

# CTE:

## A Relevant Education

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*Providing an Effective CTE System for Kentucky*

From the Kentucky Association  
for Career and Technical  
Education (KACTE)



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*Providing an Effective CTE System for Kentucky*

Presented by the Kentucky Association  
for Career and Technical Education (KACTE)  
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## **Executive Summary**

Career and Technical Education (CTE) is recognized as an integral function of Kentucky public education. A majority of secondary students, and many middle school students, participate in at least one CTE or career exploration course.

The secondary graduation rate for CTE concentrator students is 99 percent, demonstrating CTE's impact and performance. Notably, the secondary graduation rate for all students is 89 percent.

CTE's project-based learning engages students, answers the question of 'why I need to learn this?' and is economically relevant.

Kentucky's CTE system consists of many parts that at times defy the definition of "system." As much progress as CTE has accomplished, more needs to be done to provide universal equity and access to all students in a systemic manner.

Current funding allocations for both operational and classroom aspects are not sufficient to meet the needs and rising costs of high-skill programs. The distribution of current state funds for state and local CTE centers are determined through different formulas and protocols creating inequities. The lack of classroom consumable supplies and updated equipment and tools hinders instruction. A commitment to planned biennial increases in CTE funding through an equitable formula benefitting all schools is warranted and may provide a pathway to achieve adequacy, equity and access.

**Immediately**, to address operational inequities and classroom support, KACTE offers two recommendations for the Fiscal Year 2022 budget.

- ★ **Recommendation One** -- In the short-term, it is suggested that an investment by the Kentucky General Assembly of approximately \$3.5 million be appropriated in Fiscal Year 2022 to begin providing financial support to Kentucky's locally operated CTE centers and for pathways that do not currently receive state funding. This recommendation addresses the glaring disparities in the current **operational** funding approaches. This recommendation begins to address the equity issues that have long faced CTE in Kentucky.
- ★ **Recommendation Two** -- As detailed in this paper, the most critical classroom need to maintain quality CTE instruction is an infusion of financial support that can be directed toward consumable supplies and updated equipment and tools. KACTE recommends the Kentucky General Assembly in the Fiscal Year 2022 budget for CTE, apart from Recommendation One's funding for organizational delivery of CTE, be increased by \$3 million specifically to address the **classroom** need, with \$2 million added to ATC funding and \$1 million added to CTC (LAVEC) funding.

**THE ULTIMATE SOLUTION** to equity and access will require detailed studies and carefully determined consensus proposals for comprehensive, long-term funding of CTE in Kentucky. **KACTE recommends the Kentucky General Assembly direct the Legislative Research Commission to work with the Kentucky Department of Education Office of Career and Technical Education to develop a plan that will result in a proposal for a comprehensive, long-term CTE-FTE (Full-Time Equivalent) career pathway enrollment funding model.**

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KACTE, representing its membership and on behalf of all CTE professionals in Kentucky, presents **CTE: A Relevant Education -- Providing an Effective CTE System** for Kentucky. This paper reviews CTE in Kentucky, identifies best practices, explains concerns, and offers recommendations. KACTE members work in all CTE educational pathways (Agriculture, Business and Marketing Services, Construction, Engineering and Technology, Family and Consumer Sciences, Health Sciences, Information Technology and Media Arts, Law and Public Safety, Manufacturing and Transportation) and at all levels of CTE instruction (Middle School, High School, ATC, CTC, Community and Technical College and Four-Year Postsecondary institutions). A diverse working group of Kentucky CTE professionals performed the research, gathered the data, and contributed to this report, which represents a school and classroom perspective.

## **Background**

Career and Technical Education (CTE) always existed, just in different names. At first, it was skills taught by parents or employers to young people: farming, cooking, blacksmithing, metalworking. Eventually, apprenticeship and indentured servitude were added. CTE was formalized in the United States educational system in the early years of the 20th Century as vocational education (VocEd). Please see *Addendum A, A Brief History of CTE in the United States* prepared in 2017 by the Association for Career and Technical Education (ACTE) on the 100th anniversary of the federal Smith-Hughes Act that established VocEd as a nationally supported function of public education.

CTE has emerged from a long history of disparagement and neglect. The American emphasis on college education after World War II spurred by the G.I. Bill led to a deemphasis of VocEd, which was primarily delivered in public secondary schools in agriculture, business, home economics and shop classes. A public impression stigma developed that VocEd classes were for the kids who were not capable of college, no matter the reason for their academic challenges or their desire to pursue work. VocEd classes were for the “other people’s kids.” The classic Bill Cosby comedy routine about his high school shop class depicted and reinforced the impression that VocEd was for dumb kids. The nadir for VocEd as a part of the nation’s educational system occurred in the 1980s with the U.S. Department of Education-led belief that young people only could succeed with a baccalaureate degree.

The existence of the federal Carl Perkins Act, the successor to the Smith-Hughes Act, was the only reason some states and areas retained any semblance of VocEd because they wanted the federal appropriations that accompanied implementation of the law. In fact, the Perkins Act is a model of federal-state partnership. The federal government provides oversight for a system it deems vital for national security because CTE provides the educational foundation to support the cadre of skilled workers needed for economic growth and stability. The programs are implemented at the local level based on local, regional and state decisions. The

federal government provides oversight and incentive funding. States and local educational authorities administer the programs. More than 90 percent of current CTE funding is from state and local sources.

As the nation approached the millennium, various sources questioned the baccalaureate-only paradigm for individual success. Among others, Harvard’s Howard Gardner identified multiple intelligences. For instance, he pointed out people with manual intelligence may not succeed in areas requiring other intelligences. The conclusion was individuals could find their unique path to success. Education began to recognize career clusters and educational pathways in which every student could find a road to success. The outsourcing of jobs to foreign countries and the decline of competent workers to fill middle-skill jobs in construction, manufacturing, technology, health services, etc., drove the private sector to demand a more inclusive educational system. National security philosophies identified the importance of bringing critical production back to the U.S.

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### ***The question is how best to provide CTE in Kentucky?***

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This more encompassing view led to the name change from VocEd to CTE in the early 21st Century. CTE in Kentucky incorporates the secondary and postsecondary education offered in agriculture, business and marketing services, construction, engineering and technology, family and consumer sciences, health sciences, information technology and media arts, law and public safety, manufacturing, and transportation.

It is important to note that the educational foundation for approximately two-thirds of all jobs in Kentucky, as well as the United States, is Career and Technical Education. The Kentucky Workforce Innovation Board (KWIB) provides support for the importance of CTE with its sector strategy. Advanced Manufacturing; Business and Information Technology

Services; Healthcare and Social Assistance; Construction and Trades; and Transportation, Distribution and Logistics all have CTE as the educational foundation. The importance of and the need for CTE is established.

