



Career and Technical Education: Comprehensive Local Needs Assessment

A Systemic Review Guidebook for Secondary Schools
Version 3.0

MARYLAND STATE DEPARTMENT OF EDUCATION

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DOCUMENT HISTORY

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

Purpose

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

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

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

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

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

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

Instructions

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

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

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

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

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

Guiding Principles and Logic Model

OVERVIEW

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

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

LOGIC MODEL

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

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

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

LOGIC MODEL CHART

	Strategies	Outputs	Short-Term Outcomes	Long-Term Outcomes	Impacts
Tangible: Funding from Perkins V	Develop a CLNA	Comprehensive report detailing current state of CTE programs	Identification of gaps and disparities in CTE programs	Enhanced quality and inclusivity of CTE programs	A workforce better prepared for Maryland's labor market demands
Tangible: Labor Market Information (LMI) Data	Analyze LMI to align CTE programs with labor market demands	List of high-demand sectors and occupations in Maryland	CTE curriculum adjustments based on labor market needs	Improved alignment of CTE tracks with workforce demands	Higher employment rates for CTE program graduates
Tangible: Interview and Focus Group	Conduct interviews and focus groups with stakeholders	Collection of feedback and insights from stakeholder groups	Immediate feedback loop established with stakeholders	Strengthened collaboration and partnerships	Enhanced stakeholder trust and investment in CTE programs
Intangible: Expertise in CTE Programming	Design a structured Local Application process for Perkins V funding	Guideline document for potential CTE grantees	Streamlined application process for Perkins V funding	Increased number of high-quality grant applications, earlier in the process	Optimal leverage of grant funds for improved student outcomes
Intangible: Stakeholder Relationships	Engage regularly with stakeholders for continuous feedback	Periodic stakeholder engagement sessions	Fostered sense of community ownership and involvement	Stronger community ties and support for CTE programs	CTE programs that resonate more deeply with community needs
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	Daniel Rosewag
Organization	Howard County Public School System
Title	Coordinator of Career and Technical Education
Email	daniel_rosewag@hcpss.org

STAKEHOLDER TEAM MEMBERS

When Selecting Stakeholders, consider:

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

Stakeholder Team Responsibilities

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

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

Stakeholder Team Roster

SECONDARY

Role	Name	Title	Affiliation
Administration (e.g., principal, assistant principal)	Karl Schindler	Principal - Applications and Research Laboratory (ARL)	The ARL is the HCPSS centralized Career and Technical Education Center that houses 13 out of the 24 HCPSS Career Academies
	Malcolm Anderson	Assistant Principal - Long Reach High School (LRHS)	Oversees CTE at LRHS
	Patrick Scible	Assistant Principal - Howard High School (HoHS)	Oversees CTE at HoHS
	Josh Wasilewski	Principal - Guilford Park High School (GPHS)	Is the Principal of our newest high school (currently in its first year) where CTE expansion will occur over the next three years as student enrollment expands
Professional career or academic counselor	Erin Coleman	School Counselor - Applications and Research Laboratory (ARL)	The ARL is the HCPSS centralized Career and Technical Education Center that houses 13 out of the 24 HCPSS Career Academies
	Andrea Portnoy	Instructional Facilitator - School Counseling Department	This role supports all MS and HS counselors and Andrea has a background and experience working at a Career and Technical Education Center in another district
	Lindsay Beil	Career Readiness Advisor	This is one of the positions associated with the Blueprint required Career Counseling component and Lindsay is a former HS counselor
	Monica Stevens	Career Readiness Advisor	This is one of the positions associated with the Blueprint required Career Counseling component and Monica is a former MS principal
Teachers	Terry Walker	Architectural Design Teacher - Applications and Research Laboratory (ARL)	The ARL is the HCPSS centralized Career and Technical Education Center that houses 13

			out of the 24 HCPSS Career Academies
	Dave Walley	Tech Ed and PLTW Teacher - Reservoir High School (RHS)	CTE Teacher at a district HS
	Krista Bopst	CRD Teacher - Atholton High School (AHS)	CTE Teacher at a district HS
	Nicholas Zaron	Computer Science Teacher - HoHS	CTE Teacher at a district HS
Instructional Support and Paraprofessionals (Psychologists, Social Workers, etc.)	Christina Krabitz	Coordinator of Alternative Education	Oversees Alternative Education for HCPSS and is an advocate for increased awareness and participation of alternative education students in CTE
	Consuela Robinson	Coordinator of Social Work Services	Oversees Social Work for HCPSS and is an advocate for increasing student participation in CTE
	Sheree Tilley	Coordinator of Student Access and Achievement	Oversees Student Access and Achievement, which includes Black Student Achievement Program , and is an advocate to increase minority and struggling student populations with CTE

