Maryland
STATE DEPARTMENT OF EDUCATION

Career and Technical Education: Comprehensive Local Needs Assessment

A Systemic Review Guidebook for Secondary Schools
Version 3.0

MARYLAND STATE DEPARTMENT OF EDUCATION

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DOCUMENT HISTORY

Document Version	Date	Summary of Change
1.0	February 2024	Initial Document
2.0	March 2024	Modified: Formatting for accessibility Added: State Level Performance Data Added: Appendices with Strategies and Resources to Consider
3.0	April 2024	Modified the data tables in Activities B.1 and B.4.

Purpose

The federal Strengthening Career and Technical Education for the 21st Century Act (Perkins V), provides funding to support educators in developing the technical and employability skills and academic knowledge of secondary and postsecondary education students enrolling in career and technical education (CTE) programming.

Perkins V requires that grant recipients complete a Comprehensive Local Needs Assessment (CLNA) every other year to identify needs or gaps that should be addressed to strengthen the delivery of high-quality CTE programming.

The Maryland State Department of Education (MSDE) has created this document to assist LEA in conducting your CLNA. Information contained within it will assist local education agencies to align improvement efforts with the College and Career Readiness Pillar contained in the Blueprint for Maryland's Future. Key action steps include assessing the alignment of CTE programs of study (POS) to labor market needs; reviewing student participation and performance in CTE coursework; evaluating site progress in making CTE offerings accessible to students; and considering efforts to recruit, train, and retain CTE instructors.

Results from this CLNA should be incorporated into the LEAs Perkins V Local Application, which details how you plan to use federal funds to improve CTE instruction and expand equitable student access to quality programs.

The CLNA and the Local Application will be reviewed and approved on a rolling basis, and must be fully completed by the LEA, negotiated (LEA and MSDE), and approved by the State Director of Career and Technical Education or their designee prior to July 1st of each year.

Appendices A - E are included in this document that may help you align your priorities to your Local Application. If you have questions about how to use this guide, please contact your designated Secondary Program Coordinator in the Office of College and Career Pathways.

Instructions

Conducting this needs assessment could take several months to complete and must precede the creation of your Perkins V Local Application.

This guide provides a framework to help you investigate the status of your CTE programming and identify areas for improvement. It is organized into six sections:

- Guiding Principles
- Assembling a Stakeholder Team
- Component A: Labor Market Alignment
- Component B: Student Participation and Persistence
- Component C: Program Performance
- Component D: Professional Development

While you may choose to cover topics in any order, you should begin by assembling a stakeholder team to inform your effort. This group must include representatives from the stakeholder groups that are identified in the Perkins V legislation.

You may complete this document online or electronically by typing directly into the provided fillable fields. Alternatively, you may print out a copy of this form and enter information by hand. Do not alter or remove sections. Those choosing to complete the document offline should upload a completed copy using SharePoint.

Guiding Principles and Logic Model

OVERVIEW

MSDE has identified a set of guiding principles to inform the creation of CTE programming. It includes the expectation that all learners should have access to high -quality CTE coursework t hat:

- aligns to high-skill, high-wage, in-demand careers,
- leads to industry-recognized and/or postsecondary credentials that supports entrance or advancement in a specific career cluster, and
- offers career-based learning experiences (e.g., work-based learning, apprenticeship) that require the application of academic and technical knowledge and skills in a work setting.

LOGIC MODEL

Despite the growing emphasis on CTE as a pivotal pathway for students in Maryland, there is a significant gap in the systematic evaluation of current CTE programs. Maryland's dedication to aligning educational experiences with the demands of the real-world labor market faces challenges:

1. Lack of Comprehensive Oversight: There isn't a unified method to holistically assess the state's CTE programming capacity. This absence has led to disparities among various student groups across CTE clusters, hindering equitable access to quality education.
2. Inefficient Funding Application Process: Potential CTE grantees in Maryland lack a structured Local Application process for Perkins V grant funds, affecting their ability to optimally leverage these resources for student outcomes.

The combined effect of these challenges puts Maryland's CTE programs at risk of not fully aligning with the Perkins V requirements and, more importantly, not meeting the evolving needs of students and the labor market. Consequently, there is an urgent need for a systematic approach to bridge these gaps, ensuring the delivery of equitable, high-quality career and technical training that truly mirrors labor market demands.

LOGIC MODEL CHART

	Strategies	Outputs	Short -Term Outcomes	Long -Term Outcomes	Impacts
Tangible: Funding from Perkins V	Develop a CLNA	Comprehensive report detailing current state of CTE programs	Identification of gaps and disparities in CTE programs	Enhanced quality and inclusivity of CTE programs	A workforce better prepared for Maryland's labor market demands
Tangible: Labor Market Information (LMI) Data	Analyze LMI to align CTE programs with labor market demands	List of high-demand sectors and occupations in Maryland	CTE curriculum adjustments based on labor market needs	Improved alignment of CTE tracks with workforce demands	Higher employment rates for CTE program graduates
Tangible: Interview and Focus Group	Conduct interviews and focus groups with stakeholders	Collection of feedback and insights from stakeholder groups	Immediate feedback loop established with stakeholders	Strengthened collaboration and partnerships	Enhanced stakeholder trust and investment in CTE programs
Intangible: Expertise in CTE Programming	Design a structured Local Application process for Perkins V funding	Guideline document for potential CTE grantees	Streamlined application process for Perkins V funding	Increased number of high-quality grant applications, earlier in the process	Optimal leverage of grant funds for improved student outcomes
Intangible: Stakeholder Relationships	Engage regularly with stakeholders for continuous feedback	Periodic stakeholder engagement sessions	Fostered sense of community ownership and involvement	Stronger community ties and support for CTE programs	CTE programs that resonate more deeply with community needs
Intangible: Knowledge of federal and state education guidelines	Ensure CTE programs align with Perkins V, the Blueprint for Maryland's Future, and other relevant guidelines	Regular compliance checks and reports	Immediate course correction when misalignments are found	Consistent alignment with state and federal guidelines	Sustained funding and support for CTE programs due to compliance

INTERPRETATION

3. **IF** we intentionally and strategically allocate Perkins funding in the planning process, **THEN** we can develop a CLNA leading to a comprehensive report that identifies gaps in t he CTE programs, ultimately enhancing the quality and inclusivity of CTE programs and preparing the workforce better for Maryland's labor market demands.

4. **IF** we utilize LMI data, **THEN** we can better align CTE programs with current labor market demands, leading to adjustments in the CTE curriculum, improving the alignment of CTE tracks with workforce demands, and resulting in higher employment rates for CTE program graduates.

5. **IF** we employ interview and focus groups effectively, **THEN** we can gather valuable feedback from stakeholders, establishing an immediate feedback loop, strengthening collaboration, and enhancing stakeholder trust and investment in CTE programs.

6. **IF** we leverage our expertise in CTE programming, **THEN** we can design a structured Local Application process for Perkins V funding, streamlining the application process, increasing the number of successful grant applications, and optimizing the use of grant funds for improved student outcomes.

7. **IF** we nurture and maintain stakeholder relationships, **THEN** we can engage more deeply and regularly for feedback, fostering a sense of community ownership, strengthening community ties, and creating CTE programs that resonate more deeply with community needs.

8. **IF** we stay updated on federal and state education guidelines, **THEN** we can ensure consistent alignment of CTE programs with these guidelines, leading to immediate course corrections when needed, sustained alignment, and thereby securing sustained funding and support for CTE programs.

PROGRAM DESIGN

All CTE programming in Maryland must be delivered through Programs of Study (POS) developed by the state or a local school system. To be considered "state approved," each program of study must meet these criteria:

- Strengthens the academic, career, and technical skills of students to prepare them for careers and further education.
- Incorporates input from diverse stakeholder groups, including industry and postsecondary partners.
- Fits within one of 10 state-recognized career clusters that help students learn about their work options so that they may make informed career decisions.
- Includes opportunities for students to earn industry or postsecondary credentials and participate in career-based learning experiences.
- Prepares students for both college and careers through the completion of a planned sequence of coursework that blends academic, technical, and workplace skills.
- Incorporates a coherent set of academic, employability, and technical skills based on national and state standards that offer students a competitive advantage in the workplace.
- Offers multiple options to prepare students for entry into careers and further education through articulation agreements, supervised career-based learning experiences (e.g., work-based learning, internship, apprenticeship, etc.), and/or industry-mentored or capstone projects.
- Is based on enrollment and outcome data to inform program improvement and increase student performance.

Refer to these criteria as you conduct your CLNA to ensure your programming is rigorous and of uniformly high quality.

STUDENT ENGAGEMENT

A CTE POS includes a course sequence from grades nine through 12 and two or more years of postsecondary education courses. A student may meet the following thresholds of engagement:

Participant — Student completing not less than one credit in a MSDE approved CTE POS.

Concentrator — Student completing at least two courses in a single MSDE approved CTE POS.

Completer — Student who meets all requirements in a state approved CTE POS.

PROGRAM DELIVERY

Local school systems must meet **Size, Scope, and Quality** criteria to qualify for federal funding. Detailed information on these and additional expectations relating to CTE programming can be found in Maryland's Policies & Procedures for the Development & Continuous Improvement of Career and Technical Education Programs of Study.

Any program that fails to meet all the following criteria will need to be brought into compliance or removed from your program approval request, invalidating it for Perkins V funding. While you are not

expected to develop plans to address deficiencies as part of the CLNA process, you are encouraged to assess each CTE POS against these criteria to help prepare for developing your local application.

SIZE
At least two, state-approved CTE POSs are offered in recognized clusters.
Each POS consists of a coordinated, non-duplicative sequence of academic and technical coursework comprising at least 3 credits.
Each CTE concentrator-level course (typically the 3rd in a program) has a minimum of 10 concentrators over a 4-year period. If not, evidence must be offered of continued progress toward meeting this requirement.
Each POS has the required number of staff, availability of equipment, and student access to facilities.

