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 that:

- 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

	Strategies	Outputs	Short-Term Outcomes	Long-Term Outcomes	Impacts
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 the 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.101)
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

QUALITY
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
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	Paul C. Edwards
Organization	Garrett County Public Schools
Title	Director of Secondary Education, CTE, and Athletics
Email	paul.edwards@garrettcountyschools.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 fulfill 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)	Ryan Wolf	Principal	Southern Garrett High School
	David Yoder	Principal	Northern Garrett High School
	Brian Schilpp	Assistant Principal	Northern Garrett High School
	Steve Skipper	Assistant Principal	Southern Garrett High School
Professional career or academic counselor	Jon Hinebaugh	Career Coach	Northern Garrett High School
	Mary Keller	Career Coach	Southern Garrett High School
	Noelle Bell	Guidance Counselor	Southern Garrett High School
	Kaitlin Shirko	Guidance Counselor	Northern Garrett High School
Teachers	Becky Yost	Teacher	Northern Garrett High School
	Tim Sisler	Teacher	Northern Garrett High School
	Lindsay Krisher	Teacher	Southern Garrett High School
	Loren Bowser	Teacher	Southern Garrett High School
Instructional Support and Paraprofessionals (Psychologists, Social Workers, etc.)	Cathy Dom	Administrative Assistant	Garrett County Public Schools
	Jessica Zimmerman	Student Data Specialist	Garrett County Public Schools
	Dr. Alyson Martz	Psychologist	Garrett County Public Schools

POSTSECONDARY

Role	Name	Title	Affiliation
Administration (e.g., dean, division chair)	Christa Bowser	Chief Academic Officer	Garrett College
	Julie Yoder	Dean of Continuing Education and Workforce Development	Garrett College
	Bill Rocks	Dean of Continuing Education	Allegany College
	Renee Conneway	Director of Recruitment	WVU (Davis School-Agriculture)
Faculty	Melissa Wass	Director of Admissions	Garrett College
	Debra Swope	Instructor	Allegany College
	Rich Lewis	Professor	Garrett College
	Dr. Robert Dailey	Professor	WVU

WORKFORCE

Role	Name	Title	Affiliation
Local Workforce Development board member	Connor Norman	Business Development Specialist	Garrett County Economic Development
	Andrew Fike	CEO	Garrett County Chamber of Commerce
	Jennifer Walsh	Executive Director	The Greater Cumberland Committee
*Regional Economic Development organization member	Kim Durst	Representative	Western Maryland Consortium
Local business & industry representative	Jared Fike	Executive Vice President	Beitzel Corporation
	Brian Bailey	CEO	Mt. Laurel Medical Center
	Emily Newman	Director of Operations	Fronterra Resources

OTHER

Role	Name	Title	Affiliation
Parent or caretaker	Gregg Hostetler	Parent	Northern Garrett High School
Student	Ava Elliott	Student	Northern Garrett High School
Representative of Special Populations	Dr. Chelsie Manges	Director of Special Education	Garrett County Public Schools
Out-of-School youth / unhoused youth / corrections	John Hummel	Director of Pupil Services	Garrett County Public Schools

* 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 35 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 '<35*

Program	Alignment to current statewide industries (enter ✔)			Number of CTE participants 2022-23	Percent of all CTE Participants 2022-23
Example	HS	HW	ID		
Agriculture	√	√	√	133	10.61%
Allied Health	√	√	√	23	1.84%
Automotive	√	√	√	102	8.14%
Biomedical Science	√	√	√	141	11.25%
Business Administrative Services	√	√		*	*
Business Management	√	√	√	93	7.42%
Carpentry	√	√		114	9.1%
Computer Science	√	√	√	231	18.44%

Culinary	√	√	√	108	8.62%
PLTW Engineering	√	√	√	163	13.01%
Finance/Accounting	√	√	√	*	*
JROTC	√			67	5.35%
Machining	√	√		69	5.51%

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?

Program/CIP Code	Adding or deleting	Rational for change
Business Administrative Services/520451	Deleting	Years of low enrollment and low completion rate.
Business Management/520251	Deleting	Low completion rate and GCPS has partnered with Garrett College to offer a dual enrollment program in Business Administration.
Finance and Accounting/520354	Deleting	Years of low enrollment and low completion rate.
PLTW Engineering/155000	Deleting	Years of low completion rate coupled with high cost to maintain. GCPS has also partnered with Garrett College to offer a certificate program in Engineering.
Emergency Services Training-High School Cadet/430250	Adding	Request from local fire companies and county government.
Apprenticeship MD/860500	Added	Community needs and Blueprint mandate. GCPS added this in 2023-2024.

