-12 education through middle colleges and the Alaska Native Science and Engineering Program.

The University is home to the Alaska Small Business Development Center, which has offices in Anchorage, Wasilla, Fairbanks, Soldotna, and Juneau. It provides no-cost advising services and low-cost educational programs to entrepreneurs looking to start or grow their small businesses. The Center's business advisors work with entrepreneurs in confidential, one-on-one sessions in management, marketing, sales, finance, accounting, and other disciplines required for small business growth, expansion, and innovation.

Alaska does not have separate community colleges; instead, the community college mission is carried out by the University of Alaska through its Statewide Office of Workforce Development and the programs offered at its network of community campuses, as listed below.

#### University of Alaska Anchorage (UAA)

- Community & Technical College – Anchorage
- Matanuska-Susitna College – Palmer
- Prince William Sound College – Valdez
- Kodiak College – Kodiak
- Kenai Peninsula College – Soldotna

## University of Alaska Fairbanks (UAF)

- Community & Technical College – Fairbanks
- Chukchi Campus – Kotzebue
- Interior Alaska Campus - based in Fairbanks, serves rural areas in Interior Alaska
- Northwest Campus – Nome
- Kuskokwim Campus – Bethel
- Bristol Bay Campus - Dillingham

## University of Alaska Southeast (UAS)

- Juneau Campus
- Sitka Campus
- Ketchikan Campus

The UA system receives about 33% of its total revenues from state funding as appropriated annually by the state legislature and subject to the Governor’s approval or veto, as with any other budget item. State funding has decreased since FY2015, with the most drastic cuts coming in FY20 – FY22, when it was decreased from \$633M to \$592M. Coupled with the COVID pandemic, these dramatic budget cuts caused disruptions in programs and services.

## Career and Technical Education Overview

Career and Technical Education, or CTE (previously known as vocational education), has played and will continue to play a significant role in developing the talent pipeline for a skilled and available Alaska workforce. CTE refers to programs that prepare students for careers in current or emerging industries. Exemplary high school CTE programs include career information and guidance, technical and professional (employability) skill development, work-based learning experiences (such as internships and job-shadowing), personal and career planning, opportunities to earn stackable industry credentials, and a clear sequence of courses and actions that allow a student to seamlessly connect with postsecondary training, the military, or employment. Postsecondary CTE includes vocational training, apprenticeships, occupational certificate or endorsement programs, associate and bachelor degrees, and on-the-job training, and may be offered through colleges, technical schools, non-profit training organizations, registered apprenticeship programs, union training, employer or industry-sponsored training, or other public or private technical training programs geared towards those who are out of high school.

CTE is built around a framework of career clusters and pathways: a career cluster is an overall grouping of related occupations that includes a set of common foundational skills; each occupation in turn includes more specific skills and the preparation needed to obtain those skills.

## 16 Career Clusters & Their Pathways

A Career Cluster is a grouping of occupations & broad industries based on commonalities.




