STAFFING OUTSIDE THE BOX:

Strategies for Addressing CTE Teacher Shortages



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Providing learners with access to qualified instructors with relevant occupational experience and teaching skills is one of the most important and challenging aspects of providing high-quality secondary CTE programs. Ideally, CTE programs can find staff who meet both requirements: A fully licensed teacher with experience in pedagogy and classroom management as well as relevant and up-to-date industry knowledge and skills. But when the ideal isn't available, CTE programs and institutions have a long history of innovating to ensure students have access to industry expertise and competent teachers.

This publication will explore considerations and provide examples for addressing CTE teacher shortages in the short and medium term through such methods as bringing industry experts into the classroom, sharing faculty across subject areas and institutions, and providing virtual learning opportunities.

Acknowledging these options for staffing high school CTE programs does not mean that the field should abandon longer-term, sustainable solutions to increase the number of fully certified teachers with industry and pedagogical knowledge and skills. State, regional and local CTE leaders should focus on developing, piloting and building out these important long-term pathways while also pursuing the solutions outlined in this brief.

Postsecondary CTE programs also face challenges finding and retaining qualified instructors, and several of the strategies outlined in this paper are also used on the postsecondary level. However, this publication will focus on secondary programs, which face more rigorous requirements when it comes to licensing that make staffing challenges all the greater.

Setting the Stage

CTE is among the subject areas for which schools have the most trouble finding instructors, along with special education, foreign languages, mathematics and physical sciences, according to the latest Institute of Education Sciences <u>School Pulse Panel</u>. In addition, during the 2020-21 COVID-impacted school year, 31% of public schools with open teaching positions in CTE reported having difficulty with or being unable to fill CTE instructor roles, higher than for many other subject areas, as reported in <u>The Condition of Education 2024</u> from the National Center for Education Statistics.

The extent of CTE teacher shortages varies by program area and location. For instance, in 2023-24, Maryland reported shortages to the <u>U.S. Department of Education</u> in family and consumer sciences, business education, technology preparation and computer science; Washington reported gaps in vocational technology, health and medical occupations, and communication and media; and Ohio reported shortages across 13 program areas and/or certification types classified under CTE. Rural areas in particular may struggle to ensure access to qualified instructors and industry experts, and several strategies described in this paper are innovations developed by rural communities to address this issue.

While shortages are the most pressing problem when it comes to staffing CTE programs, as the field pursues

strategies to grow the CTE teacher workforce, recruiting and retaining teachers who reflect learner identities, including a greater proportion of CTE teachers of color, should also be considered. An analysis of data reported for the Carl D. Perkins Career and Technical Education Act (Perkins) finds that <u>51% of secondary CTE concentrators</u> in 2021-22 were students of color. However, only <u>13% of</u> <u>CTE teachers in public schools</u> were people of color in 2020-21, the year prior.

To learn more about strategies for developing greater diversity among CTE teachers, read ACTE's report on <u>diversifying</u> <u>the CTE educator workforce</u>, developed with Advance CTE, and explore the <u>companion database</u> of organizations that CTE leaders can connect with to recruit individuals from underrepresented populations to teach in CTE.

Bringing Industry Experts Into the Classroom

One of the most common issues in staffing secondary CTE programs is lack of access to an instructor with occupationally specific, industry-relevant experience. Without such a person, a CTE program may be unable to launch or continue.

While many states have developed pathways to support industry professionals to transition into CTE teaching, this

ADDITIONAL CTE EDUCATOR DEVELOPMENT STRATEGIES

In addition to the strategies outlined in this paper, which are focused on shorter-term CTE teacher shortage issues, there are a number of other options for preparing, recruiting and retaining CTE educators to encourage longer-term growth in the CTE teacher workforce, including:

- Alternative preparation pathways and apprenticeships that help individuals with industry expertise begin teaching and earning immediately while gaining pedagogical skills and preparing for certification.
- High school education and training pathways that prepare students for postsecondary education and the teaching profession.
- Diverse recruitment methods such as sharing information about pathways into CTE teaching and CTE job openings with organizations representing teachers and industry professionals from populations underrepresented in the CTE educator workforce.
- Competitive salary and benefits packages that bring teacher compensation closer to industry levels.
- Effective professional development, communities of practice and mentorship that enable CTE teachers to grow in the field.

strategy runs up against economic realities like the typical salary gap between industry and the education sector. To compensate, states, districts and institutions have found ways to provide students with access to industry experts on a less-than-full-time basis through strategies like:

- Adjunct/part-time certification for industry professionals
- Co-teaching among industry professionals and licensed instructors

Adjunct/part-time certification for industry professionals

One strategy that may help with CTE teacher shortages is enabling industry professionals to teach CTE programs in a part-time capacity. This approach may be particularly relevant in locations that use a shared-time model where learners enrolled in secondary schools have the option to spend part of their school day or week participating in CTE programs at one central location in a county or district.