SCOPE
Curricula are aligned to state-approved industry standards that allow students to earn recognized credentials, certifications, licenses, college credit, or degrees
Curricula offer a progression from secondary to postsecondary education and/or employment (including attainment of an industry-recognized credential or apprenticeship), and from community college to bachelor's degree programs
Curricula allow students to learn and demonstrate academic, technical, and employability skills
Curricula include differentiated supports and modifications to meet the needs of diverse learners
Each CTE student has a written career and academic plan in place that includes the: • required courses to complete a POS and graduate; • required assessments to earn a certification, license, credential, or degree; • required academic assessments to graduate; and • a timeline to take courses, assessments, and complete career-based learning experiences.
All students, regardless of race, color, national origin, sex, or disability, have equitable access to high-quality CTE programs as required by Code of Maryland Regulation 13A.04.02.04
Approved POSs are guided by Local Advisory Councils and Program Advisory Committees according to the CTE Local Advisory Council and Program Advisory Committee Policies and Procedures (COMAR EA Title 21. Sec.10 1)
All CTE POS adhere to CTE Development Standards, which are required by Code of Maryland Regulations 13A.04.02.03
All programs meet the definitions for high-skill, high-wage, in-demand occupations

QUALITY
The site achieves or consistently makes progress towards local targets established for state and federal core indicators of performance
POS are delivered by teachers who meet state requirements to teach content at the secondary level
CTE POS are delivered by teachers who earned a minimum of effective on their teacher evaluation as defined by Code of Maryland Regulation 13A.07.09 within three years
Each CTE POS meets all the requirements of the MSDE evaluation criteria found in the Policies and Procedures for the Development and Continuous Improvement of CTE Programs of Study (page 45).
All students, including students in special populations, are offered the opportunity to: • Participate in at least one career-based learning experience (e.g., work-based learning, internship, apprenticeship, etc.), • Earn college credit and/or industry credentials, and • Participate in CTSOs.
Professional learning opportunities, informed by data, are provided for administrators, teachers, faculty, counselors and support personnel to improve student learning outcomes. All secondary professional learning must be guided by the Maryland-endorsed National Learning Standards
Local and state annual data-reporting requirements are met, and reviews conducted of all annual Program Quality Index reports to inform improvement

QUALITY
Human resources are included in the recruitment process to ensure a diverse CTE teacher and faculty member candidate pool
Metrics are used to ensure that CTE teacher and faculty member recruitment strategies are successful
Teacher retention rates are reviewed annually, for the most recent 3 years, with data used to identify the top three contributing factors to CTE teacher and faculty member turnover

Assembling a Stakeholder Team

Assemble a diverse stakeholder team to assist you in conducting your CLNA. Representation in the listed categories is required by federal statute, except where indicated. While Perkins V requires more than one representative for each group (with an exception for CTE coordinators and data analysts), it is permissible for one person to fulfill up to two roles.

STAKEHOLDER TEAM COORDINATOR

[This is the individual responsible for planning and holding stakeholder meetings and completing CLNA]

Name	Joseph W. Brewer, Jr.
Organization	Allegany County Public Schools
Title	Supervisor of Career and Technical Education
Email	joseph.brewr@acpsmd.org

STAKEHOLDER TEAM MEMBERS

When Selecting Stakeholders, consider:

- Recruit individuals who are knowledgeable about CTE at your site and influential in the field.
- Ensure that members understand the time commitment and can attend all scheduled meetings.
- Perkins V requires *more than one representative for each group* (with an exception for the coordinators and data analyst). Members may not represent more than two stakeholder groups.
- If you are unable to recruit a member to fulfil a required role you should keep a record of your outreach efforts to demonstrate you acted in good faith.

Stakeholder Team Responsibilities

- Review Maryland Department of Labor employment and projections data, district student participation and performance data, and educator support efforts to identify priority areas for improvement.
- Ensure that program offerings are aligned to local, regional, and/or state employment priorities.
- Help to communicate the importance of delivering high-quality CTE POS in your site and champion local efforts to achieve improvement goals.
- Meet on a quarterly basis to track your progress in improving CTE programming and make annual updates to this needs assessment.

Note that stakeholder team meetings may be held in person, virtually, or using a hybrid approach. If scheduling conflicts make holding a full team meeting impractical, stakeholders may meet in subgroups to review data and consider strategies to strengthen programming. Ultimately, all stakeholders should

contribute to identifying challenges and formulating solutions, and publicly support your findings.

Stakeholder Team Roster

SECONDARY

Role	Name	Title	Affiliation
Administration (e.g., principal, assistant principal)	Joseph Brewer	CTE Supervisor	ACPS (Allegany County Public Schools)
	Richard King	Principal of the Center for Career and Technical Education (CCTE)	ACPS
	Jeffrey Blank	Superintendent	ACPS
Professional career or academic counselor	Jenean Fazenbaker	Guidance Counselor, CCTE	ACPS
Teachers	Michael Shockey	Graphics Communication Instructor	ACPS
	Jared Morgan	Welding Instructor	ACPS
Instructional Support and Paraprofessionals (Psychologists, Social Workers, etc.)	Abby Rader	Special Education Facilitator	ACPS
	Breann D'Atri	Coordinator, Apprenticeships/Workforce Development	ACPS
	Bridget Vanderhout	Administrative Secretary, CTE	ACPS

POSTSECONDARY

Role	Name	Title	Affiliation
Administration (e.g., dean, division chair)	Dr. Karin Savage	Dean, Career Education	ACM
	Luanne Cook	Director, Career Education, Perkins, Retention, and Special Events	ACM
	Dr. Kurt Hoffman	VP Instructional and Student Affairs	ACM
	Lynn Grim	Administrative Coordinator of Career Education	ACM
Faculty	Brandon Hoover	Program Director, Criminal Justice/Legal Studies	ACM
	Ray Hunt	Program Director, Automotive Technology	ACM
	Scott Harrah	Associate Dean of Institutional Effectiveness, Research and Planning; Part-time Faculty, Data Analytics	ACM

WORKFORCE

Role	Name	Title	Affiliation
Local Workforce Development board member	Candice Snavely	Career Counseling Supervisor	Western Maryland Consortium
	Christine Hinton	Career Coach Coordinator	Western Maryland Consortium
*Regional Economic Development organization member	David Nedved	Allegany County Economic/Community Development Representative	Allegany County Government and ARC
Local business & industry representative	Jane Belt	President	Quarry Ridge Asphalt
	Krista Barry	Director of Compliance	Pharmacare
	Nick Nies	Director of Food and Beverage	Rocky Gap Resort

OTHER

Role	Name	Title	Affiliation
Parent or caretaker	Jared Morgan	Parent, Academy of Health Student	ACPS
Student	Grace Fike	Student	ACPS
Representative of Special Populations	Abby Rader	Special Education Facilitator	ACPS
Out-of-School youth / unhoused youth / corrections	Gene Pustolski	Pupil Personnel Worker	ACPS

* Not required under Perkins V but recommended to include.

Component A: Labor Market Alignment

OVERVIEW

Career programming in Maryland must address the economic and workforce development needs of the state and align to high-skill, high-wage, and/or in-demand (HS/HW/ID) careers. These are defined as:

High-Skill — Careers that: (1) require previous work-related skills, knowledge, or experience of one or more years; (2) have a Specific Vocational Preparation (SVP) rating of at least six as defined by O*Net; (3) require state or federal licensing or industry-recognized certification; or (4). require a recognized postsecondary credential or degree.

High-Wage — Careers that exceed the state average annual wage of $69,750 in 2022.

In-Demand — Careers with a growth rate over ten years of at least 7% or a two-year occupational projected growth of 2.5%.

The Division of Career and College Readiness has evaluated all secondary and postsecondary State and Local approved POS against these HS/HW/ID criteria. Ideally, your CTE POS will meet all three of the criteria, or at least one to qualify for funding. You may access additional information on these programs at the Maryland CTE Data website. The Maryland Department of Labor has also developed Long Term Occupational Projections thru 2030, which can help you to identify high demand careers and the education and job training necessary to secure them.

ACTIVITY A.1: TAKING STOCK

The following table details the CTE POS offered at your district in the 2022-23 school year, their alignment with high-skill, high-wage, and in-demand careers, and the relative proportion of students concentrating in each area. Although it is not *required* that each POS meet the criteria for high-skill, high-wage, *and* in-demand, it should be the goal of each POS to do so.

***Note**: Prior to sharing this table with your stakeholder team, you will need to suppress numbers and percentages in cell that do not include the minimum number of students required to protect student confidentiality. Maryland state policy is to suppress data for cells or percentages that are based on fewer than 10 students. Please consult your district policies to determine which data cells should be suppressed and how this information should be communicated (e.g., by entering 'LOW N' or '<10*

Program	Alignment to current statewide industries (enter ✔)			Number of CTE participants 2022-23	Percent of all CTE Participants 2022-23
Example	HS	HW	ID	###	100%
Academy of Health - CNA	●	●	●	28	4.3%
Apprenticeship MD		●	●	3	.46%
Auto Collision	●	●	●	18	2.8%
Auto Technology	●	●	●	19	2.9%
Careers in Cosmetology	●	●	●	25	3.83%
Construction Trades- Carpentry	●	●	●	11	1.7%
Construction Trades- Electrical	●	●	●	23	3.5%
Construction Maintenance - HVAC	●	●	●	17	2.6%
Construction Maintenance - Welding	●	●	●	26	3.98%

Culinary Arts (ACF)	●	●	●	19	2.9%
Graphic Communications (PrintEd)	●	●	●	14	2.1%
Interactive Media Production	●	●	●	14	2.1%
P-TECH IT Networking Academy (CISCO)	●	●	●	28	4.2%
Criminal Justice and Law Enforcement	●	●	●	20	3.1%
PLTW Biomedical Sciences	●	●	●	339	52%
Agricultural Sciences and Operations	●	●	●	52	8%
Advanced Tech CTE	●	●	●	77	11.8%
MET Industrial Manufacturing Tech	●	●	●	12	1.8%
PLTW Engineering Tech	●	●	●	12	1.8%

Are you planning on adding any new or phasing out any existing POS in the upcoming year? If so, which CTE POS(s) are you considering and why?