<p><b>Agriculture, Food &amp; Natural Resources</b></p> <ul style="list-style-type: none"> <li>• Agribusiness Systems</li> <li>• Animal Systems</li> <li>• Environmental Service Systems</li> <li>• Food Products &amp; Processing Systems</li> <li>• Natural Resources Systems</li> <li>• Plant Systems</li> <li>• Power, Structural &amp; Technical Systems Architecture &amp; Construction</li> </ul> <p><b>Architecture &amp; Construction</b></p> <ul style="list-style-type: none"> <li>• Construction</li> <li>• Design/Pre-Construction</li> <li>• Maintenance/Operations</li> </ul> <p><b>Arts, A/V Technology &amp; Communications</b></p> <ul style="list-style-type: none"> <li>• A/V Technology &amp; Film</li> <li>• Journalism &amp; Broadcasting</li> <li>• Performing Arts</li> <li>• Printing Technology</li> <li>• Telecommunications</li> <li>• Visual Arts</li> </ul> <p><b>Business, Management &amp; Administration</b></p> <ul style="list-style-type: none"> <li>• Administrative Support</li> <li>• Business Information Management</li> <li>• General Management</li> <li>• Human Resources Management</li> <li>• Operations Management</li> </ul>	<p><b>Education &amp; Training</b></p> <ul style="list-style-type: none"> <li>• Administration &amp; Administrative Support</li> <li>• Professional Support Services</li> <li>• Teaching/Training</li> </ul> <p><b>Finance</b></p> <ul style="list-style-type: none"> <li>• Accounting</li> <li>• Banking Services</li> <li>• Business Finance</li> <li>• Insurance</li> <li>• Securities &amp; Investments</li> </ul> <p><b>Government &amp; Public Administration</b></p> <ul style="list-style-type: none"> <li>• Foreign Service</li> <li>• Governance</li> <li>• National Security</li> <li>• Planning</li> <li>• Public Management &amp; Administration</li> <li>• Regulation</li> <li>• Revenue &amp; Taxation</li> </ul> <p><b>Health Science</b></p> <ul style="list-style-type: none"> <li>• Biotechnology Research &amp; Development</li> <li>• Diagnostic Services</li> <li>• Health Informatics</li> <li>• Support Services</li> <li>• Therapeutic Services</li> </ul> <p><b>Hospitality &amp; Tourism</b></p> <ul style="list-style-type: none"> <li>• Lodging</li> <li>• Recreation, Amusements &amp; Attractions</li> <li>• Restaurants &amp; Food/Beverage Services</li> <li>• Travel &amp; Tourism</li> </ul>	<p><b>Human Services</b></p> <ul style="list-style-type: none"> <li>• Consumer Services</li> <li>• Counseling &amp; Mental Health Services</li> <li>• Early Childhood Development &amp; Services</li> <li>• Family &amp; Community Services</li> <li>• Personal Care Services</li> </ul> <p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• Information Support &amp; Services</li> <li>• Network Systems</li> <li>• Programming &amp; Software Development</li> <li>• Web &amp; Digital Communications</li> </ul> <p><b>Law, Public Safety, Corrections &amp; Security</b></p> <ul style="list-style-type: none"> <li>• Correction Services</li> <li>• Emergency &amp; Fire Management Services</li> <li>• Law Enforcement Services</li> <li>• Legal Services</li> <li>• Security &amp; Protective Services</li> </ul> <p><b>Manufacturing</b></p> <ul style="list-style-type: none"> <li>• Health, Safety &amp; Environmental Assurance</li> <li>• Logistics &amp; Inventory Control</li> <li>• Maintenance, Installation &amp; Repair</li> <li>• Manufacturing Production Process Development</li> <li>• Production</li> <li>• Quality Assurance</li> </ul>	<p><b>Marketing</b></p> <ul style="list-style-type: none"> <li>• Marketing Communications</li> <li>• Marketing Management</li> <li>• Marketing Research</li> <li>• Merchandising</li> <li>• Professional Sales</li> </ul> <p><b>Science, Technology, Engineering &amp; Mathematics</b></p> <ul style="list-style-type: none"> <li>• Engineering &amp; Technology</li> <li>• Science &amp; Mathematics</li> </ul> <p><b>Transportation, Distribution &amp; Logistics</b></p> <ul style="list-style-type: none"> <li>• Facility &amp; Mobile Equipment Maintenance</li> <li>• Health, Safety &amp; Environmental Management</li> <li>• Logistics Planning &amp; Management Services</li> <li>• Sales &amp; Service</li> <li>• Transportation Operations</li> <li>• Transportation Systems/Infrastructure Planning, Management &amp; Regulation</li> <li>• Warehousing &amp; Distribution Center Operations</li> </ul>
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The original career clusters framework, developed over 20 years ago by AdvanceCTE (formerly NASDCTEc, the National Association of State Directors of CTE Consortium), includes 16 career clusters and about 80 associated pathways, and has functioned as an organizing tool for secondary and postsecondary CTE program development and implementation.<sup>4</sup> Since that time, however, there have been major changes in the workforce and labor market landscape; now AdvanceCTE is undertaking the process of modernizing the framework to reflect the enormous changes in the nature of work, the workplace, new generations of students and workers, and the role of technology in today’s workplace and society. The new framework is meant to “remove silos among industry and education, state and local levels, and across Career Clusters that are keeping learners from being fully prepared for the world of work.”<sup>5</sup>

<sup>4</sup> [Career Clusters - Advance CTE \(careertech.org\)](https://careertech.org)

<sup>5</sup> [One Pager Advancing the Framework May 2024.pdf \(careertech.org\)](#)

In June 2024, AdvanceCTE released information about the project to update the Career Clusters framework. According to its FAQ paper,<sup>6</sup> the major changes in the clusters are as follows:



**Q: What has been removed from the Framework?**  
A: No field has been eliminated from the Framework, though some have been shifted into other Career Clusters, combined with other industry sectors, or renamed to more accurately reflect current industry taxonomy and structure.

**Q: What are the major changes that emerge in this draft modernized Framework?**  
A: Major changes to the Framework are guided by the methodology outlined above and our purpose statement (see below). Realignment of industry sectors reflects the structure of the world of work and shared skills and competencies across career fields. Some of the major changes include:

**Additional Industries and Technologies**

- Energy has been merged with Natural Resources into a new, realigned Career Cluster
- Introduction of new technologies, including automation and robotics (Advancing Manufacturing Career Cluster), clean and alternative energy (Energy and Natural Resources Career Cluster), and artificial intelligence and unmanned vehicles (Digital Technology Career Cluster)
- Introduction of major modern industry focuses, including advanced technologies, automation, robotics, etc.
- Information Technology expanded to Digital Technology

**Combined Career Clusters**

- The four dimensions of STEM (Science, Technology, Engineering, and Mathematics) are now dispersed across multiple Career Clusters. Engineering has been further disaggregated and is represented in multiple Career Clusters, and the individual STEM Career Cluster has been eliminated to avoid duplication and more accurately reflect how both industry and programs of study are designed.
- Law, public safety, administration, and public service have been realigned into a combined Career Cluster.
- Separate Health Sciences & Human Services Career Clusters have been combined into the Health & Human Services Cluster.

**Cross-Cutting Clusters**

- Cross-cutting Clusters are designed to be both stand-alone Career Clusters, but also reflect the careers and organizational functions that can be further embedded within all other sectors of our economy.
- Cross-cutting Clusters: digital technology, management & entrepreneurship, and marketing & sales.