Restaurant, Culinary, and Catering Management/ 120504	Adding (expanding)	Garrett County's economy is dominated by the hospitality industry. SHS currently has culinary arts and the LAC strongly recommends expanding it to NHS, as well.

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	**X**		
Processes are in place to identify and expand high school level registered apprenticeship opportunities.	X		
Processes are in place to update or phase out CTE POS that do not align with HS/HW/ID industries	**X**		
A majority of our students are concentrating in POS aligned to HS/HW/ID industries	X		
Processes are in place to recruit business and industry stakeholders to participate on Program Advisory Committees	**X**		Processes are in place, but COVID disrupted the regular meeting of the PAC's, which is causing a reconstitution of some of the 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)?

   The Advisory group was resolute that local data shows that carpentry and machining are in demand in the region. From Kim Durst, who represents the Western Maryland Consortium workforce development board:

   "Citing the Maryland Department of Labor/U.S Bureau of Statistics Q3 2023 Garrett County Quarterly Census of Employment and Wages:

   Construction:

- ***There are 176 construction establishments in Garrett County, surpassed only by Trade, Transportation, and Utilities (231 establishments) and Professional and Business Services (188 establishments).***
- ***Average quarterly employment for construction is 1,174 jobs.***

   Manufacturing:

- ***There are 40 manufacturing establishments in Garrett County.***
- ***Average quarterly employment for manufacturing is 692.***

   Machining is a large part of Garrett County's manufacturing industry, but machining is not specifically set out in the data. We know, however, that Garrett County's largest employers- Beitzel, Pillar, Phenix, Garrett Container Systems- and some smaller ones- Quality Machining, Greater MD Tool- are heavily dependent upon machinists."

   Also, there was much discussion about anecdotal evidence that JROTC, although not specifically a military training program, did see many students who were interested in a career in the military, which is desperately in need of recruits. This, again anecdotally, would suggest that it is in demand. Another point on JROTC that was intriguing and well received is that JROTC is a leadership program, and that leadership is always in demand. Furthermore, representatives from the Garrett County Economic Development department pointed out that the median Garrett County household income is $58.011 according to dateusa.io (which pulls census data). Successful completion of JROTC may allow students to enter the armed services as an E-3, which has a base pay salary of $25,530 which is comparable as an individual compared to the average household (typically 2 income) Garrett County income; however, opportunities through the military for advancement have higher levels of compensation that will take them far above and beyond what they can make on an average locally.

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?

1. ***GCPS will expand culinary arts to Northern Garrett.***

2. ***GCPS will add Emergency Services Training- High School Cadet, which is HS and ID according to the MD CTE Data Website, and it is also HW regionally.***

3. ***GCPS will add more local businesses to the Apprenticeship program and increase marketing efforts to attract more students to participate. These opportunities reside in STEM fields, which meet all three criteria.***

4. ***GCPS will partner with Allegany College of Maryland to articulate credit for the college intro to Automotive course, which will be marketed to students to recruit more students to that HS/HW/ID program.***

5. ***GCPS will partner with WVU to articulate credit for four different courses in their agricultural program, which will be marketed to students to recruit more students to that HS/HW/ID program.***

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

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 35 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 '<35 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%			240	100%	100%	83.75%
Gender								
Male	28,576	82.60%			124	51.67%	100%	90.32%
Female	29,581	89.16%			116	48.33%	100%	76.72%
Race-ethnicity								
American Indian	140	85.89%			*	*	*	*
Asian	4,559	96.16%			*	*	*	*
Black	18,648	84.68%			*	*	*	*
Hispanic	10,446	71.37%			*	*	*	*
Multi-race	2,485	89.36%			*	*	*	*
White	21,838	93.38%			232	96.67%	100%	83.19%
Special Populations								
Economically disadvantaged	17,049	80.83%			109	45.42%	100%	95.41%
Multilingual learners	3,140	55.78%			*	*	*	*
Individuals with disabilities	4,697	69.47%			*	*	*	*
Nontraditional fields	-	-			*	*	*	12.50%
Single parents	-	-			*	*	*	*
Out of workforce	-	-			*	*	*	*
Unhoused Individuals	833	62.03%			*	*	*	*

