



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

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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: <ul style="list-style-type: none"> ● 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
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).

QUALITY

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	Adam Parry
Organization	Washington County Public Schools
Title	Supervisor of Career Technology Education
Email	parryada@wcps.k12.md.us

STAKEHOLDER TEAM MEMBERS

When Selecting Stakeholders, consider:

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

Stakeholder Team Responsibilities

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

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

Stakeholder Team Roster

SECONDARY

Role	Name	Title	Affiliation
Administration (e.g., principal, assistant principal)	Robert Stike	Principal Tech High	WCPS
	Rodney Gayman	Principal South Hagerstown High School	WCPS
	Adam Parry	Supervisor of Career Technology Education	WCPS
	Gary Willow	Associate Superintendent for Curriculum	WCPS
Professional career or academic counselor	Helen Huffer	Supervisor Of Counseling Services	WCPS
	Andrew McClain	Coordinator - College And Career Readiness	WCPS
	Tonya Rowe	Curriculum Specialist for CTE	WCPS
Teachers	Marjorie Chapman	Teacher - Cosmetology	WCPS
	Steve Garland	Teacher - Manufacturing	WCPS
	Kimberly O'kane	Teacher - Hospitality and Tourism	WCPS
	Christopher Young	Teacher - Carpentry	WCPS
Instructional Support and Paraprofessionals (Psychologists, Social Workers, etc.)	Paul Wood	Paraprofessional	WCPS
	Amber Day	Paraprofessional – Career Coach	WCPS

POSTSECONDARY

Role	Name	Title	Affiliation
Administration (e.g., dean, division chair)	Chelsea Brereton	Coordinator of Curriculum and Academic Systems	Hagerstown Community College
	Dawn Schoenenberger	Vice President of Academic Affairs and Student Services	Hagerstown Community College
	Alison Preston	Director of Institutional Research	Hagerstown Community College
Faculty	Jack Drooger	Program Manager, Trades, Transportation and IT	Hagerstown Community College
	Olu Bamiduro	Assistant Professor, Mechanical Engineering Technology	Hagerstown Community College

WORKFORCE

Role	Name	Title	Affiliation
Local Workforce Development board member	Christine Hinton	Career Coach	Western Maryland Consortium
*Regional Economic Development organization member			
Local business & industry representative	Scott Nicewarner	City Administrator	City of Hagerstown
	Paul Frey	President & CEO	Washington County Chamber of Commerce
	Cody Pine	Campus Director	Pittsburgh Institute of Aeronautics
	Troy Raffensberger	Shop Manager	D.M. Bowman, Inc.

OTHER

Role	Name	Title	Affiliation
Parent or caretaker	Christopher Morris	Parent	NHHS
Student	Graham Snyder	Student BOE Member	WCPS Board of Education
Representative of Special Populations			
Out-of-School youth / unhoused youth / corrections			

* 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
	HS	HW	ID		
Example	HS	HW	ID	###	100%
Audiovisual Communications and Broadcast Technologies Completer	Yes	No	Yes	Meets 1- 2 criteria	4.37%
Computer Game Development & Animation Completer - BISFA	Yes	No	Yes	Meets 1- 2 criteria	0.52%
Interactive Media Production	Yes	Yes	Yes	Meets all three	8.34%
Photography & Cinematography BISFA	Yes	No	Yes	Meets 1- 2 criteria	0.20%
Finance and Accounting	Yes	Yes	Yes	Meets all three	0.37%
Marketing	Yes	Yes	Yes	Meets all three	4.53%
Software Specialist Completer	Yes	Yes	No	Meets 1- 2 criteria	0.37%
Apprenticeship Maryland Program	No	No	Yes	Meets 1- 2 criteria	6.8%
Career Research & Development	No	No	Yes	Meets 1- 2 criteria	2.5%
Carpentry Completer	Yes	Yes	No	Meets 1- 2 criteria	8.72%
Carpentry Completer - WCTH	Yes	Yes	No	Meets 1- 2 criteria	0.72%
Construction Design & Management Completer	Yes	Yes	Yes	Meets all three	3.16%
Electrical Construction Completer - WCTH	Yes	Yes	Yes	Meets all three	1.09%
Cosmetology Completer - WCTH	Yes	No	Yes	Meets 1- 2 criteria	0.55%
Culinary Arts Completer - WCTH	Yes	No	Yes	Meets 1- 2 criteria	0.42%
Food & Beverage Management Completer	Yes	Yes	Yes	Meets all three	6.32%
Hospitality & Tourism Management	Yes	Yes	Yes	Meets all three	1.14%
Curriculum for Agriculture Science (CASE)	Yes	Yes	Yes	Meets all three	1.09%
Curriculum for Agriculture Science Ed (CASE) -	Yes	Yes	Yes	Meets all three	0.34%

