

2018

ADDENDUM to the

Alaska Career and Technical Education (CTE) Plan

CTE: Skills for Alaska's Careers





October 2018

Dear Alaskans,

Almost a decade ago, our three entities partnered with a broad spectrum of stakeholders to develop a plan to improve and advance career and technical education in Alaska. We recognized the necessity of cooperatively addressing individuals' needs for career preparedness, and understood that Alaska needs an education and training system that is effective and coordinated with Alaska's industry workforce demands. With that in mind, the Alaska Career and Technical Education (CTE) Plan was finalized in 2010.

Here's what we know:

- **CTE is for all learners.** CTE is not a separate system that limits educational or occupational options. CTE expands options for a variety of career paths including industry certifications, occupational endorsements, associate degrees, and bachelor degrees.
- **CTE leads to improved high school graduation rates.** In Alaska, CTE concentrators have a 94.8% high school graduation rate compared to a 74.9% rate for non CTE concentrators.¹
- **CTE engages modern learners.** CTE programs provide diverse options that emphasize hands-on, project-based learning that allows students to learn through "doing." The result is increased learner engagement that pairs rigorous academic and technical standards with higher order thinking skills.
- **CTE prepares our workforce for high paying jobs.** Both high school and postsecondary CTE programs provide technical skills as well as academic and personal skills to ensure workforce readiness. About 65% of jobs require some training beyond high school. In fact, many of Alaska's highest paying occupations require postsecondary education or training that is less than a four-year degree.

Since completing the 2010 CTE Plan, the Departments of Education & Early Development and Labor and Workforce Development, the University of Alaska, and other CTE professionals have worked to implement the plan to improve CTE outcomes and workforce readiness.

In eight years, we have made significant progress. For example, we have seen increased high school graduation rates for CTE participants; regional training centers across the state have strengthened and expanded their programs; more students are earning postsecondary credit while still in high school; registered apprenticeship has re-emerged as a strong workforce development model; school districts are working together to provide rural students with increased CTE opportunities; and the university system has expanded CTE offerings and provided a tuition discount for CTE program students.

With a renewed national and state focus on career and technical education, we collectively sought to update the CTE Plan to effectively capitalize on advancement and innovation in our CTE system. The plan and addendum calls employers, community members, and educators to join forces and strengthen the quality of CTE programs in their communities and across the state. These resources will help stakeholders identify the elements of high quality CTE programs and develop strategies to enhance and expand available options. Efforts to build CTE programs in Alaska support not only the Governor's priorities, but the CTE goals within Alaska's Education Challenge.

Together, along with members of the Alaska Workforce Investment Board, we formed a workgroup to revisit the Alaska CTE Plan to ensure that it continues to meet Alaska's need for a skilled workforce. Information presented in this Addendum to the 2010 plan represents outreach to a variety of education, policy, business, and industry stakeholders and is intended to serve as both a resource for continued implementation of the strategies in Alaska's CTE Plan and as an advocacy tool for promoting CTE in our state.

We are proud of what Alaska has accomplished in CTE in recent years and remain committed to a continued partnership as we work to make Alaska's CTE system the best it can be. We invite you to join us in this effort to ensure that Alaskans are prepared for attaining and advancing in good jobs with family sustaining wages, and that our industries have the talented, resident workforce they need.

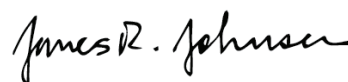
Sincerely,



Dr. Michael Johnson
Commissioner
Department of Education
& Early Development



Heidi Drygas
Commissioner
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Dr. James Johnsen
President
University of Alaska

ⁱ CTE Concentrator - a high school student who has successfully taken two or more courses in a CTE pathway. Graduation rates are from 2017-2018 school year. CTE concentrator rate is based on school districts who receive federal Perkins CTE funding; non-concentrator rate includes all 2017 graduates statewide.

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**Member of the Alaska Workforce Investment Board*

2010 Plan and 2018 Addendum

The 2010 CTE Plan

In 2009, leadership at the Department of Labor & Workforce Development, Department of Education & Early Development, and the University of Alaska, recognizing that a cooperative planning effort to address educational and workforce needs was necessary, joined forces to develop the Alaska Career and Technical Education Plan, finalized in 2010. The original plan developers included a broad cross section of stakeholders, all of whom understood that Alaska needed to more effectively prepare and transition Alaskans from school and training to the workforce.

The 2010 Alaska Career and Technical Education Plan contains six strategies to address career preparedness and the broader need for a statewide training and education system that is collaborative, efficient, effective, and coordinated with regional and state workforce needs. These 2010 Plan strategies are addressed on page 12.

The 2010 Alaska CTE Plan has been used for activities such as improving and expanding CTE programs, advocating for program funding, and helping form partnerships between CTE and community organizations.

The 2018 Addendum

In 2017, the Alaska Workforce Investment Board convened a workgroup to review the 2010 Alaska CTE Plan and draft an addendum. The goals of the workgroup were to reenergize the conversation around CTE, reexamine the existing CTE plan strategies, and create a document that can be used as an advocacy tool to help ensure that a broad spectrum of education and training opportunities exist and are communicated to Alaskans.

In addition to drawing from the subject matter expertise of its membership, the workgroup designed public surveys on CTE in Alaska that solicited feedback on the 2010 Plan and other CTE activities from audiences ranging from business and industry to education professionals. During the addendum development process, the workgroup also presented on their efforts at industry events to gather comments from participants. You can read more about the feedback the workgroup received on page 13.

This addendum is intended to complement but not replace the 2010 Alaska CTE Plan. It contains information about how to implement the strategies outlined in the 2010 plan and best practices in CTE, examines CTE supported industries by region, emphasizes the importance of engaging with industry to expand CTE, and more.

What's Changed Since 2010?

Alaska

Since 2010, the national and state education and economic landscapes have changed in a variety of ways. In Alaska, the dramatic drop in oil prices put the state into a recession, resulting in higher unemployment rates and fiscal and economic uncertainties.

Prior to the state's economic downturn, the legislature increased spending for CTE grants and programs; however, recent losses in state revenues resulted in flat or reduced spending on CTE, and in some cases, such as the Alaska Youth First and AWIB CTE Plan grant programs, funding was eliminated. The state-funded Alaska Construction Academies remain active, though funding levels decreased and then flattened in recent years.

On the upside, a key trend in Alaska's labor market over the last decade has been the strong growth in health care jobs, in contrast to the declining overall employment in most industries. Further, under Governor Bill Walker's leadership, there have been several recent developments in Alaska LNG Project activity, which bodes well for a potential upturn in oil and gas, construction, maritime, and related industries.

Governor Walker and Alaska Department of Education and Early Development are also leading an effort to improve the state's public education system by implementing the Alaska Education Challenge, which seeks to amplify student learning through student-centered instruction such as that found in CTE. Alaska's Education Challenge endeavors to facilitate systemic collaboration within educational systems and among state agencies, and prepare students to become responsible and productive citizens with the skills to respond to a rapidly evolving economic and cultural climate.