**The question is how best to provide CTE in Kentucky?** It is a multi-layered system with state-operated Area Technology Centers (ATCs), locally operated CTE centers (CTCs), programs at middle schools and comprehensive high schools, and specialized courses at technical and community colleges and universities. There is little consistency in funding. Some commonality in programs offered was developed when the ATCs were brought under the oversight of the Kentucky Department of Education Office of Career and Technical Education (OCTE) in 2012, but there remain differences in funding among schools and availability of coursework for the educational pathway for each student. **The ultimate question is how to provide equity and access for CTE in Kentucky?**

This is not a new question. In 2003, the Kentucky Legislative Research Commission issued *Report 315, A Study of Secondary Career and Technical Education*. It presented recommendations in funding, facilities and equipment, program access, and assessment and accountability. That these questions continue spurs a conclusion the recommendations were not fully implemented. In addition, society and financing have changed, creating impetus to examine how best to provide CTE.

The Kentucky Department of Education and OCTE began to address the question with three commissioned reports. In 2011, the National Research Center on Career and Technical Education presented *Imagining the Future of CTE in Kentucky: Developing a Comprehensive Statewide Plan to Implement a New Model of Secondary CTE*. In 2014, the Southern Region Education Board (SREB) presented *Kentucky Report: From Two Systems to One World-Class System of Technical Centers*. In 2015, Thomas P. Miller and Associates presented *First Things First: A Funding Analysis of Kentucky's Career and Technical Education System*. Full implementation of recommendations has lagged, in part due to fiscal constraints.

The Kentucky General Assembly started to address the issues of CTE equity and access in 2019 with a CTE Task Force. The Kentucky Legislative Research Commission prepared in-depth studies of CTE in the state to assist the CTE Task Force deliberations. No formal recommendations were made by the CTE Task Force; however, discussions are continuing.

The continuing discussions led legislators to ask the Kentucky Association for Career and Technical Education (KACTE), a non-profit, professional association composed of CTE teachers and administrators at every level of instruction, to contribute its perspective and recommendations to achieve equity and access for CTE in Kentucky. KACTE's findings and recommendations follow.

## High-Quality CTE Programs

Kentucky Career and Technical Education strives to provide relevant, high-quality educational content that adheres to national benchmarks. According to national research [Xing, Xue; Shaw, Sara & Gordon, Howard (2018) *Quality Indicators Guiding Secondary Career and Technical Education Programs of Study*, **Journal of Research in Technical Careers**, 1.47-60. 10.9741/2578-2118.1012; and Imperatore, Catherine, & Hyslop, Alisha (2018) *ACTE High-Quality CTE Program of Study Framework*, **Association for Career & Technical Education (ACTE)**]; High-Quality CTE programs of study include at least the following indicators:

**Prepared and Effective Staff** -- Having a great teacher in the classroom/lab continues to be one of the most impactful elements of student learning in the educational process. Therefore, teacher recruitment, development and retention must be a focus to build and maintain an effective CTE program.

- ★ CTE staff salaries must be competitive with business and industry salaries.
- ★ CTE staff must have access to exceptional professional development that furthers effective teaching pedagogy skills and maintains relevant industry skills.
- ★ CTE staff must demonstrate professional behavior in the classroom and community.
- ★ CTE staff must collaborate with academic teachers to ensure integration of core academics.
- ★ CTE staff must build positive relationships with business and industry representatives.

**Business and Community Partnerships** -- These partnerships provide a vital connection to the community and ensure the programs are aligned with the regional workforce needs. When strong business and community partnerships are in place, the learning environment is energized due to the fact that students and parents can see the transition to a successful career is now possible.

- ★ Partnerships include participation in a CTE advisory committee.

- ★ Partnerships include providing students with work-based-learning opportunities.
- ★ Partnerships include collaboration with CTE staff to align the program curriculum to workforce needs.
- ★ Partnerships include participating in CTSO (Career and Technical Education Student Organization) events.
- ★ Partnerships include overall evaluation of program effectiveness.

**Facilities and Equipment** -- These physical elements of the program help build student interest and student competencies. It is essential for students to train on relevant equipment in facilities that are safe and that provide a good learning environment.

- ★ Facilities and equipment must meet current industry standards.
- ★ Facilities and equipment must meet state and federal standards for safety and health.
- ★ Facilities and equipment must be properly maintained by CTE staff and be in compliance with advisory committee recommendations.

**(KACTE Comment:** Consumable supplies also must be adequate for effective and efficient use of facilities and equipment.)

**Work-Based-Learning Opportunities** -- This element is the further development of relationships with businesses and the community. These workplace interactions provide students with an opportunity to participate in career exploration and skill development in a real-world work environment. It also provides the employer an opportunity to build/recruit their own workforce.

- ★ Work-based-learning opportunities should include the following: apprenticeships, internships, paid and non-paid co-op placements, job shadowing, and industry field trips.
- ★ Work-based-learning opportunities should develop and reinforce technical skills taught in the CTE program.

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- ★ Work-based-learning opportunities are aligned with student's career goals.
- ★ Work-based-learning opportunities should develop students' employability/essential skills.
- ★ Work-based-learning opportunities should be assessed by the employer with the CTE program instructor's guidance.

### **Career and Technical Student Organizations --**

CTSOs provide opportunities for students to develop personally and professionally. With most of the focus in the classroom/lab centering on technical skill development, CTOSs provide a much needed opportunity for essential/employability skill development.

- ★ CTOSs should be available to every student enrolled in the CTE program.
- ★ CTOSs should be aligned to state and national organizational standards.
- ★ CTOSs should provide students with the following learning opportunities: community service projects, leadership development activities, leadership and technical skill competitions, and interaction with business and industry professionals.

### **Curriculum and Articulation --**

The curriculum and program of studies should provide the students with a relevant education and opportunity for continued education. Intentional planning and alignment of CTE pathways and programs of study ensure students develop the knowledge and skills necessary for entry into postsecondary education, training programs and/or the workforce.

- ★ The curriculum is aligned to industry standards.
- ★ The curriculum must include employability/essential skills to help student be successful in the workplace.
- ★ The curriculum must be aligned with postsecondary education.
- ★ The program of studies should offer dual credit and articulated credit opportunities for students.

Kentucky CTE has made great strides in meeting these benchmarks -- in some instances leading the nation or exceeding the standards. Testimony on behalf of Kentucky CTE's success can be assessed from some key statistics from the 2018-19 academic year obtained from sources including the Kentucky Center for Statistics (KYstats):

### **Secondary CTE Program Offerings and Deliverables**

- ★ 137,195 CTE Students (18-19)
- ★ 22,396 Industry Certifications earned (18-19)
- ★ 149 Career Pathways
- ★ 13 Program Areas
  - ✓ Agricultural Education — 8 Career Pathways
  - ✓ Business and Marketing Education — 11 Career Pathways
  - ✓ Construction Technology — 20 Career Pathways
  - ✓ Education and Training --- 1 Career Pathway
  - ✓ Engineering Technology Education — 21 Career Pathways
  - ✓ Family and Consumer Sciences Education --- 10 Career Pathways
  - ✓ Health Science --- 13 Career Pathways
  - ✓ Information Technology --- 11 Career Pathways
  - ✓ JROTC --- 4 Career Pathways
  - ✓ Law and Public Safety --- 7 Career Pathways
  - ✓ Manufacturing Technology Education — 26 Career Pathways
  - ✓ Media Arts --- 3 Career Pathways
  - ✓ Transportation Education --- 14 Career Pathways