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Agriculture Engineering Completer - SMH					
Environmental Agricultural Science Academy Animal Science Completer	Yes	Yes	Yes	Meets all three	0.31%
Environmental Resource Management Completer	Yes	Yes	Yes	Meets all three	0.59%
Horticulture Completer	Yes	Yes	Yes	Meets all three	5.95%
Power Mechanics Completer	Yes	Yes	Yes	Meets all three	1.56%
Academy of Biomedical Sciences PLTW Completer - WCTH	Yes	Yes	Yes	Meets all three	1.79%
Academy of Health Professions Completer - WCTH	Yes	Yes	Yes	Meets all three	0.99%
Allied Health Completer - Sports Medicine	Yes	Yes	Yes	Meets all three	1.55%
Academy of Teaching Professions Completer	Yes	Yes	Yes	Meets all three	4.22%
Academy of Teaching Professions Completer - WCTH	Yes	Yes	Yes	Meets all three	0.59%
Childcare Guidance and Management Completer	No	No	Yes	Meets 1- 2 criteria	0.59%
Fire and Rescue Academy Completer - WCTH	Yes	Yes	Yes	Meets all three	0.93%
Homeland Security - Law Enforcement - WCTH	Yes	Yes	Yes	Meets all three	2.02%
Homeland Security & Emergency Preparedness Completer	Yes	Yes	Yes	Meets all three	6.39%
Homeland Security Global Imaging & Communication Technology Completer - WCTH	Yes	Yes	Yes	Meets all three	1.01%
Artificial Intelligence (AI) & Cloud Computing Completer - WCTH	Yes	Yes	Yes	Meets all three	0.88%
CISCO IT Academy Completer - WCTH	Yes	Yes	Yes	Meets all three	1.34%
Applied Manufacturing Engineering Completer - WCTH	Yes	Yes	No	Meets 1- 2 criteria	0.20%
Engineering Academy PLTW - WCTH 3 Seq	Yes	Yes	Yes	Meets all three	0.47%
PLTW-Aerospace Engineering - WHS	Yes	Yes	Yes	Meets all three	0%
PLTW-Computer Integrated Manufacturing - WHS	Yes	Yes	Yes	Meets all three	0%
Automotive Technology Completer - Completer	Yes	Yes	Yes	Meets all three	0.72%
Collision Repair Completer - WCTH	Yes	Yes	Yes	Meets all three	0.78%
Diesel Technology Completer - WCTH	Yes	No	Yes	Meets 1- 2 criteria	0.21%
Computer Science	Yes	Yes	Yes	Meets all three	8.41%
Natural Resources (CASE)	Yes	Yes	Yes	Meets all three	1.09%

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
<p>Aeronautics, Aviation, Aerospace Science and Technology</p> <p>CIP 490101</p>	<p>Adding</p>	<p>WCPS needs a program that supports our aviation goals that isn't directing students towards aviation engineering paths, and from 2020 to 2023 MSDE has considered this completer program a high skill, high wage, and in demand field. The world is rapidly moving towards utilizing drones in various fields, and the demand for commercial drone pilots is expected to grow by 51.1 percent over the next five years. WCPS is planning on partnering with the Hagerstown Police Department to discuss apprenticeship opportunities in their Civilian Watch unit, and this program, supported by two IRC recommendations, will give students the necessary certification/license to participate in this growing industry. Not only will this provide a valuable opportunity for our students, but it will also benefit police departments across the state by freeing up officers and allowing civilians to help man cameras, fly drones, and support police operations and is essential in supporting the local needs of Washington County. Additionally, outside of our law enforcement focus, the median total pay for a drone pilot in the United States is \$85,159, with an average salary of \$54,128. With the increasing demand for drone pilots and the lucrative salary potential, it's clear that this is a field worth pursuing. Drone operation supports fire fighting, agriculture and numerous other industries. By providing our students with the necessary skills and certification to become drone pilots, we're not only setting them up for success, but we're also contributing to the growth of a rapidly expanding industry or continuing education in post secondary institutions.</p>
<p>Nail Specialist and Manicurist / CIP 120410</p>	<p>Adding</p>	<p>Under the new WCPS program called extendED, students can meet the requisite amount of hours for a state certification in Nail Technology. This program provides an excellent alternative completer pathway for students who do not want to enter the Cosmetology program because they are only interested in working with nails. Moreover, students who are unable to enroll in the Cosmetology program due to capacity limits can now opt for this program and</p>

		start their career. Upon completion of this program, students can immediately enter the industry with their nail tech certification.
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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	Yes	Yes	At WCPS, we believe in providing the best possible education and learning opportunities to our students. To achieve this, we collaborate with various local and regional industry partners, including the Chamber of Commerce, to assess the current market needs and economic data. This helps us to design our curriculum, program recruitment, and apprenticeship learning opportunities in a way that meets the needs of our students and community partners. WCPS take pride in our commitment to excellence and strive to ensure that our students are well-prepared to succeed in their future careers.
Processes are in place to identify and expand high school level registered apprenticeship opportunities.	Yes	No	As part of the CTE strategic plan, students are provided with direct work experience in line with the training they receive in their CTE Completer pathway. In the past year, enrollment in apprenticeships and work-based learning opportunities has significantly increased in WCPS. Despite facing challenges such as the absence of compensation funds provided to businesses that hire apprentices in previous years, WCPS has managed to increase the number of student apprentices by 54, bringing the total of WCPS apprenticeship opportunities to 135 for the 2023-2024 school year, up from 81 the previous school year (a 167% increase). To counter the loss of apprenticeship opportunities this school year, WCPS has made the Apprenticeship Coordinator position permanent. Under the current

			<p>coordinator, the school system has continued to see growth in the number of apprenticeship opportunities facilitated. The coordinator has actively sought out new business partners, forging new relationships, and simplifying the process of partnering with WCPS to make it easier for prospective partners.</p>
<p>Processes are in place to update or phase out CTE POS that do not align with HS/HW/ID industries</p>	<p>Yes</p>	<p>Yes</p>	<p>At WCPS, we believe in collaborating closely with our building principals, counselors, and local community stakeholders to understand the diverse interests and needs of our students and the businesses around us. Our aim is to offer Career and Technical Education (CTE) programs that are relevant and valuable to all our stakeholders. In the event that a particular program fails to attract enough participants over a few years, we explore other CTE options that may be more suitable to the needs of our stakeholders. However, we do not believe in discontinuing a program solely based on current trends in high school, higher education, or industry demands if there is sufficient student interest.</p>
<p>A majority of our students are concentrating in POS aligned to HS/HW/ID industries</p>	<p>Yes</p>	<p>Yes</p>	<p>Washington County Public Schools has observed that a significant number of students are participating in Career Research Development (CRD) or work-based learning, but without any association with a particular program field or cluster. Often, this program is utilized as a means to help the students achieve a completer status required for graduation, without any clear career path for future goals. Although many of our students have met the requirements for graduation with a concentration in a program that meets HS/HW/ID or are UMD</p>

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			completers, our objective is to provide additional opportunities using CRD for students to reach graduation status.
Processes are in place to recruit business and industry stakeholders to participate on Program Advisory Committees	Yes	Yes	Our Program Advisory Committees at WCPS have robust participation. Committee members play a key role in recruiting new members to augment our numbers.

