



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

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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
Intangible: Knowledge of federal and state education guidelines	Ensure CTE programs align with Perkins V, the Blueprint for Maryland's Future, and other relevant guidelines	Regular compliance checks and reports	Immediate course correction when misalignments are found	Consistent alignment with state and federal guidelines	Sustained funding and support for CTE programs due to compliance

INTERPRETATION

3. **IF** we intentionally and strategically allocate Perkins funding in the planning process, **THEN** we can develop a CLNA leading to a comprehensive report that identifies gaps in the CTE programs, ultimately enhancing the quality and inclusivity of CTE programs and preparing the workforce better for Maryland's labor market demands.

4. **IF** we utilize LMI data, **THEN** we can better align CTE programs with current labor market demands, leading to adjustments in the CTE curriculum, improving the alignment of CTE tracks with workforce demands, and resulting in higher employment rates for CTE program graduates.
5. **IF** we employ interview and focus groups effectively, **THEN** we can gather valuable feedback from stakeholders, establishing an immediate feedback loop, strengthening collaboration, and enhancing stakeholder trust and investment in CTE programs.
6. **IF** we leverage our expertise in CTE programming, **THEN** we can design a structured Local Application process for Perkins V funding, streamlining the application process, increasing the number of successful grant applications, and optimizing the use of grant funds for improved student outcomes.
7. **IF** we nurture and maintain stakeholder relationships, **THEN** we can engage more deeply and regularly for feedback, fostering a sense of community ownership, strengthening community ties, and creating CTE programs that resonate more deeply with community needs.
8. **IF** we stay updated on federal and state education guidelines, **THEN** we can ensure consistent alignment of CTE programs with these guidelines, leading to immediate course corrections when needed, sustained alignment, and thereby securing sustained funding and support for CTE programs.

PROGRAM DESIGN

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

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

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

STUDENT ENGAGEMENT

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

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

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

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

PROGRAM DELIVERY

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

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

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

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

SCOPE
Curricula are aligned to state-approved industry standards that allow students to earn recognized credentials, certifications, licenses, college credit, or degrees
Curricula offer a progression from secondary to postsecondary education and/or employment (including attainment of an industry-recognized credential or apprenticeship), and from community college to bachelor's degree programs
Curricula allow students to learn and demonstrate academic, technical, and employability skills
Curricula include differentiated supports and modifications to meet the needs of diverse learners
Each CTE student has a written career and academic plan in place that includes the: <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).
All students, including students in special populations, are offered the opportunity to: <ul style="list-style-type: none"> • 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

QUALITY
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	Robin Werner
Organization	Talbot County Public Schools
Title	Supervisor of Career and Technical Education
Email	rwerner@talbotschools.org

STAKEHOLDER TEAM MEMBERS

When Selecting Stakeholders, consider:

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

Stakeholder Team Responsibilities

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

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

Stakeholder Team Roster

SECONDARY

Role	Name	Title	Affiliation
Administration (e.g., principal, assistant principal)	Sherry Spurry	Principal, Easton High School	TCPS
	Theresa Vener	Principal, St. Michaels Middle High School	TCPS
	Bridget Harper	Assistant Principal, Easton High School	TCPS
	Becky Mann	Assistant Principal, St. Michaels Middle High School	TCPS
Professional career or academic counselor	JR Burkhardt	School Counselor	TCPS
	Danielle Haley	Apprenticeship Coordinator	TCPS
	Christina Gorsuch	Career Counselor	TCPS
	Jessica Baker	School Counselor	TCPS
Teachers	Lauren Greer	Biomedical Science Teacher	TCPS
	Gia Ristvey	TAM Teacher	TCPS
	Joseph Candel	Culinary Arts Teacher	TCPS
	Nick Werner	Marketing and Engineering Teacher	TCPS
Instructional Support and Paraprofessionals (Psychologists, Social Workers, etc.)	Amy Harris	Social Worker	TCPS
	Christine Duncan	Drop-Out Prevention Specialist	TCPS

POSTSECONDARY

Role	Name	Title	Affiliation
Administration (e.g., dean, division chair)	Jason Mullen	Dean for Workforce	Chesapeake College
	Juliet Smith	Dean for Arts and Sciences	Chesapeake College

	David Harper	VP for Workforce and Academics	Chesapeake College
	Amber McGinnis	Executive Director, Chesapeake College Foundation	Chesapeake College
Faculty	Dr. Heather Westerfield	Professor	Chesapeake College
	Dr. Lanka Elson	Professor	Chesapeake College
	Bridget Lowerie	Assistant Professor	Chesapeake College
	David Timms	Simulation Director	Chesapeake College

WORKFORCE

Role	Name	Title	Affiliation
Local Workforce Development board member	Dan Schneckenburger	Executive Director	USWIB
	Shirley Lake	Blueprint Coordinator/Career Navigator	USWIB
*Regional Economic Development organization member	Cassandra Vanhooser	Talbot County Economic Development and Tourism Director	Talbot County Government
	Amy Kreiner	Talbot Chamber of Commerce	
Local business & industry representative	Brent Durham, iFrog Digital Marketing	COO	iFrog Digital Marketing
	Amanda Alto	Clinical Nurse Educator	UM Health Systems

OTHER

Role	Name	Title	Affiliation
Parent or caretaker	Christine Davis	Parent	SMMHS
Student	Chris Davis	Student	SMMHS
Representative of Special Populations	Kristin Mentges	Director of Special Education	TCPS
Out-of-School youth / unhoused youth / corrections	Darlene Spurrier	Director of Student Services	TCPS

* Not required under Perkins V but recommended to include.