### **Kentucky Community and Technical College Postsecondary Offerings and Deliverables**

- ★ Total Enrollment --- 42,546 (18-19)
- ★ Total Credentials Earned — 9,658
- ★ Industry Certifications earned --- 251
- ★ Degrees earned — 2,618
- ★ Certificates earned — 6,065
- ★ Diplomas --- 724
- ★ Total Pathways — 95 pathways



**Educational Outcome for CTE Students**

- ★ 57 percent of high school graduates who completed a career pathway enrolled in postsecondary education the next year. (2019)
- ★ 37 percent of high school graduates completed a career pathway in 2020.
- ★ 99 percent of secondary CTE concentrators graduated. (2019) (A secondary completer is a student who completed four or more credits within a state-approved career pathway. A postsecondary completer is a student who completes a postsecondary program and earns a certificate or associate degree.)
- ★ 76 percent of secondary CTE concentrators earned an industry certification or passed an end-of-program (EOP) assessment. (2019)
- ★ 76 percent of postsecondary CTE concentrators earned a credential, certificate or degree. (2019)

Kentucky CTE has systematically aligned career pathways at the secondary level to the state's top five industry sectors and other critical support occupations, phasing out or reinventing more than 50 career pathways to better align to state workforce demands. Kentucky's top five industry sectors are: Advanced Manufacturing; Business and Information Technology Services; Construction and Skilled Trades; Healthcare and Social Assistance; and Transportation, Distribution and Logistics.

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**Kentucky CTE's record supports the investment of public funds that provide a significant return on investment. However, restricted funding is hampering some programs in providing even more opportunity for student success.**

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## Classroom Funding Concerns

Hands-on CTE requires learning and practice with equipment that models the job site using consumable materials typical for the job. Both can be expensive. Equipment can be as common as a range and stove or a sewing machine in a Family and Consumer Sciences course. It also can be as specialized as tools and training machines, which can be expensive. They must be maintained to work and sufficiently modern to be relevant. Supplies, whether food ingredients or thread and fabric; or construction material, medical supplies, or software programs; must be purchased. If students do not have access to workable, simple tools, how can they be expected to learn on more complicated pieces of equipment?

Examples exist in every CTE program: Hand tools for construction, automotive, and agriculture; computers for Business and Marketing, Information Technology, and Engineering and Technology; stethoscopes and blood pressure monitors for Health Sciences; cameras and printers for Media Arts; programmable logic controllers and 3-D printers for Manufacturing. Every CTE pathway requires equipment, some of which is expensive to acquire and maintain.

These programs all need consumable supplies, too. A cup of flour in a cake cannot be reused. A two-by-four can be cut only so many times. Tongue depressors are one-and-done. Welding rods necessarily are used and disposed.

Information collected by KACTE in 2019 highlights how the lack of funding may be hindering CTE effectiveness in preparing students for the workforce. Without a prepared workforce, Kentucky will struggle to grow or attract business investment and it will continue to place near the bottom of various measures of economic health.

Studies reviewed and testimony given at the Kentucky General Assembly CTE Task Force meetings in the summer-fall of 2019 indicated CTE is both underfunded to provide access and inequitable in funding distribution. The situation with lack of consumable supplies and with necessary equipment repair and upgrades led one educator to observe, "Our programs are being starved to death."

"Our CTE programs continually strive to provide skills necessary to truly consider students career ready in their pathways," a secondary CTE teacher wrote regarding the future of CTE in Kentucky. "However, a lack of funding as budget cuts continue and the strict nature of federal funding, which restricts access to consumable materials, limits our CTE courses in how much hands-on learning they can provide. Can we truly call our students career ready when they haven't had the means to practice the essential skills of that career path due to a lack of funding?"

Another secondary teacher wrote, "Students are disadvantaged by not having the tools they need to learn the skills employers want." The teacher's horticulture program depends on donations of trees, grafting tape, rooting hormone, etc., to teach the skills that are in demand by employers in the region. Not every program or region has the capability of receiving significant donor support, potentially leaving students ill-prepared for transition.

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***'Can we truly call our students career ready when they haven't had the means to practice the essential skills of that career path due to a lack of funding?'***

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A secondary career center principal wrote, "We feel we are very responsible in how we spend our money, but being limited in this capacity at times creates a roadblock to the quality education we strive to give our students."

A construction teacher provided comment: "A few years ago, I received a budget of \$6,500. At that time, I was teaching four classes (blocks) a day, around 60-70 students max. Last year and this year, I am teaching six classes a day. Both years I have had more than 100 students. Last year, I had a budget of \$100. I spent it all on nails because I did not have any. We gathered up pallets and tore them apart to build projects

in the Introduction to Construction classes. I also have had to beg for donations.”

An electrical technology instructor at an ATC noted: “From 2013-19, the enrollment in my program increased by nearly 20 percent from 56 students to 69 students. Meanwhile, my operating budget decreased over 60 percent, going from \$3,000 in 2013 to \$1,200. For the 2019-20 school year, I have \$17 per student to purchase wire, conduit, etc.”

Students across Kentucky are at a disadvantage when seeking some industry certifications a business teacher reports. Neither the school nor the individual can afford the fees for some of the most valued certification tests, such as A\*S\*K and MOS. Obtaining recognized industry certifications is an integral part of the state’s secondary educational accountability measures. Accountability, and eventually students’ ability to make an economic contribution and achieve a living wage, is compromised by the lack of funding for the industry certification process. If state-mandated accountability incorporates industry certification as a measure, access to the testing process should be supported with public funding.

Sometimes teachers feel they are their own worst enemies. Their selfless actions mask the true cost of their programs. They beg or even buy materials out of their own pockets to have the materials needed to achieve the high standards that are expected. The dedication to their students turns teachers into pseudo procurement officers further impacting the time needed to develop lesson plans and improve teaching techniques.

Lack of funding impacts students’ participation in CTSOs: DECA, FBLA, FCCLA, FFA, HOSA, SkillsUS and TSA. CTSOs are co-curricular organizations cited in federal CTE law (Perkins Act). CTSOs promote skill development, teamwork, collaboration, cooperation, communication and personal development. Participation in skill competitions and outreach activities is limited by funding to support materials, fees, buses and accommodations.

A group of secondary CTE Engineering and Technology teachers offered concern about the impact of a lack of funding for CTSOs. Unlike sports, CTSO faculty advisers are rarely compensated for the extra

time they spend with students, and the CTSOs typically have to raise money to pay for entry fees and transportation to skill-assessment contests where they can demonstrate their achievement and build their resumes.

An agriculture teacher reported a survey of 45 colleagues from across the state whose priorities were CTE funding, teacher retention, and equipment and supplies. These priorities are supported by the results of a survey KACTE conducted in mid-December 2019 among principals at state-operated Area Technology Centers (ATCs), school district controlled Career Technology Centers (CTCs, sometimes known as LAVECs), and at comprehensive high schools offering CTE programs -- 118 principals responded to the survey request. Geographically, the responses span the Commonwealth.