POSTSECONDARY

Role	Name	Title	Affiliation
Administration (e.g., dean, division chair)	Jarrell Anderson	Howard Community College (HCC) - Associate Vice President for Advising and Retention	HCC is the local Community College partner of HCPSS
	Princess King	Howard Community College (HCC) - Dual Enrollment Director	HCC is the local Community College partner of HCPSS
	Minah Woo	Howard Community College (HCC) - Vice President of Workforce, Innovation, and Strategic Partnerships	HCC is the local Community College partner of HCPSS
Faculty	Jim Rzepkowski	Howard Community College (HCC) -	HCC is the local Community College

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		Associate Vice President of Workforce Development	partner of HCPSS
	Jeff Richman	Howard Community College (HCC) - Director of Apprenticeship and Workforce Innovation	HCC is the local Community College partner of HCPSS

WORKFORCE

Role	Name	Title	Affiliation
Local Workforce Development board member	Linsey Mayhew	Howard County Office of Workforce Development - Director	Partner of HCPSS for Apprenticeship, CTE, and Career Counseling
*Regional Economic Development organization member	Kierra Kimmie	Associate Director, Strategic Outreach	Howard County Economic Development Authority
Local business & industry representative	Meghan McClure	Director of Marketing and Communications	Howard County Chamber of Commerce
	Stephanie Reid	Social Work Supervisor	Howard County Department of Health

OTHER

Role	Name	Title	Affiliation
Parent or caretaker	Colette Burgess	Associate Director of Program and Project Management Amgen	Biotechnology Advisory member
Student	Poppy White	Junior student	Construction Academy
Representative of Special Populations	Missie Baxter	HCPSS - Instructional Facilitator - Special Education	Oversees transition services and processes and is an advocate for increased participation of our Special Education student population in CTE
Out-of-School youth / unhoused youth / corrections	Kenneth Porritt	HCPSS - Administrator of Innovative Pathways	HCPSS administrator that oversees the transition of students from correctional or juvenile placement facilities to and from HCPSS

* Not required under Perkins V but recommended to include.

Component A: Labor Market Alignment

OVERVIEW

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

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

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

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

The Division of Career and College Readiness has evaluated all secondary and postsecondary State and Local approved POS against these HS/HW/ID criteria. Ideally, your CTE POS will meet all three of the criteria, or at least one to qualify for funding. You may access additional information on these programs at the [Maryland CTE Data website](#). The Maryland Department of Labor has also developed [Long Term Occupational Projections](#) thru 2030, which can help you to identify high demand careers and the education and job training necessary to secure them. **Activity A.1: Taking stock**

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

Note: *Prior to sharing this table with your stakeholder team, you will need to suppress numbers and percentages in cell that do not include the minimum number of students required to protect student confidentiality. Maryland state policy is to suppress data for cells or percentages that are based on fewer than 35 students. Please consult your district policies to determine which data cells should be suppressed and how this information should be communicated (e.g., by entering 'LOW N' or '<35*

Program	Alignment to current statewide industries (enter ✓)			Number of CTE participants 2022-23	Percent of all CTE Participants 2022-23
	HS	HW	ID		
Example				###	100%
Animation and Interactive Media Production	✓	✓	✓	91	1%

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Graphic Design	✓			86	1%
Academy of Finance (NAF)	✓	✓	✓	106	1%
Accounting and Finance	✓	✓	✓	1622	13%
Business Management	✓	✓	✓	1153	9%
Marketing	✓	✓	✓	1745	14%
Construction Design and Management (Architectural Design)	✓	✓	✓	49	1%
Construction Trades Professions (Carpentry)	✓	✓		68	1%
Construction Maintenance Professions (HVAC)	✓		✓	67	1%
Culinary Science (Prostart)	✓	✓	✓	1625	13%
Agricultural Science (CASE)	✓	✓	✓	41	1%
Academy of Health Professions (C N A, EMT, CCMA, Physical Rehabilitation)	✓		✓	1063	8%
Biotechnology	✓	✓	✓	132	1%
Teacher Academy of Maryland	✓	✓	✓	454	4%
JROTC (Army and Air Force)	✓			95	1%
Computer Science (Python/Java, AP)	✓	✓	✓	1235	10%