No, we are not planning any changes for next year.

Program/CIP Code	Adding or deleting	Rational for change
MET Industrial Manufacturing Tech	Deleted	Both of these programs were deleted at the end of the 22-23 school year- with one graduate. In their place, we added a collaborative program with Allegany College of Maryland that allows the students to earn 39 college credits in Engineering Automated Manufacturing Technology and also receive up to 13 NIMS certifications. This program began with the junior cohort during 2022-2023 and graduated 11 seniors in 2024.

PLTW Engineering Tech	Deleted	See above.

ACTIVITY A.2: ASSESSING PROGRAM ALIGNMENT TO LABOR MARKET AND INDUSTRY NEEDS

Based on a review of the CTE POS data for high-skill, high-demand, and in-demand standards, rate each statement as a strength or area for improvement. Provide an explanation for any answer with which you identify as an 'area for improvement.'

	Meets	Area for Improvement	Explanation
Our CTE stakeholders review workforce and economic data to assess current and anticipate future local employment needs in HS/HW/ID industries		●	Although our LAC and PAC's meet to discuss local employment needs on a regular basis, we need to incorporate the use of economic data to support the discussions and ensure that recommendations match the data,
Processes are in place to identify and expand high school level registered apprenticeship opportunities.	●		
Processes are in place to update or phase out CTE POS that do not align with HS/HW/ID industries	●		
A majority of our students are concentrating in POS aligned to HS/HW/ID industries	●		
Processes are in place to recruit business and industry stakeholders to participate on Program Advisory Committees	●		

ACTIVITY A.3: REFLECTION

Based on your responses in this component of the needs assessment guide, consider the following questions:

1. What is your rationale for offering programming that is not fully aligned with high wage, high skill, and in-demand criteria you rated in Activity 1.1)?

Currently all of our programs meet at least one of high wage, high skills, and in demand criteria. Only two of our skill areas only meet one criteria (i.e., welding and graphic communications). Interestingly, Welding is one of our most popular programs and always has a full new cohort class each year. In addition, graduates in the program often secure careers in the local unions or with local employers that provide high wage and high skill jobs.

2. What are the top five priorities you will address in the coming year to update or phase out misaligned CTE programs and/or expand student participation in CTE programming aligned with HW/HS/ID careers?

NOTE: Sample strategies that may help you align your priorities, are listed in Appendix A.

1. Increase Industry Participation in CTE Decision-Making: This past year the LAC formed a subcommittee with the initiative to revise the bylaws and set new expectations for the LAC and PAC members. The overarching goal is to ensure that all clusters have representation and that all members understand the commitment they are making and the value they provide to CTE programs.

2. Explore School to Apprenticeship: Based on initiatives of the Blueprint, we have met with MDOL to discuss how to incorporate STA into established programs in the construction trades. Specifically, we plan to explore the Electrical program due to the partnership we have with the local IBEW 307 union that provides students the opportunity to complete their first year of apprenticeship while in high school. The ultimate goal would be to expand this to other trades if successful.

3. Increase Attainment for Industry Recognized Credentials: Our goal is to identify an IRC in every CTE program and provide support for students to attain their IRC.

4. Updated Industry-Standard Equipment and Technology: In order to prepare students for post-secondary placement, it is essential that all students have access to train on equipment and technology that they will be using in the workforce and/or post secondary education.

5. Exploring new CTE programs: After having success with several partnerships with Allegany College of Maryland, we are exploring new CTE programs that mirror the Manufacturing Engineering Technology model, in which students take dual enrollment courses to satisfy their CTE program requirements while obtaining college credits.

Component B: Student Participation and Persistence

OVERVIEW

To ensure that all students have equitable access to CTE programming, MSDE encourages districts to assess rates of student participation and persistence in CTE overall, as well as within each POS offered for the state approved Career Clusters. Enrollments also should be tracked using the disaggregates for student gender, race-ethnicity, and special population status detailed in Perkins V.

ACTIVITY B.1: TAKING STOCK

The following table asks you to enter the number and percentage of 2023 high school graduates statewide and in your district who participated in CTE coursework and persisted to achieve concentrator status in CTE programming, disaggregated by selected student demographics.

Please use the district heat maps to complete the requested information. If you have any questions regarding the data entry, please contact MSDE staff.

Once you have entered the data, review the information to determine whether there are any concerning gaps in student participation and/or persistence. Note that small numbers of students may have large impacts on your participation and concentrator status rates; consequently, use care when interpreting data with cell sizes of less than 10 students.

Notes:

Data Suppression: Prior to sharing this table with your stakeholder team, you will need to suppress numbers and percentages in cell that do not include the minimum number of students required to protect student confidentiality. Maryland state policy is to suppress data for cells or percentages that are based on fewer than 10 students. Please consult your district policies to determine which data cells should be suppressed and how this information should be communicated (e.g., by entering 'LOW N' or '<10 students' in effected cells).

2023 Statewide Graduate Data: Currently, MSDE does not disaggregate four-year cohort participation in CTE. However, we have identified this area as a growth opportunity in data collection and reporting.

Student Group	2023 Graduates Statewide				2023 Graduates in Your District			
	Number	Percent	Percent participating in CTE	Percent of participants who achieved concentrator status	Number	Percent	Percent participating in CTE	Percent of participants who achieved concentrator status
All 2023 Graduates (4-year cohort)	58,206	85.81%			542	95.39%	26.94%	74.66%
Gender								
Male	28,576	82.60%			288	53.14%	31.25%	74.44%
Female	29,581	89.16%			254	46.86%	22.05%	75%
Race-ethnicity								
American Indian	140	85.89%			1	0.18%	0.68%	100%
Asian	4,559	96.16%			6	1.1%	0.68%	100%
Black	18,648	84.68%			14	2.58%	0.68%	0%
Hispanic	10,446	71.37%			14	2.58%	2.74%	75%
Multi-race	2,485	89.36%			37	6.82%	6.85%	70%
White	21,838	93.38%			484	89.3%	91.78%	75.37%
Special Populations								
Economically disadvantaged	17,049	80.83%			274	50.5%	49.3%	76.92%
Multi-lingual learners	3,140	55.78%			2	0.37%	0%	0%
Individuals with disabilities	4,697	69.47%			84	15.5%	9.82%	83.33%
Nontraditional fields	-	-			-	-	-	-
Single parents	-	-			-	-	-	-
Out of workforce	-	-			-	-	-	-
Unhoused Individuals	833	62.03%			2	0.37%	0%	0%
Youth in foster care	66	40.24%			2	0.37%	0.68%	0%
Youth with parent in	1,028	95.10%			1	0.18%	0%	0%

military			[redacted]	[redacted]				
Migrant students	-	-	[redacted]	[redacted]	-	-	-	-

Note that since special population status is not mutually exclusive (i.e., a student may belong to more than one category), these data may not sum to 100%.

ACTIVITY B.2: ASSESSING YOUR PROGRAM

Based on a review of the overall CTE program data—relative to the state and across student groups—rate each statement as a strength or area for improvement. Provide an explanation for any answer with which you identify as an 'area for improvement.'

	Meets	Area for Improvement	Explanation
Our district ensures all students—irrespective of gender, race, or special population status—are provided unbiased, inclusive, and non-discriminatory information about CTE courses and POS	●		
Our district has processes in place to recruit students traditionally underrepresented in CTE to improve diversity in CTE POS	●		
Processes are in place to ensure that students traditionally underrepresented in CTE have options to enroll in CTE POS	●		
Processes are in place to ensure that students traditionally underrepresented in CTE persist in CTE POS once enrolled	●		
Processes are in place to ensure that all eligible students have equitable access to career-based learning experiences	●		
Career guidance and advisement services are provided to student prior to enrolling in a CTE POS	●		
All students have access to	●		

	Meets	Area for Improvement	Explanation
career planning and support services to help them successfully transition to advanced education and/or the workforce			

ACTIVITY B.3: REFLECTION

Based on your review of your data and responses in Activity B.2, consider the following questions:

1. Are there any student groups in your district that have concerning gaps in their CTE participation or persistence rates? If so, which groups are underperforming?

   By analyzing the above data, most student groups have consistent numbers when comparing all graduates and CTE graduates. One area that indicates a small difference is the percentage of students with disabilities overall graduates in the LEA (15.5%) compared to graduates participating in CTE (9.82%). This difference is most likely related to our Biomedical Sciences program that graduates the highest number of students and traditionally has a lower percentage of students with disabilities. After our MOA visit, this will be one of our focus areas for FY 25 to determine appropriate strategies to recruit students with disabilities and to retain them through concentrator and completer status.

2. What are the top five priorities you will address in the coming year to expand student participation in CTE programming and reduce participation and/or persistence gaps among students? [*Note: At least one priority area you identify should address the needs of gender, race-ethnicity, or special population groups.]*

   1. Examine Change of LEA High School Schedule. For FY25, one of our comprehensive high schools was chosen to run a pilot schedule that aligns with the Blueprint goals, providing more collaboration and planning for teachers. This schedule also provides options for semester and year-long courses for students. During this year, the CCTE principal and CTE supervisor are going to work to explore changing our Tech Center model of and all-day model, to one that would have an AM and PM waves. One of the barriers to CTE enrollment is the resistance for students to leave their home schools to attend the Career Center. This is specifically difficult for students in the music program and students in some sports programs. One obstacle that we have consistently encountered is the fact that each of the three comprehensive high schools have had a slightly different schedule and have only offered 7 periods. By moving to a unified schedule and offering more of a block schedule, we feel this is an opportune time to revisit our Career Center schedule and structure. This, however, would be a huge systematic change.