- ★ The state data that CTE secondary enrollment is growing was reflected in the survey. Eighty-four (84), or 72 percent, report CTE enrollment increased over the last 10 years. Twenty-three (23) reported declines, and nine stayed the same. Reasons cited for decreases are inability to add pathways due to lack of funding for staff and equipment; lack of certified instructors; lack of supplies and maintained equipment; and competition with Advanced Placement and Dual Credit courses.
- ★ In most schools, CTE programs serve a majority of students. Eighty-two (82) principals reported 60 percent or more of all students at their school participate in at least one CTE course. Eighteen (18) reported CTE enrollment greater than 80 percent, with five reporting 100 percent. Conversely, only 34 reported CTE enrollment at less than 60 percent of all students, with three reporting less than 10 percent.
- ★ CTE funding has shown a steady decline over the past seven years. Eighty-nine (89) of the principals reported a decrease in funding, some as dramatic as more than 50 percent. Twenty-one (21) reported either an increase or no change.
- ★ About 60 percent of CTE funding goes for maintenance, utilities, and facility operating expenses. About 40 percent is allocation for staff.

The principals reported the areas of greatest need for their CTE programs. They could cite more than one specific element.

- ★ Fifty-five (55) cited updated and maintained equipment.
- ★ Fifty-one (51) cited operations and consumable supplies.
- ★ Seventeen (17) cited staffing and professional development.
- ★ Ten cited updated or new facilities.
- ★ Four cited new textbooks.

**Some principals offered specific comments.**

- ✓ “Supplies, welding gloves, safety glasses, toilet paper, paper towels, health science gowns, scrub tops for clinicals, copy paper, software for web design and multimedia publishing, dry erase markers, manila folders, oil, antifreeze, welding rods.”
- ✓ “Our buildings are very outdated and in very poor condition. It’s almost to a point to where they are unsafe for our students.”
- ✓ “It’s a tossup between operating expenses and updated equipment. We are in desperate need of both.”
- ✓ “More space to offer more programs for students. More staff for the programs and everything that would come with an expansion. We could be doing so much more.”
- ✓ “Where do I begin? Built in 1974, locally operated, well supported and maintained over the years; however, limited technology and purchase of equipment, outdated areas of the building that are wasted space. Cannot grow new programs. Can maintain what we have. Need to start an Industrial Maintenance program reflecting industry needs. Have strong staff, good enrollment, all industry-certified programs; but stagnant in many ways limited by the age of the building. We will need a building one day, but never are in the priority list in our district or state. District is currently building a \$5 million football field.”
- ✓ “Our biggest need is having more staff to cover the demand. Our special education students are under performing on industry certification exams and may need more support in the classroom. With limited special education resources, it would be nice if CTE funds picked up additional support in that area.”
- ✓ “While our enrollment is fairly consistent due to the popularity of the programs we offer, we have seen a decrease in CTSO participation. I foresee this getting worse as we have less funding to cover CTSO related expenses. This is especially true for sending students and advisers to state and national competition. Our school and local district do not have the funding to cover those costs.”

## **Kentucky CTE Program Delivery**

Career and Technical Education (CTE) is offered across the Commonwealth at both the secondary and postsecondary levels via many different delivery models.

### ***Secondary CTE Programs***

CTE coursework at the secondary level is offered through a variety of settings. The state has approximately 271 elementary, middle and alternative schools, and 222 comprehensive high schools that offer CTE courses and career pathways. On average, these opportunities touch more than 84,500 middle school students enrolled in career exploration courses and more than 132,000 high school students each year.

Among the 172 public school districts in Kentucky, there are 51 locally-operated CTE centers (CTCs) that also provide student access to CTE. The schedules among each of these centers vary significantly, with students spending anywhere from one hour per day to the entire school day within these schools. Many students who are engaged in CTE coursework within their home high school also take academic coursework at these technical centers. Enrollments within the state's CTCs is approximately 47,000, with 33,000 of those enrollments being unique students.

In addition to locally-operated CTE programs, the state also governs 51 Area Technology Centers (ATCs). These ATCs are regionally based across the Commonwealth and, in most instances, provide access to more than one feeder district. This system of state-operated centers is known as the Kentucky Tech district. The Kentucky Department of Education (KDE) Office of Career and Technical Education (OCTE) is responsible for the oversight and management these schools pursuant to KRS 156.802. On average, there are more than 23,000 students who attend Kentucky's ATCs, with approximately 28,600 pathway enrollments on an annual basis.

In small instances, there are secondary students who have an interest in a career pathway that is not offered to them through one of the three delivery models described above (high school, CTC or ATC);

thus, they have the opportunity to pursue CTE coursework at their local Kentucky Community and Technical College System (KCTCS) campus.

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### **School Year 2014-15**

**Secondary CTE Students: 132,902**

**Total Secondary Students: 192,348**

**Percentage of CTE Participation: 69.1**

### **School Year 2019-20**

**Secondary CTE Students: 140,261**

**Total Secondary Students: 197,261**

**Percentage of CTE Participation: 71.1**

**Based on this data provided by the Office of Career and Technical Education, not only did CTE participation increase by 2 percent over the five years, but also CTE participation increased more than the overall student population (1.05 percent versus 1.02 percent).**

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### ***Postsecondary CTE Programs***

Postsecondary CTE programs are offered through a variety of postsecondary institutions.

KCTCS is a system of 16 colleges with more than 70 locations across the Commonwealth and online, which provides certificates, diplomas and associate degrees leading directly to careers in the workforce or to transfer to a four-year institution. On average, there are more than 45,000 postsecondary students enrolled in CTE programs across the system.

CTE also is offered at a variety of four-year postsecondary institutions, both public and private, across the state. Some, but not all, of these institutions have recognized federal programs and are therefore eligible agencies to receive federal Carl D. Perkins funding.

### ***Other Workforce Training Programs***

Apart from the CTE programs in public middle and secondary schools with oversight provided by OCTE, and postsecondary CTE programs available through KCTCS, there are other providers of CTE instruction in the state. CTE coursework is taught in adult education/workforce retraining programs, both through KDE and KCTCS facilities and staff. Juvenile Justice centers operated through the Department of Corrections incorporate CTE instruction through contracts managed by KDE. Much of the coursework provided through the federal Job Corps program is CTE.

### ***Innovative CTE Delivery Strategies***

The need to provide more equitable access to CTE programming at the secondary level has become increasingly more apparent over the last several years. With limited funding and revenue, many school districts, as well as KDE, have placed strategic focus on scaling innovative CTE delivery models that are aimed at addressing these access issues. While not silver bullets or one-size-fits-all approaches, these models are considered to be “bright spots” for many regions of the state and are proving ways to overcome some of the traditional barriers that exist in expanding and scaling high-quality CTE to its fullest potential.