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IT Networking Academy (CompTIA and CISCO)	✓	✓	✓	219	2%
Project Lead the Way (PLTW) Engineering (Aerospace, Civil and Architecture, Computer Integrated Manufacturing)	✓	✓	✓	1607	13%
Automotive Technology (ASE)	✓	✓	✓	129	1%
Career Research and Development	✓			965	8%
Apprenticeship Maryland	✓			36	1%

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	Rationale for change
110190	Adding	Adding a 3 credit Computer Science Academy to offer advanced level computer science coursework. Students who had completed Exploring Computer Science in middle school and/ or Computer Science Principles AP needed an advanced pathway. This has already been approved by MSDE and SY24-25 will be the first year of implementation.

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 CTE stakeholders, specifically our PACs and our internal HCPSS staff, review workforce trends and data. This is not, however, done on a consistent enough basis and there is room for improvement through our increased collaboration and partnership with the Office of Workforce Development through the required Blueprint Career Counseling component.
Processes are in place to identify and expand high school level registered apprenticeship opportunities.		X	The current HCPSS apprenticeship structure and budget limitations do not allow for adequate personnel to guide and support expansion.
Processes are in place to update or phase out CTE POS that do not align with HS/HW/ID industries	X		Through our efforts to review our offered POS’s on an annual basis, we have consistently identified areas for growth as well as where it is appropriate to sunset a given POS. Examples would include adding Computer Science and sunsetting Systems Engineering (which was replaced with Civil Engineering).
A majority of our students are concentrating in POS aligned to HS/HW/ID industries		X	Due to students still being recommended to take advanced placement and dual enrollment courses and the addition of a .5 health class, this decreases the ability and opportunity for students to participate, concentrate, or complete CTE Programs of Study. College bound students are more interested in college credit and AP courses. This causes scheduling limitations where students cannot take everything.
Processes are in place to recruit business and industry stakeholders to participate on Program Advisory Committees	X		All of our PAC’s currently include business/industry member participation. We consistently bring in new members from business/industry as our partnerships expand.

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)?

We do not currently offer a POS that does not meet at least one of the criteria. For those that only meet one part of the criteria, the rationale is focused within career exploration through Career Research and Development(CRD) or the provision of skills/certifications that are transferable to other potential career pathways (Graphic Design).

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?

- *Increase stakeholder awareness of CTE Program options and the benefits they provide*
- *Increase business/industry partners for the purpose of expanding Apprenticeship options*
- *Expand Industry Recognized Credential (IRC) offerings at High Schools to increase the benefit of success with participation and attract more students*
- *Explore and plan for identified area(s) of POS expansion*
- *Plan and implement increased opportunities for students to learn about and explore CTE related careers pathways and course offerings*
- *Increase collaboration with Career Readiness Advisors for the promotion of increased student participation with CTE Program offerings*

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

Component B: Student Participation and Persistence

OVERVIEW

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

ACTIVITY B.1: TAKING STOCK

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

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

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

Notes:

Data Suppression: Prior to sharing this table with your stakeholder team, you will need to suppress numbers and percentages in cell that do not include the minimum number of students required to protect student confidentiality. Maryland state policy is to suppress data for cells or percentages that are based on fewer than 35 students. Please consult your district policies to determine which data cells should be suppressed and how this information should be communicated (e.g., by entering 'LOW N' or '<35 students' in effected cells).

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

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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 %			4225	92.6	70.9	33.1
Gender								
Male	28,576	82.60 %				95	78.7	41.1
Female	29,581	89.16%				97	63.3	25.2
Race-ethnicity								
American Indian	140	85.89%			<5	100	<5	<5
Asian	4,559	96.16 %				98	77.9	37.1
Black	18,648	84.68%			996	90.3	68.7	28.4
Hispanic	10,446	71.37 %			507	78.7	63.5	28.4
Multi-race	2,485	89.36%			235	94.8	74.5	36.6
White	21,838	93.38 %				>95	69.4	34.4
Special Populations								
Economically disadvantaged	17,049	80.83 %			860	84.9	70.2	30.4
Multilingual learners	3,140	55.78%			146	60.3	47.3	10.3
Individuals with disabilities	4,697	69.47 %			232	68	75.9	50.4
Nontraditional fields	-	-				98		
Single parents	-	-				0		
Out of workforce	-	-						
Unhoused Individuals	833	62.03 %			22	62.9	59.1	27.3
Youth in foster care	66	40.24%				<5	<5	<5
Youth with parent in	1,028	95.10 %				95	68.3	26.8