Other notable changes in Alaska since the 2010 CTE Plan was finalized include a renewed focus on Registered Apprenticeship, especially in health care; changes to the Alaska Performance Scholarship eligibility criteria; the development of industry sector workforce plans for health care, maritime, oil and gas, and mining; and a statewide effort to increase the number of Alaskans who have postsecondary credentials.

Nation

From the federal perspective, three major pieces of legislation have been adopted since 2010. One is the Workforce Innovation and Opportunity Act (WIOA) that replaced the Workforce Investment Act of 1998. Another is the Elementary and Secondary Education Act as amended by the Every Student Succeeds Act (ESSA) replacing the No Child Left Behind Act (NCLB). Most recently, the Carl D. Perkins Career and Technical Education Act was reauthorized as the Strengthening Career and Technical Education for the 21st Century Act in summer 2018. All of these laws seek to more fully integrate education and workforce development using common strategies such as career pathways, industry sector partnerships, and secondary/postsecondary alignment. On the horizon is the federal Higher Education Act of 2008, which is due for reauthorization.

Nationally, through the Advance CTE State Leaders group, the Association for Career and Technical Education, and other organizations, CTE seems to have a renewed spotlight with new marketing resources (e.g., CTE: Learning that Works), state policy reviews, CTE data and accountability reports, grant opportunities, professional development, advocacy, and credentialing initiatives.

CTE Accomplishments

Alaska's Accomplishments in Career and Technical Education

Since the Alaska CTE Plan was finalized in 2010, there have been several noteworthy accomplishments in implementing the plan and in enhancing CTE programs in Alaska. To highlight a few:

- A website specific to the Alaska CTE plan, www.alaskacteplan.com, was developed and is actively maintained. The site includes information about plan strategies, best practices, access to a mailing list, and more, and has become a central point for sharing information related to CTE.
- Ongoing efforts in industry specific workforce development planning have reflected the necessity of incorporating secondary and postsecondary CTE in developing a workforce to meet industry needs. See page 9 for more information on Alaska's industry workforce plans.
- One of the five main goals of Alaska's Education Challenge is to increase the number of graduating high school students earning an industry certification/credential, dual credit, associate degree, or Advanced Placement credit by 2023.
- While Alaska's federal funding levels under the Carl D. Perkins CTE Act has remained flat, there has been an increase in the number of school districts and postsecondary institutions leveraging these dollars, meaning more Alaskan students are benefiting from the program.
- Registered apprenticeship and pre-apprenticeship opportunities have grown to include occupations in industries such as health care, aviation, and maritime in addition to traditional trade programs.
- While the current fiscal climate has meant budget constraints for all CTE providers, between FY12 and FY 15, the Alaska Legislature provided \$625,000 each year to the Department of Labor & Workforce Development for implementation of the CTE Plan through competitive grants to school districts, postsecondary institutions, and non-profit organizations to enhance existing CTE programs or implement new ones.
- With improvements in technology and connectivity, innovative distance delivery models for education and training, such as virtual classrooms, have helped increase access to CTE. More education and training providers are taking advantage of these online and virtual models.
- Professional development organizations such as the Alaska Association for Career and Technical Education (Alaska ACTE) have seen membership growth and greater participation in events.
- Regulations have been updated to continue to allow for "Type M" teacher certification so individual districts can utilize local talent for instruction in indigenous languages and CTE.
- There is continued coordination for Alaska's CTE programs through partnerships between the Alaska Departments of Education & Early Development and Labor & Workforce Development, and the University of Alaska. Leadership from each organization meet monthly to collaborate, support ongoing implementation of the CTE Plan, and join together to support various CTE initiatives as needed.

Positive Impacts of CTE

"Career Technical Education (CTE) provides students of all ages with the academic and technical skills, knowledge and training necessary to succeed in future careers and to become lifelong learners. In total, about 12.5 million high school and college students are enrolled in CTE across the nation. CTE prepares these learners for the world of work by introducing them to workplace competencies, and makes academic content accessible to students by providing it in a hands-on context."

Source: AdvanceCTE (<https://careertech.org/cte>)

Career and Technical Education (CTE) course participation has positive impacts on high school completion, post-secondary enrollment, employment, and earnings. With as much rigor as academic programs, CTE also expands options for learners, empowering them to select a sustainable career path that provides them with marketable skills through applied learning, engagement with industry, and career focused education and training.

CTE:

- Trains Alaskans with the required skills for high demand jobs
- Leads to a career path and a variety of options for future advancement
- Connects Alaskans to employment through school-to-apprenticeship, tech prep, dual credit and concurrent enrollment, school-to-work, and Career and Technical Student Organizations
- Helps prepare youth and adults for jobs in their local region through training and by improving employability skills
- Directs learners towards postsecondary credentials, certificates, occupational endorsements, associate degree programs, and other career pathways including, but not limited to, four year college degrees
- Increases student retention and high school graduation rates
- Supports Alaska's employers by creating skilled workers to meet industry demand and to replace aging workforces in many sectors

CTE in Alaska

95% is the high school graduation rate for Alaskan CTE concentrators.* CTE students are 21% more likely to graduate than their non-CTE counterparts.

79% of Alaska's CTE concentrators go on to employment, postsecondary institutions, advanced training, and/or the military.

18.5% of Alaska's HS graduates are CTE concentrators.*

62% of Alaska's postsecondary CTE students stayed enrolled in training or ongoing education.

43% of CTE students in Alaska are female.

*CTE Concentrators are those with ≥ 2.0 high school CTE credits in a CTE pathway

Source: Alaska Department of Education and Early Development, 2016-2017 Statewide Averages