### ***Regional Academies***

In 2013, five rural school districts in Northern Kentucky (Carroll, Gallatin, Henry, Owen and Trimble) began building their vision for the state’s first all-day regional career academy, known today as the [iLEAD Academy](#). Geography, limited access to existing programs, and district finances were among the many barriers that prevented these districts from being able to offer in-demand CTE training to the students in their region. Through a \$250,000 planning grant awarded as a line item in the state budget, the concept of a collaboratively governed, collaboratively funded, competency-based learning school began to take shape. In 2016, the school opened its doors for the first time to students from all five districts.

At that same time in 2016, KDE was one of only 10 states awarded a national [New Skills for Youth \(NSFY\) grant](#) sponsored by J.P. Morgan Chase and Company. This grant strategically focuses on the following six key objectives:

- ★ Demand-Driven and Employer-Led Processes.
- ★ Rigor and Quality in Career Pathways for ALL.
- ★ Career-Focused Accountability Systems.
- ★ Scaled Pathways that Culminate in Credentials of Value.
- ★ Aligned State and Federal Funding Streams.
- ★ Ensure Cross-Institutional Alignment.

Anchored in these six key objectives (as well as the previously mentioned funding and governance reports of Kentucky’s secondary CTE system), KDE executed a strategic grant vision that allowed for the scaling of three cohorts and 10 total regional academy planning sites across the Commonwealth. Just like the iLEAD Academy, these 10 regional academies involve two or more school districts in partnership with secondary CTE centers, postsecondary institutions and regional employers.

Through shared governance, decision-making and funding, these pilot sites are expanding CTE access to more districts and students both in-person and virtually, while ensuring program alignment to the state’s most in-demand sectors and occupations. Together, collectively and collaboratively, they are accomplishing more for their students and the workforce than they have historically had the capacity to do by themselves. To learn more about Kentucky’s NSFY grant initiative, visit the [KDE NSFY webpage](#). Additional impact data and information regarding Kentucky’s NSFY strategies also can be found on the national Advance CTE resource center page at <https://careertech.org/resource/nsfy-kentucky-impact-snapshot>.

### ***CTE Virtual Learning Academies***

While teaching CTE programs in a virtual environment is somewhat of a necessity today due to COVID-19 restrictions on assembly, it does offer long-term benefits. Online programs offer flexibility. Students can learn from practically anywhere and at their own



pace if they have the proper devices and internet access. Students also can stay engaged in their learning and extend what they learn in the classroom with interactive learning opportunities they participate in at home.

Bringing CTE programs into a digital ecosystem also can help students develop 21st-Century skills needed for workplace success. The World Economic Forum reported that 42 percent of jobs will require brand-new skills by 2023, including cybersecurity, cloud and design thinking. All of these skills can be reinforced and obtained through virtual learning. Virtual learning is helping to train students on the types of tools they are going to use in the workplace. They are being taught both directly and indirectly how to operate in a mobile workforce, which is increasingly going to be the reality that many students will be walking into in the very near future.

Delivering CTE programs online is also a cost-effective option for many schools dealing with budget cuts today and possibly the pandemic's economic impact in the coming years. Districts may not have the resources to spend on things that some may consider non-core, and utilizing a regional instructor virtually can open up a whole new world for the most rural areas of our state. It will be imperative to find resources that are affordable, low weight in terms of the implementation ramp-up, and accessible for both students and teachers.

Although many CTE educators may find it challenging to deliver curriculum through new instructional methods, there are plenty of options and resources for them to explore. Many have combined videoconferencing technology, video recordings and at-home student projects to teach concepts, prepare students for certification exams and provide a semblance of hands-on learning through synchronous and asynchronous instruction. Educators also have used augmented and virtual reality for lab simulations. Others have integrated online learning platforms such as Open P-TECH to remote or blended instruction. Open P-TECH is a free digital education platform built on IBM's P-TECH program, which partners with schools, community colleges and industries to provide skills-based education and workplace opportunities for high school students.

With Open P-TECH, students can train in emerging technologies such as artificial intelligence and cloud computing at their own pace through a set of modules. Upon completion, students get a digital badge to add to their resumes. Teachers adopting a blended model also can leverage project-based activities and other resources on Open P-TECH during face-to-face instruction to extend the knowledge students gain from completing modules.

There are many virtual options to deliver CTE education to students, but the consistent theme is that CTE virtual learning can prepare and help students navigate taking college courses and at the same time prepare them for a career. Virtual options may be necessary to provide equity and access to students' pursuit of pathways restricted by remote locations or underfunded schools.

### ***COVID-19 Lessons Learned***

The Coronavirus has had a major impact on education most notably in the areas of teaching and learning. It has created some difficulties for all teachers, but CTE especially has been impacted. Normally, these classes are motivators for students as they provide purpose and connection to real life as well as often being an area of particular interest to students. This can be seen in the 99 percent secondary graduation rate for CTE concentrators compared to the 89 percent overall secondary graduation rate.

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***We cannot ignore the overarching lessons of COVID. One of the most notable being teachers are irreplaceable. Students struggle to learn through a computer without a live adult, and more importantly, the relationships with those adults and their impact on not only learning but also mental health.***

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However, under COVID-19 conditions, getting students to even “attend” class has been a struggle for all in addition to getting them effective assignments and being able to ensure completion. The few positives of this pandemic are that many, students and teachers alike, are getting more comfortable with technology, most work-based-learning opportunities have been able to continue when and where businesses are open, and many report a sense of community through sharing of online resources and techniques. Many academic teachers have reached out to their CTE counterparts since they are not as well versed in activities for teaching and project-based-learning as CTE educators.

However, we cannot ignore the overarching lessons of COVID. One of the most notable being teachers are irreplaceable. Students struggle to learn through a computer without a live adult, and more importantly, the relationships with those adults and their impact on not only learning but also mental health.

Additionally, COVID-19 has shown us, even in a pandemic, the career and technical jobs we prepare students for are vital to our lives. The skills they are learning in class transfer to jobs that are not going away. Homes are still being built, electricity is needed to operate our daily lives, manufacturing must continue for the economy to exist, cooking skills are vital to life as restaurants shut down, and those are just a few examples. We also learned that the hands-on skills of CTE require access to equipment that cannot be reproduced easily at home. Funding to be able to supply

that equipment, update it to keep up with what's being utilized in the workforce, and have the elements needed for all students to practice is why supporting CTE in the budget is non-negotiable. The CTE classroom, and all that goes with it, is essential. Our CTE teachers are essential workers.

### ***Current and Ongoing Work to Better Understand CTE Access and Delivery***

A strong partnership exists between KDE and the KYSTATS, the state’s longitudinal data system. This partnership allows extensive studies and reports regarding the intersection of education and workforce data. This helps KDE and other state agencies better understand Kentucky’s labor market demands, guiding discussions on the continued need for the scaling/phasing out of programs and career pathways.

Through a cross-agency partnership between the KCTCS, KDE and the Council on Postsecondary Education (CPE), a new project also launched in fall of 2020 to begin a Geographic Information System (GIS) map that will overlay many of the state’s workforce education and training programs. This project will provide a geospatial landscape of programmatic offerings across the state and assist in determining where there may be gaps, as well as possible duplication. Once completed, this interactive map can serve as a guide for programmatic decision-making and advocacy moving forward.