military								
Migrant students	-	-						

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

ACTIVITY B.2: ASSESSING YOUR PROGRAM

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

	Meets	Area for Improvement	Explanation
Our district ensures all students—irrespective of gender, race, or special population status—are provided unbiased, inclusive, and non-discriminatory information about CTE courses and POS	X		HCPSS offers a required quarter long Careers course for all 8th grade students that provides information about all CTE course offerings and Programs of Study. CTE Program leadership also meets with all MS and HS School Counseling teams annually. This information is incorporated into grade level information sessions that are provided to students and parents during the student scheduling season.
Our district has processes in place to recruit students traditionally underrepresented in CTE to improve diversity in CTE POS		X	While our district does have annual processes in place that inform and promote participation within CTE Programs of Study, there are not specified efforts in place to target students that are underrepresented in specific career fields / programs of study.
Processes are in place to ensure that students traditionally underrepresented in CTE have options to enroll in CTE POS	X		CTE Programs of Study within HCPSS do not have any prerequisite requirements in place that would create barriers for any students, including attendance or GPA requirements. HCPSS CTE Programs of Study have also removed course sequencing wherever possible so that students may explore career related coursework in order to identify interests in courses with their peers so that students can transition into becoming concentrators.
Processes are in place to ensure that students traditionally underrepresented	X		Where there has been an increase with enrolled students from traditionally underrepresented student groups with

	Meets	Area for Improvement	Explanation
in CTE <u>persist</u> in CTE POS once enrolled			specific Programs of Study, there are processes in place to identify and implement needed supports so that students find success and remain within the program.
Processes are in place to ensure that all eligible students have equitable access to career-based learning experiences		X	HCPSS has a structure for CTE Programs of Study where there are 13 Programs of Study that are centralized and 11 that are offered within all high schools. There are often programs at the high schools, however, that do not run and this leaves interested students without the opportunity to participate as they are not permitted to switch schools for a program of interest where applicable. Also, there are annual waiting lists for programs at the centralized location when students are not enrolled through the randomized selection process that occurs during the scheduling process for all interested students. Pending the Program, there may not be alternative options that are similar at either the home high school or through dual enrollment options available at the local community college.
Career guidance and advisement services are provided to student prior to enrolling in a CTE POS	X		The CTE Program meets annually with each MS and HS counseling team to provide updates and describe all things “CTE Programs of Study.” Each counselor meets with all students on their caseload prior to, or during, the scheduling process on an annual basis and guidance is provided as it relates to student interests. With the new Career Readiness Advisors (CRAs) in place as a result of the required Career Counseling component of Blueprint, there is also an added component of information and advisement occurring through the work of the CRA’s.
All students have access to career planning and support services to help them successfully transition to advanced education and/or the		X	HCPSS does well to provide counseling and advisement for students that are college bound, but there are not clear supports in place for students that are planning to enter the workforce post

	Meets	Area for Improvement	Explanation
workforce			graduation. This is beginning to change through the work of the Career Counseling component that is required by Blueprint, but these support efforts and processes are still very much in their infancy.

ACTIVITY B.3: REFLECTION

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

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

There are concerning gaps related to M/F and certain student groups with specified CTE Programs of Study, but there are no overall trends that appear throughout all programs of study. For performance, all student groups are performing at or above the target. For participation, there is an overrepresentation of Black students and Students with Disabilities within the Career Research and Development Program of study, and an underrepresentation of Asian and female students with Programs of Study that are related to the construction industry. Where there are over or under representations of student groups with specified programs of study, there are multiple contributing factors that potentially need to be addressed, including: misconceptions and stereotypes of programs and/or students, a lack of marketing of information awareness, and access where there are programs not running at specified school locations.

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.

- Provide Increased teacher training and support so that all students currently enrolled within CTE Programs of Study have a positive experience that promotes retention of these students in their programs. Trainings will focus on the needs of diverse student populations and providing differentiation to support increased student success.
- Increase efforts of information awareness with underrepresented student populations, specifically those that are underrepresented such as females within specified programs of study..
- Explore ways to expand access for students where programs are not running at specified schools.
- Increase the number of Industry Recognized Credential assessments offered at each school so that there are increased opportunities available to students.
- Expand Career focused opportunities available to students within each program of study (ie. field trips, guest speakers, etc...) and ensure that there is a focus on promoting career pathways for underrepresented student populations..