CTE and Career Paths

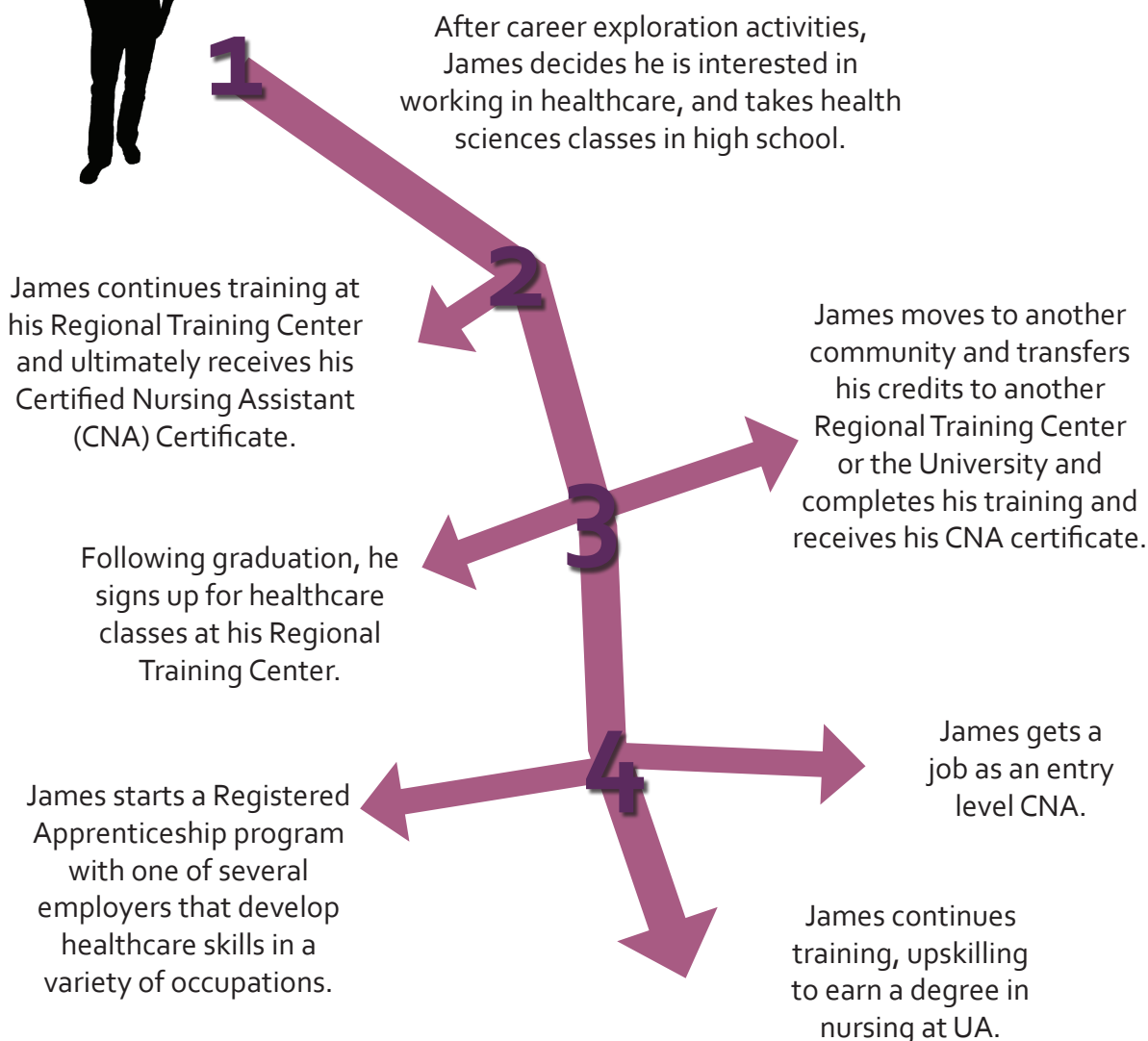
CTE can support secondary and postsecondary students in a variety of pathways that lead to successful jobs with good salaries. It's important to remember that CTE is not just individual classes – it's a comprehensive system including career exploration and preparation that starts with school age children and continues through secondary school, postsecondary education and training, and ultimately career entry and advancement.

Career:				
Awareness	Exploration	Preparation	Choice	Entry
Elementary Participate in career awareness activities Identify interests through career aptitude tests Visit a workplace for a career day/ job shadowing activity Learn about CTE-related jobs from classroom guest speakers	Middle School Further explore interests through a career assessment* Research career demand & requirements* Begin a Personal Learning & Career Plan (PLCP)* Enroll in CTE courses	High School Research career demand & requirements* Update a PLCP* Enroll in CTE courses Join a Career and Technical Student Organization (CTSO) http://ctsoalaska.org/ Obtain dual credit for CTE courses Begin Pre-Apprenticeship	Post Secondary Enter a Registered Apprenticeship program Enroll in Postsecondary CTE Occupational Endorsement, Certificate, or Associate Degree Program Participate in Internships Earn an Industry Certificate or License Continue planning*	Real Life Remain current through professional development With additional training, upskill and advance in your career Continue education to an associate or bachelor's degree or additional certifications for further advancement

* Available at no charge to all Alaskans in the Alaska Career Information System (AKCIS)
<https://acpe.alaska.gov/PLANNING/AKCIS>

Sample CTE Career Path:

James from
Northwest Alaska



Personal Learning and Career Plans

PLCPs were identified in the 2010 CTE plan as a way to help ensure smooth transitions from middle school to high school to postsecondary education and training to a career.

A PLCP includes both the process of career planning and documentation of an individual's progress. PLCPs help a learner see how their education and training ties to a future career.

The Alaska Career information System (AKCIS) has made great strides in increasing the use of and focus on the PLCP process. Their PLCP tools, primarily accessed online, are now used in every school district in the state, in all Alaska job centers, and by a variety of postsecondary training and education programs.

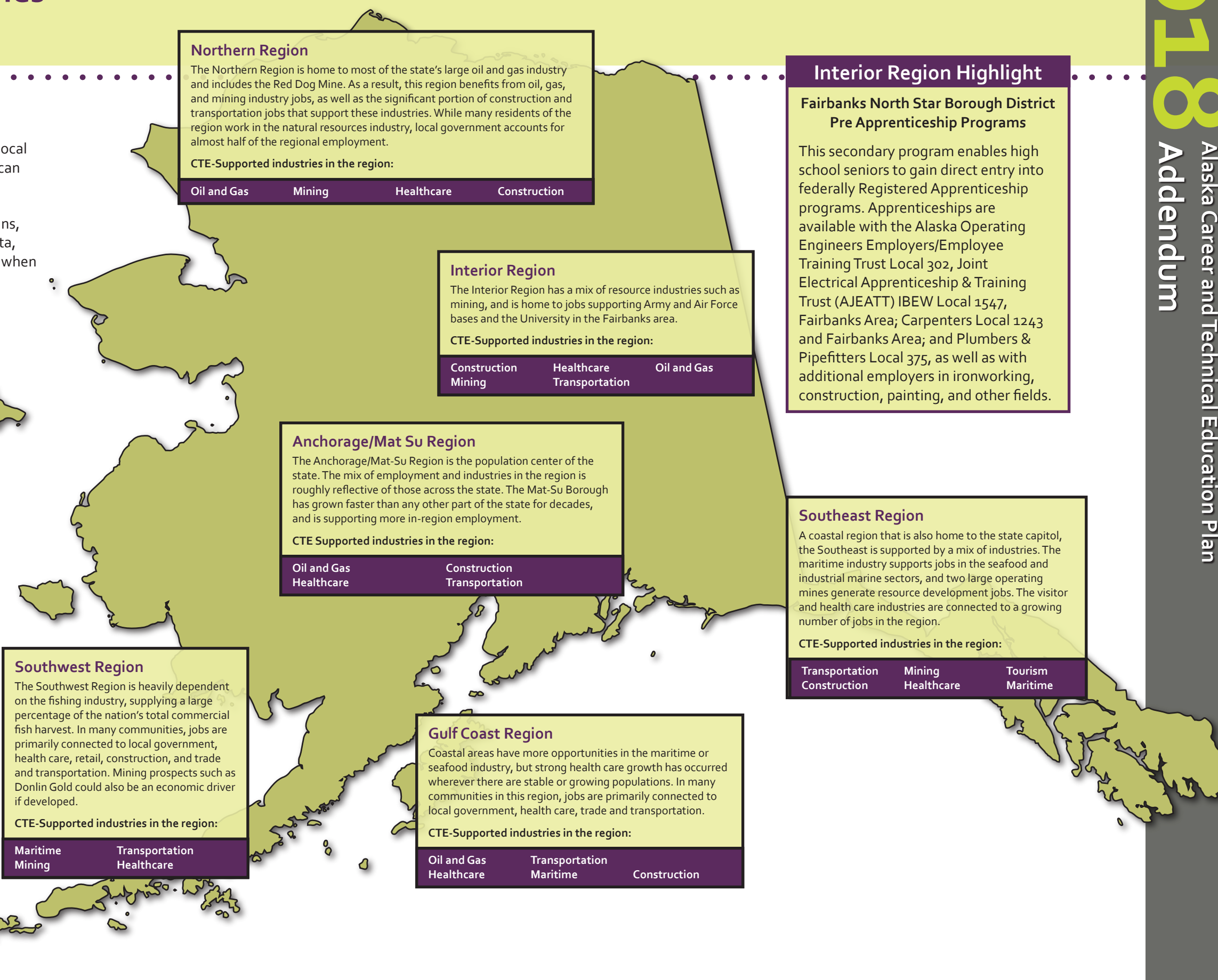
From 2010 to 2017, AKCIS reports an approximate 700% increase in the number of individual portfolios created, with the total number of portfolios created since 2010 surpassing 80,000.