In <u>Kentucky</u>, part-time CTE teachers can be hired under the state's adjunct certification on a year-to-year contract basis. These instructors work at a reduced full-time equivalent rate of up to .69 and are not eligible for continuing service status or retirement provisions. For CTE subject areas, part-time instructors must have a high school diploma and at least four years of relevant occupational experience.

This approach has found success at area technology centers like Jessamine Career and Technology Center (CTC). The center has used adjunct instructors for such programs as EMT, advanced manufacturing and veterinary technology. Jessamine CTC administrators report that these instructors are often the teacher of record for the program but may sometimes co-teach. In addition, in fields like fire science where shift work is common, multiple adjuncts may rotate. The adjunct instructors take part in district onboarding but can opt out of some professional development activities.

Jessamine CTC administrators have found these industry professionals, who may be still employed in their field, semi-retired or retired, to be effective teachers who often engage learners with their workplaces or former workplaces for experiential learning. On the rare occasion that a part-time instructor proves unprepared for the classroom, center staff work with the employer partner to identify another individual.

Christi Hack, Jessamine CTC's director, is looking to hire more adjunct instructors for this coming school year as

the center launches an electrical construction program and a law enforcement program. The instructor she is hoping to recruit for electrical construction is self employed and looking to give back to the industry through teaching.

Co-teaching among industry professionals and licensed instructors

Another strategy that local CTE leaders may leverage to address shortages is pairing industry professionals and licensed instructors, either through a more permanent co-teaching relationship or to fill a temporary gap.

For instance, Area 31 Career Center in Indianapolis, Indiana, was recently faced with the loss of a precision machining instructor in the middle of the school year. Through the center's relationships with its industry partners, employees from multiple companies set up a rotation to cover the class for the rest of the year. These industry experts provided instruction, while a department chair with a pedagogical background but lacking experience in precision machining mapped the curriculum and assessments. The employer instructor for each unit would join the department chair for that unit's assessment. A postsecondary instructor from Vincennes University provided additional support.

This approach helped ensure that students who were pursuing the course for college credit would be able to earn that postsecondary credit. And it was an effective recruitment tool: One of the partner instructors loved the experience and became a full-time CTE teacher at the center.

On a more sustainable level, <u>IGNITE Pathways</u> students at Woodbine Community School District in Iowa earn core credit in English, math, science and social studies as well as CTE credit in one of 26 programs of study through a model that pairs industry professionals with academic teachers.

Each program is led by temporarily licensed adjunct faculty with the appropriate skillset and 6,000 hours of relevant work experience (unless the individual holds a baccalaureate degree, then they need only 4,000 hours). As teachers of record, they teach on a block schedule; grade as well as submit required reporting with support from colleagues; and receive just under \$4,000 a class per semester from the school district in addition to their regular earnings from their employer. Class sizes are no larger than 10 students per teacher.

The adjunct faculty are supported by core validators fully licensed academic teachers - who help connect CTE program content to core academics. For instance, IGNITE applied mathematics focuses on real-world math applications while IGNITE English integrates academics and CTE through projects like writing business plans, project proposals and more. Students report that lessons are more effective when delivered through CTE coursework. Learning is competency based, with pacing guides to help students stay on task. The adjuncts and core validators communicate through a professional learning community and share quarterly planning time, with some collaboration occurring during class time as well.

Students have the option to earn academic credits the traditional way, through the CTE program of study, or

both. Core credit can also be gained through work-based learning experiences like Registered Apprenticeships. To support career planning and decision-making, every student has an individualized development plan that they review weekly. And while IGNITE Pathways are new, early data is very promising: students measure among the top 10% in the state for postsecondary readiness and discipline problems are exceedingly rare.

The local teachers' union has been supportive of this approach, in part because the district has paired this model with a three-year plan increasing teacher pay to levels closer to industry compensation.

WORK-BASED LEARNING

High-quality, relevant, sustained work-based learning is a best practice for helping learners explore careers and prepare for the workplace while interacting with industry professionals. It is also a strategy that, if scaled, could potentially address CTE teacher shortages.