ACTIVITY B.4: CAREER CLUSTER PARTICIPATION AND PERSISTENCE

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

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

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

CAREER CLUSTER KEY:

AMC: Arts, Media, and Communication

BMF: Business Management and Finance

CD: Construction and Development

CRD: Career Research and Development

CSHT: Consumer Services, Hospitality, and Tourism

EANR: Environmental, Agricultural, and Natural Resources

HB: Health and Biosciences

HRS: Human Resource Services

IT: Information Technology

MET: Manufacturing, Engineering, and Technology

TT: Transportation Technologies

CRD: (Career Research and Development & Apprenticeship MD)

Race/Ethnicity Key:

AI: American Indian/Alaskan Native

A: Asian

H: Hispanic

B: Black/African American

W: White

PI: Hawaiian/Pacific Islander

M: Multi-Racial

Special Populations Key:

SWD: Students with Disabilities

ED: Economically Disadvantaged

NT: Non-Traditional

SP: Single Parents

OOW: Out of Workforce

MLL: Multilingual Learners

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

FY: Foster Youth

AD: Active Duty

MT: Migrant

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

Cluster	Enrollment Number	Number of Concentrators	Number of Graduates	Gender		Race/Ethnicity						Special Populations									
				M	F	AL	A	H	B	W	PI	M	SWD	ED	NT	SP	OOW	EL	MV	FY	AD
AMC	151	55	52	81	70	0	28	17	36	55	1	14	13	31	70	0		1	1	0	2
BMF	1434	471	323	829	605	1	428	151	305	476	2	71	30	328	846	0		16	4	0	22
CD	122	45	45	94	28	0	19	21	38	33	0	11	18	47	28	0		3	2	0	0
CRD	964	349	157	629	335	2	88	175	418	223	0	58	351	526	39	2		76	20	2	9
CSHT	1141	47	31	569	572	3	152	171	356	375	1	83	133	427	60	0		57	12	6	19
EANR	42	15	15	16	26	0	5	7	11	18	0	1	4	8	25	0		0	0	0	0
HB	487	161	160	116	371	4	136	66	129	123	1	28	20	133	116	0		8	0	0	4
HRS	811	362	148	272	539	1	150	110	235	272	3	40	51	227	286	0		12	6	0	13
IT	1207	182	157	902	305	2	590	44	181	321	0	69	27	189	361	0		16	2	1	14
MET	1409	520	251	1044	365	7	359	129	259	572	3	80	35	249	387	0		8	3	0	1
TT	136	48	45	121	15	0	14	29	27	58	0	8	13	47	16	0		8	3	0	1
WBL	33	33	33	21	12	0	2	7	10	12	0	2	9	8				0			
Total	7937																				

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	2	36	34	54	46	0	19	11	24	36	0	9	9	21	46	0	0	1	0	0	1
BMF	18	32	23	58	42	0	30	11	21	33	0	5	2	23	59	0	0	1	0	0	2
CD	1.5	37	37	77	23	0	16	17	31	27	0	9	15	39	23	0	0	2	2	0	0
CRD	12	36	16	65	35	0	9	18	43	23	0	6	36	55	4	0	0	8	2	0	1
CSHT	14	4	3	50	50	0	13	15	31	33	0	8	12	37	5	0	0	5	1	1	2
EANR	.5	36	37	38	62	0	12	17	26	43	0	2	10	19	0	0	0	0	0	0	0
HB	6	33	33	24	76	1	28	14	26	25	0	6	4	27	24	0	0	2	0	0	1
HRS	10	45	18	34	66	0	18	14	29	34	0	5	6	28	35	0	0	1	0	0	2
IT	15	15	13	75	25	0	49	4	15	27	0	6	2	16	30	0	0	1	0	0	1
MET	18	37	18	74	26	0	25	9	18	41	0	6	2	18	27		0	1	0	0	2
TT	2	35	33	89	11	0	10	21	20	43	0	6	10	35	12	0	0	6	2	0	1
WBL	.4	100	100	64	36	0	6	21	30	36	0	6									

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?