## Current Funding and Future Recommendations

### **State Funding for Secondary CTE Programs**

Currently, Kentucky provides state funding for some, but not all, of its secondary CTE programs and schools. A breakdown of this funding can be found below. State funding supports 137,195 CTE students at the secondary level; however, as noted below, none of these funds are earmarked for comprehensive middle and high schools. KCTCS CTE enrollment is 42,546. (Enrollment numbers are for the 2018-19 academic year.)

**Comprehensive Middle and High Schools** — Kentucky does not provide state funding for CTE programs located within its comprehensive middle and high schools, even though this is where a large majority of CTE enrollments are served.

**Locally Operated CTE Centers (CTCs)** — Currently, 43 of Kentucky's 51 CTCs receive supplemental funding from the state budget to assist with programmatic expenses; however, these funds in no way cover the entire cost of the centers' operation. Pursuant to KRS 157.069, the locally-operated centers or departments who receive this funding are referred to in budget language as Local Area Vocational Education Centers (LAVECs).

In FY21, the LAVEC allocation within the state budget totaled just over \$12 million. Among the 43 funded centers, the median district allocation totals approximately \$239,184.00. With no new revenue added to the LAVEC funding source since 2013 (with the exception of \$200,000 for Taylor County in 2020), the additional eight local CTE centers remain on a wait list for access to this funding. Since that same time, many currently funded LAVEC centers have grown and scaled additional CTE programming, for which those new programs are not currently funded because of the lack of adequate funding.

In the past 14 years, the appropriated LAVEC funding has increased 9 percent, from \$11,175,400 in 2007-08 to \$12,043,500 proposed for Fiscal Year 2022. These increases do not match inflation let alone address

the increased costs of operations and classroom supplies and equipment.

**State-Operated Area Technology Centers (ATCs)** — As mentioned previously, Kentucky also provides CTE access to students regionally through the 51 state-operated ATCs governed by the KDE. These centers are fully funded through the state budget (personnel, operating, and facilities maintenance); although, as fixed expenses (personnel fringe, utilities, etc.) have continued to rise over the last several years, concerns have escalated over the adequacy of the current funding for the ATCs. The FY21 funding for ATCs totaled approximately \$39 million. Among the 51 ATCs, the average school budget totals approximately \$755,965.00.

As detailed in the previous section, Classroom Funding Concerns, there has been a consistent and persistent reduction in operational funding support for teaching that provides for consumable supplies, small hand tools, and miscellaneous items needed for effective lab instruction. An adjustment to the salary schedule in 2017 resulted in a 1-2 percent increase in pay for ATC personnel. There has been no adjustment to ATC salaries since.

**ATCs Transitioning to Local District Control Pursuant to HB 352 (2020)** — Historically, provisions existed within KRS 156.844 allowing a local board of education to petition to the Kentucky Commissioner of Education to assume power and control of a state-operated ATC. Pursuant to KRS 156.844(7), upon the effective date of an approved petition, the local board of education shall receive funding support for the locally-operated center pursuant to the LAVEC formula specified within KRS 157.069.

HB 352 (2020), the executive branch state budget for FY21, included new provisions for this process, which do not withstand these former terms. Following a transfer of power, these new provisions allow for a local board of education that assumes control of a state-operated ATC to receive 100 percent of the ATC's previous year's budget in year one and not less than 75 percent of the previous year's budget in year two and every year thereafter.

To date, two local districts have taken advantage of these new provisions pursuant to HB 352 (2020) and successfully petitioned for control of their ATCs. Green County Board of Education effectively assumed control of the Green County ATC on July 21, 2020, and the Nelson County Board of Education assumed control of the Nelson County ATC on July 27, 2020. A summary of their year one and anticipated year two budgets are outlined below, based on the terms of HB 352 (2020):

- HB 352 (2020) only established a one-year state budget for FY21; thus, the year two budgets included within the chart below are labeled as “anticipated” because the second year of the biennium does not have a state-approved budget at this time. These estimates assume that the same provisions would be included in the FY22 state budget.
- Additionally, and pursuant to HB 352 (2020), the remaining 25 percent from the reduced year two budgets for these schools are to be utilized to provide financial support to the eight unfunded locally-operated CTE centers who do not currently receive LAVEC funding.

	<b>Year 1 Budget (FY21)</b>	<b>*Anticipated* Year 2 Budget (FY22)</b>
<b>Green County</b>	\$882,196.00	\$661,647.00
<b>Nelson County</b>	\$804,154.00	\$603,115.00

*HB 352 (2020) only established a one-year state budget for FY21; thus, the year 2 budgets included within this chart are labeled as “anticipated” because the second year of the biennium does not have a state-approved budget at this time. These estimates assume that the same provisions would be included in the FY22 state budget.*

*Additionally, and pursuant to HB 352 (2020), the remaining 25% from the reduced year 2 budgets for these schools are to be utilized to provide financial support to the seven (7) unfunded locally-operated CTE centers who do not currently receive LAVEC funding.*

**Secondary Enrollments within the KCTCS** — In small instances, there are secondary students interested in CTE coursework and career pathways for which they do not have access through previously mentioned delivery models (local high school, CTC or ATC). Under these circumstances, KDE provides financial support to KCTCS for such secondary enrollments. In FY21, KDE allocated approximately \$1,234,502.00 for this purpose.

**State Funding for Postsecondary CTE Programs in Kentucky** — As previously mentioned, the KCTCS is a system of 16 colleges, with more than 70 locations across the Commonwealth. In FY21, the KCTCS received support from the state budget in the amount of approximately \$845M.

**Federal CTE Funding** — The federal Carl D. Perkins Career and Technical Education Act provides almost \$1.3 billion in federal support for career and technical education programs in all 50 states. During the 2019 Fiscal Year, Kentucky received a total of \$19.3 million through the Perkins Act. Pursuant to Kentucky’s State Perkins plan, the split of these funds, beginning in FY21, is 57 percent secondary and 43 percent postsecondary for all eligible recipients, which can include comprehensive middle and high schools, as well as the other CTE delivery entities described above. Through the Perkins Act, a total of 161 local school districts and all ATCs receive basic grants via the federally-defined formula, which provide supplemental support to their secondary CTE programs. In terms of postsecondary recipients, all 16 KCTCS colleges, as well as some four-year state institutions, receive federal Perkins funding.

This federal grant legislation also requires an annual maintenance of effort, which requires the state to meet a minimum of the prior year’s reported amount for personnel, operating and grant expenses combined from all CTE delivery entities. All funds utilized for the maintenance of effort must directly impact career and technical education in Kentucky. This year’s maintenance of effort for Kentucky (KDE and KCTCS) totaled \$265,119,573.00.

**State Funding Recommendations**

Data continues to validate the nation’s skills gap and that high-wage, high-demand occupations continue

to go unfilled across the Commonwealth. In order to fill these needs and meet the state's workforce and economic development goals, the state must have a robust CTE system. That system and workforce pipeline begins in K-12 education.