Youth in foster care	66	40.24%			*	*	*	*
Youth with parent in military	1,028	95.10%			*	*	*	*
Migrant students	-	-			*	*	*	*

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	**X**		
Our district has processes in place to recruit students traditionally underrepresented in CTE to improve diversity in CTE POS	X		
Processes are in place to ensure that students traditionally underrepresented in CTE have options to enroll in CTE POS	**X**		
Processes are in place to ensure that students traditionally underrepresented in CTE persist in CTE POS once enrolled	X		
Processes are in place to ensure that all eligible	**X**		

	Meets	Area for Improvement	Explanation
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	X		
All students have access to career planning and support services to help them successfully transition to advanced education and/or the workforce	**X**		

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?

   There are no concerns. GCPS has 100% participation of all students (and therefore all groups) in CTE and a high persistence rate. The subgroups in Garrett County are so small, if they exist, that one student can skew the data dramatically, but no groups are underperforming.

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.]*

   GCPS does not restrict programming or participation in any way (quotas, caps, etc.), has a 100% participation rate in CTE by ALL students, and an over 80% rate of ALL students who achieve concentrator status. GCPS has been in the top 3 in the last several years in the state in non-traditional participation rates in CTE, as well. GCPS will continue to encourage and support all students to participate in, and complete, CTE pathways. Having said that, please see the answer to question #4 in B.4, as the priorities will be the same.

   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 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).*

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
BMF	76	34	18	37	39	*	*	*	*	70	*	*	*	35	42	*	*	*	*	*	*
CD	85	30	21	76	9	*	*	*	*	85	*	*	*	40	*	*	*	*	*	*	*
CRD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CSHT	92	40	19	39	53	*	*	*	*	87	*	*	12	60	12	*	*	*	*	*	*
EANR	91	39	20	39	52	*	*	*	*	86	*	*	*	50	52	*	*	*	*	*	*
HB	151	85	39	21	130	*	*	*	*	147	*	*	*	61	46	*	*	*	*	*	*
HRS	54	22	12	37	17	*	*	*	*	51	*	*	*	42	17	*	*	*	*	*	*
IT	172	35	16	96	76	*	*	*	*	161	*	*	*	87	77	*	*	*	*	*	*
MET	132	34	25	106	26	*	*	*	*	126	*	*	*	63	26	*	*	*	*	*	*
TT	62	39	18	60	2	*	*	*	*	59	*	*	*	43	*	*	*	*	*	*	*
WBL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	920																				

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	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
BMF	8.23%	44.73%	23.68%	48.68%	51.31%	*	*	*	*	92.10%	*	*	*	46.05%	55.26%						
CD	9.24%	35.29%	24.70%	89.41%	10.59%	*	*	*	*	100%	*	*	*	47.1%	*	*	*	*	*	*	*
CRD	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
CSHT	10.0%	43.48%	20.65%	42.39%	57,61%	*	*	*	*	94.57%	*		13.04%	65.21%	13.04%	*	*	*	*	*	*
EANR	9.89%	42.86%	21.98%	42,86%	57.14%	*	*	*	*	94.51%	*	*	*	54.95%	57.14%	*	*	*	*	*	*
HB	16.41%	56.29%	25.83%	13.91%	86.09%	*	*	*	*	97.35%	*	*	*	40.40%	30.46%	*	*	*	*	*	*
HRS	5.87%	40.74%	22.22%	68.52%	31.48%	*	*	*	*	94.44%	*	*	*	77.78%	31.48%	*	*	*	*	*	*
IT	18.70%	20.35%	9.30%	55.81%	44.19%	*	*	*	*	93.60%	*	*	*	50.58%	44.77%	*	*	*	*	*	*
MET	14.35%	25.76%	18.94%	80.30%	19.70%	*	*	*	*	95.45%	*	*	*	47.73%	19.70%	*	*	*	*	*	*
TT	6.74%	62.90%	29.03%	96.77%	3.225%	*	*	*	*	95.16%	*	*	*	69.35%	*	*	*	*	*	*	*

WBL	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

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?