Component A: Labor Market Alignment

OVERVIEW

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

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

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

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

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

ACTIVITY A.1: TAKING STOCK

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

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

Program	Alignment to current statewide industries (enter ✓)			Number of CTE participants 2022-23	Percent of all CTE Participants 2022-23
	HS	HW	ID		
Example				###	100%
Academy of Health Professions- CNA	Yes	No	Yes	84	8%
Automotive Technology	Yes	Yes	Yes	21	2%
Curriculum for Agriculture Science Education	Yes	Yes	Yes	50	5%
Careers in Cosmetology	Yes	No	Yes	11	1%
Fire Science- MFRI	Yes	No	Yes	3	.3%
JROTC	Yes	No	No	38	3%
Local Construction Trades- Carpentry	Yes	Yes	No	64	6%
PLTW Biomedical Science	Yes	Yes	Yes	86	9%
Computer Science	Yes	Yes	Yes	224	22%

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PLTW Engineering	Yes	Yes	Yes	84	8%
Culinary Arts	Yes	Yes	Yes	146	15%
Interactive Media Production	Yes	Yes	Yes	93	9%
Teacher Academy of Maryland	Yes	Yes	Yes	28	3%
Marketing	Yes	Yes	Yes	93	9%

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

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

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

	Meets	Area for Improvement	Explanation
Our CTE stakeholders review workforce and economic data to assess current and anticipate future local employment needs in HS/HW/ID industries	X		Our partnership with Chesapeake College (CC) and the WIB has strengthened over the past year. The WIB and CC have supported TCPS with Lightcast data which gives an economic overview of Talbot County. TCPS needs to share this data with a larger stakeholder group as it is a guiding data point for CTE programming. In addition, MSDE has stated they will be sending quarterly Labor Market data for CTE which will be reviewed quarterly by TCPS in collaboration with Chesapeake College and the WIB. In addition, data is reviewed at Program Advisory Council (PAC) meetings. In discussions with Chesapeake College, we would like to improve minutes that are taken at these meetings to capture discussions and additional data that will benefit student experiences.
Processes are in place to identify and expand high school level registered apprenticeship opportunities.	X		<p>TCPS is in collaboration with the Talbot County Labor Department Navigator. TCPS will meet with current Youth Apprenticeship partners to see if they would be interested in shifting to STA. In addition, TCPS has presented to all 5th and 8th grade students information about Apprenticeship during CTE tour visits. The Apprenticeship coordinator has also hosted information nights at EHS and SMMHS.</p> <p>In collaboration with Chesapeake college and the other 4 districts they serve, we plan to have district Career Coaches collaborate more closely with Chesapeake College CTE navigators, including high school visits and identifying specific students for recruitment.</p> <p>There are concerns that there are limited Registered Apprenticeship opportunities in this area.</p> <p>Starting in the spring of 2023, a collaborative of the Upper Shore counties and Chesapeake College was</p>

			<p>started with the sole purpose of expanding partnerships. We have a purpose statement” To develop a collaborative, five-county team, across both youth and adult apprenticeship, tasked with growing the number of registered apprentices (youth & adult), the quality of the apprenticeships as it relates to education best practices, improve and develop business partnerships, and aid in the transition of youth apprentices into adult.</p> <p>This group meets bi-monthly.</p> <p>In the future, the 5 districts and Chesapeake College discussed pursuing resources for Chesapeake College to create a Registered Apprenticeship Sponsor.</p>
Processes are in place to update or phase out CTE POS that do not align with HS/HW/ID industries	X		<p>TCPS is looking at a multiple year plan to shift local POS to state approved POS. In addition, TCPS will use the final approved IRC list to make programmatic adjustments if needed. No changes will be made for the 24-25 SY. Information has been shared with TCPS Superintendent and Assistant Superintendent for Teaching and Learning as it relates to programs we do not envision having an IRC. In addition, TCPS will use, once received, the CTE programming Framework to analyze what programming/course options we have for state approved programs.</p>
A majority of our students are concentrating in POS aligned to HS/HW/ID industries	X		<p>All TCPS CTE programs align to HS/HS or ID industry.</p>
Processes are in place to recruit business and industry stakeholders to participate on Program Advisory Committees	X		<p>TCPS has business industry stakeholders involved in our classrooms and Program Advisory Committees. TCPS plans to improve our Work Based Learning Continuum. This will include more opportunities to collaborate with Business partners. TCPS collaborates with neighboring counties on the Upper Shore to develop PAC meeting procedures in order to run efficient and effective PAC meetings. This school year, TCPS PAC meetings were held at Chesapeake College with the other 4 counties served by them. Collaboratively we have discussed ways to have better industry representation & alignment,</p>

			<p>ways to improve minutes from the meetings and ways to cultivate more business & industry relationships for program support, funding and apprenticeships.</p> <p>In addition to PAC meetings, the 5 Upper Shore districts created a Local Advisory Council (LAC) that meets 2 times a year with Chesapeake College and The Workforce Investment Board. At our last meeting we discussed ways the WIB can help to build business and industry partnerships with the school systems.</p>
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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)?