CTE-Supported Industries

Regional CTE-Supported Industries

Alaska’s six economic regions are each unique in their local economies and in their mix of occupations. While CTE can support almost any industry, these snapshots consider regional economic drivers and employers. Data from DOLWD Research and Analysis, industry workforce plans, the University of Alaska’s regional EMSI occupation data, and results from the 2018 CTE survey were considered when identifying CTE-supported industries in each region.

The CTE-supported industries identified for each region should not be considered a comprehensive list, rather a tool to help Alaska’s CTE community promote collaborative opportunities and consider how to best provide quality CTE statewide.



Interior Region Highlight

Fairbanks North Star Borough District Pre Apprenticeship Programs

This secondary program enables high school seniors to gain direct entry into federally Registered Apprenticeship programs. Apprenticeships are available with the Alaska Operating Engineers Employers/Employee Training Trust Local 302, Joint Electrical Apprenticeship & Training Trust (AJEATT) IBEW Local 1547, Fairbanks Area; Carpenters Local 1243 and Fairbanks Area; and Plumbers & Pipefitters Local 375, as well as with additional employers in ironworking, construction, painting, and other fields.

Southwest Region Highlight

Bristol Bay Collaborative

Four school districts in the Bristol Bay region (Lake and Peninsula, Bristol Bay, Southwest Region, and Dillingham) joined forces in a collaborative effort to help more area students in these small districts access CTE classes, equipment, and instructors. Students travel between districts and are boarded on site for one of four annual “phase weeks” during which they receive specialized instruction and training in a career pathway such as allied health, construction trades, facilities maintenance, or IT. Participating students can also earn postsecondary credit via the program’s dual credit CTE courses.

Southwest Region

The Southwest Region is heavily dependent on the fishing industry, supplying a large percentage of the nation’s total commercial fish harvest. In many communities, jobs are primarily connected to local government, health care, retail, construction, and trade and transportation. Mining prospects such as Donlin Gold could also be an economic driver if developed.

CTE-Supported industries in the region:

Maritime, Mining, Transportation, Healthcare

Gulf Coast Region

Coastal areas have more opportunities in the maritime or seafood industry, but strong health care growth has occurred wherever there are stable or growing populations. In many communities in this region, jobs are primarily connected to local government, health care, trade and transportation.

CTE-Supported industries in the region:

Oil and Gas, Healthcare, Transportation, Maritime, Construction

Southeast Region

A coastal region that is also home to the state capitol, the Southeast is supported by a mix of industries. The maritime industry supports jobs in the seafood and industrial marine sectors, and two large operating mines generate resource development jobs. The visitor and health care industries are connected to a growing number of jobs in the region.

CTE-Supported industries in the region:

Transportation, Construction, Mining, Healthcare, Tourism, Maritime

Anchorage/Mat Su Region

The Anchorage/Mat-Su Region is the population center of the state. The mix of employment and industries in the region is roughly reflective of those across the state. The Mat-Su Borough has grown faster than any other part of the state for decades, and is supporting more in-region employment.

CTE Supported industries in the region:

Oil and Gas, Healthcare, Construction, Transportation

Northern Region

The Northern Region is home to most of the state’s large oil and gas industry and includes the Red Dog Mine. As a result, this region benefits from oil, gas, and mining industry jobs, as well as the significant portion of construction and transportation jobs that support these industries. While many residents of the region work in the natural resources industry, local government accounts for almost half of the regional employment.

CTE-Supported industries in the region:

Oil and Gas, Mining, Healthcare, Construction

Interior Region

The Interior Region has a mix of resource industries such as mining, and is home to jobs supporting Army and Air Force bases and the University in the Fairbanks area.

CTE-Supported industries in the region:

Construction, Mining, Healthcare, Transportation, Oil and Gas

CTE and Alaska's Industry Workforce Development Plans

Since 2010, workforce plans for many of Alaska's key industry sectors have been developed and implemented, including health care; maritime; oil and gas; mining; and for the Alaska LNG Project. Each one was developed with industry, and identifies workforce needs and challenges, occupations likely to be in demand, and strategies to meet anticipated demand.

Additional workforce planning efforts that preceded the 2010 CTE Plan include the [2006 Alaska Construction Industry Workforce Plan](#) and the 2008/2009 [AGIA \(Alaska Gasline Inducement Act\) Training Strategic Plan](#). Both documents call for an increase in career and technical (or vocational) education, recognizing CTE's key role in preparing Alaskans for work in these priority sectors. Notable is that the AGIA Training Strategic Plan, which contained a strategy specific to developing a comprehensive and integrated CTE system, is credited as an impetus for the creation of the 2010 Alaska CTE Plan.

The strategies in many of these plans align with the CTE Plan, particularly in the areas of career awareness and planning; expanding CTE programs; and supporting CTE instructors. Also presented in each of these plans are priority occupations that are supported by career and technical education.

The development and implementation of these plans has highlighted the need for skilled workers to meet industry need and to replace aging workforces. The plans have also assisted educators, trainers, and registered apprenticeship sponsors in prioritizing their programs to supply Alaskans with the skills they need to fill priority occupations.