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)?

Most of our programs meet at least two of the criteria, and the majority of them meet all three criteria. However, for those that do not meet all three, we believe it is crucial to offer programs that provide students with opportunities to explore various career fields. Our primary objective is to guide students along a learning path that will help them grow into well-rounded young adults. As they approach the end of their secondary education with WCPS, we want them to have a diverse range of experiences that will shape their future education and employment prospects

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

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

1. Expand knowledge of the programs at the middle school level to help shape student awareness prior to entering high school
2. Analyze program enrollments, standards, postsecondary pathways, and employers to assess whether sunseting is warranted.
3. Develop strategies and timelines for sunseting a program and internal and external communication plans to share that information
4. Update program curriculum, assessments and certifications to increase program relevancy to local workforce needs.
5. Review program resources in other counties and states to identify potential instructional growth plans

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.

Comprehensive Local Needs Assessment: Secondary Schools

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%			1621	100%	63.2%	47.6%
Gender								
Male	28,576	82.60%			790	48.7	65.2%	49%
Female	29,581	89.16%			830	51.2	61.3%	46.4%
Race-ethnicity								
American Indian	140	85.89%			Low N	Low N	Low N	Low N
Asian	4,559	96.16%			47	2.9%	29.8%	12.8%
Black	18,648	84.68%			209	12.9	61.7%	46.4%
Hispanic	10,446	71.37%			196	12.1	58.2%	39.3%
Multi-race	2,485	89.36%			133	8.2	60.9%	39.1%
White	21,838	93.38%			1034	63.8	66.3%	52.2%
Special Populations								
Economically disadvantaged	17,049	80.83%			605	37.3	71.6%	55.5%
Multi-lingual learners	3,140	55.78%			33	2%	51.5%	36.4%
Individuals with disabilities	4,697	69.47%			108	6.7%	62%	52.8%
Nontraditional fields	-	-						
Single parents	-	-						
Out of workforce	-	-						
Unhoused Individuals	833	62.03%			55	3.4%	76.4%	70.9%
Youth in foster care	66	40.24%			Low N	Low N	Low N	Low N
Youth with parent in	1,028	95.10%						

military								
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	Yes	No	WCPS provides full access to CTE programs at all comprehensive high schools, ensuring inclusion for all interested students.
Our district has processes in place to recruit students traditionally underrepresented in CTE to improve diversity in CTE POS	No	Yes	WCPS provides equal access to all students to participate in CTE programs. However, we have identified disparities in the enrollment of certain genders or ethnicities in specific CTE pathways. To address this issue, we plan to incorporate career coaches and other resources to raise awareness of these programs, starting in the 2024-2025 school year. Our goal is to encourage underrepresented groups to participate in these programs, and to ensure equitable access for all students.
Processes are in place to ensure that students traditionally underrepresented in CTE have options to <u>enroll</u> in CTE POS	Yes	Yes	WCPS ensures that all students have equal access to CTE programs. Starting in the 2024-2025 school year, our goal is to increase program awareness by utilizing career coaches and other information sharing resources. Through these resources, we hope to encourage greater participation of underrepresented groups in specific CTE programs, which will in turn help increase participation in

	Meets	Area for Improvement	Explanation
			non-traditional CTE programs.
Processes are in place to ensure that students traditionally underrepresented in CTE <u>persist</u> in CTE POS once enrolled	No	Yes	WCPS strives to provide equal access to CTE programs for all students. Our goal is to increase awareness and participation of underrepresented groups in specific CTE programs starting from the 2024-2025 school year. However, we face a challenge in our school system when it comes to maximizing persistence rates, as many students are presented with other education options, including the University of Maryland Completer tract, Dual Credit options, Advanced Placement options, and full-day enrollment at our local community college. To combat this, we plan to use career coaches and other information sharing resources to build awareness and increase participation. However, our mission is to support students in building their own educational or career pathways, and we cannot guarantee that these processes will ensure persistence in a CTE pathway.
Processes are in place to ensure that all eligible students have equitable access to career-based learning experiences	Yes	No	WCPS provides full access to CTE programs at all comprehensive high schools, ensuring inclusion for all interested students. In addition, WCPS covers the costs of all CTE programs to ensure there are no financial barriers for student participation.
Career guidance and advisement services are provided to student prior to enrolling in a CTE POS	No	Yes	WCPS introduced career coaches in the middle of the 2023-2024 academic year at all high schools and middle schools. The main objective behind this new process is to assist students in identifying their areas of interest in different career pathways. Starting in the 2024-2025 school year, our goal is to increase awareness of the available programs by utilizing career coaches and other information-sharing

	Meets	Area for Improvement	Explanation
			resources. Through these resources, we hope to encourage a better understanding of career goals and high school pathways that are available for our 8th and 9th-grade students. This will, in turn, lead to greater participation and persistence in specific CTE programs.
All students have access to career planning and support services to help them successfully transition to advanced education and/or the workforce	Yes		A key area of focus for WCPS is to expand the CTE pathways available to students based on the workforce demands of the local area. To support this vision, the district has introduced a new role: Career Coach. These coaches are now present at all high schools and middle schools. The Career Coaches are responsible for providing students with training in soft skills related to jobs and employment. They also create awareness of CTE programs, job employment pathways, and apprenticeship opportunities that can support student achievement. The Career Coaches are playing a critical role in the development of post-secondary plans for all students, related to their chosen career path. To achieve this, they provide individualized career exploration opportunities through events, guest speakers, and workshops.

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?

Our CTE program has a high participation rate of at least 60% for most of our demographic groups. However, for African American, Asian and Multi-Race students, this rate drops by 19% points when comparing students who entered "concentrator status". This is primarily due to the fact that many of these students choose to pursue University of Maryland Completers and enroll in dual credit college programs, instead of continuing with CTE programs.