Although all TCPS programs meet at least one criterion, Academy of Health Professions, Careers in Cosmetology, MFRI, and NJROTC do not meet High Wage. The career opportunities upon high school graduation are entry level positions in the field. These fields are in demand, therefore, teachers discuss with students pathways to increase their skills and knowledge to move farther in the same field where it does become high wage. Many of TCPS CTE programs also have articulated or transcribed college credit. Therefore, TCPS students have the ability to continue their education in their field of study. With a 2- or 4-year degree in these fields, the wage increases.

Local Construction Trades/Carpentry and NJROTC are not In Demand. Lightcast data pulled by our Workforce Development Board and data pulled by Chesapeake College show that Construction is in the top 5 Industries with highest Gross Regional Product. NJROTC may not show a need in our local labor market data, however students who are interested in the military receive valuable instruction towards a viable career.

There are students who graduate from a TCPS school that move upon graduation. TCPS offers programming that provides students access and exposure to a variety of career fields. We do ensure that the majority of our CTE programs align to local/regional needs. TCPS will continue to use Lightcast data as well as other resources to analyze trends to make informed CTE programmatic decisions.

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.

No changes will be made for the 24-25 SY but TCPS is in the planning stages of a multi-year action plan to improve overall CTE programming in Talbot County Public Schools. The plan will consist of the following priorities:

- 1) Prioritizing alignment of POS to IRCs approved by the GWDB CTE Committee
- 2) Ensuring alignment between POS offered and local (Talbot County), regional (Eastern Shore), state (Maryland), and US region (Mid-Atlantic) current and future workforce needs
- 3) Updating local POS to state-approved POS and the MD CTE Framework
- 4) Develop strategies, checkpoints, timelines and responsibilities of stakeholders for sunseting a program(s) including internal and external communication plans.
- 5) Determine needs to either support existing teachers in updating their certifications in new fields, hire new CTE teachers with requisite skills, and explore other hiring options as needed.

Component B: Student Participation and Persistence

OVERVIEW

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

ACTIVITY B.1: TAKING STOCK

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

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

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

Notes:

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

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

Student Group	2023 Graduates Statewide				2023 Graduates in Your District			
	Number	Percent	Percent participating in CTE	Percent of participants who achieved concentrator status	Number	Percent	Percent participating in CTE	Percent of participants who achieved concentrator status
All 2023 Graduates (4-year cohort)	58,206	85.81%			344	100%	89.8%	42.7%
Gender								
Male	28,576	82.60%			168	48.8%	84.5%	36.3%
Female	29,581	89.16%			176	51.2%	94.9%	48.9%
Race-ethnicity								
American Indian	140	85.89%			*	*	*	*
Asian	4,559	96.16%			5	1.5%	100.0%	40.0%
Black	18,648	84.68%			46	13.4%	78.3%	34.8%
Hispanic	10,446	71.37%			72	20.9%	83.3%	26.4%
Multi-race	2,485	89.36%			25	7.3%	84.0%	48.0%
White	21,838	93.38%			194	56.4%	95.9%	50.5%
Special Populations								
Economically disadvantaged	17,049	80.83%			167	48.5%	83.2%	33.5%
Multi-lingual learners	3,140	55.78%			25	7.3%	64.0%	24.0%
Individuals with disabilities	4,697	69.47%			61	17.7%	85.2%	42.6%
Nontraditional fields	-	-			0	0.0%	*	*
Single parents	-	-			*	*	*	*
Out of workforce	-	-			0	0.0%	*	*
Unhoused Individuals	833	62.03%			13	3.8%	53.8%	23.1%
Youth in foster care	66	40.24%			0	0.0%	*	*
Youth with	1,028	95.10%			0	0.0%	*	*

parent in military		%						
Migrant students	-	-			0	0.0%	*	*

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

ACTIVITY B.2: ASSESSING YOUR PROGRAM

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

	Meets	Area for Improvement	Explanation
Our district ensures all students—irrespective of gender, race, or special population status—are provided unbiased, inclusive, and non-discriminatory information about CTE courses and POS	X		<p>All 5th and 8th grade students tour EHS and our CTE programs. During these tours CTE ambassadors are used as tour guides. Bilingual students, Special Education teachers, MLL teachers, and school counselors join the student groups to provide support when needed.</p> <p>Our career counselors visit 5-12th grade students. Specifically, presenting lessons in Pathful and educating students on our CTE POS. Lessons are accommodated for student needs. Lessons allow TCPS staff to get individual data on student interests so that they can be appropriately guided to CTE POS.</p> <p>TCPS also works with our district translator to ensure materials are translated into Spanish.</p>
Our district has processes in place to recruit students traditionally underrepresented in CTE to improve diversity in CTE POS	X		<p>By offering all CTE programs in a comprehensive high school setting, TCPS is able to increase access to all students, which also assists in recruiting traditionally underrepresented populations. We are intentional in selecting student CTE student ambassadors that represent non-traditional and diverse groups of students.</p> <p>TCPS has purposefully created programs of study to help increase access through reducing barriers for students in special populations such as homeless, single parent and economically disadvantaged. For example, several of our programs include increased credit requirements to obtain the required clinical/lab/</p>