A career pathway program, or CTE Program of Study (CTEPS), offers participants a clear sequence of stackable courses and credentials, combined with support services as needed, that enable them to gain technical and professional skills, certifications, and credentials, obtain further education and training as needed, and attain employment that offers life- and family-sustaining jobs and careers. A CTEPS provides students information about industries and careers and offers them a sequence of stackable courses, many with dual high school and college credit, along a path to apprenticeship, technical training, college, employment, or the military. CTE programs also raise awareness of teachers, parents, and school counselors about a wide range of choices for students.

Hallmarks of a robust CTEPS include 1) Curriculum that is aligned with industry standards and integrated with academics; 2) Courses that are logically sequenced and can be articulated from secondary through postsecondary and into careers; 3) Quality, industry-recognized assessments integrated into pathways that lead to postsecondary credentials; 4) Professional development for educators to facilitate the implementation of quality CTE programs; 5) Instructional strategies that support student attainment of relevant knowledge and skills; 6) Access and equity for diverse student populations to ensure all students have the opportunity to participate in quality CTE programs; 7) Facilities, equipment, technology, and materials that are up-to-date, industry-aligned, appropriate, and safe for student use; 8) Business and community partnerships to provide a variety

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<sup>6</sup> AdvanceCTE National Career Clusters Framework Modernization, June 2024: <https://careertech.org/wp-content/uploads/2024/06/Frequently-Asked-Questions-Understanding-the-National-Career-Clusters-Framework-Modernization-June-2024.pdf>

of experiences to engage students in activities aligned with workforce needs; 9) Student career development, including strategies that help students gain career knowledge, engage in career planning and decision-making, and experience curricula that helps them learn about careers; 10) Career and Technical Student Organization (CTSO) participation, which promotes leadership through real-world situations; 11) Work-based learning opportunities for sustained, meaningful interactions with industries that foster in-depth engagement with tasks required in a career field; and 12) Using data to drive decision-making that promotes a continuous cycle of improvement for CTE programs.<sup>7</sup>

### ***Alaska Career and Technical Education***

#### **Secondary CTE is mainly federally-funded**

Although K-12 education in Alaska is funded mainly by the state, most Alaska secondary CTE programs are supported primarily through funding from the federal Carl D. Perkins CTE Act legislation (Perkins V). In Alaska, the State Board of Education and Early Development (which oversees DEED) is the state entity authorized to receive and administer all federal Perkins money and activities. Perkins V requires each state to develop and implement a Perkins Plan to reflect the needs of the state while adhering to federal requirements. DEED develops and updates its Perkins Plan with input from school districts, teachers, industry, and the public. The Perkins Plan is a stand-alone plan and is not coordinated with or submitted as part of the Workforce Innovation and Opportunity Act (WIOA), which is developed separately by the Alaska Department of Labor and Workforce Development through the AWIB.

Alaska's Perkins allocation of about \$5.5 million (which has not increased substantially in over two decades) goes to the state Department of Education and Early Development (DEED) and is augmented by the Perkins-required state match of 5%, or about \$290,000 – the only state funding directed specifically to CTE. DEED is then required to allocate and distribute this CTE money as follows (percentages are approximate): 70% to school districts according to a federally mandated formula based on student population and poverty status for each district; 10% to postsecondary CTE programs; 15% for state-level administration and leadership activities; and 0.5% to education programming in the state's correctional system. Some of the state's smaller districts would qualify for a small amount of money under the federal formula, so DEED has set \$20,000 as the minimum amount of Perkins funding for any district; other district allocations range from \$25,000 to \$500,000 to over \$1M. With this federal money, there are a host of requirements that each district must meet, including student performance targets; providing one or more DEED-approved CTE Programs of Study; teacher professional development; program alignment with labor market needs; meeting equity goals; adhering to size, scope, and quality definitions; and others.<sup>8</sup> The documenting and reporting requirements can be onerous, especially for smaller districts. Some of them – on average about seven out of the 54 districts in any given year - opt out of accepting federal Perkins funding, as the small amount of money does not cover the time and resources necessary to meet the federal reporting requirements, let alone the provision of a quality CTE program.

Other than the required Perkins match of about \$300,000, the state does not allocate any funding specifically for secondary CTE programs.

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<sup>7</sup> [HighQualityCTEFramework2018.pdf \(acteonline.org\)](#)

<sup>8</sup> [Approved 2020 AK Perkins V State Plan.pdf \(alaska.gov\)](#)

## Secondary CTE Programs, Student Numbers, and Outcomes

In the most recently available Perkins reports,<sup>9</sup> based on school year 2022-2023, there were over 12,000 high school students who took at least one CTE course, and over 2,500 students who were considered CTE Concentrators -- that is, they took two or more credits in one CTE pathway. CTE programs in fourteen of the sixteen career clusters were reported--the exceptions being Government & Public Administration and Marketing, although there may be programs in those clusters that are coded to a different cluster based on local district policies. The largest number of students were reported in the Architecture and Construction Cluster, followed by Health Science, Hospitality & Tourism, Transportation, Distribution, & Logistics, and Manufacturing.

According to DEED's CTE Course Portal,<sup>10</sup> construction-related courses, including welding, construction, drafting, woodworking, NCCER, electricity, and carpentry, are offered in the majority of districts. Health-related programs are offered in over twenty districts, business in eighteen districts, aviation in seventeen districts, and various other pathways offered in from one to a dozen districts.