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

1. WCPS plan to improve our communication with parents and students regarding the CTE programs we offer, highlighting the benefits of pursuing a career pathway through career exploration courses and informational sharing with students and parents.
2. Our Career Coaches will assist students in making informed decisions about their career paths, while also raising awareness about the advantages of CTE programs and careers through information sharing and career fairs.
3. WCPS aim to expand our dual credit programs that correspond to our CTE completer pathways, which should motivate more students to participate in CTE programs.
4. Employ online assets, such as Naviance, that support the implementation of CTE awareness campaigns. Data will be collected, analyzed and then used to help Career Coaches and School Counselors advise and guide students in accessing and persisting in CTE opportunities within the school system.
5. Increasing Student Persistence, Community Inclusion, and Industry Engagement

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	489	54		220	269	Lo w N	Lo w N	88	89	263	Lo w N	40	48	292	271			Lo w N	20		
BMF	546	112		280	266	Lo w N	12	72	83	345	Lo w N	34	27	30 0	325			Lo w N	15	Lo w N	
CD	576	215		473	103	Lo w N	Lo w N	70	60	413	Lo w N	31	70	356	115			12	16	Lo w N	
CRD	598	355		306	292	Lo w N	Lo w N	76	97	350	Lo w N	69	54	382	9			14	44	Lo w N	
CSHT	452	111		203	249	Lo w N	Lo w N	81	115	203	Lo w N	45	54	316	54			17	22	Lo w N	Lo w N
EANR	472	145		260	212	Lo w N	Lo w N	38	49	349	Lo w N	31	57	262	222			Lo w N	16	Lo w N	Lo w N
HB	169	83		39	130	Lo w N	Lo w N	16	17	121	Lo w N	12	3	59	41				Lo w N	Lo w N	
HRS	705	233		280	425	Lo w	Lo	75	117	461	Lo	46	61	40	229	2		Lo	21	Lo	

						N	wN				wN			2				wN		wN
IT	435	52		310	125	Lo w N	21	57	71	257	Lo w N	28	12	183	129			Lo w N	Lo w N	
MET	84	21		52	32	Lo w N	Lo w N	Lo w N	Lo w N	63	Lo w N	Lo w N	6	32	34			Lo w N		Lo w N
TT	66	22		61	Lo w N	Lo w N	Lo w N	Lo w N	Lo w N	54	Lo w N	Lo w N	6	23	5			Lo w N		
WBL																				
Total																				

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	A L	A	H	B	W	PI	M	SWD	ED	NT	SP	OOW	EL	HL	FY	AD
AMC	11	Low N		45	55	Lo w N	Lo w N	18	18	54	Lo w N	Lo w N	Low N	60	55	Low N	Low N	Low N	Low N	Low N	Low N

BMF	12	Low N		51	49	Lo w N	Lo w N	13	15	63	Lo w N	Lo w N	Low N	55	60	Low N	Low N	Low N	Low N	Low N	Low N
CD	13	15		82	18	Lo w N	Lo w N	12	Lo w N	72	Lo w N	Lo w N	12	62	20	Low N	Low N	Low N	Low N	Low N	Low N
CRD	13	25		51	49	Lo w N	Lo w N	13	16	59	Lo w N	12	Low N	64	Low N	Low N	Low N	Low N	Low N	Low N	Low N
CSHT	Low N	Low N		45	55	Lo w N	Lo w N	18	25	45	Lo w N	10	12	70	12	Low N	Low N	Low N	Low N	Low N	Low N
EANR	Low N	Low N		55	45	Lo w N	Lo w N	Lo w N	Lo w N	74	Lo w N	Lo w N	12	56	47	Low N	Low N	Low N	Low N	Low N	Low N
HB	Low N	Low N		23	77	Lo w N	Lo w N	Lo w N	Lo w N	72	Lo w N	Lo w N	Low N	35	24	Low N	Low N	Low N	Low N	Low N	Low N
HRS	15	17		40	60	Lo w N	Lo w N	11	17	65	Lo w N	Lo w N	Low N	57	32	Low N	Low N	Low N	Low N	Low N	Low N
IT	Low N	Low N		71	29	Lo w N	Lo w N	13	16	59	Lo w N	Lo w N	Low N	42	30	Low N	Low N	Low N	Low N	Low N	Low N
MET	Low N	Low N		62	38	Lo w N	Lo w N	Lo w N	Lo w N	75	Lo w N	Lo w N	Low N	38	40	Low N	Low N	Low N	Low N	Low N	Low N
TT	Low N	Low N		92	Low N	Lo w N	Lo w N	14	Lo w N	82	Lo w N	Lo w N	Low N	35	Low N	Low N	Low N	Low N	Low N	Low N	Low N
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?

After analyzing our data, the team found that the participation rates in our Environmental, Agriculture, & Natural Resources completer and our Human Resource Services completer are significantly lower than the other programs. The primary reason for this discrepancy is that the schools offering Environmental completers are the least diverse in terms of demographics. As a result, only the Caucasian population meets or exceeds participation in that completer. Similarly, the Human Resource Services completer is only available in two comprehensive high schools and our technical high school, which restricts access to students who do not attend these schools. Furthermore, the availability of other programs also affects student participation in Human Resource Services completer. Furthermore, our CTE programs have seen the least participation from demographic groups that identify as two or more races or Asian races. The Asian population shows less interest in the careers offered through CTE programs. In contrast, the Two or More demographic group has a high overall participation rate in CTE programs (over 60%), but the numbers vary by program and location, even though it comprises 8.2% of our total population.

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

WCPS does not have any students who complete outlier courses and fail to see a change from participation to persistence. However, all of our programs experience a decrease in enrollment numbers from the second course to the final courses in the program. This can be attributed to the fact that CTE courses are mostly used for exploratory purposes or as a single elective to fill a schedule.