Right now, most worksite placements happen on an individual basis, requiring a CTE teacher, administrator or work-based learning coordinator to engage partners, identify opportunities and monitor learner and employer experiences to ensure that work-based learning is beneficial to both parties. Schools must also consider how to balance work-based learning with credit accumulation, schedules and transportation to the worksite. While rewarding, coordinating these experiences takes staff time and energy.

If work-based learning is to ever help schools and districts address CTE teacher shortages, steps must be taken to ensure the experiences make efficient use of staff time. Intermediaries who connect employers and learners and help with training, supports and logistics could be an answer to developing more sustainable, scalable workbased learning opportunities while relieving school and district staff of these responsibilities. A number of intermediaries have sprung up in recent decades to provide these services, including state and local organizations like Apprenticeship Carolina[™], the PENCIL Foundation in Metro Nashville and <u>CareerWise Colorado</u>. In addition to leveraging intermediaries, expanding competency-based approaches could ease scheduling concerns for work-based learning and make more efficient use of learner and staff time. With a combination of competency-based and work-based strategies, students who have proven their readiness can be released to worksites for additional career exploration and preparation, while instructors can focus more on learners who are still developing their knowledge and skills.

Lastly, several CTE programs and institutions have co-located school and work at the same facility, providing easier access to industry professionals who can support student learning. For instance, the Lincoln-West Science and <u>Health High School</u> campus is located in the MetroHealth Medical Center in Cleveland. MetroHealth professionals mentor students, serve as guest speakers and supervise interns. And at <u>Doss, Southern and Jeffersontown High</u> <u>Schools</u> in Kentucky, learners can enroll in the Business Finance Academy and work at real credit union branches located inside each of the schools, serving 21,000 members in the community. Students learn the policies and procedures of the credit union and how to run live transactions on members' accounts.

This co-location approach may not be widely scalable, but it could be a relevant and appropriate solution in some local contexts and could offer lessons learned for other work-based learning models.

Sharing Faculty

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In certain locations and program areas, the CTE teacher shortage is less about specific industry knowledge and skills and more about providing learners with access to a qualified CTE instructor in ways that maximize efficiency. In these situations, sharing instructors across program areas or institutions may serve as a solution. This approach may be particularly relevant in rural schools where too few students are interested in gaining experience in a particular CTE program to justify the costs of operating that program, but faculty sharing is certainly not limited to these geographic areas.

Strategies for sharing faculty to support learner access include the following:

- Engaging academic instructors to teach CTE courses
- Leveraging dual enrollment
- Transporting learners to partner institutions

Engaging academic instructors to teach CTE courses

One strategy that can be leveraged to fill shortages is supporting teachers licensed in core academic subjects to teach CTE courses where the content closely aligns or where the academic teacher has relevant occupational qualifications. For instance, depending on state licensure requirements, an instructor licensed to teach computer science may also teach courses within a CTE program of study in information technology. Science teachers may be qualified to teach courses in CTE biotechnology, biosciences or agriscience.

To make this approach more sustainable, core academic teachers may also be encouraged to pursue certification or endorsement in CTE subject areas, resulting in qualifications to teach academic and CTE courses simultaneously. These dual-certified instructors may then be able to fill shortages in CTE and/or in the relevant academic subject area.

For instance, as one of the recipients of the Office of Career, Technical and Adult Education's High School CTE Teacher Pathway Initiative grant, <u>New Jersey's</u> <u>CTE Teacher Bridge Program</u> enabled core subject area teachers to earn a teaching credential in a CTE program of study that the New Jersey Department of Education (NJDOE) identified as experiencing a shortage. The two-year program put these teachers directly into the CTE classroom, teaching at least 100 hours per school year, supported by a CTE teacher who cotaught with and mentored them. They also participated in 320 hours of a relevant industry externship over two consecutive summers. Participants who completed the requirements received a stipend of \$2,500 per year or \$5,000 total.

Growing the pool of instructors with multiple endorsements in different subject areas can enable New Jersey schools to exercise flexibility in staffing both CTE and academic subject areas. Lisa Haberl, Executive Director of the Division of Teaching and Learning Services at the NJDOE, shares that, anecdotally, most of the program's completers are teaching both CTE and core academic courses. Haberl has also heard from these educators that earning a certification in an additional subject area has encouraged them to stay in the profession, revitalizing their interest in teaching.