	Meets	Area for Improvement	Explanation
			shop hours. Therefore, students do not need transportation or to utilize their off- school time to meet school requirements. Programs supply necessary tools and equipment to limit any financial burden.
Processes are in place to ensure that students traditionally underrepresented in CTE have options to <u>enroll</u> in CTE POS	X		All students, regardless of gender, race, or special population status have the ability to request and enroll in CTE programs of study. There is no application requirement or fees associated with any POS. At this time, TCPS does not have over enrollment of any programs. TCPS administration and counselors monitor course requests to appropriately plan our master schedule to ensure that all students have access to enrolling in all programs.
Processes are in place to ensure that students traditionally underrepresented in CTE <u>persist</u> in CTE POS once enrolled	X		<p>To ensure success for students and encourage persistence in programming, the CTE supervisor works with MLL and Special Education supervisors to intentionally support CTE teachers with professional learning to best assist in supporting these students.</p> <p>TCPS has a facilitator for translation services to better connect with multilingual families. TCPS also has school counselors and a mental health coordinator to service all students if a mental health or SEL need is present. This integrated framework encompasses multiple tiers of support, each tailored to meet the diverse needs of students at various levels of academic and behavioral proficiency.</p>
Processes are in place to ensure that all eligible students have equitable access to career-based learning experiences	X		<p>During the 24-25 school year, TCPS plans to improve our work-based learning continuum. This will provide students opportunities for job shadowing all the way through STA. Through attendance at national, state and local conferences, district leads will learn best practices to utilize while enhancing our programming.</p> <p>However, current TCPS CTE programs provide diverse classroom career activities, guest speakers, career exploration lessons, and simulated</p>

	Meets	Area for Improvement	Explanation
			<p>work based learning. Specifically, TCPS began using the Pathful career exploration curriculum for all secondary students this year.</p> <p>Additionally many of our programs embedded career-based learning experiences within the curriculum. For example, our Culinary Arts students participate in catering services in the community, CNA hosts vitals clinics for staff, and IMP creates posters, logos, and other marketing materials for the schools and district.</p>
Career guidance and advisement services are provided to student prior to enrolling in a CTE POS	X		<p>In addition to TCPS overall CTE recruiting, 6th - 12th grade career coaching started in the beginning of the 23 -24 school year.</p> <p>The goal of career coaching is for students to understand the options and choose a post-CCR pathway to best meet their needs. In addition, TCPS school counselors meet with students in grade level groups, smaller class size groups and one on one to discuss students' 4-year plans and adjust them as needed.</p> <p>The career counselors push into secondary classrooms (primarily ELA) to present career exploration lessons in Pathful. Pathful surveys students in their strengths, values, and interests. This data is shared with CTE teachers, admin, counselors and career counselors.</p> <p>TCPS Career Counselors also meet with students with referrals from counselors, teachers, or administrators.</p>
All students have access to career planning and support services to help them successfully transition to advanced education and/or the workforce	X		<p>The 5 Upper Shore districts and Chesapeake College discussed ways to improve career coaching. This includes creating an action plan with dated and measurable goals for specific items in our MOU. In addition, a Five County Calendar of events will be created and shared.</p>

	Meets	Area for Improvement	Explanation
			The TCPS career counselors are available to meet with any high school student to discuss transition to advanced education and/or the workforce. Presentations have been done by colleges and/or business partners in various programs. In addition, Chesapeake College dual enrollment and skilled trades advisors work closely with our students to ensure a smooth transition. School counselors provide opportunities for students as well such as College application week and FAFSA assistance. TCPS has a Transition Specialist that works with special education case managers to ensure transition plans are up to date and include necessary transition information for applicable CTE programming.

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?**

At the district level, our concerning gap in both participation and persistence is with our Multi-lingual learner students (64% participation to 24% concentrator status, a 40 % gap). In addition, our Black, Hispanic and Economically disadvantaged sub groups have a gap in persistence to concentrator (Black 78.3% participation 34.8% concentrator) (Hispanic 83.3% participant 26.4% concentrator)(Economically disadvantaged 83.2% participation 26.4% concentrator).

- 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.]**

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

- 1) Provide professional development to school counselors and career counselors regarding career guidance and advisement services provided to students prior to enrolling in a CTE POS to reduce the participation gap of MLL students.
- 2) Develop data collection system to track student interest, career counseling, and progress in a post CCR pathways to reduce the persistence gap of historically underrepresented populations.
- 3) Implement best practices to CTE POS recruitment and promotion through 5th and 8th Grade Tours and Apprenticeship Nights.
- 4) Look at recruiting efforts at the middle school level by exploring the potential for a Career Exploration class through Pathful at the middle school level, highlighting TCPS CTE

programs of study and by purposefully offering summer enrichment opportunities that are aligned to current POSSs.