In the 2022-2023 academic year, 62% of our seniors participated in a CTE program, and out of those, 47% achieved concentrator status. It is worth noting that each school offers unique opportunities to its student population. In some schools, students can complete two or three CTE programs, while in others, they have to select one program after exploring three or four different CTE courses.

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 relationship between students and their teachers is the key factor that affects student persistence in a program. Even though similar programs are offered at different schools with similar demographics, program participation and persistence numbers can vary greatly. For instance, the Homeland Security program at Boonsboro High School consistently outperforms other programs in terms of student participation. This can be attributed to the teaching style and relationship-building skills of the teacher. The same can be said for programs offered at Tech High, as students choose to attend the school for a specific program and are committed to it. On the other hand, the Barbra Ingram School for the Arts has programs with lower enrollment numbers. However, the Photography and Cinematography program produces exceptional students who can compete at a national level with their student-developed products. Student choice and commitment were found to be major influencing factors that impacted program success.

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. WCPS plans to enhance our communication channels with both parents and students to provide more information on the Career and Technical Education (CTE) programs we offer. WCPS will highlight the benefits of CTE programs and how they can lead to successful career pathways.
2. Our Career Coaches will be instrumental in guiding students towards suitable career paths and building awareness of the advantages of CTE careers and programs.
3. To encourage more students to participate and persist with CTE completers, we will increase the number of dual credit programs linked to our CTE completer pathways.
4. Use our data to conduct a curricular review to identify and establish protocols to remove unintentional gender bias.
5. Place students in authentic WBL experiences including internships and apprenticeships to help them learn about the benefits associated with advanced skills training for a specific career path of interest.

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 education¹

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

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

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

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

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

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

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 and was less than 90% of the target. Districts failing to achieve the state performance level are expected to develop a program improvement plan to bring them into compliance.

DISTRICT PERFORMANCE BY STUDENT GROUP

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97 %	52.3 %	48.00 %	0.00 %	76.50 %	28.72 %	78.41 %	78.41 %	0.00 %
District Performance	94%	49%	31%	28%	75%	21%	73%	85%	0%
Gender									
Males	-1%	-3%	1%	-5%	-1%		-2%	4.94%	
Females	1%	3%	-1%	4%	2%		2%	3.39%	
Race-ethnicity									
American Indian	NA	NA	NA	NA	NA	NA	NA	NA	NA
Asian	6%	24%	10%	38%			5%	0.12%	
Black	-5%	-15%	-12%	-6%	-2%		-23%	1.60%	
Hispanic	-9%	-13%	-10%	-7%	-5%		-30%	0.62%	
Multi-race	-9%	-14%	-3%	0%			-11%	0.31%	
White	3%	6%	3%	4%	1%		5%	5.92%	

SPECIAL POPULATIONS

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97%	52.3%	48.00%	0.00%	76.50%	28.72%	78.41%	78.41%	0.00%
District Performance	94%	49%	31%	28%	75%	21%	73%	85%	0%
Economically disadvantaged	-3%	-8%	-10%	1%	-6%		-8%		
Multilingual learners	-2%	-51%	-24%	-12%			-77%		
Individuals with disabilities	0%	-41%	-19%	0%	-20%		-27%		
Nontraditional fields	5%	5%	3%	16%	2%		-2%		
Single parents									
Out of workforce									
Students served under the McKinney-Vento Act (Unhoused)	-2%	-21%	-17%	4%	-22%		12%		
Youth in foster care	6%	-8%	-24%	-12%			23%		
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 <i>overall performance</i> , on which indicators are you <u>substantially underperforming</u> * the district performance target?	2S2 - reading, 2S3-math 2S2 – Down 12-14% in minorities 2S3 – down 10 -12 for B/H
Looking at <i>overall performance</i> , on which indicators are you <u>substantially exceeding</u> the district performance target?	1S1, 5S4a 1S1 – down 5 to 9 in minorities 5S4a – all up.

* 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.

Overall:

WCPS has identified several potential root causes for the district's lower math and literacy rates. These factors are identified in our Maryland Blueprint Plan and Every Student Succeeds Act Plan (ESSA)

- A. Economic inequality contributes to academic outcomes in several ways. Students from low-income families may have access to different resources and opportunities than their wealthier peers, such as high-quality early childhood education, books and educational materials at home, and extracurricular activities.
- B. WCPS had 28% of students chronically absent during the 22-23 school year. While that was a slight improvement from the 21-22 school year of 32%, WCPS has not seen chronic absenteeism drop to the pre-pandemic levels of 16%.
- C. Math achievement data is primarily determined in grades 9 and 10. The data listed above is now 2-3 years lagging, considering when students were assessed. In some cases, students did not have to assess due to the COVID-19 pandemic. The decline in student math achievement is due to the interrupted instruction caused by the COVID-19 pandemic. The abrupt shift to remote learning exposed technological barriers and variability in instruction quality, while the lack of routine and home environment distractions further disrupted learning. Students also faced reduced access to specialized support services and supplementary programs, exacerbating the challenges. Additionally, the social and emotional impact of the pandemic, including increased stress and isolation, hindered student engagement and motivation.

Discrepancies by Program:

One significant issue is that some CTE programs do not require advanced math skills, such as algebra, which are often emphasized in traditional academic tracks. Algebra II is a requirement for college, but it is not used in many CTE fields. There is a current misalignment between the accountability measures listed in the chart above and the CTE curriculum. A more equitable approach would be to measure the percentage of students who are college and career-ready. This takes into account the student's Grade Point Average, which the *Empirical Research Study of Maryland's College and Career Readiness Standard* deemed to be the greatest indicator of student readiness. Data indicates a noticeable discrepancy in data when comparing CTE students who transition to college versus those entering the workforce directly. CTE programs that lead to college have higher percentages of students who are deemed College and career-ready.