DEED has released the most recent fact sheet about CTE participation and outcomes in Alaska,<sup>11</sup> based on school year 2022-2023, showing that CTE concentrators (students who take 2 or more high school CTE credits in a CTE pathway) graduate from high school at a higher rate than students overall: 96% graduation rate for CTE concentrators vs the 78% overall graduation rate; with nearly 74% of CTE concentrators going on to postsecondary or advanced training, employment, or the military.

It is important to note that these CTE data from DEED may not include all secondary CTE programs. The state tracks and reports only on Perkins-approved programs. Data for CTE programs from non-Perkins-approved secondary CTE programs are unknown.

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<sup>9</sup> Alaska Department of Education & Early Development Career & Technical Education Office, <https://education.alaska.gov/tls/cte/perkins/public/>

<sup>10</sup> <https://education.alaska.gov/tls/CTE/Perkins/Public/Courses>, downloaded May 19, 2024

<sup>11</sup> <https://www.alaskasafetyalliance.org/wp-content/uploads/2025/03/cte-student-demographics-graphic-for-website-1.webp>

# WHO ARE ALASKA'S CTE STUDENTS?



2022-2023 STATEWIDE AVERAGES



**43%**

Of CTE participants are female

**40%** Are economically disadvantaged

**29%** Are NTO\*

**12%** Are in disabled

**10%** Are migrant

**7.4%** Are English Learners

\* Nontraditional Occupations

## DEMOGRAPHICS



■ Caucasian— 52%; 
 ■ Alaska Native—16%; 
 ■ Two or more races—13%; 
 ■ Hispanic—7.6%; 
 ■ Asian—6.6%; 
 ■ Pacific Islander—2.6%; 
 ■ Black—2.2%;

## CTE IN ALASKA



**96% GRADUATION**

4-year cohort CTE concentrators<sup>‡</sup>. Concentration in a CTE pathway is associated with high-rates of HS graduation.

<sup>‡</sup> Students with ≥ 2.0 HS CTE credits



**16%**

Alaskan graduates are CTE concentrators



Of students took at least one CTE class in high school

**32%**

**74%**

Of CTE concentrators go on to postsecondary, adv. training, the military, or employment.



## Career and Technical Student Organizations (CTSOs)

Participation in CTSOs is a hallmark of a robust CTEPS. CTSOs are co-curricular, meaning the activities are meant to be an integral part of CTE classes, as opposed to being simply a club or after-school activity. Nationally, nearly a dozen CTSOs are recognized by the US Department of Education; Alaska has seven CTSOs:

Alaska CTSO	Alaska Chapter Website	Focus Areas
SkillsUSA <i>Previously Vocational Industrial Clubs of America - VICA</i>	<a href="https://skillsalaska.com/">https://skillsalaska.com/</a>	Careers in welding, carpentry, automotive, construction, process tech, diesel, drafting, robotics; Leadership, Community Service, Professional and Technical Skill Development.
BPA (Business Professionals of America) <i>Previously Office Education Association</i>		Careers in business management, information technology, finance, accounting, office administration, general business; Leadership, Community Service, Professional and Technical Skill Development.
National FFA Organization <i>Previously Future Farmers of America</i>	<a href="https://www.alaskaffa.org/">https://www.alaskaffa.org/</a>	Agriculture careers, including those in biology, chemistry, veterinary, engineering, entrepreneurship; Leadership, Community Service, Professional and Technical Skill Development.
EdRising (Educators Rising) <i>Previously Future Teachers of America and Future Educators Association</i>	<a href="https://www.alaska.edu/educatorsrising/">https://www.alaska.edu/educatorsrising/</a>	Education careers; Leadership, Community Service, Professional and Technical Skill Development.
HOSA - Future Health Professionals <i>Previously Health Occupations Students of America</i>	<a href="https://alaskahosa.org/">https://alaskahosa.org/</a>	Health care careers; Leadership, Community Service, Professional and Technical Skill Development.
DECA - An Association of Marketing Students <i>Previously Distributive Education Clubs of America</i>	<a href="https://alaskadeca.weebly.com/">https://alaskadeca.weebly.com/</a>	Entrepreneurship; Leadership, Community Service, Professional and Technical Skill Development.
FCCLA (Family, Career, and Community Leaders of America) <i>Previously Future Homemakers of America</i>	<a href="https://fcclainc.org/about/state-associations">https://fcclainc.org/about/state-associations</a>	Family and consumer science careers, including human services, hospitality and tourism, education and training, and visual arts and design; Leadership, Community Service, Professional and Technical Skill Development.

Each local school CTSO chapter has a teacher “advisor,” and each CTSO has a state leader who coordinates statewide activities for all local chapters. Each chapter, both local and state, elects student officers for its leadership positions. Each CTSO also falls under the umbrella of its specific national organization, which offers curriculum, program, and assessment resources, state and local advisor guidance, and fundraising ideas, and hosts an annual national leadership conference for its CTSO students from across the country.

CTSOs are implemented and funded differently in different schools, districts, and states. Federal Perkins legislation shows CTSO support as a “permissible,” but not “required,” use of funds. In Alaska, CTSOs receive little to no support from the state; local and state advisors receive no additional pay or stipend unless provided by the local district, and each local chapter must raise money to fund any expenses. Each CTSO generally has an annual state leadership conference for the CTSO students from its local chapters across the state. The state conferences usually include opportunities for leadership development, public speaking, career and education information, workshops on various topics, and importantly, skill and technical competitions. These contests are set according to the technical, professional, and career development assessments and regulations from the associated national CTSO organization. For example, a technical welding competition may require competitors to demonstrate various welding techniques while also showing professional skills such as time management, appropriate dress, and use of safety techniques. A professional/career development competition may include presentation of a resume and sitting for a mock interview. Judges for these competitions come from local industry and education leaders, who volunteer their time and expertise. State competition winners are eligible to compete at the national conference.