   2. Improve Student Persistence of Economically Disadvantaged Students. This has not been a metric that we have specifically measured or analyzed in the past. However, we have always worked to support students and encouraged them to finish the CTE program, especially if they had made it to the concentrator level. One of the programs that has had the lowest persistence rates has been the PLTW Biomedical Sciences Program. This has been the only CTE program that students begin during their 9th grade year and take their first course in the

4-course, 4-year sequence. Another program to target for improvement is the P-Tech/IT Academy Program.

3. Increase Participation of Special Populations in CTE Programs. One of our main focuses this year will be targeted recruitment of minority students. We will attempt to enact the suggestions that the MOA MSDE team stated they would share with us for ways to improve in this area. In addition, we will work to increase the participation of students with disabilities in our Health and Biosciences Cluster, but more specifically in our largest CTE program - PLTW Biomedical Sciences. Participation of economically disadvantaged students will also be examined in programs where there is an underrepresented amount of students (IT Technology, MET, HBS, and TT).

4. Implement Awareness campaigns to Inform Students About CTE Program Offerings and Benefits Leveraging the lessons and efforts of our Career Coaches, we will use data provided by Career Interests Surveys to provide students with information about careers and how CTE programs can directly prepare them for success in either postsecondary education or employment.

5. ***Targeted recruitment for lower-enrolled programs.*** Historically, there have been several programs that have years of low enrollment (i.e., Graphic Communications, MET, HVAC and Carpentry). Although these programs have in-demand jobs in our area, at times, we have had years where participation levels are lower than desired. One area where we have focused efforts in the past two years is the MET cluster, revamping our Industrial Manufacturing Program and partnering with ACM to create a dual-enrollment CNC Programming and Operations Program. CTE instructors and administrators will collaborate to evaluate what strategies to use to improve student participation.

6. Increase Non-traditional Enrollment in Consistently Under-represented Career Clusters.

Continue to implement marketing and recruiting strategies, including targeted support services, mentorship programs, and building awareness of the benefits and opportunities of non-traditional careers through inclusive marketing and outreach initiatives. Utilizing the career coaches in the middle schools will also help building awareness and minimizing the misconceptions about the nature of work in nontraditional fields, such as physical demands of construction or the emotional demands of nursing.

NOTE: Sample strategies that may help you align your priorities are listed in Appendix B.

ACTIVITY B.4: CAREER CLUSTER PARTICIPATION AND PERSISTENCE

Student participation and persistence rates may differ across Career Clusters. Use the following tables to enter the number and percentage of 2023 CTE students in your district enrolled by cluster and student demographics.

Most of this information can be found in your CTE Storyboards located on MoveIT. Work with your district data team to find any other requested information. You may contact staff at MSDE if you have questions about the data to be entered.

***Note** : Prior to sharing this table with your s takeholder team, you will need to suppress numbers and percentages in cell that do not include the minimum number of students required to protect student confidentiality. Maryland state policy is to suppress data for cells or percentages that are based on fewer than 10 students. Please consult your district policies to determine which data cells should be suppressed and how this information should be communicated (e.g., by entering 'LOW N' or).*

CAREER CLUSTER KEY:

AMC: Arts, Media, and Communication

BMF: Business Management and Finance

CD: Construction and Development

CRD: Career Research and Development

CSHT: Consumer Services, Hospitality, and Tourism

EANR: Environmental, Agricultural, and Natural Resources

HB: Health and Biosciences

HRS: Human Resource Services

IT: Information Technology

MET: Manufacturing, Engineering, and Technology

TT: Transportation Technologies

CRD: (Career Research and Development & Apprenticeship MD)

Race/Ethnicity Key:

AI: American Indian/Alaskan Native

A: Asian

H: Hispanic

B: Black/African American

W: White

PI: Hawaiian/Pacific Islander

M: Multi -Racial

Special Populations Key:

SWD: Students with Disabilities

ED: Economically Disadvantaged

NT: Non -Traditional

SP: Single Parents

OOW: Out of Workforce

MLL: Multilingual Learners

MV: Students served under the McKinney -Vento Act (Unhoused)

FY: Foster Youth

AD: Active Duty

MT: Migrant

CLUSTER-LEVEL DATA: USE THIS TABLE TO PUT IN YOUR NUMBERS

Cluster	Enrollment Number	Number of Concentrators	Number of Graduates	Gender		Race/Ethnicity							Special Populations								
				M	F	AL	A	H	B	W	PI	M	SWD	ED	NT	SP	OOW	EL	MV	FY	AD
AMC	26	13	13	16	10	0	0	1	1	24	0	0	5	18	10	0	0	0	0	0	0
BMF	N/A																				
CD	74	30	30	64	10	0	0	2	1	68	0	3	6	40	10	0	0	0	0	1	0
CRD	N/A																				
CSHT	41	15	15	9	32	0	0	0	0	39	0	2	6	27	7	0	0	0	0	0	1
EANR	50	0	0	26	24	0	0	1	0	44	0	5	2	40	24	0	0	0	0	1	0
HB	365	136	73	69	296	0	4	5	12	323	2	19	6	156	70	0	0	0	0	0	1
HRS	20	8	8	11	9	0	0	0	0	20	0	0	2	1	9	0	0	0	0	0	1
IT	28	28	17	24	4	0	0	0	0	26	0	2	2	12	4	0	0	0	0	0	0
MET	12	1	1	12	0	0	0	0	0	1	11	0	0	0	4	0	0	0	0	0	0
TT	33	19	19	31	2	0	0	2	0	30	0	1	0	20	2	0	0	0	0	0	0
WBL	3	0	0	0	3	0	1	0	0	2	0	0	0	2	0	0	0	0	0	0	0
Total	652																				

CLUSTER-LEVEL DATA: USE THIS TABLE TO PUT IN YOUR PERCENTAGES

For the “Enrollment” column, the denominator is your total CTE Enrollment from the previous table . For all other columns, the denominator is your total cluster enrollment.

Cluster	Enrollment %	Concentrators %	Graduates %	Gender		Race/Ethnicity							Special Populations								
				M	F	AL	A	H	B	W	PI	M	SWD	ED	NT	SP	OOW	EL	HL	FY	AD
AMC	4%	50%	50	61	38	0	0	4	4	92	0	0	19	69	38	0	0	0	0	0	0
BMF	N/A																				
CD	11.3%	40.5	40.5	86	14	0	0	3	1	92	0	4	8	54	14	0	0	0	0	1	0
CRD	N/A																				
CSHT	6.3%	36.6	36.6	22	78	0	0	0	0	95	0	5	15	66	17	0	0	0	0	0	2

EANR	7.67%	0	0	52	48	0	0	2	0	88	0	10	4	80	48	0	0	0	0	2	0
HB	56%	37.3%	20	19	81	0	1	1	3	88	.5	5	2	43	19	0	0	0	0	0	.2
HRS	3.1%	40	40	55	45	0	0	0	0	100	0	0	10	5	45	0	0	0	0	0	5
IT	4.3%	114	60.7	86	14	0	0	0	0	93	0	7	7	43	14	0	0	0	0	0	0
MET	1.8%	8.3	8.3	100	0	0	0	0	0	10	90	0	0	0	33	0	0	0	0	0	0
TT	5.1%	48%	57.6	94	6	0	0	6	0	91	0	3	0	61	6	0	0	0	0	0	0
WBL	.46%	0	0	0	100	0	33	0	0	67	0	0	0	67	0	0	0	0	0	0	0

Review your cluster-level data and consider the following questions:

1. In which clusters does it appear that students in your district are not participating at rates equivalent to their representation in the population? What factors might be affecting their decisions?

There are a few clusters that have little to no students with disabilities participating. One area of focus that we have discussed after reviewing data for our MOA visit is with our PLTW Biomed Program. Although we have had students with disabilities complete the program in recent years, and offer support to them through our special education department, many SWD decide that the rigor of the four-course and four-year program is not the right fit for them. Through the MOA process, we have begun to have additional conversations with the special education facilitator from each of our comprehensive high schools who will be able to encourage SWD who are interested in the biomedical science field to enroll in the program, knowing that it may be a challenge for them but that we will provide the support they need to be successful.

2. In which clusters does it appear that all students participating are not persisting at equivalent rates? What factors might be affecting their decisions?

Traditionally, ACPS has a high rate of students persisting in CTE programs. This is mostly due to the fact that students primarily take the CTE courses as the pathway to fulfill their graduation requirements and the nature of our Career Center schedule. In talking to other LEAs at MSDE meetings, it is interesting that many students in other LEA go to the tech center and take one or two CTEcourses without the intent of completing a program. The majority of our students do not take CTE courses as electives and thus, finish the program once they start it.

Looking at the data, there are 50 participants and 0 concentrators in the EANR cluster due to the fact that we added the Agricultural Sciences and Operations program in this data year and only have one cohort of students who had take only one course. This data will look very different in future years.

3. How might student participation and persistence differ by program of study or cluster? Which programs of study or career clusters are under or over-performing?

One cluster that has had low student participation has been MET. Our 12 numbers reflect ONE senior and 11Juniors. The 11juniors represent a major revamp that we did to the program, partnering with ACM to offer students the opportunity to earn 39 college credits, 11NIMS certifications, and a lower division certificate from ACM in Automated Manufacturing Engineering. In addition, we have had fluctuating enrollment numbers in our Carpentry, HVAC and Graphic Communications programs, with some years having low enrollment.