Discrepancies in participation rates across various CTE programs highlight significant gender and minority imbalances. For instance, in Health and Biosciences, which has a high post-secondary participation rate, males are underrepresented at 23%, while females dominate at 76%. Students in Information Technology and Computer Science and Manufacturing, Engineering, and Technology also have high post-secondary participation rates, and both of these programs report very low minority participation.

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?

The analysis of CTE program data reveals several critical discrepancies in key performance indicators. The 5S1: Attained Recognized Postsecondary credential metric highlights disparities in the percentage of CTE concentrators graduating from high school who meet or exceed proficiency on industry standards to obtain recognized postsecondary credentials. While some programs successfully prepare students for these credentials, others fall short, pointing to uneven quality and rigor across different CTE programs.

For 5S4a: Technical Skill Attainment, discrepancies exist in the percentage of CTE concentrators meeting state-recognized CTE standards, including earning industry-recognized credentials. This inconsistency indicates a need for standardized curriculum improvements and more robust support mechanisms to ensure all students achieve these critical benchmarks.

Lastly, 5S4b: Apprenticeship participation data show that a small percentage of CTE concentrators engage in apprenticeships. This low engagement rate highlights a gap in hands-on, experiential learning opportunities that are crucial for workforce readiness. Enhancing partnerships with industries and expanding apprenticeship programs could help bridge this gap.

Addressing these discrepancies requires targeted interventions, including curriculum enhancements, better alignment with industry standards, increased support for non-traditional students, and expanded access to apprenticeships and other hands-on training opportunities.

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)?

WCPS updated the 4A process (Assess, Analyze, Act, and Adjust) to identify students needing additional math and literacy support. The 4A process involves using data to assess student performance, analyzing the results to identify areas for improvement, addressing those areas instructionally, and monitoring progress to ensure students achieve their goals. Additionally, WCPS uses Multi-Tiered System of Support (MTSS) plans to close gaps and ensure that all students receive the support they need to succeed academically. MTSS is a framework that provides a continuum of evidence-based interventions and supports to meet the diverse needs of learners. MTSS plans are developed for students at high risk of not meeting grade-level benchmarks in math or ELA. Tiers of support are provided for all students to meet grade-level expectations daily during supplemental instruction. CTE teachers will have access to MTSS plans in their district gradebook. The CTE Office can provide professional development to CTE teachers on how to access these plans and how to provide targeted instruction to students who need it most to close gaps in learning.

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.]*
 - A) Enhance Curriculum Alignment with Industry Standards (5S1 and 5S4a): Ensure the CTE curriculum is aligned to industry standards to ensure students meet proficiency levels required for recognized postsecondary credentials and state-recognized CTE standards. This includes updating course content, incorporating more hands-on training, and providing professional development for instructors to stay current with industry trends.
 - B) Expand Apprenticeship and Work-Based Learning Opportunities (5S4b): Increase the number and quality of apprenticeship and work-based learning opportunities for CTE students. Strengthen partnerships with local businesses and industry leaders to create more internship and apprenticeship programs, which will provide students with real-world experience and improve their technical skill attainment and post-program placement rates.
 - C) Address Equity and Access for Non Traditional Learners and Special Population Groups (All Indicators): Develop and implement support systems tailored to the needs of special population groups, including students from minority backgrounds, those with disabilities, and economically disadvantaged students. This could involve additional tutoring, career counseling, and access to resources like technology and study materials to ensure these students can achieve parity in performance outcomes.
 - D) Improve Academic Proficiency in Reading/Language Arts and Math (2S1)(2S2): This includes incorporating literacy skills into CTE coursework, supporting student MTSS plans, and integrating literacy-focused professional development for CTE instructors. Embed problem-solving and reasoning within the CTE curriculum and supporting student math MTSS plans.

- E) **Enhance Recruitment and Retention in CTE Programs:** Develop comprehensive recruitment strategies to increase enrollment and attendance in CTE programs. This may involve outreach to middle schools, engaging with community partners, hosting informational sessions for students and parents, and showcasing successful alumni to promote the benefits of CTE education and career pathways.

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

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: (I am unable to provide separate clusters as that data is not kept by WCPS, nor does WCPS grant temp waivers to staff according to my HR).					
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	55%	65.2%	20.7%		
Female	44%	61.3%	12.6%		
Race-ethnicity					
American Indian	0	0	0		
Asian	0	29.8%	0		
Black	4.6%	61.7%	0		
Hispanic	0	58.2%	0		
Multi-race	0	60.9%	0		
White	95.4%	66.3%	100%		
Credential					
Properly Licensed					
Granted Temporary Waiver					

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.	Yes		During the summer and sometimes during the school year, our staff participates in professional learning opportunities to enhance their teaching skills in their respective fields. Many of these courses are eligible for recertification, but we are planning to offer more options for teachers to participate in professional development led by CTE so that we can increase teacher engagement. This is important because WCPS will transition from certifications to licenses over the next five years.
Staff are aware of the requirements to maintain endorsement.		Yes	As WCPS transitions from certifications to licensing, teachers must stay informed about certain changes. WCPS has started sharing this information during our recent professional development sessions, and we will continue to discuss it during school CFIP meetings and county-wide PD events.
Staff have equal access to content-specific professional development opportunities across industries.	Yes		WCPS offers content-specific professional development (PD) to its staff three times a year as part of mandatory teacher PD days. Additionally, we provide tailored PD opportunities for teachers across our Career and Technical Education (CTE) content at various times throughout the school year, usually in the evenings.
Data are collected on the effectiveness of professional development to ensure it meets the needs of educators.		Yes	The current data collection efforts are limited to teacher surveys, and we recognize the need to expand our data collection to better understand and address teacher needs for the future.