5) Analyze course requests to see if there are scheduling opportunities to enhance CTE electives with our current staffing. This would ensure our CTE participant data does not include students who are taking a CTE as an elective credit

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

[illegible]

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

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

Cluster	Enrollment %	Concentrators %	Graduates %	Gender		Race/Ethnicity							Special Populations								
				M	F	AL	A	H	B	W	PI	M	SWD	ED	NT	SP	OOW	EL	HL	FY	AD
AMC	24.7%	4.9%	4%	48%	52%	0%	0%	20%	4%	68%	0%	8%	16%	44%	0%	0%	0%	4%	0%	0%	0%
BMF	12.5%	3.5%	3.4%	63%	37%	0%	0%	5%	5%	79%	0%	11%	0%	37%	0%	0%	0%	0%	0%	0%	5%
CD	.3%	.6%	4.9%	0%	100%	0%	33%	17%	0%	50%	0%	0%	17%	33%	0%	0%	0%	0%	0%	0%	0%
CRD	2.3%	5.8%	.02%	100%	0%	0%	0%	33%	0%	50%	0%	17%	33%	50%	0%	0%	0%	0%	0%	0%	0%
CSHT	20.3%	4.7%	5.8%	43%	57%	0%	3%	8%	22%	65%	0%	3%	22%	38%	43%	0%	0%	3%	3%	0%	0%
EANR	14.8%	6.1%	5.5%	88%	12%	0%	0%	24%	6%	71%	0%	0%	0%	47%	12%	0%	0%	6%	0%	0%	12%
HB	12.8%	11.6%	12.5%	13%	88%	0%	13%	13%	0%	75%	0%	0%	13%	25%	13%	0%	0%	13%	0%	0%	0%
HRS	4.9%	2.6%	4.3%	20%	80%	0%	0%	20%	0%	80%	0%	0%	40%	60%	0%	0%	0%	0%	0%	0%	0%
IT	54%	.3%	.02%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
MET	39.8%	1.2%	.08%	3%	98%	0%	0%	5%	8%	83%	0%	5%	18%	43%	3%	0%	0%	3%	3%	0%	3%
TT	1.2%	0.0%	.02%	0%	100%	0%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%
WBL			.02%	92%	8%	0%	0%	8%	33%	46%	0%	13%	4%	63%	8%	0%	0%	0%	4%	0%	0%

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

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

Participation Heat Map Trends: Under Representation

Hispanic: BMF, CD,

SWD: AMC, BMF, HB, MET

ED: BMF, HB, MET

EL: AMC, BMF, HB, CD, TT

Concentrator Heat Map Trends: Under Representation

Black: TT, MET, IT,

Hispanic: TT, MET, IT, AMC

SWD: MET, IT, HB, BMF

ED: BMF, AMC, EANR, TT, CD

EL: IT, AMC, HB, TT, MET

Potential Factors Impacting Student Participation

- Scheduling Concerns
 - MLL and SWD students may not have availability in their schedule
 - Cross Campus Programs may not be appealing to students
 - Some classes are only offered one block a day
- Small Sample Size
 - 15 programs in a small district like TCPS mean that numbers can fluctuate year to year. Only a few students can make a significant shift in data
- School Counselor Turnover in High School
 - Turnover has made it a challenge to educate new counselors on CTE opportunities

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

The following programs show concerns regarding students persisting to concentrator status: AMC, CSHT, TT, IT and MET.

Factors Affecting Persistence

- After analyzing data, TCPS believes that due to the state reports that data is pulled from, we have students counted as participant who are not yet captured in concentrator data sets, even though they will eventually be completers. A few of our clusters have students that are taking classes that are not in a cohort model, meaning they can take single classes each semester. The data reports do not show concentrator status the same semester as participant.

- TCPS has students who complete more than one program of study such as Biomedical and Allied Health Professions. The data captures them as participants for both but only captures one POS as a completer.
- TCPS CTE POS are offered in a comprehensive high school scheduling model, therefore students have many opportunities to take CTE classes as elective opportunities. TCPS encourages students to explore CTE classes to find a POS they are interested in.
 - Specifically, our IT, MET and AMC programs offer classes that students can take for graduation requirements (Foundations of Computer Science, Intro to Engineering) which can impact the data reported for concentrator status.
- Scheduling Concerns
 - MLL and SWD students may not have availability in their schedule
 - Cross Campus Programs may not be appealing to students
 - Some classes are only offered one block a day
- School Counselor Turnover in High School
 - Turnover has made it a challenge to educate new counselors on CTE opportunities

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?

- Although there are discrepancies, in summary from question 2, data is pulled from various reports, therefore participation vs persistence appears skewed. In addition, our course codes for classes that are taken for Tech Ed or elective credit do not differ from the same class being taken for a CTE pathway. Students needing an elective credit, do not have the intention of participating in CTE but our current data captures them as participants.
 - Some CTE classes are used as elective credits, with no intention of completing. This tends to happen in classes with less equipment and material requirements, and more available seats such as IT.
- 3. 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.]**

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.