4. What are the top five priorities you will address in the coming year to expand student participation in CTE programming and reduce participation and/or persistence gaps among students? [*Note: At least one priority area you identify should address the needs of gender, race-ethnicity, or special population groups.]*

Priorities:

1. Examine Change of LEA High School Schedule. For FY25, one of our comprehensive high schools was chosen to run a pilot schedule that aligns with the Blueprint goals, providing more collaboration and planning for teachers. This schedule also provides options for semester and year-long courses for students. During this year, the CCTE principal and CTE supervisor are going to work to explore changing our Tech Center model of and all -day model, to one that would have an AM and PM waves. One of the barriers to CTE enrollment is the resistance for students to leave their home schools to attend the Career Center. This is specifically difficult for students in the music program and students in some sports programs. One obstacle that we have consistently encountered is the fact that each of the three comprehensive high schools have had a slightly different schedule and have only offered 7 periods. By moving to a unified schedule and offering more of a block schedule, we feel this is an opportune time to revisit our Career Center schedule and structure. This, however, would be a huge systematic change.

2. Improve Student Persistence of Economically Disadvantaged Students. This has not been a metric that we have specifically measured or analyzed in the past. However, we have always worked to support students and encouraged them to finish the CTE program, especially if they had made it to the concentrator level. One of the programs that has had the lowest persistence rates has been the PLTW Biomedical Sciences Program. This has been the only CTE program that students begin during their 9th grade year and take their first course in the 4-course, 4-year sequence. Another program to target for improvement is the P -Tech/IT Academy Program.

3. Increase Participation of Special Populations in CTE Programs. One of our main focuses this year will be targeted recruitment of minority students. We will attempt to enact the suggestions that the MOA MSDE team stated they would share with us for ways to improve in this area. In addition, we will work to increase the participation of students with disabilities in our Health and Biosciences Cluster, but more specifically in our largest CTE program - PLTW Biomedical Sciences. Participation of economically disadvantaged students will also be examined in programs where there is an underrepresented amount of students (IT Technology, MET, HBS, and TT).

4. Implement Awareness campaigns to Inform Students About CTE Program Offerings and Benefits Leveraging the lessons and efforts of our Career Coaches, we will use data provided by Career Interests Surveys to provide students with information about careers and how CTE programs can directly prepare them for success in either postsecondary education or employment.

5. ***Targeted recruitment for lower -enrolled programs.*** Historically, there have been several programs that have years of low enrollment (i.e., Graphic Communications, MET, HVAC and Carpentry). Although these programs have in-demand jobs in our area, at times, we have had years where participation levels are lower than desired. One area where we have focused

efforts in the past two years is the MET cluster, revamping our Industrial Manufacturing Program and partnering with ACM to create a dual-enrollment CNC Programming and Operations Program. CTE instructors and administrators will collaborate to evaluate what strategies to use to improve student participation.

NOTES:

A. Depending on your program offerings, you may find it necessary to do a more granular analysis of your data to assist in identifying priorities.

B. Sample strategies that may help you align your priorities, are listed in Appendix B.

Component C: Program Performance

Federal law requires that you collect data on the performance of CTE concentrators. The accountability indicators cover a range of outcomes to help you assess whether students are making educational progress, graduating, and making successful transitions into advanced postsecondary education and training or employment. These include:

1S1: Four-year graduation rate: The percentage of CTE concentrators who graduate high school, as measured by the four -year adjusted cohort graduation rate used in ESSA.

2S1: Academic proficiency in reading/ language arts: The percentage of CTE concentrators achieving proficiency on the Districtwide high school reading/language arts assessment.

2S2: Academic proficiency in mathematics: The percentage of CTE concentrators achieving proficiency on the Districtwi de high school mathematics assessment.

2S3: Academic proficiency in science: The percentage of CTE concentrators achieving proficiency on the Districtwide high school science assessment.

3S1: Post-program placement: The percentage of CTE concentrators who are in postsecondary education or advanced training, military service, a national community service program, or employed in the second quarter after exiting from secondary education[1]

4S1: Nontraditional program concentration: The percentage of CTE concentrators in CTE programs of study that lead to non-traditional fields.

5S1: Attained Recognized Postsecondary credential: The percentage of CTE concentrators graduating from high school who met or exceeded proficiency on industry standards to attain a recognized postsecondary credential.

5S4a: Technical Skill Attainment: The percentage of CTE concentrators graduating from high school who met state recognized CTE standards, including earning and industry-recognized credential.

5S4b: Apprenticeship: The percentage CTE concentrators graduating from high school who participated in an apprenticeship.

To establish performance expectations, MSDE has set performance targets for each indicator based on an analysis of statewide data. All providers are expected to achieve the performance targets established for each indicator. Moreover, to ensure that all students make progress, you are expected to monitor performance on an annual basis.

In the following table, use your District's heatmap to fill in your District's performance on the federal measures. On the heatmap, cells highlighted in green indicate your district met or exceeded the statewide performance level; yellow indicates your district performance did not meet the performance level but was within 90% of the target; and red indicates that your district did not meet the performance level and was less than 90% of the target. Districts failing to achieve the state

[1] Note: this is a lagged indicator, meaning that data should be reported on graduates for the previous academic year. For example, you should report placement data for 2022 graduates in 2023 (i.e., outcomes achieved between October-December 2022).

performance level are expected to develop a program improvement plan to bring them into compliance.

DISTRICT PERFORMANCE BY STUDENT GROUP

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97 %	52.3 %	48.00 %	0.00 %	76.50 %	28.72 %	78.41 %	78.41 %	0.00 %
District Performance	94%	47%	56%	50%	81%	17%	82%	71%	
Gender									
Males	89	49	57	100	73	0	100	88	
Females	99	46	55	33	87	46	67	61	
Race-ethnicity									
American Indian									
Asian									
Black	100		100	0					
Hispanic	100	67					100	100	
Multi-race	67		66			20	50	33	
White	95	49	56	50		17	83	72	

SPECIAL POPULATIONS

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97 %	52.3%	48.00 %	0.00%	76.50 %	28.72 %	78.41 %	78.41 %	0.00%
District Performance	94%	47%	56%	50%	81%	17%	82%	71%	
Economically disadvantaged	100	39	40	50	0	21	76	61	
Multilingual learners									
Individuals with disabilities	100	0	0	0	0	28	67	80	
Nontraditional fields	93	40	30		73	100	67	88	
Single parents									
Out of workforce									
Students served under the McKinney-Vento Act (Unhoused)									
Youth in foster care									
Youth with a parent in active military									
Migrant students									

* Data for the 3S1 indicator reflect outcomes for 2022 graduates 6 months following their graduation.

ACTIVITY C.1: ASSESSING PROGRAM PERFORMANCE

	List
Looking at *overall performance*, on which indicators are you substantially underperforming* the district performance target?	The 2023 target for 4SI was 28.72%. ACPS performance was 17%, underperforming the target by 11.72% The 2023 target for 5S4 was 78.41%. ACPS performance was 71%, underperforming the target by 7.41% The 2023 target for 2S1 was 52.43%. ACPS performance was 47%, underperforming the target 5.3%
Looking at *overall performance* on which indicators are you substantially exceeding the district performance target?	The 2023 target for 1S1 was 89.97. ACPS performance was 98% exceeding the target 4.03% The 2023 target for 5S1 was 78.41%. Acps performance was 82% exceeding the target by 3.59%.

* Substantially underperforming is defined as achieving an outcome that is less than 90% of the district performance target, and substantially over-performing is achieving an outcome that is more than 110% of the district performance target.

ACTIVITY C.2: DETERMINING ROOT CAUSES

1. For each indicator for which you are substantially underperforming the district performance target, identify the key factors that might affect student performance, including any disparities or gaps in performance by program. Ideally, these factors should be the primary drivers of the results that you see.

    - 2S1: Key indicators affecting student performance in reading proficiency typically include socioeconomic status. Our data is consistent with this trend noting that economically disadvantaged students performed at 40%.
    - 4S1: One data point that sticks out immediately is that 0% of our non-traditional males reached the attainment level. This warrants additional investigation and doesn't seem to be accurate. As we develop systems to better collect data, the hope will be that this is an anomaly for this year. The lack of role models and mentors in the nontraditional fields makes it harder for students to envision and navigate that career path. Providing more training programs that adequately address the specific need for non-traditional students would enhance support for students that select that path. Addressing misconceptions and advantages of non-traditional careers would also help support and recruit students.
    - 5S4: While ACPS is overperforming in 5S4 for students with disabilities and non-traditional students, we are underperforming in areas of economically disadvantaged, females, and multi-race. Utilizing the additional tools that assist SWD could be beneficial to students in the underperforming categories.

2. The data provided reflect the performance of all students within your district. Remember that aggregate data can hide considerable variation. As you think about strategies to improve performance, consider how program performance might differ within programs of study. Might some programs be performing above or below the site average?

    - 5S1: One of the largest discrepancies is our overall female attainment rate for attainment of a postsecondary credential of 67% while our LEA average is 82%. Again, it is strange that the male attainment is 100%. This does not seem accurate.
    - 4S1: As a district, we are underperforming in the category, however Human Services is overperforming by 10% of the state. Female enrollment has increased in this program. We have seen an increase in female police officers in our local law enforcement agencies as well as female representation in C31, resource officers, and other agencies that support our program.
    - 5S1: As a district we are overperforming in this category, however Hospitality is dramatically underperforming at 17%. Part of this was due to the TSA changing to an IRC for the Servsafe testing. Students struggled with the test. During this academic school year, instruction concentrating on preparing the students for this new exam and we predict performance will be much better.
    - 3S1: Again, as a district we overperformed in the category, however Transportation Technologies underperformed at 65%. The goal was to connect more industry partners with the programs that will provide more opportunities for students after graduation. Additionally, new dual enrollment classes have been identified through ACM that will enable seniors in the 24/25 school to take 2 courses in their Automotive Technology program.

3. Resource constraints may affect the activities you might undertake. What might be the most efficient and effective approach to making changes (e.g., taking into consideration the relative size of your program enrollments?

    Programs benefit from the expertise and the real-world insights from industry partners. Utilizing the LAC and PAC can significantly enhance the effectiveness and quality of the career programs. Expanding the support of these committees will assist with internships, apprenticeships, and job shadowing. By effectively leveraging PAC's and LAC's, educational institutions can create robust support systems that enrich programs, enhance student experiences, and meet the evolving needs of the workforce.