ACTIVITY D.3: REFLECTION

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

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

Minority representation in education throughout Maryland is a challenge. In WCPS, we reflect the overall trends in minority staffing throughout the state. WCPS has seen five-year growth in Professional Staff, Selected Professional Staff, Directors, Coordinators, and Supervisors. Our school district strives to ensure that our staff represents the diverse communities they serve. WCPS is committed to addressing this disparity by taking steps to diversify our staff. However, WCPS faces some challenges in this effort, such as a limited pool of qualified applicants, lower salary offerings compared to neighboring counties, and the need to prioritize hiring the most qualified and competent staff members who can best serve the academic needs of our student population, regardless of their ethnicity. WCPS is actively working to overcome these challenges and create a more diverse and inclusive workforce that reflects the communities we serve.

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?

At our organization, we strive to hire licensed teachers for our team. However, we understand there is currently a shortage of qualified applicants in the market. To meet the demands of our program, we have developed a process that allows us to hire individuals who come from the industry directly. WCPS has a well-established program in place that enables these individuals to transition from a provisional certification to a full teaching license within a period of two years. Rest assured that our team is committed to providing high-quality education and training to our students, regardless of the background of our staff members.

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?

At WCPS, the supervisor conducts content-specific professional development sessions three times yearly to help educators enhance their skills and stay up-to-date with the latest teaching practices. In addition, the building administration and lead teachers also hold weekly professional development opportunities focused on teaching-related topics. These sessions aim to support educators' professional growth and improve the quality of education delivered to students.

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

As educators, we all understand the importance of professional development (PD) opportunities and how they can help us grow our skills and knowledge. However, it can be challenging to find or create PD programs that meet the diverse needs of all teachers, especially those who are working under the WCPS CTE umbrella.

To overcome this challenge, we are currently working on a plan to offer personalized PD to

teachers. This approach will allow them to choose the areas they wish to grow in and support the curriculum they teach. By providing tailored PD, we aim to support teachers' individual needs and promote their professional growth.

With this approach, we hope to provide teachers with the right tools and resources they need to succeed in their roles and feel confident in their abilities. WCPS will create a collaborative and supportive environment that fosters continuous learning and growth for all educators.

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. Our team is dedicated to ensuring that every teacher receives a personalized professional development plan that is tailored to their unique needs and goals. Our aim is to help teachers take risks, explore innovative teaching methods, and expand their knowledge in a supportive and encouraging environment. WCPS believes that by providing personalized professional development plans, we can help teachers reach their full potential and make a positive impact on their students' lives.
 2. As an educational support system, we aim to assist every teacher in creating a concise and achievable plan for their curriculum objectives. Our goal is to equip them with the essential tools and resources that will enable them to turn their vision into a tangible reality.
 3. Our aim is to enhance the number of dual credit programs associated with our CTE completion pathways. By doing so, we want to provide students and educators with more avenues to engage in advanced learning opportunities.
 4. Our organization is committed to providing our staff with more comprehensive and diverse professional development opportunities. WCPS recognizes the importance of equipping our teachers with the skills and knowledge they need to effectively teach a diverse population of students and meet recertification requirements. That's why we will be expanding our offerings beyond content-specific areas to include a wider range of topics that are relevant to today's classrooms. WCPS believes that investing in our staff's professional growth will ultimately benefit our students and lead to greater success for all.
 5. The proposed initiative aims to encourage more students to consider teaching as a career path. CTE teachers will play a crucial role in identifying potential candidates as early as 6th grade through 12th grade. Once identified, these students will be celebrated in a ceremony to spark their interest and inspire them to consider teaching a viable profession. For older students, we will provide educational advice, scholarship awareness, and employment information with WCPS in case they decide to return to work with us in the future. This initiative will not only help us recruit more instructors but also inspire and empower the next generation of educators.

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	<ul style="list-style-type: none"> 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	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

	employment projections			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 FY2024	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

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				opportunities
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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 9 th grade students to introduce them to school CTE offerings.	Freshman Cruise	Roseburg Public Schools (OR) takes all 9 th 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 Letter of Intent	Linn Benton Community College (OR) publicly

		<p>CTE students who demonstrate their intent to enter a postsecondary institution to continue their studies or take a job with a community employer</p>	<p>Signing Day: College CTE Signing Day: Employment</p>	<p>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.</p>
<p>Students are not provided career guidance that supports them in choosing CTE as an educational pathway.</p>	<p>Educate high school guidance counselors on the benefits that CTE offers and the advanced education and employment options that students may follow.</p>	<p>Develop and conduct professional development for school counselors aimed at increasing awareness and benefits of CTE programs.</p>	<p>School Counselor Playbook: Unlocking Career Success</p>	<p>Unlocking Career Success offers this playbook that includes practical tools, resources, and information to assist counselors in discussing college and career pathways with students.</p>
		<p>Design tools and resources for counselors to use in their career exploration activities with students that highlight CTE offerings.</p>	<p>ACTE High Quality CTE: Student Career Development</p>	<p>ACTE offers webinars, online courses, toolkits, and more designed to support counselors and college/career navigators as they offer guidance to students.</p>

PROBLEM: STUDENTS ARE NOT PERSISTING IN CTE PROGRAMS.

Root Cause	Strategy	Sample Activities	Resource	Description
<p>Historically underrepresented students or those with special needs do not feel welcome in CTE programs.</p>	<p>Remove obstacles to success for students who may need additional supports to persist.</p>	<p>Implement evidence-based strategies to support special population students in succeeding in CTE programming.</p>	<p>Maximizing Access & Success for Special Population Students</p> <p>Strategies for Special Population Success</p> <p>Recruiting Special Populations into CTE: Toolkit</p>	<p>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.</p> <p>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.</p> <p>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</p>

				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)	Work-based Learning Toolkit	The U.S. Department of Education created this resource to support state