There is much evidence of the return on investment with the secondary CTE system in Kentucky. According to KYSTATS (Kentucky's longitudinal data system), secondary career pathway completers outperform almost all other cohorts of students in many aspects of long-term data. (A secondary completer is a student who completed four or more credits in a career pathway.) "For example, they become employed at higher percentages and they earn higher wages than other students that do not reach completer status," KYSTATS wrote. Those rates and wages increase exponentially for the state's Tech Ready Apprentices for Careers in Kentucky (TRACK) youth and pre-apprenticeship students. When it comes to the pursuit of postsecondary education, CTE completers also earn degrees and other postsecondary credentials at a higher rate, as compared to non-pathway completers.

While CTE is an integral part of the K-12 education system, there are two primary issues or concerns at the heart of the Kentucky's current state funding for secondary CTE — adequacy and equity. First and foremost, current funding allocations are not sufficient to meet the needs and rising costs of these high-skill programs. Additionally, there has been no new state appropriations to support the continued scaling of high-demand programs and new CTE centers in more than seven years, coupled with the fact that a large percentage of CTE students are engaged in high-quality, high-demand CTE programming within the state's comprehensive high schools, for which there is currently no state-appropriated funding at all.

Furthermore, the distribution of current state funds for state and local CTE centers are determined through different formulas and protocols, creating inequities across those centers in how various programs receive financial support. In addition to this, the new funding provisions established in HB 352 (2020) now provide these new locally operated centers with significantly more funding than other district CTE centers that are LAVEC funded.

**It is believed that significant investment and reform to secondary CTE funding are necessary, in order to address the long-term inequities across the Commonwealth and ensure adequate funding for ALL of Kentucky's secondary CTE students and programs.**

Given the current fiscal realities of the state's budget and the COVID-19 worldwide pandemic, it is understood that comprehensive investment may be unlikely for some time, in spite of dire need. Further, a specific recommendation for long-term funding will require detailed analysis and projections not available to KACTE at this time. Such a determination must include participation by all shareholders in CTE: the General Assembly; the Department of Education, particularly the Office of Career and Technical Education; the Kentucky Workforce Innovation Board; the Kentucky Community and Technical College System; and the employer/business community.

- ★ **Recommendation One** -- In the short-term, it is suggested that an investment by the Kentucky General Assembly of approximately \$3.5 million be appropriated in Fiscal Year 2022 to begin providing financial support to Kentucky's locally-operated CTE centers and for pathways that do not currently receive state funding. This recommendation addresses the glaring disparities in the current **operational** funding approaches. This recommendation begins to address the equity issues that have long faced CTE in Kentucky.
- ★ **Recommendation Two** -- As detailed in this paper, the most critical classroom need to maintain quality CTE instruction is an infusion of financial support that can be directed toward consumable supplies and updated equipment and tools. KACTE recommends the Kentucky General Assembly in the Fiscal Year 2022 budget for CTE, apart from Recommendation One's funding for organizational delivery of CTE, be increased by \$3 million specifically to address the **classroom** need, with \$2 million added to ATC funding and \$1 million added to CTC (LAVEC) funding.

### ***The Future***

Regardless of if and when that could occur, at a minimum, it is recommended that new funding models

be considered that provide a more equitable approach to how current state funding is distributed to state and local CTE centers. Once a proof of concept is established with current CTE center funding, then the second phase of this reform could include new revenue measures to further expand funding to additional schools and programs. A commitment to planned biennial increases in CTE funding is warranted and may provide a pathway to achieve adequacy, equity and access.

A more innovative approach to funding distribution should accomplish the following:

- ★ address the unique needs of individual CTE programs and career pathways;
- ★ incentivize the implementation of high-quality CTE programs of study; and
- ★ hold programs accountable for positive student outcomes.

If properly funded, this vision could establish a funding formula for all secondary CTE programs (regardless of delivery model or setting); however, it is believed that a proof of concept could begin with state and local CTE centers first, in the event that new revenue commitments are not yet possible.

It is recommended that the formula be based on a Full-Time Equivalent (FTE) career pathway enrollment model, with multipliers that take into account and incentivize the following factors:

- ★ Labor Market Alignment (High-Demand CTE Programs).
- ★ Cost of Programmatic Operation (Low/Medium/High Cost Operations).
- ★ Earning of High-Demand Industry Certifications & Credentials.
- ★ Regional School District Collaboration.

It is worth noting that discussion of funding CTE by a formula tied to FTE was included in the Legislative Research Commission Report #315, *A Study of Career and Technical Education*, written in 2003.

In subsequent years, these state-funded career pathways at the secondary level would be held accountable for continuous improvement and performance-based outcomes that focus on high-quality indicators of effective CTE implementation. Those include, but are not limited to, indicators such as the following:

- ★ performance on state accountability;
- ★ postsecondary success;
- ★ quality curriculum and postsecondary alignment;
- ★ career exploration and counseling;
- ★ work-based-learning initiatives and participation;
- ★ quality of and participation in Career and Technical Student Organizations (CTSOs);
- ★ employer engagement and partnerships;
- ★ teacher growth and professional development;
- ★ schoolwide and individual program continuous improvement efforts; and
- ★ marketing and stakeholder engagement.

Through this proposed model, it is recommended that career pathways eligible for state-funding be approved by KDE in consultation with the Kentucky State Board of Education (KBE) and the Kentucky Workforce Innovation Board (KWIB). Upon the effective date of the new funding formula, it is recommended that requests for new and additional career pathways, as well as new CTE centers, be contingent on additional funding from the Kentucky General Assembly. This process would ensure that the adequacy of funding is addressed on a biennial basis and is driven by data to support such requests to the Kentucky General Assembly.

Regardless of the path forward, it is evident and agreed to by all CTE shareholders that there is a sense of urgency surrounding these issues of adequate and equitable funding for Kentucky's secondary CTE students and schools. After more than a decade of attention, the time is now for actionable reform. Kentucky's CTE students deserve it, and the state's workforce is relying on it. The Commonwealth has long been viewed as a national leader in Career and Technical Education and its workforce preparation system. Let's continue that leadership by signaling a stronger and more innovative investment in the future of our state's workforce.

- ★ **Long-Term Recommendation --** KACTE recommends the Kentucky General Assembly direct the Legislative Research Commission to work with the Kentucky Department of Education Office of Career and Technical Education to develop a plan that will result in a proposal for a comprehensive, long-term CTE-FTE funding model.



# A Brief History of CTE



By Catherine Imperatore

On February 23, 1917, the Smith-Hughes National Vocational Education Act was signed into law, launching the federal investment in career and technical education (CTE). Since then, federal CTE policy has evolved in response to changing U.S. economic and social conditions. Follow along as we highlight major legislation and other activities throughout the past century.

**1917**

The federal role in CTE began 100 years ago with the **Smith-Hughes National Vocational Education Act of 1917**. This legislation marked the first federal investment in secondary vocational education, providing funding to the states for agriculture, home-making, and trade and industrial education.

**1936**

The **George-Deen Act of 1936** appropriated \$14 million per year in federal funds and broadened their use to include teacher education and training for marketing occupations.