1. Enhance outreach and awareness through information sessions and targeted marketing campaigns, specifically targeting underrepresented populations.
2. Provide supports for underrepresented students (ED, Black, and MLL) through outreach, community engagement and career counseling services
3. Strengthen partnerships with local industries and employers to allow more students to engage in work based learning opportunities
4. Analyze course requests and scheduling models to identify potential barriers for MLL and SWD.
5. Develop more comprehensive, local data collection systems to better inform stakeholders of root causes and potential barriers

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 performance level and was less than 90% of the target. Districts failing to achieve the state

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

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

DISTRICT PERFORMANCE BY STUDENT GROUP

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97 %	52.3 %	48.00 %	0.00 %	76.50 %	28.72 %	78.41 %	78.41 %	0.00 %
District Performance									
Gender									
Males	100%	52%	30%	0%	76%	5%	83%	64%	
Females	100%	74%	24%	100%	91%	30%	78%	85%	
Race-ethnicity									
American Indian	*	*	*	*	*	*	*	*	
Asian	*	50%	0%	*	*	25%	*	100%	
Black	100%	56%	13%	100%	81%	25%	91%	79%	
Hispanic	100%	47%	16%	*	72%	20%	67%	56%	
Multi-race	100%	75%	42%	*	*	0%	86%	92%	
White	100%	67%	29%	0%	85%	14%	75%	78*	

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	100%	64%	26%	0	83%	16%	80%	77%	
Economically disadvantaged	100%	56%	16%	50%	73%	16%	94%	75%	
Multilingual learners	100%	0%	0%	*	*	50%	*	67%	
Individuals with disabilities	100%	31%	8%	*	75%	0%	50%	20%	
Nontraditional fields	100%	46%	17%	*	69%	100%	100%	100%	
Single parents	*	*	*	*	*	*	*	*	
Out of workforce	*	*	*	*	*	*	*	*	
Students served under the McKinney-Vento Act (Unhoused)	100%	75%	25%	*	*	33%	100%	100%	
Youth in foster care	*	*	*	*	*	*	*	*	
Youth with a parent in active military	100%	75%	50%	*	*	0%	50%	50%	
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: Academic proficiency in mathematics: 4S1: Non-Traditional Placement
Looking at <i>overall performance</i> , on which indicators are you <u>substantially exceeding</u> the district performance target?	1S1

* 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

- 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.**

2S2: Academic Proficiency in Math

The data for Algebra I is from the graduating class of 2023. These students were significantly impacted by school closures due to the COVID Pandemic. They would have taken Algebra I during the 19-20 or 20-21 school year. Having lost instruction time and having virtual instruction greatly impacted students' ability to perform on state assessments. With that being said, TCPS has taken measures to close these achievement gaps. The TCPS math department has faced specific challenges in recovering from learning loss due to the Covid pandemic and returning to pre-pandemic learning. This has caused the district to analyze how we prepare students for Algebra I by utilizing a pre-Algebra course leading into an Algebra I course. As a result, improving student performance in math is one of Talbot's 3 priorities this school year.

4S1: Non-Traditional

Gender Stereotypes: Traditional gender roles and stereotypes can discourage individuals from pursuing CTE programs that are not typically associated with their gender. For example, females might be less likely to enroll in automotive technology or construction programs, while males might avoid nursing or cosmetology.

Career Guidance: Inadequate career counseling and guidance in high schools can result in students not considering CTE options. Schools need to provide comprehensive information about all educational pathways, including CTE, to ensure students can make informed decisions.

- 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?**

Programs that are above average performance in S2S: IT

Programs that are below average performance in S2S: AMC, CD, HRS, EANR, MET

Programs that are above average performance in 4S1: CSHT

Programs that are below average performance in 4S1: CD, HB, IT, TT

Although TCPS has met the goal for 4S4a, the Hispanic and MLL student population underperforms

- 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)?**

As it relates to 2S2, the TCPS CTE Supervisor will collaborate with the Math Supervisors on systemic strategies and interventions, best practices, and Professional Development opportunities for CTE teachers. In addition, we will work with school counselors to identify students' CTE pathway choices earlier (8th grade), so that data for these students can be tracked and analyzed earlier than when they become a participant. TCPS will prioritize programmatic academic and instructional support in under-performing programs.

As it relates to 4S1, all 5th and 8th grade students tour CTE programs at EHS and have exposure to CTE and Apprenticeship pathways offered. TCPS currently utilizes social media posts and highlight non-traditional students in CTE. In addition, we prioritize non-traditional, ethnically diverse and special population students when choosing students to go to career days and/or be used for tour guides. TCPS plans to utilize career counselors to introduce non-traditional career options to students at an earlier age in order to raise awareness of opportunities. We have spoken with business partners and discussed having non-traditional guest speakers at career fairs. In addition, TCPS will educate students, school counselors, teachers, and parents about the importance of gender equity and the value of diversity in the workforce.

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

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

- 1) 2S2- Work with MLL and Special Education Supervisors to plan professional development around strategies to work with special populations.
- 2) 2S2 – Math- Collaborate with the Math Supervisors on systemic strategies and interventions, best practices, and Professional Development opportunities for CTE teachers.

- 3) 2S1/2S2 – ELA/Math- Collaborate with middle and high school counselors on the importance of students identifying a Post-CCR pathway early, even if it may change.
- 4) 4S1 – Utilize career coaches to increase exposure and outreach to non traditional students
- 5) 4S1 – Develop a data collection system to track student interests, and program progression so that school counselors, career counselors, admin and teachers can collaborate in building student plans

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:AMC					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male					
Female	100% (2)		50% (1)		
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100%				
Credential					
Properly Licensed	50%				
Granted Temporary Waiver	50%				

NAME OF CAREER CLUSTER OR CTE POS:BMF					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male	100% (1)				
Female			100% (1)		
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100% (1)		100% (1)		
Credential					
Properly Licensed	100%		100% (1)		
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:CD					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male	100% (1)		0%		
Female					
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					