   Even though GCPS performs well in the non-traditional participation indicator, there are still glaring participation rate differences for females in Transportation Technology and Construction and Development, as well as males in Health and Biosciences. Traditional roles and culture are main factors for these discrepancies, according to the team.

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

   In Information Technology, there is a noticeable difference between economically challenged students who participate and those who reach concentrator status compared to their non-challenged peers. The team felt that lack of internet at home and/or lack of personal devices may contribute to this gap.

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?

   The three most noticeable clusters that have high participation rates with much lower rates of persistence are Manufacturing, Engineering, and Technology; Information Technology; and Business and Finance. The reasoning for this is because in MET and Information Technology, many students take one of the courses to count as their graduation required tech ed credit. A student takes an engineering course or computer science course for that tech ed credit and does not take another course in the program. The same thing happens in business and finance and the financial literacy credit. A student will take the local graduation requirement for financial literacy through that program and then does not take any more classes in the sequence. The variance in the other clusters in participation rates compared to completion rates can be attributed to the GCPS model of comprehensive high schools. Typically, students need to take elective courses to fill schedules, especially as they get into 11th and 12th grade. Many students fill those scheduling slots with an introductory course in a CTE program they may have an interest in. Some students take multiple introductory CTE courses to fill schedules and never take a second course in any of them. GCPS nor the CLNA team feel this is a problem, as it helps lead to a more rounded education. Considering these points, the team has no real concern about any cluster.

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.]*

   1. Continue providing students with computers as part of the "one to one student to device" program. This will help with computer skills at home and aid in retaining economically disadvantaged students to matriculate more in the computer science pathway, as well as any other pathway that is dependent upon computer skills. With ESSR money phasing out, this has become a budget priority to find the funds to continue this program in Garrett County.

   2. Provide more transportation opportunities for students to participate in work-based learning and apprenticeship opportunities. Garrett County has no public transportation network, so students who cannot drive or do not own a car are limited as to what they can do away from the school building. GCPS is looking at running more bus routes during the school day to provide more dual enrollment and apprenticeship options to students who may otherwise be limited. GCPS is also looking at acquiring a "minibus" for each high school that would allow school-based staff to transport students to job sites during the day, as well.

   3. GCPS is attempting to add the MFRI fire and rescue program to students as a CTE option. Many GCPS students are junior firefighters in local volunteer companies and have a real interest in the field. A large number of those students are not set to be CTE completers in other programs but would complete this program.

   4. GCPS will use soft messaging to recruit non-traditional students to those relevant CTE programs, especially males in allied health and females into machining. The lead nurse at Garrett Regional Medical Center is a male. GRMC and GCPS have a fantastic relationship and GCPS will highlight male nurses at the 5th and 7th grade career day activities. The lead talent recruiter at Garrett County's largest employer (Beitzel/Pillar) is a female. GCPS intends to have her visit the schools to talk to the students about career opportunities, mostly in machining and construction, as well as participating in the career day activities.

   5. GCPS will introduce more 8th graders to CTE next school year through the remediation period. GCPS has consolidated Southern Middle School and Southern High School into the high school building. All 8th grade students next year will have an opportunity to participate in mini-activities in different CTE programs to see if they are interested in that program when they get into high school classes. This will be made logistically simpler, as the students will all be under the same roof as the high school CTE programs and have that undedicated spot in their schedules to try different CTE activities. Northern Middle School and Northern High School are on the same campus and have been consolidated under one principal who will provide the same opportunities to the 8th graders on the Northern end of the county. They can simply walk to the high school during the remedial period to take part in those activities. The hope is that students will get interested in CTE earlier and persevere through the programs to complete.

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 Districtwide 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 credentials.

5S4b: Apprenticeship: The percentage of 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	97%	36%	37%	23%	82%	31%	100%	81%	
Gender									
Males	96%	35%	32%	25%	77%	1%	100%	81%	*
Females	99%	36%	44%	20%	88%	96%	100%	82%	*
Race-ethnicity									
American Indian	*	*	*	*	*	*	*	*	*
Asian	*	*	*	*	*	*	*	*	*
Black	*	*	*	*	*	*	*	*	*
Hispanic	*	*	*	*	*	*	*	*	*
Multi-race	*	*	*	*	*	*	*	*	*
White	97%	36%	36%	23%	81%	31%	100%	81%	*

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	97%	36%	37%	23%	82%	31%	100%	81%	
Economically disadvantaged	95%	19%	25%	13%	77%	32%	100%	74%	*
Multilingual learners	*	*	*	*	*	*	*	*	*
Individuals with disabilities	*	*	*	*	*	*	*	*	*
Nontraditional fields	*	*	*	*	*	*	*	*	*
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?	***2S1*** ***2S2***
Looking at *overall performance*, on which indicators are you substantially exceeding the district performance target?	***5S1***

* 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.