Staff learned early on that administrative code was a barrier to participation, so NJDOE pursued a code change that has eased the process to certification for Teacher Bridge Program participants. The grant funding has expired, but the regulatory mechanism still exists and the NJDOE is hoping to restart promotion of this opportunity.

In a related strategy, students may be able to gain both academic and CTE credit for completing a CTE course that has been designated for equivalency credit by state and/or local policies. While this strategy does not relieve the school of the need to staff CTE programs, it does enable flexibility in hiring by allowing one teacher to fill multiple roles.

Leveraging dual enrollment

Enabling learners to earn college credit while in high school, including dual or concurrent enrollment in academic subject areas and CTE, can support learner transition to postsecondary education. According to the <u>Community College Research Center</u>, students who participate in CTE dual enrollment are more likely to enroll in postsecondary education, have a higher college GPA and accumulate more postsecondary credits.

Dual enrollment may also be a strategy for supporting access to qualified instructors, particularly for higher-level courses. Because <u>education qualifications for teaching dual</u> <u>enrollment courses</u> in many states and systems are higher than qualifications required for high school instructors, including CTE teachers, the most likely dual enrollment model for addressing CTE teacher shortages is high school learners participating in college courses taught by college CTE faculty. In North Carolina's <u>Career and College Promise (CCP)</u> program, which enables high school students to earn postsecondary credits and credentials tuition free, CCP courses may be taught by community college faculty or by high school instructors who meet Southern Association of Colleges and Schools (SACS) requirements and may be offered at either the high school or the college campus.

According to North Carolina Community College System staff, if a high school instructor meets SACS qualifications, the college may pay them a pro-rated salary to teach dual enrollment courses. However, it is more likely that a high school instructor who meets SACS requirements is also an adjunct faculty member at the college, teaching in the same CTE program area on both learner levels. In fact, this has led some students to continue their studies at the local postsecondary institution with the same teacher they learned from at the high school level.

In North Carolina, decisions about where to host CTE programs in a community are driven by local circumstances, with an aim to avoid duplication and supplanting funds. For instance, if a high school has used Perkins funding to equip a welding laboratory, then the college faculty could come to the high school campus to teach the dual enrollment course. If the college has the equipment, the local high school can use its transportation dollars to take students to the college campus.

This flexibility is possible because of collaboration across the community college system and the secondary system, including joint professional development, the Perkins comprehensive local needs assessment, and other activities that evaluate pathways across learner levels. In addition, the two teams are expanding the list of courses available for articulated credit.

Recent research from the <u>CTE Research Network</u> has found positive impacts of North Carolina's CTE dual enrollment pathway. These learners were more likely to graduate from high school and enroll in postsecondary education. In addition, they were more likely to earn postsecondary certificates and associate degrees than their peers, with the effects particularly strong for male students and learners from economically disadvantaged backgrounds.

Transporting learners to partner institutions

Rural areas have long had to get creative about program access and teacher shortages through strategies like virtual coursework, which will be addressed in the next section. In addition, schools or districts may share a CTE instructor who travels to different sites or may provide transportation for learners to locations where qualified instruction and industry-relevant equipment are available.

The <u>Rural Schools Innovation Zone (RSIZ)</u> is a nonprofit partnership between five Texas school districts – Brooks County Independent School District (ISD), Freer ISD, Premont ISD, Agua Dulce ISD and Benavides ISD - that provides students with transportation to CTE courses and teachers they otherwise would not have had access to. The RSIZ supports five academy programs at secondary schools in the Zone: Ignite Technical Institute, Citizen's Battalion Naval JROTC Academy, Next Generation Medical Academy, Grow Your Own Academy and Will Zelaya STEM Discovery Zone.

Costs are shared across the five districts. RSIZ students can attend any academy, with transportation provided by the Zone, but remain accounted for within their home district and school. The academy sites were selected based on a labor market analysis that identified which campus and community were the best fit for each academy's career focus areas.

The cost-sharing model means that the Zone can offer salaries to CTE teachers that are more competitive with industry rates. This access is leading to positive outcomes for students, with RSIZ learners outperforming the region and the state overall in college, career and military readiness measures and graduation rates. In addition, in <u>2020-21</u>, 63% of students completed dual credit and 26% earned industry certifications – far above the rest of the state.

Offering Virtual Instruction

Online courses and virtual instructors are another set of options that can support CTE programs facing teacher shortages. CTE programs, particularly those located in rural communities, have long leveraged virtual technology to facilitate access to quality instruction. Since the COVID-19 pandemic, CTE programs have gained even more experience in offering <u>virtual and hybrid programming</u> to meet learner needs.