4. What are the top five priorities you will address in the coming year to improve student performance outcomes on indicators on which you are substantially underperforming? [*Note: At least one priority area you identify should address the needs of gender, race-ethnicity, or special population groups.]*

NOTE: Sample strategies that may help you align your priorities, are listed in Appendix C.

Priority 1: Increase student success on Perkins Indicator 5S1 Attained Recognized Post Secondary Credentials.

As part of reaching the Blueprint goal of 45% of students earning an industry recognized credential, ACP will evaluate program success on IRCs and provide support to programs and students who are not meeting state attainment levels.

Priority 2: Increase Participation and Completion of Apprenticeships

For FY23, we had three participants in AMP. For FY 24 we had one completer in AMP. ACPS will continue to meet with potential employers and students to promote the Apprenticeship Program to students. Recruitment effor ts and social media advertising will be used to inform the public about the value of apprenticeships.

Priority 3: Increase Dual Enrollment Success for CTE Students

Provide support and monitoring for CTE students taking Dual Enrollment courses. Many of our CTE students are first generation college students and do not have the home support to monitor college classes. The plan is to have one teacher be a liaison between ACPS and ACM to monitor student performance during the semester and to create a plan for improvement if needed.

Priority 4: Increase the percentage of CTE concentrators who are transitioning into advanced training or employment following graduation

Although the data 3SI suggests we are meeting the target, this data is hard to ensure accuracy . One LEA goal is to track this data to have an accurate reflection of students post secondary placement. On a microlevel, each CTE program will attempt to contact former graduates to confirm status. A goal for each of our CTE programs is to have a high pe rcentage of students who are either working in the industry or continuing with postsecondary education.

Priority 5: Increase CTE concentrator performance on 2S1 Academic Proficiency Reading/Language Arts

One initiative for ACPS has been its focus on incre asing student proficiency in ELA. We will use the strategies provided through TNTP given to ELA secondary teachers and incorporate them into CTE lessons in order to reinforce concepts and improve academic proficiency.

Component D: Recruiting, Developing , and Retraining CTE Educators

The quality of your CTE programming depends upon the skills of your workforce. This extends to all members of your educational team, including secondary teachers, support staff, paraeducators, professional school counselors, and more. Ideally, staff should also be representative of the populations served and retained over time to promote program sustainability.

ACTIVITY D.1: REVIEW DATA ON CURRENT STAFF

Reviewing current staff demographics is critical to understanding where there are opportunities to strengthen staff skills and diversify your workforce. Create a separate table for each CTE Career Cluster or program of study offered.

NAME OF CAREER CLUSTER OR CTE POS:					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male					
Female					
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White					
Credential					
Properly Licensed					
Granted Temporary Waiver					

***ACPS does not currently have this data broken down by CTE cluster. One major concern is that in many of our clusters, we only have ONE or TWO staff members. Here is a link to our Diversity Report for 2023 that breaks down hiring practices and demographics of our employees.

ACTIVITY D.2: ASSESS EDUCATOR SUPPORT OPPORTUNITIES

It's critical to create consistent opportunities that allow your staff to maintain their licensure and grow within this field. Professional development is a key strategy for retention and ensuring a high-quality workforce.

Based on your knowledge of professional licensure requirements and the availability of content-specific professional development opportunities across clusters, rate the extent to which you strongly agree or disagree with each statement. Where applicable, please add an explanation for your assessment with examples.

	Strength	Area for Improvement	Explanation
Staff acquire content-specific professional development required to maintain licensure.	•		
Staff are aware of the requirements to maintain endorsement.	●		
Staff have equal access to content-specific professional development opportunities across industries.	•		
Data are collected on the effectiveness of professional development to ensure it meets the needs of educators.		•	Although we survey teachers about the professional development they receive throughout the school year, we could definitely improve in the collection of data for PD effectiveness. Many PD sessions pertain to LEA initiatives for the school year and are revisited and reinforced during classroom observations and walkthroughs.

ACTIVITY D.3: REFLECTION

Based on your responses in this section of the needs assessment guide, consider the following questions:

1. Does your staff demographic characteristics reflect the students they serve across programs of study?

This has been a challenge for us in Allegany County. Right now, we have less than 3% of staff in the county as minorities. Although our minority population is not huge in Allegany County, it is significantly larger than 3%. The majority of our new teachers come from Frostburg State University which has seen a dramatic drop in enrollment in their teacher education program. Our HR department has traditionally done most of their recruitment at FSU, but has begun initiatives to attend career fairs in more urban areas in the hopes to attract a more diverse staff.

2. Are instructors adequately credentialed, including licenses, certifications, or endorsements for the courses they're teaching? If not, what mechanisms can be put in place to get them endorsed, or what recruitment efforts are necessary to attract properly credentialed instructors?

This is an area of strength for ACPS. It has only been recently that we have struggled to fill all of our openings with certified teachers, due to our close relationship with FSU and their placements of most of the interns in our schools. However, for some areas (i.e., tech ed, family consumer science, library media, special ed), we have hired certified teachers, but many were not originally certified in their hired area. For CTE teachers, most of our new hires were required to take additional courses to get fully certified.

3. To what extent does your school offer regular, substantive content-specific professional development opportunities? Do all staff members have equal awareness of, and opportunities to participate in content-specific professional development opportunities, necessary to maintain their industry credentials and endorsements?

For CTE teachers, we encourage and support any content-specific professional development that a teacher wants to do. We have consistently leveraged the Reserve Grant and also have local funds to send teachers if an opportunity arises and we did not plan for it through Perkin's. Most professional development sessions throughout the year relate to LEA initiatives on instruction which may not directly pertain to their content area, but are essential to improve instructional practices.

4. What barriers exist to offering and participating in content-specific professional development?

One barrier that exists is the timing or schedule of the content-specific PD. For the past several years, our LEA has restricted PDs to non-school hours. This policy was enacted due to a limited amount of substitute teachers available and the goal to have students with consistent high-level instruction by keeping teachers in their classrooms and not at PD sessions. At times, teachers have not been able to

attend a content-related PD due to it not being available in the evenings or during the summer. In addition, there are some areas that have very limited offerings for true content-specific PD.

5. What are the top five priorities you will address in the coming year to improve student performance outcomes on indicators on which you are substantially underperforming? [*Note: At least one priority area you identify should address the needs of gender, race -ethnicity, or special population groups.]*

NOTE: Sample strategies that may help you align your priorities, are listed in Appendix D.

1. Support for New Teachers. Provide additional support to new CTE teachers or veteran teachers who are new to the CTE curriculum. Support will be provided by teacher mentors, supervisor monitoring visits and additional support using new technology programs or resources.

2. Recognition of CTE Teachers. Use social media and other means to recognize the outstanding job that many of our CTE teachers have done and highlight the positive impact they have had on students.

3. Recruitment of Diverse Teachers. Working with HR and the initiatives they have instituted to recruit a diverse population of teachers, we will strive to showcase the many positive elements of teaching and try to recruit top performers in the industry. We will lean on industry partners and LAC members to sp read the word and recommend industry experts who would be a good fit for open CTE positions.

4. Offer targeted professional development to support new and veteran CTE instructors in strengthening their teaching skills. Professional development is an esse ntial component of the LEA and one of the requirements for all teachers. For CTE teachers, we will continue to examine content -specific sessions that provide both instructional and industry -related material to positively

5. Encourage Teacher and Student Participation in CTSOs. Recognizing the importance of students participating in CTSOs, we will continue to encourage teachers to take an active role in preparing students for competitions.

Next Steps

With the completion of the CLNA), you are now poised to embark on the crucial next phase of securing Perkins V funding. This stage involves translating the insights and findings from the CLNA into actionable and strategic plans.

UTILIZING CLNA ANALYSIS FOR LOCAL PERKINS APPLICATION S.M.A.R.T.I.E. GOAL SETTING

The first step for LEAs is to use their CLNA analysis to formulate S.M.A.R.T.I.E. goals. These goals should be Specific, Measurable, Achievable, Relevant, Time-bound, Inclusive, and Equitable. The essence of this process is to ensure that the goals set for CTE programs are not only aligned with the identified needs and opportunities but are also focused on inclusivity and equity.

LEAs should look at areas highlighted in the CLNA, such as skill gaps, program areas needing enhancement, and disparities in student participation and success rates. From here, specific goals can be set. For example, if the CLNA indicated a gap in technology-related skills among students, a S.M.A.R.T.I.E. goal could be to increase enrollment in technology-focused CTE programs by 15% within the next two years while ensuring equitable access for all student groups.

CONNECTING GOALS TO AN ANNUAL BUDGET FOR PERKINS FUNDING

Once S.M.A.R.T.I.E. goals are established, LEAs must then align these objectives with an annual budget for Perkins funding. This budgeting should be a reflective exercise, considering not just the cost of program enhancements but also the broader resources required to meet these goals. This includes faculty development, curriculum updates, equipment purchases, and any necessary infrastructure improvements.

For instance, if one of the goals is to enhance a manufacturing CTE program, the budget may include expenses for new machinery, professional development for educators to teach advanced manufacturing techniques, and outreach initiatives to increase program enrollment.

ENSURING ALIGNMENT WITH PERKINS REQUIREMENTS

Throughout this process, LEAs need to ensure that their plans align with the requirements of the Perkins V Act. This means that the goals, strategies, and budgeted activities should contribute to developing more effective and equitable CTE programs, as stipulated by Perkins V.

Appendix A: Sample Strategies for Component A: Labor Market Alignment

PROBLEM: EXISTING CTE PROGRAMS ARE NOT ALIGNED TO MARYLAND'S LABOR MARKET PROJECTIONS.