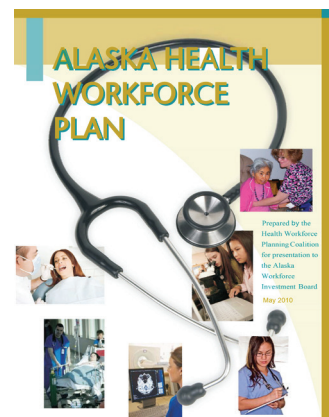
Health Care

The 2010 Alaska Health Workforce Plan identifies occupational priorities in 15 groupings. In 2013, labor market research showed that of the top fifty occupations in demand in Alaska, forty-seven were in the health care industry. Some of the in-demand health care occupations identified in the plan that are supported by CTE include:

- clinical services and care coordinators
- medical assistants
- certified nurse assistants
- administrative services and coding/billing specialists
- community health workers

To learn more about the Health Workforce Plan and to see all of the plan's priority occupations, visit:

http://labor.alaska.gov/awib/forms/Healthcare_Workforce_Plan.pdf



Not just for high school, CTE in Alaska is delivered in secondary schools, regional training centers, via numerous education and training providers, through registered apprenticeship, and by the university through its career and technical and degree programs.

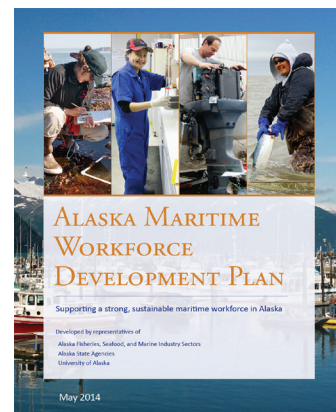
Maritime

The 2014 Alaska Maritime Workforce Development Plan identifies 23 priority occupations to increase the number of Alaskans employed in the maritime sector. This sector includes seafood harvesting and processing, ship building and repair, marine transportation, and resource management. Some of the in-demand occupations for this sector supported by CTE include:

- trades and crafts for ship building, maintenance, and repair
- crane and heavy equipment operators
- machinists
- laborers and plant managers
- refrigeration engineers and technicians
- electricians
- vessel operators, deckhands, and engineers

To learn more about the Maritime Workforce Plan and to see all of the plan's priority occupations, visit:

<http://maritimeworks.org/>



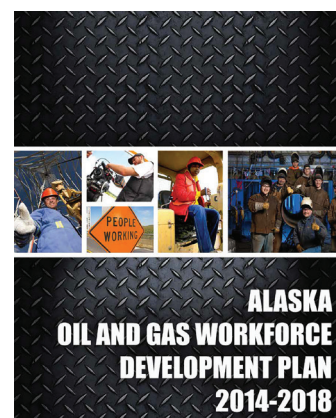
Oil and Gas

The 2014 Alaska Oil and Gas Workforce Development Plan identifies 68 in-demand occupations in this industry, which represents the largest economic driver in the state. Some of the in-demand occupations for this sector supported by CTE include:

- operating engineers
- construction equipment operators
- machinists
- construction and building inspectors
- welders
- truck drivers
- laborers and material handlers
- electricians and utility operators
- crane operators
- facility operation technicians
- cooks and support staff for housing the workforce

To learn more about the Oil and Gas Workforce Plan and to see all of the plan's priority occupations, visit:

<http://www.alaska.edu/research/wp/plans/oil-and-gas/OilGasPlan.pdf>



CTE professionals engage with business and industry to use relevant and rigorous applied education to prepare workers for high demand, high skill, and high wage jobs in a broad variety of industries.

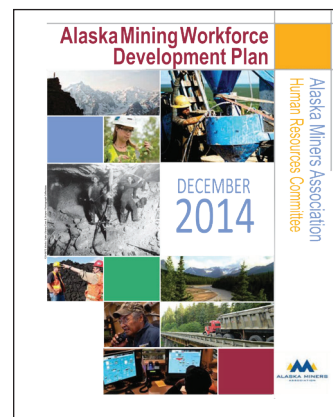
Mining

The 2014 Alaska Mining Workforce Development Plan identifies priority occupations and in-demand jobs through an industry workforce assessment survey. Some of the in-demand occupations for this sector supported by CTE include:

- underground miners
- mill operators
- drillers and blasters
- haul truck drivers
- maintenance technicians
- millwrights
- diesel and heavy mechanics
- electricians
- environmental technicians

To learn more about the Mining Workforce Development Plan and to see all of the plan's priority occupations, visit:

<http://alaskaminers.org/mining-workforce-development-plan/>



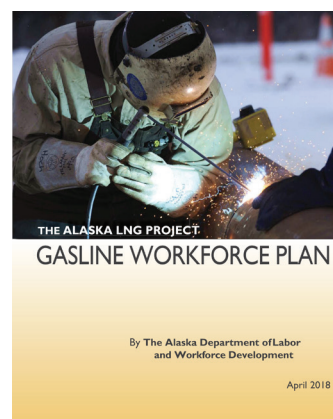
Alaska LNG Project

The 2018 Alaska LNG Project Gasline Workforce Plan identifies expected occupations that will be in demand during pipeline construction and operations. Oil and gas, construction, transportation (including maritime), and professional, scientific, and technical services will be the key industries involved in the project. Some of the in-demand occupations for this sector supported by CTE include:

- welders
- plumbers and pipefitters
- sheet metal and iron workers
- carpenters
- painters and masons
- millwrights
- electricians
- heavy equipment operators and mechanics
- LNG plant operators and technicians
- truck drivers
- marine captains, pilots, mates, able seamen, stewards, deck hands, and engineers
- cooks
- telecom installers

To learn more about the Alaska LNG Project Gasline Workforce Plan and to see all of the plan's priority occupations, visit:

http://jobs.alaska.gov/energy/2018_Gasline_Workforce_Plan.pdf



CTE Plan Strategies

In 2010, the Alaska CTE Plan recognized six key strategies to strengthen Alaska’s CTE system, and the need for career preparedness and a training and education system that is efficient, effective, and coordinated in order to meet regional and statewide workforce needs. Those six strategies are listed below.

You can learn much more about each strategy in Alaska’s 2010 CTE Plan. www.alaskacteplan.com

Strategy 1: Transitions

Make transitions planned and accountable for both successful student progress and systemic cooperation.

Strategy 2: Curricula

Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.

Strategy 3: Delivery Models

Identify and promote career and technical

education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

Strategy 4: Instructors

Recruit, develop, support, and retain high-quality CTE teachers and faculty.

Strategy 5: Public Facilities

Maximize the use of public facilities for training.

Strategy 6: Funding

Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults

Strategy Implementation

The strategies identified in 2010 remain relevant in efforts to improve CTE in Alaska. Recognizing there remains work to be done in implementing each strategy, this addendum offers specific implementation guidance tailored to key CTE stakeholders. To learn more about how the following groups can best apply the 2010 CTE Plan and information provided in this addendum, see Appendix A.