These strategies may be particularly useful in situations where the number of students interested in a CTE program cannot support an instructor or other program costs. In addition, virtual learning options may help programs that are experiencing unexpected teacher shortages in the middle of the school year.

Virtual instruction is not without its <u>challenges</u>, including inequities in digital access and mixed outcomes for students. However, lessons learned from virtual coursework developed prior to the pandemic as well as from school closures in 2020 indicate that guaranteeing access to technology and high-speed internet, differentiating instruction, providing time for students to engage with teachers and with their peers, and ensuring professional development and planning time for teachers can contribute to better student engagement and outcomes.

In addition, online learning may not be appropriate for every CTE program area, particularly those that require a greater amount of in-person demonstration and practice using industry-relevant equipment. However, as demonstrated in an example that follows, virtual coursework in CTE can be paired with relevant in-person experiences in a way that enables learners to practice hands-on skills and interact with industry professionals.

Strategies for leveraging virtual coursework to support CTE learning include the following:

- Providing virtual courses through dedicated schools and centers
- Contracting with virtual instructors

Providing virtual CTE courses through dedicated schools and centers

According to the Education Commission of the States, in 2019-20 – before the pandemic – more than 330,000 students were enrolled in full-time virtual schools. This landscape is diverse and includes charter schools, single-district schools, multi-district schools and state schools. These schools may incorporate courses across learner levels and subject areas, including CTE.

For example, the Idaho Digital Learning Alliance (IDLA) currently offers more than 300 asynchronous courses available to Idaho students enrolled in K-12 public and private schools. The catalog includes core, elective, CTE, dual-credit and Advanced Placement courses. The <u>CTE</u> catalog has grown to incorporate courses for students in grades 9-12 in business computer applications, graphic design, culinary arts, fashion and textiles, drafting, entre-preneurship, and sports and entertainment marketing as well as career exploration courses for middle-grades students. In addition to standalone classes, IDLA offers dual-credit nursing assistant, web development, cyberse-curity and education pathways comprising sequences of three to four courses.

Courses are taught by teachers certified in the relevant subject area. According to Clay Long, Idaho state CTE

Synchronous online learning happens live. The instructor and the students are logged into the platform at the same time with the ability to interact through chat, audio and/or video.

Asynchronous online learning is not live. The students may not be logged into the platform at the same time as each other or as the teacher.

director, most IDLA teachers teach virtually with the Alliance and in person with another district or local education agency.

Another example can be found at <u>Central Regional</u> <u>Area Career and Technical Center (CRACTC)</u>, one of five virtual technology centers in North Dakota, which is a pioneer state when it comes to providing virtual CTE instruction that enables learners to access CTE programs not available in their local communities. A collaboration among Bismarck Public Schools and the Central Regional Education Association, CRACTC launched about 15 years ago and expects at least 1,000 enrollments from over 800 students at 58 different schools in the 2024-25 school year. The center receives reimbursement from the state, while member districts pay a \$2,000 flat membership fee and schools pay a course fee of \$300 per semester per enrollment.

Most CRACTC coursework is offered through an online platform. Classes are asynchronous but students must stay engaged and adhere to a schedule, demonstrating learning gains, in order to participate in hands-on learning days. Less frequently, virtual instruction is delivered through the state's Interactive Television live broadcast network, which enables instructors who are teaching in person at one school to broadcast their classes to students at other sites.

All CRACTC instructors are contracted to Bismarck Public Schools, some as full-time virtual instructors with CRACTC and others teaching both virtually and in person on a school campus. In addition, all CRACTC instructors are certified through traditional routes or through the state's <u>Transition to Teaching</u> pathway for career changers.

To supplement the online instruction, each course has at least one hands-on learning day each semester, up to five, hosted at a regional facility. The amount of hands-on learning varies by program area. IT courses may have only one hands-on day focused on interacting with industry representatives. In contrast, welding has five handson learning days, four that are full days practicing with industry-standard equipment and one with guests from industry. In addition, a work-based learning coordinator sets up job shadows and cooperative work experiences for students who have earned at least one credit in a CTE program area. CRACTC is also establishing a course to focus on skills like interviewing and resume writing.