Root Cause	Strategy	Sample Activities	Resource	Description
The district maintains programs that have been historically offered but are no longer aligned to Maryland's labor market needs	Sunset programs that are no longer preparing students for high-skill, high-wage in-demand careers	• Analyze program enrollments, standards, postsecondary pathways, and employers to assess whether sunsetting is warranted. • Develop strategy and timeline for sunsetting a program and internal and external communication plans to share information. • Explore alternative educational options for students currently enrolled that will allow them to transition to other programs. • Consult with the union and educators to arrange transition options, which may include reassignment or retraining. • Review state regulations and district policies to identify barriers to sunsetting programs	How to sunset an educational program	This blog post describes considerations in sunsetting and educational programming, including warning signs of need, considerations before moving forward, and concrete steps to take when a decision to discontinue is made.
	Introduce new programs that are aligned to Maryland or regional employment projections	Review Maryland state and/or regional economic and workforce projections to assess current and future workforce needs	Maryland Occupational Projections 2020-2030	The State of Maryland publishes occupational projections that indicate changes in employment. Use this interactive website to identify careers anticipated to grow in the coming years.
		Recruit industry partners in high-wage, high skill, in-demand fields to offer guidance on new program design and adoption	Cheat Sheet: Opportunities for Employer Involvement in CTE	Use this factsheet developed by Advance CTE and ACTE to identify strategies for engaging employers in CTE programming.
		Support existing teachers in updating their certifications in new fields, hire new CTE	Maryland CTE Teacher Certification	Maryland has identified eight types of CTE certifications.

		teachers with requisite skills, and explore other hiring options		Consult this document to see the expectations by CTE Program of Study.
		Review strategies developed by other states to align programs with labor market needs	Georgia Alignment Toolkit	Georgia has compiled a toolkit to help schools align programs to best serve students and local business. Includes a report and worksheets.
The cost of introducing new programs is prohibitive	Identify new funding sources	Use Maryland's Perkinsreserve grants to fund new programs.	Maryland Grant Information Guide: Perkins Reserve Grant FY 2024	This document describes how Maryland is using its Perkins Reserve funds to support new programs. Consult it for ideas to pursue funding in future years.
		Seek to braid funding from other federal legislation (e.g., Adult Education, Workforce), federal grant programs (e.g., Institute of Education Sciences (IES) CTE grant competitions), and philanthropic organizations	IES Research Programs Maryland Foundation Grants	The federal government periodically offers funding to support research into CTE programs. Review the IES webpage to get an idea of the types of funding that exist and how you might apply. Foundation grants also may exist within Maryland. See the grants page maintained by the Governor's Grant Office for potential funders
		Work with industry partners to obtain donations of materials and supplies.	Employer Engagement in CTE	This report from Advance CTE profiles ways that employers may support educational programming.

PROBLEM: CTE PROGRAMS ARE NOT PREPARING STUDENTS FOR THE HIGH-SKILL, HIGH-WAGE, IN-DEMAND OCCUPATIONS IDENTIFIED IN STATE EMPLOYMENT PROJECTIONS.

Root Cause	Strategy	Sample Activities	Resource	Description
Instructional resources are outdated and do not	Update program standards, curriculum,	Review related program offerings in high-	Maryland CTE Performance Dashboard	Maryland has developed this interactive CTE

prepare students to enter or retain employment in high-wage, high-skill, and/or in-demand fields	assessments, certifications, and links to postsecondary programs	performing Maryland districts.		dashboard that lists performance by cluster, program and student group. Use this resource to identify districts and colleges that are attaining high levels of performance.
		Create and use employer advisory boards to inform necessary updates	Strategies for Developing Employer Partnerships Michigan Program Advisory Toolkit	The CTE Technical Assistance Center of New York created a comprehensive website with resources to support educators in engaging with employers. Similarly, Michigan has created a toolkit with guidance and tools you may adapt for your own use.
		Review program resources in other states to identify potential instructional design resources	Texas CTE Administrative Code	Texas has specified the knowledge and skills to be taught in CTE programs. Use this website to find examples of required skills by cluster, programs, and course.
	Offer professional development to assist CTE educators in upgrading their curricular resources	Engage industry experts to review curriculum and offer recommendations to strengthen offerings	Increasing Access to Industry Experts in High Schools http://wbltoolkit.cte.nyc/workpl ace-tour/	This report by Advance CTE profiles state strategies to recruit industry experts. Consult it to gain insights on promising strategies that might be adapted for district or college use.
		Consult with local business to offer workplace tours or	Teacher Externship Industry Partner Planning Guide	South Dakota has developed this resource to support educators and

		externships for instructors	http://wbltoolkit.cte.nyc/workplace_-tour/	employers in developing externship opportunities

Appendix B: Sample Strategies for Component B: Student Participation and Persistence

2024 - 2026

PROBLEM: STUDENTS AR E NOT PARTICIPATING IN CTE PROGRAMMING.

Root Cause	Strategy	Sample Activities	Resource	Description
Students lack awareness of CTE programming and the benefits of program participation	Implement awareness campaigns to inform students about program offerings and benefits	Offer career exploration activities in the middle grades to expose students to career options and the benefits that participation in CTE offers.	Middle School CTE design options and resources	ACTE has developed resources to support educators in expanding CTE options in the middle grades. Offerings include program design principles, a repository of state-level strategies, research studies, examples of ways to implement and improve programs, and podcasts and webinars.
		Schedule informational sessions for entering 9th grade students to introduce them to school CTE offerings.	Freshman Cruise	Roseburg Public Schools (OR) takes all 9th grade students on a 'cruise' of CTE offerings to allow students to meet teachers and learn about CTE studies that are available.
		Schedule career fairs and informational events to help students learn about CTE offerings.	Career Fair Options	Gainesville High School (AL) offers students a career fair experience to introduce them to CTE options. See the video to learn about their approach
		Create online assetsthat	CTE Options at my School	Fairfax County Public

		support students in identifying the CTE opportunities at their school.		Schools (VA) hosts a webpage that helps students learn about CTE programs offered in their school replete with videos and detailed program descriptions.
Families and educators do not appreciate CTE's benefit and discourage youth from enrolling	Improving messaging to families, community groups, and educators to help them understand the benefits CTE confers	Undertake a comprehensive marketing campaign to educate families about CTE	CTE VisionToolkit CTE Marketing Best Practices & Campaigns	Advance CTE has created a 5-part series of issue briefs and posters detailing how CTE contributes to students' success and strengthens our nation's economy. Washington State has developed this playbook detailing strategies and providing resources to promote CTE programs to students, parents, and educators.
		Host CTE Signing Days to celebrate and publicize CTE students who demonstrate their intent to enter a postsecondary institution to continue their studies or take a job with a community employer	CTE Letter of Intent Signing Day: College CTE Signing Day: Employment	Linn Benton Community College (OR) publicly recognizes high school seniors who sign letters of intent to guarantee a spot in the coming semester. Similarly, SkillsUSA holds a national signing day for students planning to enter employment, apprenticeship, or advanced technical training. Calvert Career and Technology Academy (MD) participated in such an event to honor its students.

Students are notprovided career guidance that supports them in choosing CTE as an educational pathway.	Educate high school guidance counselors on the benefits that CTE offers and the advanced education and employment options that students may follow.	Develop and conduct professional development for school counselors aimed at increasing awareness and benefits of CTE programs.	School Counselor Playbook: Unlocking Career Success	Unlocking Career Success offers this playbook that includes practical tools, resources, and information to assist counselors in discussing college and career pathways with students.
		Design tools and resources for counselors to use in their career exploration activities with students that highlight CTE offerings.	ACTE High Quality CTE: Student Career Development	ACTE offers webinars, online courses, toolkits, and more designed to support counselors and college/career navigators as they offer guidance to students.

PROBLEM: STUDENTS AR E NOT PERSISTING IN CTE PROGRAMS.

Root Cause	Strategy	Sample Activities	Resource	Description
Historically underrepresented students or those with special needs do not feel welcome in CTE programs.	Remove obstacles to success for students who may need additional supports to persist.	Implement evidence- based strategies to support special population students in succeeding in CTE programming.	Maximizing Access & Success for Special Population Students Strategies for Special Population Success Recruiting Special Populations into CTE: Toolkit	Advance CTE and ACTE have partnered to offer a series of briefs offering definitions, strategies, and guiding questions to assist educators in supporting special population students. The National Alliance for Partnerships in Equity created this brief documenting the obstacles students with special needs face and tools CTE educators may apply to

				recruit and retain youth. The Ohio Department of Education has developed this toolkit to promote the recruitment of special population students into CTE programs. Use it to find ideas for using data and leveraging
		Explore why students from some racial-ethnic groups face obstacles in CTE programming and take steps to address them.	A Guide to Discussing Racial Equity	Review this guidebook to learn how to hold discussions around racial equity to identify.
		Conduct a curricular review to identify and remove unintentional gender bias.	Assessing the Enrollment and Retention of Nontraditional Learners	The Wisconsin Technical College System has developed a tool that educators can use to assess the adoption of promising practices to increasing enrollments and retention of nontraditional learners based on their gender.
Students do not understand the personal and economic benefits of completing advanced coursework and entering the field.	Offer students mentors and real-world workplace experiences to inform their career decisions.	Pair students with mentors who can offer them one-on-one guidance to encourage them to pursue a career.	Partnering Students with Industry Mentors	Parkways School District (MO) connects students with industry mentors who provide guidance, connections, expertise, and course supports intended to motivate youth to solve real-world problems.
		Place students in authentic work-based learning (WBL) experiences, including internships and apprenticeships, to help them learn about the benefits from obtaining	Work-based Learning Toolkit	The U.S. Department of Education created this resource to support state and local program administrators in learning about WBL, engaging employers, measuring

		advanced skills.		outcomes, and scaling effective practices.

Appendix C: Sample Strategies for Component C: Program Performance

2024 - 2026

PROBLEM: CTE CONCENTRATORS ARE UNABLE TO ACHIEVE PROFICIENCY ON STATE ACADEMIC PERFORMANCE STANDARDS.