   For both 2S1 and 2S2 (ELA and Math proficiency respectively,) the biggest issue is that students sit for a test that has no meaning to them personally. They do not need a certain score to graduate, therefore it is not a priority for them to perform well. This is the overwhelming reason GCPS does not see better numbers on these indicators, as a look back at these indicators under HSA testing, which did require certain scores for graduation, shows significantly higher results! There are not huge differences in the percentages of any of these groups in their performance level, although females do 12% better in Math overall than males and economically disadvantaged youth do 17% lower performance in ELA than their not challenged peers.

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?

   In 4S1 (Non-traditional participation), females make up virtually all of that indicator. The only program that GCPS offers that is female dominant is nursing and GCPS has struggled to get males to participate in that program. Furthermore, economically disadvantaged students are performing worse than the county average in both 2S1 and 2S2 (ELA and Math proficiency), respectively.

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?

   The most efficient and effective approach to deal with resource constraints that GCPS could implement would be consolidation of programs. The issue with doing this is travel time, as Garrett County has one of the largest areas of any county in the state. GCPS has analyzed doing this for machining, culinary arts, and automotive, but has not been able to logistically make it work yet. Efforts will continue to evaluate this as an effective and viable option to continue to offer high quality programming at an affordable price.

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.

   1. ***Through system level data analysis, GCPS has identified packets of significant growth in math performance (2S2) and the system is focused on replicating those successes in all schools. To support this, GCPS is implementing system wide grade level math professional development for all teachers focused on pacing, scope & sequence, essential skills, common vocabulary, math discourse, writing in math, and practical strategies to improve math instruction. Moreover, GCPS will strategically identify staff to participate in all state-wide professional development opportunities including those focused on modeling and reasoning while utilizing learned material in future county-wide professional development opportunities. GCPS will also implement the evidence-based intervention program, i-Ready including the Diagnostic, My Path, and tools for instruction for students as part of the MTSS process.***

   2. ***GCPS will employ an Algebra 1 (2S2) LEAD teacher to provide ongoing guidance for pacing through a shell course in the district's learning management system. The shell course is a collaborative space that allows for sharing strategies and resources to support learning. The district benchmarks will be given three times during the Algebra 1 course to monitor student progress and provide interventions as needed. Before the opening of the testing window, students will participate in targeted review sessions to address the highest priority areas identified in student data.***

   3. ***Next year, GCPS will be focusing on developing and implementing system support and professional development specific to writing across all content areas while providing increased central support at identified schools within the system with priority areas being in ELA (2S1) and math (2S2). Moreover, work is currently underway to develop a comprehensive literacy and math plan that will identify the instructional framework across all grade levels in the school system with a priority focus on further development of the system's MTSS framework at the secondary level aligned with the Blueprint.***

4. ***Over the last several years, GCPS has been working diligently to make the shift to the Science of Reading practice (2S1). The results of this shift can be seen in the system's overall growth in ELA MCAP and IMSE scores. within the needs assessment. Disaggregated data also shows a significant increase in phonological awareness, phonics, and high frequency words. To further support this transition to the Science of Reading, high quality instructional materials that are evidenced based and rooted in the Science of Reading research have been purchased and will continue to be purchased to increase reading ability in students. The system has been focusing on implementing vetted curriculum resources with fidelity as evidenced by the walkthrough data shown above, GCPS has also provided direct coaching services for the American Reading Company to support program fidelity and will continue this practice throughout the 2024-2025 school year. The i-ready ELA diagnostic and the I-Ready Personalized Pathway for ELA for secondary students will also support the system in decreasing learning gaps and support the multi-tiered systems of support model.***