Lyle Krueger, CRACTC assistant director, reports that students in the 2022-23 school year passed CRACTC courses at a rate of 96%. In addition, dual-credit courses have saved students \$30,000 in the 2023-24 school year and learners have reported that CRACTC coursework has helped them to qualify for state scholarships. While the center is thriving, Krueger shares that scheduling and transportation for hands-on learning days and work-based learning experiences can be a challenge. CRACTC provides up to \$1,200 per year to participating schools to fund a liaison who helps manage communication and logistics between the school and the center.

Contracting with virtual instructors

In addition to state and local education institutions that specialize in delivering virtual courses, schools may also turn to third parties to connect with virtual instructors. This approach may be a response to an emergency change in staffing or may be a permanent solution, particularly if the relevant course or program area is well suited for fully virtual instruction. This includes CTE courses as well as other courses where instructors must have a specific skillset.

For example, at Fauquier County Public Schools (FCPS) in Virginia, administrators were caught off guard in December 2023 when the instructor for their American Sign Language (ASL) course left suddenly. The next semester was weeks away and some students were taking the course for dual credit. Administrators turned to eDynamic Learning. The company's instructional services provide schools with qualified virtual instructors who are state certified, many with master's degrees, to teach synchronously and/or asynchronously; monitor and communicate with students through email, phone and Zoom; and perform grading. According to eDynamic Learning, their virtually taught courses have a 93% pass rate.

To support the ASL course, eDynamic Learning staff assigned a virtual instructor with an appropriate Virginia teaching license and credentials to teach a dual enrollment course, provided onboarding and supported In addition to its instructional services, <u>eDynamic</u> <u>Learning</u> is the largest publisher of CTE and elective curriculum in North America. The company offers online CTE courses for more than 43 pathways, leading to nearly 100 industry-recognized certifications, including standalone courses as well as courses organized into sequences. The more than 250 courses available for middle and high school learners include courses that align with nearly every Career Cluster[®] as well as courses focused on exploring career areas of interest and preparing to participate in work-based learning.

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course enrollment. The eDynamic Learning team also helped FCPS staff troubleshoot and improve the experience for learners. For instance, some students struggled to remain engaged in the online course and the room proctors, who were usually instructional assistants or teachers with a planning period, didn't always check in with students or provide encouragement. To help better keep learners motivated, eDynamic Learning suggested a training for room proctors so the proctors understood how they could use the platform to check students' progress and keep them on task.

In addition, eDynamic Learning suggested providing a synchronous component to further student learning and engagement. This resulted in the ASL teacher joining each class session live for the first 15 minutes to lead warm-up experiences. This added component has enriched student learning, according to FCPS's Saralyn Aylor, the district's English as a Second Language/World Language Supervisor, but does mean additional costs and planning, for instance, when the teacher is located in a different time zone.

Aylor reports that the course has been a success and shares that offering ASL virtually means that students from across all three high schools in the district have access. The district plans to continue offering the ASL course through eDynamic Learning and is considering expanding the length of synchronous instruction from 15 to 30 minutes each session.

FOR MORE INFORMATION

To explore additional resources on the CTE teacher pipeline, please visit ACTE's High-quality CTE Library at <u>www.acteonline.org/high-quality-cte-library</u> and ACTE's Teach CTE Initiative at <u>www.acteonline.org/cteteach/</u><u>teach-cte-initiative</u>.

Reflection Questions

The following questions can help local CTE leaders evaluate strategies and begin to outline action steps for addressing secondary CTE teacher shortages:

- What programs or courses are you not able to offer because of CTE teacher shortages?
- What programs are oversubscribed because of CTE teacher shortages?
- What expertise are you missing: individuals with industry knowledge and skills, individuals with teaching qualifications or both?
- How can you leverage the comprehensive local needs assessment and its requirement to consider educator development to better understand your CTE staffing needs?
- What teacher credential types in your state can you leverage to help address CTE teacher shortages?
- What partner institutions, employers, intermediaries or other organizations can help you identify industry experts or certified instructors to support CTE programs and work-based learning?

- How can you structure teacher salaries, benefits and/ or incentives to help close the gap between industry and educator pay?
- What regulations related to instructor qualifications do you need to consider when planning strategies to address CTE teacher shortages?
- What regulations related to seat time do you need to consider when planning strategies to address CTE teacher shortages?
- How can you braid funds to supplement and not supplant funding sources? How can you leverage Perkins funding, state CTE funding and funds earmarked for other purposes like dual enrollment course fees or transportation?
- How can you support professional development for and collaboration among instructors, partners, mentors and others engaged in delivering CTE to strengthen the entire ecosystem?