Root Cause	Strategy	Sample Activities	Resource	Description
Students are not provided with academic content as part of their CTE coursework	Integrate academic content into CTE programming offered at all levels.	Review current efforts to integrate academic and CTE instruction and take steps to address ineffective practices. Incorporate reading and writing activities, technical manuals, industry-related texts, and project-based assignments that require critical thinking and communication skills. Incorporate math skills into CTE classrooms. Encourage collaboration and co-teaching between CTE and academic teachers.	CTE and Academic Integration Self-Assessment Rubric ACTE Integration of Academics and CTE Section Math-in-CTE	New York has developed a four-level rubric that educators can use to assess the status of district/college integration of academic skills in CTE programming. ACTE hosts a virtual collaboration to share ideas and effective practices. Visit the Resource Section to download tools to fuel your integration efforts. The Southern Regional Education Board has developed curricular tools that enhance the teaching of math that is already embedded in CTE programs.
		Use results from academic assessments to target educational remediation so that high school students enter college ready to learn.	Rigorous K-12 Assessments Help Reduce Remediation	This brief from offers examples of how higher states are 11th grade test results as a college readiness signal and as a means of targeting services for at-risk youth
Students face financial or geographical barriers that prevent them from pursuing an industry-	Identify obstacles to students earning an industry recognized credential and take steps to	Use Maryland's Perkins V basic grant to fund student attainment of an industry-recognized credential.	Maryland CTE Perkins Reserve Grant Information Guide	Maryland offers a competitive grant program that includes options for using funding to strengthen

recognized credential.	resolve them.	Develop strategies to identify students who may face challenges in paying for exams and find ways of offsetting costs. Work with exam providers, employers, and community organizations to provide fee waivers or scholarships for certification exams, materials, and training courses. Work with credentialing vendors to expand testing sites and administer exams in convenient and accessible locations.	Credential Currency: Promoting Credentials of Value Aligning State CTE Programs with Industry Needs and Priorities	the award of industry-recognized credentials in POS. This report offers strategies to expand student obtainment. While focused on the state level, some recommendations may be adapted for district/college use. ExcelinEd produced this toolkit to support states in aligning CTE programs with industry needs and priorities. While intended for state policymakers, some recommendations may be adapted for use at the district/college level.

PROBLEM: STUDENTS AR E NOT EARNING INDUST RY-RECOGNIZED CREDEN TIALS.

Root Cause	Strategy	Sample Activities	Resource	Description
Students face financial or geographical barriers that prevent them from pursuing an industry-recognized credential.	Identify obstacles to students earning an industry recognized credential and take steps to resolve them.	Use Maryland's Perkins V basic grant to fund student attainment of an industry-recognized credential. Develop strategies to identify students who may face challenges in paying for exams and find ways of offsetting costs. W ork with exam providers, employers, and community organizations to provide fee waivers or scholarships for certification exams, materials, and training	Maryland CTE Perkins Reserve Grant Information Guide Credential Currency: Promoting Credentials of Value Aligning State CTE Programs with Industry Needs and Priorities	Maryland offers a competitive grant program that includes options for using funding to strengthen the award of industry-recognized credentials in POS. This report offers strategies to expand student obtainment. W hile focused on the state level, some recommendations may be adapted for district/college use. ExcelinEd produced this

		courses. Work with credentialing vendors to expand testing sites and administer exams in convenient and accessiblelocations.		toolkit to support states in aligning CTE programs with industry needs and priorities. While intended for state policymakers, some recommendations may be adapted for use at the district/college level.

PROBLEM: CTE CONCENT RATORS ARE NOT TRANS ITIONING INTO ADVANC ED TRAINING OR EMPLO YMENT FOLLOWING GRADUATION.

Root Cause	Strategy	Sample Activities	Resource	Description
Students do not understand the steps needed to pursue a career.	Offer workplace experiences and access to career planning tools to help students plan for labor market entry.	Develop in-school and worksite experiences that help students understand the world of work and how to prepare for the transition to employment following graduation.	Maryland's Work-based Learning Continuum	This resource describes the research, common practices to support students in learning about work, and tools to help in career seeking and advancement.

Appendix D: Sample Strategies for Component D: Recruiting, Developing, and Retaining CTE Educators

2024 - 2026

PROBLEM: IT'S DIFFIC ULT TO RECRUIT CTE E DUCATORS.

Root Cause	Strategy	Sample Activities	Resource	Description
Salaries in the private sectors are higher than for educators in the same field, making it difficult to attract educators.	Develop a range of teacher recruitment strategies that motivate individuals to pursue a CTE instructional career.	Offer bonuses for specific fields or tuition reimbursement for teachers trying to get credentials. Consult with employer advisory groups for potential teacher candidates. Create a 'grow your own' initiative to recruit instructors. Hire a recruiter to identify potential applicants. Conduct outreach to entice retiring industry workers or those seeking a change to enter the field.	36 CTE Teacher Recruitment Strategies	The Oklahoma Department of Career and Technology Education developed this list of CTEteacher recruitment strategies compiled from expert resources.
The pool of CTE educators is small, making it difficult to hire new instructors.	Identify non-traditional pathways for teachers to earn the necessary credentials to become a CTE educator.	Launch a targeted CTE teacher recruitment campaign to motivate educators and industry professionals to become teachers. Engage with local industry to pair experienced workers with current to support their development	Teach CTE Recruitment Toolkit Becoming a CTE Teacher in Maryland	ACTE has created this toolkit to raise awareness of CTE teacher shortages and provide tools to build interest in the profession. The Maryland Division of Career and College Readiness has created this guidance document that summarizes teacher

		and ability to teach in new fields. Explore the multiple pathways to becoming a CTE teacher in Maryland. Develop alternative pathways to certification for individuals with industry experience who lack teaching credentials.		certification options for each CTE program of study offered in the state.

PROBLEM: NEW CTE EDUCATORS LACK ACCESS TO PROFESSIONAL DEVELOPMENT SUPPORTS TO STRENGTHEN THEIR INSTRUCTION.

Root Cause	Strategy	Sample Activities	Resource	Description
Individuals transitioning from industry may lack the pedagogical skills to succeed in the classroom.	Offer targeted professional development to support new CTE instructors in strengthening their teaching skills.	Pair new first and second year CTE teachers with seasoned veterans who can serve as mentors and provide resources and guidance. Facilitate networking events, conferences, and workshops where CTE educators can connect with colleagues, share best practices, and collaborate on innovative teaching strategies.	CTE TEACH Mentor Programs	The Colton-Redlands-Yucaipa Regional Occupational Program (CA) partners with the California Department of Education to offer mentorship supports and professional development for new CTE teachers.
CTE educators are unable to offer academic credit to students taking CTE	Create policy and practices to support CTE educators in offering academic	Pair academic and CTE educators to design courses that allow students	Credit Quandaries: How CTE Instructors can Teach Academic Credit	This document from the Center on Great Teachers & Leaders explores

coursework.	credits.	to earn academic and technical credit simultaneously.		strategies that states and districts are using to enable CTE teachers who lack the necessary credentials to award academic credit for their courses.

PROBLEM: THE TURNOVER RATE IS HIGHER FOR EDUCATORS WHO IDENTIFY AS PEOPLE OF COLOR.

Root Cause	Strategy	Sample Activities	Resource	Description
Educators who are nontraditional for their field are not recruited and those who begin are not offered supports to persist in the occupation.	Undertake targeted efforts to recruit individuals who are nontraditional for their field.	Promote CTE as a career choice by collaborating with professional organizations to promote CTE teaching careers and develop pathways to teacher preparation programs. Offer professional development targeted to address the needs of nontraditional educators, which include creating inclusive workplaces and offering mentoring and professional learning communities.	State and Local Strategies for Diversifying the CTE Educator Workforce Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color	This document identifies issues and offers solutions for diversifying the secondary CTE educator workforce. Includes suggested activities to both promote recruitment and retention of teachers. The Learning Policy Institute created this resource to support diversifying the teaching profession overall. Use it to find options that might apply to the CTE workforce.

Appendix E: Additional Resources

While specific evidence-based resources may vary depending on the context and location, several organizations and research institutions focus on educational best practices, including those related to Career and Technical Education (CTE). Here are some resources and organizations that often provide evidence-based insights:

Advance CTE

The State CTE Directors association offers a wealth of resources in their learning center.

Website: Advance CTE

American Institutes for Research (AIR) - Educator Quality:

AIR conducts research on various aspects of education, and their educator quality resources often include evidence-based strategies for teacher retention.

Website: AIR Educator Quality

Association for Career and Technical Education (ACTE):

ACTE provides resources and research related to CTE.

Website: Association for Career and Technical Education

CTE Research Network

Federally funded website focused on strengthening CTE research.

Website: CTE Research Network

Learning Policy Institute (LPI):

LPI conducts research on education policy and practice. Their reports and publications often include evidence-based recommendations.

Website: Learning Policy Institute

National Center for Education Statistics (NCES)

The NCES, part of the U.S. Department of Education, offers data and reports on various aspects of education. Their website is a valuable resource for accessing national education statistics.

Website: National Center for Education Statistics

National Comprehensive Center for Te acher Quality (TQ Center):

The TQ Center focuses on improving teacher quality and effectiveness. They offer resources and research on teacher recruitment and retention.

Website: National Comprehensive Center for Teacher Quality

RAND Corporation - Education Research:

RAND Corporation conducts research on various education-related topics, and their reports often include evidence-based insights.

Website: RAND Education

Regional Education Laboratories (RELs):

Funded by the U.S. Department of Education, the RELs conduct research and provide resources on various educational topics.

Website: Regional Education Laboratories

What Works Clearinghouse (WWC):

WWC reviews and assesses the quality of educational research. While it covers various educational topics, it can be a valuable resource for finding evidence-based practices related to teacher retention.

Website: What Works Clearinghouse