White					
Credential					
Properly Licensed	100% (1)				
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS: CRD					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male			100% (1)		
Female	100% (1)		100% (1)		
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100% (1)		200% (1)		
Credential					
Properly Licensed	100% (1)		200% (2)		
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:CSHT					
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	50% (1)		0%		
Female	50% (1)		0%		
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100%		0%		
Credential					
Properly Licensed	100%		0%		
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS: EANR					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male	100% (1)		0%		
Female					
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100%				
Credential					
Properly					

Licensed					
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:HB					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male	0%		20%		
Female	100% (4)		20%		
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White	100%		40%		
Credential					
Properly Licensed	60%		20%		
Granted Temporary Waiver	40%		20%		

NAME OF CAREER CLUSTER OR CTE POS:HRS					
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	66.6 (2)		33.3% (1)		

Female	33.3 (1)				
Race-ethnicity					
American Indian					
Asian					
Black	33.3% (1)				
Hispanic					
Multi-race					
White	66.6% (2)		33.3% (1)		
Credential					
Properly Licensed	100%				
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:IT					
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	75% (3)		25%		
Female	25% (1)				
Race-ethnicity					
American Indian					
Asian					
Black	25%				
Hispanic					
Multi-race					
White	75%		25%		
Credential					
Properly Licensed	100%				
Granted Temporary					

Waiver					
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NAME OF CAREER CLUSTER OR CTE POS:MET					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male	100% (3)				
Female					
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White					
Credential					
Properly Licensed					
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:TT					
Staff demographic	Percentage of 2022-23 staff	Percentage of students participating in CTE programming 2022-23	5-year staff turnover rate (Percentage of staff who did not return for years 2018-19 thru 2022-23)		
			Teachers	Support staff/ paraprofessionals	Professional School Counselors
Gender					
Male					
Female					
Race-ethnicity					

Comprehensive Local Needs Assessment: Secondary Schools

American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White					
Credential					
Properly Licensed					
Granted Temporary Waiver					

NAME OF CAREER CLUSTER OR CTE POS:WBL					
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	0%	0%	N/A	N/A	N/A
Male					
Female					
Race-ethnicity					
American Indian					
Asian					
Black					
Hispanic					
Multi-race					
White					
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.	x		TCPS encourages and provides opportunities for staff to participate in local, regional and state professional development opportunities. Many staff participate in MSDE sponsored summer workshops.
Staff are aware of the requirements to maintain endorsement.	x		The CTE supervisor, principal and HR supervisor meet with staff to review credentialing and needs to earning certification.
Staff have equal access to content-specific professional development opportunities across industries.	x		TCPS provides opportunities for all CTE staff to participate in professional development, regardless of the industry. For staff who are singletons, TCPS provides opportunities for staff to work with neighboring LEAs.
Data are collected on the effectiveness of professional development to ensure it meets the needs of educators.		x	Local data is collected, however TCPS does not have a consistent model for collecting professional development data from regional or state lead opportunities.

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?

Although TCPS has increased the diversity of their teaching staff, it still does not reflect the demographics of our students.

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?

Due to retirements and teacher turnover we have had 5 new CTE instructors hired over the past two years that are on conditional certificates. All teachers have extensive industry experience and are working on completing necessary coursework to earn the MD teaching credentials.

Offering a competitive salary is a major barrier for recruiting new CTE teachers.

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?

TCPS has monthly content meetings with the curriculum supervisor. These meetings are designed to meet the individual needs of CTE teachers. For example, teachers have had opportunities to meet with CTE teachers of the same POS in neighboring counties. This time is also used to maintain industry credentials (ASE, ServeSafe, etc) and program recertification requirements.

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

- Scheduling Conflicts: Finding a time that suits all educators can be difficult, particularly when balancing teaching schedules, personal commitments, and school calendars.
- Cost of PD Programs: High costs of registration, travel, accommodation, and materials can be prohibitive, especially for schools or educators with limited budgets.
- Workload and Time Constraints: Teachers often have heavy workloads and might struggle to find time for additional professional development, especially if it requires significant out-of-classroom time.
- Individuals transitioning from industry may lack the pedagogical skills to succeed in the classrooms career services staff, and alumni in the planning and implementation of these initiatives.
- Lack of CTE administrative staff- One CTE supervisor who also supervises other areas creates a

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

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

- Retain highly qualified staff by providing opportunities for targeted professional development.
- Provide individualized assistance in supporting non certified CTE staff in earning necessary reaching credentials.
- Career Counseling Professional Learning: Offer individualized professional learning to CTE staff on career counseling to help students identify career goals, develop job search strategies, and prepare for the workforce. This includes resume writing, interview preparation, and job search assistance.
- Continue to support new and less experienced CTE teachers through the new teacher mentor program.
- Provide opportunities for staff to attend professional conferences. to expand teaching capacity.