For the most part, Alaska CTSOs operate on a shoestring and depend on a variety of volunteers, from teachers to parents to industry partners, and their own fundraising efforts, to continue their activities.

#### *Value and Outcomes of CTSOs*

Alaska does not track or report any data on CTSO participation or outcomes, and some of the state’s CTSOs do not currently have a State Advisor or an active website. Therefore, it is difficult to know how many CTSO participants there are in the state. According to HOSA State Advisors, they have twelve local chapters with a total of 397 members, and they expect to add more next year; EdRising reported ten participating districts with nineteen total chapters in 24 schools, and a total of 193 participating students in school year 2023-2024, with 52 of those students competing at the national competition in June 2024.<sup>12</sup>

A 2007 study by the National Research Center for CTE found a positive association between CTSO participation and academic motivation and engagement, career self-efficacy, and employability skills. The competition portion of CTSOs had the most positive effect of the four main elements of a CTSO: leadership, community service, technical skill competitions, and professional development. That research paper concludes by saying “In sum, we found that CTSOs are beneficial to students, but that they have great untapped potential that can be realized if they become more prevalent in CTE programs and more inclusive of all kinds of students.”<sup>13</sup>

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<sup>12</sup> May 2024 email correspondence from HOSA and EdRising state advisors.

<sup>13</sup> Looking Inside the Black Box: The Value Added by Career and Technical Student Organizations to Students’ High School Experience, 2007: [https://www.sreb.org/sites/main/files/file-attachments/looking\\_inside\\_the\\_black\\_box.pdf?1630433285](https://www.sreb.org/sites/main/files/file-attachments/looking_inside_the_black_box.pdf?1630433285)

The National Coordinating Council for Career and Technical Student Organizations (NCC-CTSO) reports there are over 2 million CTSO participants nationwide.<sup>14</sup> The Association for Career & Technical Education (ACTE) lists several reports showing positive CTSO benefits,<sup>15</sup> including higher levels of earning an industry certification, meeting potential employers, gaining student work experience, connecting school to the real world, career self-efficacy, and academic success than non-CTSO participants.

### Alaska's Postsecondary CTE Programs

Alaska has a network of public postsecondary training entities, which are profiled below. These programs offer a wide selection of short or long term technical training, occupational certificates, and degree programs to prepare participants for a variety of jobs and careers.

#### *Alaska Vocational Technical Center*

The Alaska Vocational Technical Center (AVTEC), a division of the Alaska Department of Labor and Workforce Development, is located in Seward in the Gulf Coast Region and is the largest multidisciplinary postsecondary vocational training center in Alaska. AVTEC's mission is to give Alaskans the occupational, technical, and employability skills needed in all of Alaska's six economic regions. AVTEC's program development and student placement are tightly connected to employer partners through advisory committees that place students into jobs and ensure AVTEC curriculum contains the skills and knowledge they expect from new hires.

AVTEC training programs include Alaska Maritime Training Center (40 U.S. Coast Guard courses); Business and Office Technology; Construction Technology; Culinary Arts; Diesel Heavy Equipment Technology; Industrial Electricity; Industrial Welding; Information Technology; Plumbing and Heating; Refrigeration; and Related Technical Studies (course-related technical instruction for Registered Apprenticeship programs). AVTEC also has an agreement with the University of Alaska Southeast in Ketchikan for maritime licenses that articulate into the University's Associate of Applied Science degree in Marine Transportation. AVTEC has dozens of education and training partners and employers who serve on industry advisory committees from around the state (see Alaska TVEP report - [https://awib.alaska.gov/PDFs/TVEP\\_SF22\\_.pdf](https://awib.alaska.gov/PDFs/TVEP_SF22_.pdf).)

AVTEC is very responsive to industry training needs as well as the needs of students from rural Alaska. The school has been an essential asset for building Alaska's construction, maritime, and facilities maintenance workforce for decades. AVTEC assists over one hundred construction industry employer sponsors of apprenticeship programs with course-related instruction. In 2022, AVTEC launched the first apprenticeship in the state focused on IT/networking. The first cohort included five apprentices who completed the required course-related technical instruction and 2,000 hours of on-the-job training. AVTEC is also working to meet the need to develop more CTE instructors in Alaska --the school has created a new flexible and free program that offers professional development for secondary CTE teachers, funded through a federal Carl Perkins grant ([https://avtec.edu/newsfeed/AVTEC\\_PD\\_for\\_CTE.pdf](https://avtec.edu/newsfeed/AVTEC_PD_for_CTE.pdf)).

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<sup>14</sup> National Coordinating Council for CTSOs - <https://www.ctsos.org/ctsos-2/>

<sup>15</sup> ACTE: High-quality CTE: Career and Technical Student Organizations: <https://www.acteonline.org/professional-development/high-quality-cte-tools/high-quality-cte-library/career-and-technical-student-organizations/#toggle-id-1>

Many AVTEC programs are on the state’s Eligible Training Provider List (ETPL), which means eligible students may qualify for funding assistance through federal WIOA dollars. This funding may help offset the cost of tuition and fees, books, tools, certification tests, and other needs including housing, transportation, child care, or medical needs.