Stakeholder Group	Who is included
Industry/Employers	Employers, private sector businesses, Alaska Native Corporations, organized labor, industry trade groups, business organizations, and entities that support the business community such as chambers of commerce
Policy Makers/Influencers/Communities	State, federal and local elected officials, state department leadership, public policy influencers such as executive staff, advisors, non-profits, community and regional leadership, local tribal organizations, and regional organizations such as ARDORs
Secondary Education Administrators/School Boards	School district administrators (K-12) and local education officials that serve on school boards or in other education related policy/advisory roles
Secondary Educators, Counselors, and Advisors	Teachers, education support professionals, and counseling/advisory professionals
Postsecondary School or Training Provider Administrators	Leadership and administrators for regional training centers, university programs, and other postsecondary education and training providers
Postsecondary Faculty and Staff	Educators at postsecondary education and training providers
Parents and Students	Alaska’s students, elementary through post-secondary, and the parents, guardians, and mentors of Alaska’s students

Looking Ahead

During the AWIB CTE Workgroup's efforts to revisit the 2010 Alaska CTE Plan and craft this addendum document, including a review of stakeholder feedback, several key topics consistently arose. Described below, these "common themes" represent areas where a cross section of stakeholders see great value - and opportunity for improvement.

As Alaska's CTE community looks ahead with an eye towards continued implementation of Alaska's CTE Plan and ongoing system improvement, consider the following:

Promote CTE – CTE works for students, for adults, for businesses, and for the economy. Continue efforts to promote CTE as a rigorous and relevant skills-based model that supports academic learning and prepares Alaskans for high earning jobs.

Leverage existing workforce planning efforts – CTE programs are successful when participants land in good jobs. A great way to ensure Alaska's CTE options will result in desired employment outcomes is to for education and industry to work together to ensure workforce needs match program planning and execution. Alaska's many workforce plans, described on pages 9-11, as well as efforts to promote opportunities such as registered apprenticeship and dual credit courses should also be used as planning resources.

Communicate with partners – To ensure smooth student transitions, promote available programs, ensure regional perspectives, and avoid duplication, communication among Alaska's CTE stakeholders is essential. The strategy implementation guidance outlined in Appendix A offers suggestions on how to best communicate with your partners.

Advocate for CTE investments – When advocating for increased investments in CTE programs, consider how you can best use program data, individual stories, wage data, and other means to illustrate the benefits of CTE. Also, use the information and guidance in this document for suggestions on making the case for CTE.

84% of respondents to the 2018 CTE survey consider the availability of local training and education resources when making decisions about workforce needs.

AWIB CTE Survey, Business and Industry Respondents, April 2018

Additional CTE Resources

National Resources

- [Advance CTE: State Leaders Connecting Learning to Work](#) (formerly NASDCTEc)
National association of state CTE directors, with a variety of resources about CTE programs, career clusters and pathways, and federal legislation
- [Association for Career and Technical Education \(ACTE\)](#)
National professional association for CTE professionals and advocates

State Resources

- [Alaska Department of Education & Early Development \(DEED\) CTE Office](#)
Secondary CTE program, including Perkins
- [Alaska Association for Career and Technical Education \(Alaska ACTE\)](#)
State professional association for CTE professionals and advocates
- [Alaska School Counselor Association \(AKSCA\)](#)
State professional association for school counselors
- [Alaska Process Industry Careers Consortium \(APICC\)](#)
Industry consortium for natural resource and process industries and contractor companies and Teacher Industry Externship (T.I.E.) information
- [Alaska Workforce Investment Board \(AWIB\)](#)
Governor's policy board for workforce investment activities
- [Career Technical Student Organizations \(CTSO\)](#) website for Alaska CTSOs - BPA, DECA, FCCLA, HOSA, FFA, SkillsUSA, and EdRising
- [Alaska Career Information System \(AKCIS\)](#)
Web portal for Alaska's online career information system available to all residents at no charge
- [Alaska College and Career Pathways](#)
UA Career Pathways information
- [Alaska Commission on Postsecondary Education](#)
ACPE regulates postsecondary providers, administers financial aid programs including APS
- [Career Coach – University of Alaska](#)
Online tool for career assessment, exploration, and planning.
- [Alaska Labor Exchange System \(ALEXsys\)/ Alaska Job Center Network](#)
Alaska's online job bank provides employment listings, training workshops, and more
- **Report:** [Cross-Industry Workforce Development Priorities](#)
This 2016 McDowell Group report examined the mining, oil & gas, construction, maritime, and health care industries and found a common need for skills and knowledge to support Alaska's industries

Appendix A: Strategy Implementation Guidance

Industry and Employers

Employers, private sector businesses, industry trade groups, business organizations, and entities that support the business community such as chambers of commerce all have a role and benefit in ensuring Alaska's CTE system will meet workforce needs.

Here are some recommendations on how business and industry can implement Alaska's CTE strategies:

Strategy 1: Transitions

Make transitions planned and accountable for both successful student progress and systemic cooperation.

- Work with education and training providers to develop internship or apprenticeship opportunities, and promote those opportunities in your region
- Familiarize yourself with CTE and training programs in the state and your region related to your industry. Consider how to best leverage and support existing training programs for incoming employees in your sector.

Strategy 2: Curricula

Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.

- Serve on a CTE advisory board or planning committee for an educational and training institution to ensure your industry's workforce needs are considered in curriculum development.

Strategy 3: Delivery Models

Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

- Ensure you are informed about CTE programs in your region.
- Assess how CTE programs are serving your industry and make recommendations for improvement.
- Promote CTE and CTE programs within your industry.
- Support CTE programs, and encourage other employers to do so, by providing workbased learning opportunities including job shadowing, registered apprenticeships, or internships; allowing your employees to work with CTE programs as adjunct or guest instructors; and allowing CTE programs to use your facilities for training.

Strategy 4: Instructors

Recruit, develop, support, and retain high-quality CTE teachers and faculty.

- Provide a mechanism to "loan" expert employees as instructors for technical training in secondary and postsecondary programs.
- Make a guest presentation in CTE programs related to your business/industry to support CTE teachers and faculty delivering the programs.
- Provide teacher "externships" for CTE teachers to learn about your industry and the skills needed by your employees.

Strategy 5: Public Facilities

Maximize the use of public facilities for training.

- Donate private sector equipment or training space to area educational institutions and training providers.
- Offer tours of private industrial/technical/occupational facilities to CTE classes, students, and teachers

Strategy 6: Funding

Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.

- Take advantage of the State of Alaska Education Tax Credit.
- Advocate to policy makers for additional funding for CTE programs.
- Support a public CTE program through equipment donations or other means.

Policy Makers, Influencers, and Communities

This stakeholder group engaged in education policy is comprised of state, federal and local elected officials, state department leadership, public policy influencers such as executive staff, advisors, non-profits, community and regional leadership, local tribal organizations, and regional organizations such as ARDORs.

Here are some recommendations on how these stakeholders can implement Alaska's CTE strategies:

Strategy 1: Transitions

Make transitions planned and accountable for both successful student progress and systemic cooperation.

- Encourage district-wide use of PLCPs, and incorporate into education policy where appropriate.
- Support cross district collaboration and regional partnerships through district CTE advisory committees to expand student access to CTE programs.
- Promote expansion of internships, school-to-apprenticeship programs, and other workbased learning programs that help students successfully transition directly from CTE programs to the workplace.
- Engage with industries in your region to identify priority training needs.

Strategy 2: Curricula

Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.