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 employment projections	Review Maryland state and/or regional economic and workforce projections to assess current and future workforce needs	Maryland Occupational Projections 2020-2030	The State of Maryland publishes occupational projections that indicate changes in employment. Use this interactive website to identify careers anticipated to grow in the coming years.
		Recruit industry partners in high-wage, high	Cheat Sheet:	Use this factsheet developed by

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

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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	Engage industry experts to review curriculum and offer recommendations to	Increasing Access to Industry Experts in High Schools http://wbltoolkit.cte.nyc/workplace	This report by Advance CTE profiles state strategies to recruit

	upgrading their curricular resources	strengthen offerings	-tour/	industry experts. Consult it to gain insights on promising strategies that might be adapted for district or college use.
		Consult with local business to offer workplace tours or externships for instructors	Teacher Externship Industry Partner Planning Guide http://wbltoolkit.cte.nyc/workplace-tour/	South Dakota has developed this resource to support educators and employers in developing externship opportunities

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

PROBLEM: STUDENTS ARE NOT PARTICIPATING IN CTE PROGRAMMING.

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

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

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

PROBLEM: STUDENTS ARE NOT PERSISTING IN CTE PROGRAMS.

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

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

		advanced skills.		outcomes, and scaling effective practices.
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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	<p>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.</p> <p>ACTE hosts a virtual collaboration to share ideas and effective practices. Visit the Resource Section to download tools to fuel your integration efforts.</p> <p>The Southern Regional Education Board has developed curricular tools that enhance the teaching of math that is already embedded in CTE programs.</p>
		<p>Incorporate reading and writing activities, technical manuals, industry-related texts, and project-based assignments that require critical thinking and communication skills.</p> <p>Incorporate math skills into CTE classrooms.</p> <p>Encourage collaboration and co-teaching between CTE and academic teachers.</p>		
		Use results from academic assessments to target educational remediation so that high school students enter college ready to learn.	Rigorous K-12 Assessments Help Reduce Remediation	This brief from offers examples of how higher states are 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-	Identify obstacles to students earning an industry recognized credential and take steps to	Use Maryland's Perkins V basic grant to fund student attainment of an industry-recognized credential.	Maryland CTE Perkins Reserve Grant Information Guide	Maryland offers a competitive grant program that includes options for using funding to strengthen

recognized credential.	resolve them.	<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>Credential Currency: Promoting Credentials of Value</p> <p>Aligning State CTE Programs with Industry Needs and Priorities</p>	<p>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>
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PROBLEM: STUDENTS ARE NOT EARNING INDUSTRY-RECOGNIZED CREDENTIALS.

Root Cause	Strategy	Sample Activities	Resource	Description
Students face financial or geographical barriers that prevent them from pursuing an industry-recognized credential.	Identify obstacles to students earning an industry recognized credential and take steps to resolve them.	<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</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</p>

		<p>courses.</p> <p>Work with credentialing vendors to expand testing sites and administer exams in convenient and accessible locations.</p>		<p>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>
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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, making it difficult to hire new instructors.	Identify non-traditional pathways for teachers to earn the necessary credentials to become a CTE educator.	<p>Launch a targeted CTE teacher recruitment 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</p>	Teach CTE Recruitment Toolkit Becoming a CTE Teacher in Maryland	<p>ACTE has created this toolkit to raise awareness 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</p>

		<p>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>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 from industry may lack the pedagogical skills to succeed in the classroom.	Offer targeted professional development to support new CTE instructors in strengthening their teaching skills.	<p>Pair new first and second 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>	CTE TEACH Mentor Programs	The Colton-Redlands-Yucaipa Regional Occupational Program (CA) partners with the California Department of Education to offer mentorship supports and professional development for new CTE teachers.
CTE educators are unable to offer academic credit to students taking CTE coursework.	Create policy and practices to support CTE educators in offering academic credits.	Pair academic and CTE educators to design courses that allow students to earn academic and	Credit Quandaries: How CTE Instructors can Teach Academic Credit	This document from the Center on Great Teachers & Leaders explores strategies that states and

		technical credit simultaneously.		districts are using to enable CTE teachers who lack the necessary credentials to award academic credit for their courses.
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PROBLEM: THE TURNOVER RATE IS HIGHER FOR EDUCATORS WHO IDENTIFY AS PEOPLE OF COLOR.

Root Cause	Strategy	Sample Activities	Resource	Description
Educators who are nontraditional for their field are not recruited and those who begin are not offered supports to persist in the occupation.	Undertake targeted efforts to recruit individuals who are nontraditional for their field.	<p>Promote CTE as a career choice by collaborating 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>State and Local Strategies for Diversifying the CTE Educator Workforce</p> <p>Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color</p>	<p>This document identifies issues and offers solutions for diversifying the secondary CTE educator workforce. Includes suggested activities to both promote recruitment and retention of teachers.</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>

Appendix E: Additional Resources

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

Advance CTE

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

Website: [Advance CTE](#)

American Institutes for Research (AIR) - Educator Quality:

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

Website: [AIR Educator Quality](#)

Association for Career and Technical Education (ACTE):

ACTE provides resources and research related to CTE.

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

CTE Research Network

Federally funded website focused on strengthening CTE research.

Website: [CTE Research Network](#)

Learning Policy Institute (LPI):

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

Website: [Learning Policy Institute](#)

National Center for Education Statistics (NCES)

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

Website: [National Center for Education Statistics](#)

National Comprehensive Center for Teacher Quality (TQ Center):

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

Website: [National Comprehensive Center for Teacher Quality](#)

RAND Corporation - Education Research:

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

Website: [RAND Education](#)

Regional Education Laboratories (RELs):

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

Website: [Regional Education Laboratories](#)

What Works Clearinghouse (WWC):

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

Website: [What Works Clearinghouse](#)