#### *University of Alaska*

The University of Alaska has 13 community campuses that serve all regions of the state (<https://www.alaska.edu/alaska/campuses.php>). The University system offers more than 200 programs in workforce development, in which students have opportunities to earn both credit and non-credit industry recognized certifications, endorsements, certificates, and degrees in two years or less. Many of these programs are in the high-demand and high-growth areas needed for Alaska economic growth.

UA’s most recent Industry Workforce Reports (published in 2023) for programs that provide training in eleven of Alaska’s high-demand industries show that since 2011, nearly 27,000 students have graduated from these programs, with 80% of those with certificate and associate degrees and 74% of those with bachelor and higher degrees working in Alaska within the first year after graduation. For detailed information on these programs and outcomes, please see <https://www.alaska.edu/research/wd/reports.php>.

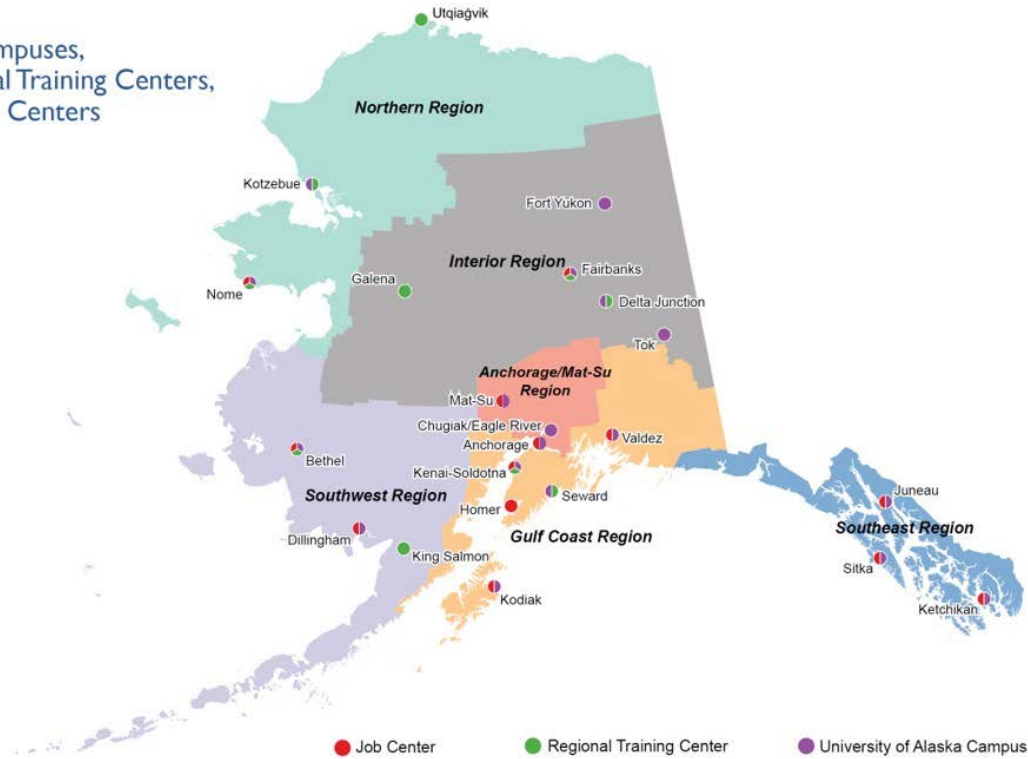
UA is responsive to new and emerging industry needs and training as well. For example, the University of Alaska Anchorage (UAA) College of Engineering recently launched an “Introduction to Broadband” seminar series geared towards new and experienced engineers, engineering students, and those in project management and construction management programs as well. [Broadband Flyer final \(alaska.edu\)](#)

About 350 UA programs are on the state’s Eligible Training Provider List (ETPL), which means eligible students may qualify for funding assistance through federal WIOA dollars. This funding may help offset the cost of tuition and fees, books, tools, certification tests, and other needs including housing, transportation, child care, or medical needs.

#### ***Alaska’s Regional Training Centers and the Alaska Technical Vocational Education Program***

In 2000, legislation was enacted establishing the Alaska Technical Vocational Education Program (TVEP). Funds come from a percentage of employee unemployment insurance contributions allocated to specific institutions in accordance with Alaska Statute 23.15.835. Recipients of TVEP formula grant funds are part of a statewide vocational training system, working together with industry and state agencies to provide training for Alaskans. TVEP funds are used to provide industry specific training, including On-the-Job and classroom-based training. Programs must align with regional workforce demands and the Alaska Workforce Investment Board’s priority industries. Each TVEP recipient is required to have a Tech Prep or dual credit agreement allowing high school students to earn both secondary and postsecondary credit for program completion, as well as a military credit policy for acceptance of credit toward a degree or technical program. RTCs are designated by the state legislature and receive TVEP funding to support regional workforce training. Figure 5 below shows the location of the RTCs, UA community campuses, and Alaska Job Centers as of May 2024.