5. ***Throughout the implementation of the multi-tiered system of support in GCPS, administrators and teachers in both ELA and Math Have been instructed to prioritize students with the largest learning gaps focusing on students who qualify as economically disadvantaged and those who qualify for special education to ensure performance is elevated for all student groups and achievement gaps are narrowed. To that end, GCPS has hired a Specially Designed Instruction (SDI) coach to train and develop special education teachers. The SDI Coach collaborates with the special education teachers and building administrators to plan and implement professional development to their building's needs. Next year, the SDI coach will begin SDI fidelity checks with every special education teacher and their corresponding co-teacher. The SDI fidelity check will look for the following areas: evidence-based instruction, co-teaching, instructional accommodations, supplementary aids and services, modifications, and support personnel. In addition to gathering this baseline data for inclusion services, the SDI Coach will provide teachers with an opportunity to engage in Video-Stimulated Response (VSR), in which they record the lesson, review the video as a team, and determine areas of strength and areas of growth. The results from the SDI fidelity check will then be shared with administrators for planning out future professional development to narrow performance gaps.***

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: Business Management and Finance					
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	33%	4.53%	1	0	1
Female	67%	4.63%	1	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	8.77%	2	0	3
Credential					
Properly Licensed	100%		2	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Construction and Development					
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	100%	5.91%	0	0	1
Female	0%	1.08%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	7.00%	2	0	3
Credential					
Properly Licensed	100%		2	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Consumer Services, Hospitality, and Tourism					
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	100%	5.02%	0	0	1
Female	0%	5.62%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	10.15%	0	0	3
Credential					
Properly Licensed	100%		0	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Environmental, Agriculture, and Natural Resources					
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	0%	4.73%	0	0	1
Female	100%	6.01%	1	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	10.34%	1	0	3
Credential					
Properly Licensed	100%		1	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Health and Biosciences					
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	14%	2.07%	0	0	1

Female	86%	13.89%	2	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	15.67%	2	0	3
Credential					
Properly Licensed	100%		2	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Human Resources Services					
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	100%	4.73%	6	0	1
Female	0%	1.87%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	25%	*	0	0	0

Multi-race	0	*	1	0	0
White	75%	6.21%	5	0	3
Credential					
Properly Licensed	100%		6	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Information Technology					
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	0%	12.51%	0	0	1
Female	100%	10.25%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	21.77%	0	0	3
Credential					
Properly Licensed	100%		0	0	3

Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Manufacturing, Engineering, and Technology					
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	100%	15.76%	1	0	1
Female	0%	5.62%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	0	0	0
White	100%	20.69%	1	0	3
Credential					
Properly Licensed	100%		1	0	3
Granted Temporary Waiver	0%		0	0	0

NAME OF CAREER CLUSTER OR CTE POS: Transportation Technologies					
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	100%	9.75%	2	0	1
Female	0%	0.30%	0	0	2
Race-ethnicity					
American Indian	0	*	0	0	0
Asian	0	*	0	0	0
Black	0	*	0	0	0
Hispanic	0	*	0	0	0
Multi-race	0	*	1	0	0
White	100%	9.85%	2	0	3
Credential					
Properly Licensed	100%		2	0	3
Granted Temporary Waiver	0%		0	0	0

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.	**X**		
Staff are aware of the requirements to maintain endorsement.	X		
Staff have equal access to content-specific professional development opportunities across industries.	**X**		
Data is collected on the effectiveness of professional development to ensure it meets the needs of educators.	X		

ACTIVITY 4.3: 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?

   Yes, the staff overall does reflect the demographics of the students they serve in CTE.

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?

   Yes, all GCPS CTE teachers meet all state requirements and have all necessary certifications, etc.., for the classes that they teach.

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?

   GCPS holds staff mandated professional development every month that school is in session. This takes place during built in ½ days on the school calendar to facilitate that staff development. Professional development is divided equally between school based and principal led initiatives, as well as district based and director led initiatives. Regardless of if school led PD or district led PD, the training/presentations usually center around concepts and techniques that help teachers perfect their craft of teaching. Topics such as robust and multi-tiered systems of response to intervention, the science of reading, implementing accommodations, etc., are promoted. CTE teachers are always made aware of any training, seminars, or workshops through the county's professional development budget. Teachers can always request to attend any of these activities, as well, if they find them on their own to attend. The HR department always meets with every instructor when onboarded to create a plan to meet all certification and credentialing requirements and principals go over those plans with teachers to check for progress every year.