- Use labor market information to expand or build CTE programs that benefit regional needs.
- Encourage educator/industry conversations to help build school to work connections in your area.
- Invite local industry experts to sit on district CTE advisory committees to assist in program and curriculum development.
- Develop a web based inventory of curricula accessible to all stakeholders for developing, updating and aligning secondary and postsecondary programs.

Strategy 3: Delivery Models

Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

- Ensure all CTE students have opportunities for experiential learning.
- Expand the number of employers on whose sites students can participate as apprentices, interns, or through job shadowing or other work based learning opportunities.
- Track and publicize CTE program successes.
- Actively promote successful CTE programs in your region.
- Explore a variety of delivery models for CTE programs, such as distance delivery, intensives, academies, contracted industry instructors, dual enrollment, and using shared facilities to help leverage existing resources.

Strategy 4: Instructors

Recruit, develop, support, and retain high-quality CTE teachers and faculty.

- Stabilize the educational funding system to assure teacher retention and program stability.
- Increase awareness of the Type M teacher certification option for districts.
- Develop meaningful and accessible CTE professional development opportunities through AVTEC, the University system, and other training providers.

Strategy 5: Public Facilities

Maximize the use of public facilities for training.

- Promote/incentivize the use of public and private sector facilities for CTE programs.
- Encourage partnerships and agreements that allow the use of University and Regional Training Center space for secondary CTE programs.
- Inventory facilities available in local, regional and state systems and private training entities, and make such an inventory available online.
- When possible, consider how to maximize existing public facilities that can be used for education and training in lieu of constructing new facilities.

Strategy 6: Funding

Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.

- Recognize that Alaska's industries need skilled workers and prioritize increased CTE funding, including funds for secondary and postsecondary education and training.
- Seek employer and industry contributions for school-to-work and school-to-apprenticeship training programs.
- Fund efforts to implement CTE plan strategies.

Secondary Education Administrators and School Boards

School district administrators (K-12) and local education officials that serve on school boards or in other education related policy/advisory roles have an important role to play in advancing and improving CTE in Alaska.

Here are some recommendations on how education administrators and school board members can implement Alaska's CTE strategies:

Strategy 1: Transitions Make transitions planned and accountable for both successful student progress and systemic cooperation.	• Develop processes, including the use of district CTE advisory committees, to evaluate the effectiveness of CTE programs on a regular basis. • Work with district leadership, educators, and CTE Advisory Committees to help develop supports for CTE programs (industry partners, internships, and apprenticeship opportunities).
Strategy 2: Curricula Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.	• Encourage educators to create CTE opportunities for K-12 students, such as career exploration, that align to district CTE programs offered at middle and high schools. • Examine CTE curricula periodically to ensure it is industry recognized and meets postsecondary and workforce needs. • Align courses so that they lead to an industry certification or articulate into a post-secondary pathway and ultimately employment. • Work to adopt curricula that are approved for federal (Perkins) funding in each school district.
Strategy 3: Delivery Models Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.	• Remain up-to-date on postsecondary options for students, and work with school counselors to ensure that the most current information is available for students, parents, and the community. • Positively and actively promote your district's CTE opportunities. • Support a variety of delivery models for CTE programs, such as distance delivery, intensives, academies, collaborations with other districts, school-to-apprenticeship, contracted industry instructors, dual enrollment, and CTSOs. • Network with other administrators and school boards to learn about and share best practices for a variety of delivery models.
Strategy 4: Instructors Recruit, develop, support, and retain high-quality CTE teachers and faculty.	• Advocate for a stable funding system to assure teacher retention and program stability. • Consider policies to better recruit Type M certified teacher candidates in your district. • Consider pedagogy in educational requirements for Type M CTE certificate holders. • Work with students, parents, and industry to identify key CTE subject areas for the community. Look for local talent and recruit instructors for those positions from within the community, utilizing alternative certification methods if necessary. • Strive to provide high quality professional development and training that includes academic, pedagogical, and technology components to educators. • Examine creative approaches to scheduling and staffing. This could include team teaching (i.e., carpentry and math). • Evaluate demand for certified CTE teachers and expand opportunities for professional development that lead to meaningful industry certifications.
Strategy 5: Public Facilities Maximize the use of public facilities for training.	• Solicit district CTE Advisory Committee and community members to assist in identifying public facilities that can be used for CTE students; promote such collaborations. • Identify existing processes and agreements to utilize local, state and other public and/or private facilities including the UA system, regional training centers, and industry or trade organizations.
Strategy 6: Funding Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.	• Continue a dialog regarding how local, state and federal funds can work to meet the local workforce needs. • Ensure familiarity with formulas and requirements for federal, state and local funding sources that promote CTE programs. • Promote CTE programs that build on existing resources and provide promising results.

Secondary Educators, Counselors, and Advisors

Teachers, education support professionals, and counseling/advisory professionals engage directly with students, and can help advance career and technical education in Alaska.

Here are some recommendations on how these professionals can implement Alaska's CTE strategies:

Strategy 1: Transitions Make transitions planned and accountable for both successful student progress and systemic cooperation.	• Ensure K-12 students have career awareness, exploration, and personal learning and career plans (PLCP) for academic and postsecondary planning. • Promote K-12 student use of the Alaska Career Information System-AKCIS for personal learning and career planning. • Provide systemic career counseling to all students beginning in middle school. • Prepare all students to ensure transition to postsecondary does not require remedial academic support.
Strategy 2: Curricula Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.	• Incorporate employability standards into all curricula. • Advocate for the availability and support for systemic career exploration programs and curricula.
Strategy 3: Delivery Models Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.	• Advocate for an accessible statewide inventory of existing training programs, courses, and curriculum. Such an inventory could also include program delivery models such as online, through UA and other postsecondary training providers, via apprenticeship, and other secondary systems. • Considering Alaska's diverse needs, promote and disseminate your programs' successful and best practices including content and delivery models. Professional organizations such as Alaska ACTE are a great way to share such information with other CTE professionals. • Promote alternative delivery models in your own program or school, including CTSOs, work based learning, academies, intensives, etc.
Strategy 4: Instructors Recruit, develop, support, and retain high-quality CTE teachers and faculty.	• Develop and share a resource pool of qualified CTE teachers and specialists who can provide training through alternative delivery options as needed. • Seek out and take advantage of professional growth and development for CTE leaders and instructors. • Provide input to your leadership regarding professional development needs.
Strategy 5: Public Facilities Maximize the use of public facilities for training.	• Use community contacts and connections to support training opportunities using area facilities. • Maintain a knowledge of potential facility resources in your area for inventories and awareness.
Strategy 6: Funding Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.	• Consider current and future (emerging) workforce development needs recognizing local, regional, and state workforce priorities when advocating for funding. • Identify, promote, and leverage business and industry support for CTE training systems.

Postsecondary School or Training Provider Administrators

Leadership and administrators for regional training centers, university programs, and other postsecondary education and training providers have an important role in CTE planning, and in delivering valuable CTE programs to Alaskans who are entering the workforce or looking to gain new skills to advance their career.

Here are some recommendations on how postsecondary administrators can implement Alaska's CTE strategies:

Strategy 1: Transitions

Make transitions planned and accountable for both successful student progress and systemic cooperation.