UA Campuses,  
Regional Training Centers,  
and Job Centers



Alaska’s Regional Training Centers (RTCs) include University of Alaska campuses, the Alaska Vocational Technical Center in Seward; Iñisaġvik College in Utqiagvik; Northwestern Alaska Career and Technical Center in Nome for Bering Straits and Nome High School students; Galena Interior Learning Academy in Galena - a statewide high school; YUUT Elitnaurviat (The Peoples Learning Center) in Bethel, Alaska Technical Center in Kotzebue; Fairbanks Pipeline Training Center; Southwest Alaska Vocational Education Center in King Salmon; Delta Career Advancement Center in Delta Junction; and Amundsen Educational Center in Soldotna. In Fiscal Year 2022, TVEP recipients served over 7,000 participants including high school students and adults. The most recent TVEP program data and student outcomes are summarized in the Fiscal Year 2022 TVEP Report from the Department of Labor and Workforce Development.<sup>16</sup>

## Other Training Efforts

### *Alaska Department of Corrections*

Individuals who are leaving our correctional facilities (returning citizens) can be a useful source of new workers for construction, telecommunications, and other industries that need workers with these skills, and the Alaska Department of Corrections (DOC) has been identified as a source of untapped labor potential.

DOC has on-site basic skills training for construction trades and experience with using registered apprenticeship training at facilities to better prepare inmates for reentry to society. The department maintains vocational shop spaces in six facilities and is preparing to renovate space at Anvil Mountain Correctional in Nome, located in an area identified as high priority for broadband expansion, to create a seventh dedicated vocational space. DOC vocational coordinators and

<sup>16</sup> [https://awib.alaska.gov/PDFs/TVEP\\_SF22\\_.pdf](https://awib.alaska.gov/PDFs/TVEP_SF22_.pdf)

contracted instructors have historically provided accredited training intended to equip students successfully completing classes with NCCER certifications in the carpentry, electrical, and plumbing trades in addition to OSHA, CPR, first aid, blood borne pathogens, maritime safety, hazardous materials disposal, food handling, and DOT certifications and endorsements. Thus, DOC is not only a source of human power to support broadband expansion initiatives, but also to prepare workers for a variety of cross-industry jobs that will be especially important to help with the workers needed from IJA projects out to 2030 and beyond.

AK DOC currently provides students in all facilities with nearly twenty offline digital literacy classes related to basic computer functions, Microsoft Office Suite, responsible internet browsing, and how to use e-mail. Two locations with vocational space additionally offer Computer Numerical Control (CNC) programs, allowing students the opportunity to interact with CAD software and practice its application. Additional programs for high-demand industries have the potential to draw on existing student knowledge of digital environments as well as afford greater student interaction with and awareness of technology as students explore the intricacies of data transmission.

Recently, the Alaska legislature passed [House Bill 330](#) during the 2024 legislative session, which would allow those in state prisons to use tablet-type PCs in their cells for education and legal purposes, based on permission from prison officials. If this law is adopted, it may provide another means for those in the state's correctional facilities to gain training before re-entering society.

#### *Alaska Division of Vocational Rehabilitation (DVR)*

In Fiscal Year 2022, DVR served over 1,900 individuals. These clients received services such as information and referrals; job search and placement help; interpreter, reader, or tutoring services; training services; books, supplies, and tools needed for training and employment; living expenses; transportation; medical care; and Pre-Employment Transition Services for high school students with disabilities. DVR is eager to provide its clients with opportunities for training in occupations that are in high demand.

#### **State-Funded Training Programs Supporting Workforce Development**

##### *Alaska State Training & Employment Program (STEP)*

In addition to the state's Technical and Vocational Education Program (TVEP), which was [detailed earlier](#), Alaska's State Training and Employment Program (STEP) is administered by the Alaska Department of Labor and Workforce Development (DOLWD) through the Alaska Workforce Investment Board (AWIB) and funded by a set aside from the Unemployment Insurance Trust Fund. The purpose of STEP is to enhance the quality and accessibility of in-state training and employment services for Alaska residents to help meet the workforce needs of employers in the state. In addition, the program seeks to increase resident employment in industries where a high number of nonresidents are working, reduce future unemployment claims, and foster economic growth in all regions by meeting employer demand for a skilled workforce.

STEP provides several types of training opportunities, including industry-specific training; on-the-job training, apprentice training in a USDOL Registered Apprenticeship program; institutional or classroom job-linked training; and support services necessary to enable a participant to attend training and/or obtain or retain a job.

The AWIB provides STEP grants annually through a competitive process. Organizations eligible to apply for STEP funding include public and private sector employers, non-profit organizations, Regional Training Centers, adult education and training providers, sponsors of federally registered apprenticeship programs, and local and state government agencies.<sup>17</sup>

### *Alaska Construction Academies*

Through industry, education, and workforce training partnership efforts, the Alaska Construction Academies (ACA) provide over 500 Alaskan high school students and adults annually with training and entry level jobs in construction-related occupations and in multiple industries that utilize trade skills. Academy courses meet industry standards and result in occupational certificates required for work. The program is funded through an annual appropriation by the Legislature to DOLWD. This year is the 16th year of ACA's continuous operations. The program offers a framework for providing technical skills short courses and pre-apprentice training for students and adults. ACA's career awareness and basic skills courses are offered statewide, with training centers in Anchorage, Fairbanks, Wasilla, Juneau, Kenai, Ketchikan, King Salmon (SAVEC), and Nome (NACTEC).<sup>18</sup>

### **Construction industry connections will continue to be important**

Alaska's schools and the construction industry have a long history of engagement, which is especially important in light of the construction-related projects expected from the federal IJIA and broadband money, in addition to state resource projects, on the horizon. For example, at least forty-three school districts have construction programs; many have close ties with local unions and employers. The University's 2023 Construction Industry report shows the demand for industry occupational certificates and degrees, as well as employment outcomes and earnings for those completing industry programs from 2011-2022.