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		experiences, including internships and apprenticeships, to help them learn about the benefits from obtaining advanced skills.		and local program administrators in learning about WBL, engaging employers, measuring outcomes, and scaling effective practices.
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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.	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.
		Incorporate reading and writing activities, technical manuals, industry-related texts, and project-based assignments that require critical thinking and communication skills.		ACTE hosts a virtual collaboration to share ideas and effective practices. Visit the Resource Section to download tools to fuel your integration efforts.
		Incorporate math skills into CTE classrooms.		The Southern Regional Education Board has developed curricular tools that enhance the teaching of math that is already embedded in CTE programs.
		Encourage collaboration and co-teaching between CTE and academic teachers.		
		Use results from academic assessments to target	Rigorous K-12 Assessments Help Reduce	This brief from offers examples of how higher

		educational remediation so that high school students enter college ready to learn.	Remediation	states are 11 th 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.	<p>Use Maryland's Perkins V basic grant to fund student attainment of an industry-recognized credential.</p> <p>Develop strategies to identify students who may face challenges in paying for exams and find ways of offsetting costs.</p> <p>Work with exam providers, employers, and community organizations to provide fee waivers or scholarships for certification exams, materials, and training courses.</p> <p>Work with credentialing vendors to expand testing sites and administer exams in convenient and accessible locations.</p>	<p>Maryland CTE Perkins Reserve Grant Information Guide</p> <p>Credential Currency: Promoting CTE Credentials of Value</p> <p>Aligning State CTE Programs with Industry Needs and Priorities</p>	<p>Maryland offers a competitive grant program that includes options for using funding to strengthen the award of industry-recognized credentials in POS.</p> <p>This report offers strategies to expand student obtainment. While focused on the state level, some recommendations may be adapted for district/college use.</p> <p>ExcelinEd produced this toolkit to support states in aligning CTE programs with industry needs and priorities. While intended for state policymakers, some recommendations may be adapted for use at the district/college level.</p>

PROBLEM: STUDENTS ARE NOT EARNING INDUSTRY-RECOGNIZED CREDENTIALS.

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

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

Root Cause	Strategy	Sample Activities	Resource	Description
<p>Students do not understand the steps needed to pursue a career.</p>	<p>Offer workplace experiences and access to career planning tools to help students plan for labor market entry.</p>	<p>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.</p>	<p>Maryland's Work-based Learning Continuum</p>	<p>This resource describes the research, common practices to support students in learning about work, and tools to help in career seeking and advancement.</p>

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.	<p>Offer bonuses for specific fields or tuition reimbursement for teachers trying to get credentials.</p> <p>Consult with employer advisory groups for potential teacher candidates.</p> <p>Create a 'grow your own' initiative to recruit instructors.</p> <p>Hire a recruiter to identify potential applicants.</p> <p>Conduct outreach to entice retiring industry workers or those seeking a change to enter the field.</p>	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,	Identify non-traditional pathways for teachers to	Launch a targeted CTE teacher recruitment	Teach CTE Recruitment	ACTE has created this toolkit to raise awareness

<p>making it difficult to hire new instructors.</p>	<p>earn the necessary credentials to become a CTE educator.</p>	<p>campaign to motivate educators and industry professionals to become teachers.</p> <p>Engage with local industry to pair experienced workers with current to support their development and ability to teach in new fields.</p> <p>Explore the multiple pathways to becoming a CTE teacher in Maryland.</p> <p>Develop alternative pathways to certification for individuals with industry experience who lack teaching credentials.</p>	<p>Toolkit</p> <p>Becoming a CTE Teacher in Maryland</p>	<p>of CTE teacher shortages and provide tools to build interest in the profession.</p> <p>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.</p>

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

Root Cause	Strategy	Sample Activities	Resource	Description
Individuals transitioning	Offer targeted	Pair new first and second	CTE TEACH Mentor	The Colton-Redlands-

<p>from industry may lack the pedagogical skills to succeed in the classroom.</p>	<p>professional development to support new CTE instructors in strengthening their teaching skills.</p>	<p>year CTE teachers with seasoned veterans who can serve as mentors and provide resources and guidance.</p> <p>Facilitate networking events, conferences, and workshops where CTE educators can connect with colleagues, share best practices, and collaborate on innovative teaching strategies.</p>	<p>Programs</p>	<p>Yucaipa Regional Occupational Program (CA) partners with the California Department of Education to offer mentorship supports and professional development for new CTE teachers.</p>
<p>CTE educators are unable to offer academic credit to students taking CTE coursework.</p>	<p>Create policy and practices to support CTE educators in offering academic credits.</p>	<p>Pair academic and CTE educators to design courses that allow students to earn academic and technical credit simultaneously.</p>	<p>Credit Quandaries: How CTE Instructors can Teach Academic Credit</p>	<p>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.</p>

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

Root Cause	Strategy	Sample Activities	Resource	Description
<p>Educators who are nontraditional for their</p>	<p>Undertake targeted efforts to recruit</p>	<p>Promote CTE as a career choice by collaborating</p>	<p>State and Local Strategies for Diversifying the CTE</p>	<p>This document identifies issues and offers solutions</p>

<p>field are not recruited and those who begin are not offered supports to persist in the occupation.</p>	<p>individuals who are nontraditional for their field.</p>	<p>with professional organizations to promote CTE teaching careers and develop pathways to teacher preparation programs.</p> <p>Offer professional development targeted to address the needs of nontraditional educators, which include creating inclusive workplaces and offering mentoring and professional learning communities.</p>	<p><u>Educator Workforce</u></p> <p><u>Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color</u></p>	<p>for diversifying the secondary CTE educator workforce. Includes suggested activities to both promote recruitment and retention of teachers.</p> <p>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.</p>
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Appendix E: Additional Resources

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

Advance CTE

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

WCPSbsite: [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.

WCPSbsite: [AIR Educator Quality](#)

Association for Career and Technical Education (ACTE):

ACTE provides resources and research related to CTE.

WCPSbsite: [Association for Career and Technical Education](#)

CTE Research Network

Federally funded website focused on strengthening CTE research.

WCPSbsite: [CTE Research Network](#)

Learning Policy Institute (LPI):

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

WCPSbsite: [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.

WCPSbsite: [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.

WCPSbsite: [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.

WCPSbsite: [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.

WCPSbsite: [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.

WCPSbsite: [What Works Clearinghouse](#)