- At program outset, host an orientation for students to introduce instructors and staff who will support student learning and progress both inside and outside the classroom.
- Align secondary and postsecondary programs, collaborating throughout program delivery, to support students through their transition to postsecondary and into the workforce.

Strategy 2: Curricula

Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.

- Identify specific professional ("soft") skills competencies that employers want, and document them for student, instructor and mentor use.
- Share current industry and training standards with K-12 stakeholders.
- Collaborate with industry to continuously refine, improve, and update curriculum.
- When developing or updating curriculum, communicate regularly with industry and education partners to leverage available resources.
- Create articulation agreements with other institutions to ensure transferability of credits.
- Align industry credentialing and certification for CTE instructors among secondary, postsecondary, and industry.

Strategy 3: Delivery Models

Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

- Promote collaboration between regional postsecondary CTE instructors and secondary CTE programs.
- Positively and actively promote your CTE opportunities.
- Support a variety of delivery models for your CTE programs, such as distance delivery, intensives, academies, contracted industry instructors, dual enrollment, and CTSOs.
- Network with other administrators to enhance awareness of and share best practices for a variety of delivery models, including apprenticeships, academies, intensives, etc.

Strategy 4: Instructors

Recruit, develop, support, and retain high-quality CTE teachers and faculty.

- Recognize the necessity and value of CTE professional development, and provide ongoing development on industry trends and needs, instructional strategies, differentiated learning, and student support.
- Seek instructors from industry that have some background in training and mentoring.
- Work with industry to provide training and professional development resources for CTE instructors and staff.
- Provide opportunities for CTE instructors to earn micro credentials and industry certifications.
- Look for opportunities to partner and share resources for CTE instructors (i.e. train the trainer model from industry).

Strategy 5: Public Facilities

Maximize the use of public facilities for training.

- Provide, or partner to provide, on-demand industry training.
- Develop partnerships with colleges, tribal organizations, and school districts for facilities usage; coordinate facilities use agreements for public facilities.
- Increase awareness of available public facilities by using postsecondary CTE facilities for local and state functions, meetings, and events.

Strategy 6: Funding

Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.

- Advocate for funding collaboratively by coordinating with industry partners, professional organizations, and K-12 CTE partners.
- Build a manageable, consistent, streamlined and cost-effective statewide mechanism for secondary students to receive dual credit at a reduced cost.
- To maximize resources and avoid duplication with other institutions, consider collaborative models that recognize and leverage institutional specialties and build economy of scale.

Postsecondary Faculty and Staff

Educators at postsecondary education and training providers work directly with students and workers to provide CTE that prepares them for jobs in Alaska.

Here are some recommendations on how these educators can implement Alaska's CTE strategies:

Strategy 1: Transitions

Make transitions planned and accountable for both successful student progress and systemic cooperation.

- Establish consistent statewide framework for secondary students to earn dual enrollment credit in CTE programs.
- Strengthen partnerships with secondary teachers to align curriculum, and clearly communicate the benefits and potential consequences (if unsuccessful in the course) of dual enrollment to students and parents.
- Assist postsecondary students to continue developing their career plan to strengthen their drive to complete a postsecondary program that leads to employment.

Strategy 2: Curricula

Align curricula at all training institutions to meet current industry standards – including academic, professional, and technical skills – from elementary through secondary to postsecondary and professional development levels.

- Create and strengthen existing statewide advisory boards, consisting of secondary and postsecondary faculty, industry leaders, and student representatives for programs in high demand fields. Advisory boards will be responsible for identifying priority occupations and industry standards, supporting streamlined pathways between programs, providing input regarding curriculum and innovative delivery models, assisting with student recruitment, and hiring graduates into these fields.
- Increase postsecondary participation on secondary CTE advisory boards, especially those required for Perkins funding, to strengthen alignment and pathways.

Strategy 3: Delivery Models

Identify and promote career and technical education delivery models that ensure that all Alaskans have the opportunity to attain the knowledge and skills needed for further training and careers.

- Utilize a variety of delivery models to provide CTE in high demand fields, including models for secondary students, apprentices, adult learners, veterans, and those with disabilities.
- Evaluate and revise course sequencing, scheduling times, e-learning, internships, apprenticeships, and competency-based learning experiences to better meet the needs of all learners.

Strategy 4: Instructors

Recruit, develop, support, and retain high-quality CTE teachers and faculty.

- Invest funding for program development, state-of-the-art equipment/facilities, and teacher recruitment.
- Leverage existing faculty and industry leaders' expertise to provide instruction at the secondary and postsecondary levels.

Strategy 5: Public Facilities

Maximize the use of public facilities for training.

- Collaborate with secondary school programs to share laboratory and/or training space with postsecondary programs.
- Using dual enrollment opportunities (such as a middle college model), bring secondary students onto postsecondary facilities for technical training experiences that provide for postsecondary and secondary credit.

Strategy 6: Funding

Establish and maintain sustainable funding mechanisms for a successful CTE system for youth and adults.

- To most effectively advocate for CTE funding, collect data that tracks secondary CTE concentrators and students who participate in dual credit programs to determine transition rates into postsecondary education/training, along with their completion rates.

CTE Resources for Parents and Students

Parents, guardians, and of course students, have an important role to play in Alaska's CTE system. It is important that students, from a young age, are aware of the multiple education and training pathways that lead to rewarding careers. Adults who encourage students to explore their training and career options help provide a focus for them to obtain the necessary skills to transition into a successful career earlier in life. As students mature, they too must be accountable for career exploration and awareness.

Here are some suggestions on how this important stakeholder group can help raise awareness regarding CTE opportunities and improve CTE in Alaska.

Parents/Guardians

- Encourage career exploration from a young age, both for your student and your school district/education provider.
- Remember that CTE programs are as valuable as and compatible with academic programs. CTE applies academically rigorous courses with applied learning and can lead to high paying, in-demand jobs.
- Encourage your student to explore ALL postsecondary and career options, including registered apprenticeship, four-year degrees, associate degrees, certificates, and occupational endorsements.
- Ensure your student uses a Personal Learning and Career Plan, or PLCP.
- Actively learn about the CTE delivery models and programs that are available in your local or regional education and training institutions.
- Look for opportunities to engage with your local school districts/education and training facilities on program and curriculum development.
- Advocate to fund CTE programs at the state, local, and federal levels.

Students

- Explore all the careers that interest you.
- Work with a counselor/advisor to complete a career assessment.
- Develop a Personal Learning & Career Plan (PLCP) and keep it updated.
- Consider dual credit CTE classes that allow you to simultaneously earn secondary and postsecondary credit.
- Participate in an internship or job shadowing opportunity; you'll learn more about an industry and improve your employability, or soft, skills.
- Join a Career and Technical Student Organization (CTSO) such as SkillsUSA, DECA, FFA, BPA, HOSA, EdRising, or FCCLA, and share your positive CTE experiences with your friends.

89% of parents believe students should get more education about career choices in high school.
AdvanceCTE, www.careertech.org



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