(<https://www.alaska.edu/research/wd/2023%20Construction%20UA%20Workforce%20Report%20Final.pdf>)

Many of the skills learned in construction-related programs are considered "cross-industry" skills, which can be used in the variety of industries and jobs that will need thousands of new workers from now through 2030 and beyond.

### **Private Sector Industry Job Training for Students and Adults**

Alaska's largest private for-profit industrial training company is Northern Industrial Training (NIT). NIT offers a wide range of construction-related training courses such as welding, mechanics, heavy equipment operator, carpentry, electrical, and construction management. NIT specializes in commercial truck driver courses and CDL training, they work closely with the Alaska military and transitioning soldiers and Veterans, and they assist companies and students with obtaining grants and tuition vouchers to attend courses. NIT has training locations in Palmer, Anchorage, Kenai, and Fairbanks, and they deliver mobile training in rural communities to support community hire on local construction projects.

Alaska Works Partnership, Inc. (AWP) is the largest nonprofit construction industry pre-apprentice trainer in Alaska and offers a wide range of entry level and basic skills construction and broadband construction through unique long running programs. AWP has training centers in Anchorage,

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<sup>17</sup> Alaska Workforce Investment Board STEP program <https://awib.alaska.gov/training-programs/step.htm>

<sup>18</sup> Alaska Workforce Investment Board Alaska Construction Academies <https://awib.alaska.gov/training-programs/aca.htm>

Palmer, and Fairbanks, and their instructors travel to rural locations to provide training to build community workforce skills. AWP offers free training through Alaska Construction Academy courses, Helmets to Hardhats courses for Veterans and Transitioning Service Members, and for girls and women through their Women in the Trades program. Individuals who complete AWP course are eligible to apply for and enter registered apprenticeship programs.

## The Alaska CTE Plan: A Call to Action

In 2010, the Alaska Departments of Labor and Workforce Development (DOLWD) and Education & Early Development (DEED) and the University of Alaska (UA) jointly developed a statewide Career and Technical Education Plan, with the input of a broad cross-section of stakeholders, including educators, employers, policymakers, state agencies, secondary and postsecondary programs, and parent representatives. The plan, which was adopted by the State Board of Education and Early Development, UA Board of Regents, and the Alaska Workforce Investment Board (AWIB) in May 2010,<sup>19</sup> provides a framework for a CTE system for Alaska's youth and adults, and includes six overarching strategies:

- Strategy 1: Make transitions planned and accountable for both successful student progress and systemic cooperation.
- Strategy 2: Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills - from elementary through apprenticeship, postsecondary and professional development levels.
- Strategy 3: Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain knowledge and skills needed for further training and careers.
- Strategy 4: Locate, support, and retain high quality CTE teachers and faculty.
- Strategy 5: Maximize the use of public facilities for training.
- Strategy 6: Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.

Leadership at the three agencies committed resources and staff to implementation of plan activities. Designated agency leads were DEED's State CTE Director, AWIB's CTE Specialist, and UA's Associate Vice President for Workforce Development. The agencies met regularly and collaborated on a number of activities.

The Plan did result in some short-term CTE-specific state funding. From FY12 through FY15, the state legislature allocated approximately \$625,000 per year for CTE Plan implementation, the majority of which was distributed through competitive grants available to public school districts, postsecondary institutions, and non-profit educational agencies, to enhance existing CTE programs or develop new ones. Over the four years, the grants, which had a cap of \$60,000 per year, were awarded across the state to approximately 25 school districts, AVTEC, ten UA programs/campuses, several non-profit training centers, an Alaska correctional facility, and some economic development agencies.

The most impactful outcome of the CTE Plan arguably was the high level of coordination in the years immediately following its publication. The three lead agencies fostered a cooperative and

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<sup>19</sup> [https://awib.alaska.gov/AK\\_CTE\\_Plan\\_AUG2010.pdf](https://awib.alaska.gov/AK_CTE_Plan_AUG2010.pdf)



transparent relationship and worked in tandem to coordinate CTE-related efforts, developing and maintaining a public website with Plan information, resources, and updates on activities.<sup>20</sup>

Budget, staffing, and leadership changes in the following years lessened the frequency of communication and coordination. In 2018, the AWIB lead the development of an update or addendum to the 2010 Plan,<sup>21</sup> which included additional stakeholder feedback. Using this feedback, the addendum provides recommendations for how various constituencies can continue the efforts to implement the strategies from the original CTE Plan.

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<sup>20</sup> Alaska Career and Technical Education Plan - <https://www.alaskacteplan.org/>

<sup>21</sup> 2018 Addendum to the Alaska Career and Technical Education (CTE) Plan - [https://awib.alaska.gov/CTE\\_Addendum\\_10-2018.pdf](https://awib.alaska.gov/CTE_Addendum_10-2018.pdf)