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

   The greatest barrier for Garrett County teachers is finding quality content specific professional development close in proximity. The state offers some great PD for CTE teachers, but all of it is a minimum of 2-hour drive one way (mostly 3 hours one way) to get to. GCPS teachers do not want to travel that far to participate.

5. What are the top five priorities you might wish to address in the coming year to recruit, develop, and retain CTE instructors and improve their professional skills?

    1. ***Identify and offer more virtual PD opportunities to CTE teachers that are more accessible and convenient for them in their schedules.***
    2. ***Identify more content specific PD opportunities at or around WVU which would be closer and more convenient for teachers. WVU has a well-respected agricultural teacher development program and offers quite a bit of PD in biomedical science. GCPS will investigate more opportunities to partner with them on other areas of CTE for PD.***
    3. ***GCPS will engage the private sector businesses more with the current instructors next year to provide more support for what those teachers are doing in the classroom. One strong recommendation that the CLNA team made was to get the teachers more involved with local industry and the team members have pledged to find ways to make that happen.***
    4. ***To Have HR work with CTE teachers to help them identify and create strategies to engage in the career ladder through blueprint to increase salary in hopes of retaining current staff.***
    5. ***Next year, as a result of the professional development needs assessment and study group work, GCPS will provide a series of professional development in coaching to establish a systemic process of coaching and mentoring to improve teaching and learning and increase the impact of our mentor program. In addition, GCPS will provide a professional development series to all schools in the PLC STEP protocol to increase focus on improving the effectiveness of first-time instruction through the implementation of high quality, teacher-directed, and job embedded professional learning communities where the focus is on replicating what works for students.***

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

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 teachers with requisite skills, and explore other hiring options	Maryland CTE Teacher Certification	Maryland has identified eight types of CTE certifications. 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 Perkins reserve 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 prepare students to enter or retain employment in high-wage, high-skill, and/or in-demand fields	Update program standards, curriculum, assessments, certifications, and links to postsecondary programs	Review related program offerings in high-performing Maryland districts.	Maryland CTE Performance Dashboard	Maryland has developed this interactive CTE 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/workplace-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 externships for instructors	Teacher Externship Industry Partner Planning Guide http://wbltoolkit.cte.nyc/workplace-tour/	South Dakota has developed this resource to support educators and employers in developing externship opportunities

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

PROBLEM: STUDENTS ARE 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	Career Fair Options	Gainesville High School (AL) offers students a

		help students learn about CTE offerings.		career fair experience to introduce them to CTE options. See the video to learn about their approach
		Create online assets that support students in identifying the CTE opportunities at their school.	CTE Options at my School	Fairfax County Public 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 Vision Toolkit 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 not provided 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	ACTE High Quality CTE: Student Career Development	ACTE offers webinars, online courses, toolkits, and more designed to support counselors and college/career navigators

		students that highlight CTE offerings.		as they offer guidance to students.

PROBLEM: STUDENTS ARE 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 advanced skills.	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 outcomes, and scaling effective practices.

Appendix C: Sample Strategies for Component C: Program Performance

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-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. 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	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. 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

		exams in convenient and accessible locations.		may be adapted for use at the district/college level.

PROBLEM: STUDENTS ARE NOT EARNING INDUSTRY-RECOGNIZED CREDENTIALS.

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. 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	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. 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

		exams in convenient and accessible locations.		may be adapted for use at the district/college level.

PROBLEM: CTE CONCENTRATORS ARE NOT TRANSITIONING INTO ADVANCED TRAINING OR EMPLOYMENT 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

PROBLEM: IT'S DIFFICULT TO RECRUIT CTE EDUCATORS.

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 CTE teacher 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 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.	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 certification options for each CTE program of study offered in the state.

2024 - 2026

PROBLEM: NEW CTE EDUCATORS LACK ACCESS TO PROFESSIONAL DEVELOPMENT SUPPORT 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 coursework.	Create policy and practices to support CTE educators in offering academic credits.	Pair academic and CTE educators to design courses that allow students to earn academic and technical credit simultaneously.	Credit Quandaries: How CTE Instructors can Teach Academic Credit	This document from the Center on Great Teachers & Leaders explores 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. 2024 - 2026

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

2024 - 2026

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 Teacher 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