**1956**

The **George-Barden Amendments of 1956** included funding for area vocational centers and added practical nursing and fishery occupations to the list of eligible education programs.

**1968**

The **Vocational Education Amendments of 1968** was the first vocational legislation to officially reference postsecondary students. It extended set-aside funding for students from specific populations.

**1963**

Vocational education was expanded to "persons of all ages in all communities" in the **Vocational Education Act of 1963**. Funding for states was now authorized by student population rather than by field of study, including money for academically and economically disadvantaged and disabled students.

**1976**

Equal opportunities for women and girls were promoted in the **Vocational Education Amendments of 1976**.

**1946**

Federal dollars for vocational education were more than doubled to \$29 million per year in the **George-Barden Act of 1946**, which added funding for two student agriculture-related organizations (Future Farmers of America and the New Farmers of America) and set limits on equipment spending.

**1926**

The **American Vocational Association** was created from the National Society for Vocational Education and the Vocational Education Association of the Middle West.

**1990**

Contemporary vocational education began to take shape with the **Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990**, which embraced accountability, as well as secondary-postsecondary alignment, academic integration and business partnerships.

**1998**

The **Carl D. Perkins Vocational and Technical Education Act of 1998** continued the 1990 Act's focus on alignment and integration. It created the re-serve fund in states and modified state authorizations so that 85 percent of funding would reach local agencies. In the same year, the American Vocational Association was renamed the **Association for Career and Technical Education**, reflecting a change from job-specific vocationalism to skill-based, rigorous career education.

**2011**

While still written into legislation, federal funding for **Tech Prep** was terminated.

**2016**

The U.S. House of Representatives passed the **Strengthening Career and Technical Education for the 21st Century Act**, a reauthorization of the Perkins Act, by a vote of 405 to 5. The proposed bill would afford states and local recipients flexibility while promoting innovation and program alignment within a framework of streamlined administrative requirements and a more intentional focus on local needs. Senate negotiations on Perkins reauthorization have stalled.

**2006**

The term "vocational education" was also retired in the most recent version of federal CTE legislation, the **Carl D. Perkins Career and Technical Education Act of 2006**. Perkins IV introduced programs of study as a new unifying concept for CTE, with \$1.3 billion supporting two funding streams—the Basic State Grant and Tech Prep.

**2015**

Congress released its appropriations bill for **Fiscal Year 2016**, funding Perkins at \$1.17 billion for the third year in a row. Federal funding for Perkins has been successfully maintained in recent years, as other education programs have been cut.

**1984**

Vocational legislation was renamed after Carl D. Perkins, a representative from Kentucky and education advocate, with the **Carl D. Perkins Vocational Education Act of 1984**.

**1994**

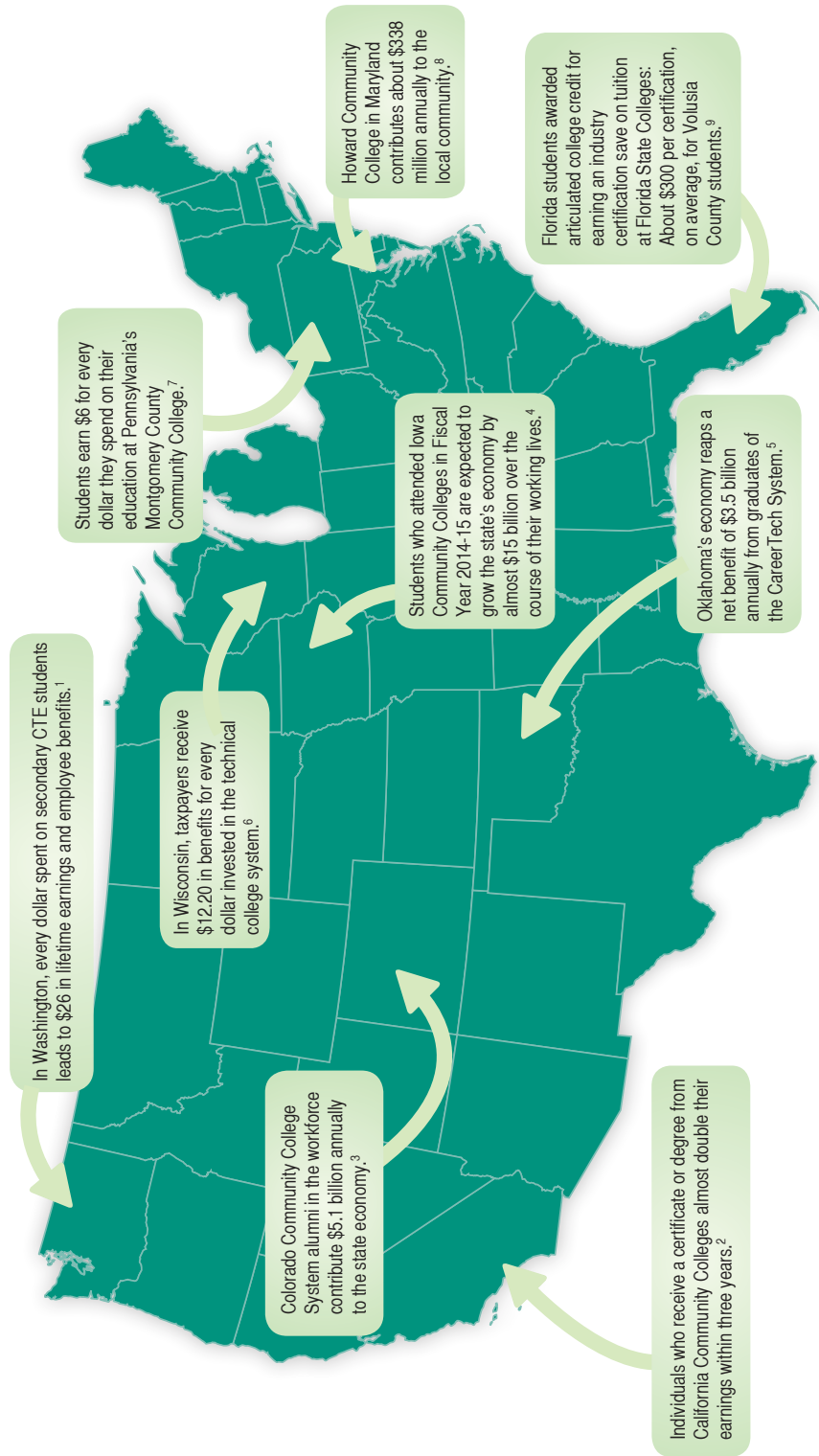
The **School-to-Work Opportunities Act of 1994** linked work-based and school-based learning, supported by partnerships with industry. It expired in 2001.

**SOURCES**  
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# ROI -- Return on CTE Investment Yields Big Returns

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# CTE: READINESS FOR ALL CAREERS

CTE students gain pathway-specific **TECHNICAL** and **ACADEMIC** skills as well as cross-cutting **EMPLOYABILITY** skills for success in any workplace, in further education and in career awareness and planning. In fact, CTE inspires and motivates students to develop many of the skills that employers most need across jobs and industries.



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