Career clusters that are underrepresented by males or females are in alignment with participation trends that are also present within industry (ie. Construction and Development being overrepresented by males and Health and Biosciences being overrepresented by females). Regarding student group participation within clusters as it relates to the same student groups' representation within our overall population, the follow student groups are underrepresented within the following clusters:

- *Asian*
 - *Career and Research and Development*
 - *Environmental, Agricultural and Natural Resources*
 - *Transportation Technologies*
- *Hispanic*
 - *Business, Management, and Finance*
 - *Information Technology*
 - *Manufacturing, Engineering and Technology*
- *Black*
 - *Information Technology*
 - *Manufacturing, Engineering and Technology*
- *Student with Disabilities*
 - *Business, Management and Finance*
 - *Environmental, Agricultural and Natural Resources*
 - *Human Resources Services*
 - *Information Technology*
 - *Manufacturing, Engineering and Technology*
- *Economically Disadvantaged*
 - *Business, Management and Finance*
 - *Information Technology*
 - *Manufacturing, Engineering and Technology*

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

There is evidence of specified student groups not persisting at equivalent rates (meaning becoming a concentrator or completer) within all clusters. With each cluster having different specified student groups that are not persisting, there are multiple factors that could contribute pending the cluster being analyzed, these factors could include:

- *Lack of quality instruction resulting in lack of student interest*
- *Subsequent courses in the POS sequence are not offered in given years due to staffing and budget situations*
- *Lack of room within a student's schedule*
- *Other priorities taking precedence, such as AP or dual enrollment*

- *Lack of information and awareness*
- *Staffing*
- *Stereotypes of specified genders or student groups within given career fields*

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

Overall, all programs of study and career clusters are performing at identified SDLP's, but there are student groups that are over or underperforming within various clusters as indicated in question one. Participation and persistence are indicative of trends that can be recognized within specified careers within industry, and are a result of limitations that are present within local processes such as scheduling, graduation requirements, and staffing/budget constraints.

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

- *Provide increased information and awareness to underrepresented student groups through in-person and virtual information sessions with a specific focus on promoting increased participation of underrepresented student groups, such as females and special population student groups.*
- *Provide increased instructional support to ensure all students are receiving high quality engagement and instruction*
- *Provide increased training and guidance for counseling and guidance support staff*
- *Review and revise curriculum to better align with industry standards and experiences and provide enriched student engagement and instruction*
- *Conduct an analysis of student performance based on curriculum components and standards to identify areas of needed improvement for specified student groups and then provide training and support for instructors to improve within identified areas.*

NOTES:

- A. Depending on your program offerings, you may find it necessary to do a more granular analysis of your data to assist in identifying priorities.
- B. Sample strategies that may help you align your priorities, are listed in Appendix B.

Component C: Program Performance

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

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

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

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

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

3S1: Post-program placement: The percentage of CTE concentrators who are in postsecondary education or advanced training, military service, a national community service program, or employed in the second quarter after exiting from secondary education¹

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

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

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

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

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

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

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

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

DISTRICT PERFORMANCE BY STUDENT GROUP

	Federal Accountability Indicator 2023 Graduates								
	1S1	2S1	2S2	2S3	3S1*	4S1	5S1	5S4a	5S4b
State Performance Target	89.97 %	52.3 %	48.00 %	0.00 %	76.50 %	28.72 %	78.41 %	78.41 %	0.00 %
District Performance	95.5%	70.3 %	57.6%	16%	86.4%	18.8%	86.7%	86.7%	
Gender									
Males	-1	0	1	-2	0	-16	-6	-4	
Females	2	1	-2	3	0	36	5	4	
Ethnicity									
American Indian	4	-37	-58	83		-19	13	12	
Asian	2	11	21	12	4	6	6	6	
Black	-7	-19	-30	-12	-3	0	-20	-14	
Hispanic	-1	-13	-18	0	-2	-5	2	0	
Multi-race	-3	-6	-8	12	-8	-3	13	-13	
White	3	7	9	8	1	-3	2	2	

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	95.5%	70.3%	57.6%	16%	86.4%	18.8%	86.7%	86.7%	
Economically disadvantaged	-8	-21	-31	-9	-6	0	-10	-8	
Multilingual learners	-18	-64	-58	-17	-14	-19	13	12	
Individuals with disabilities	-17	-54	-51	-11	-19	-7	-12	-18	
Nontraditional fields	3	11	19	-17	1	81	13	-4	
Single parents	-96								
Out of workforce									
Students served under the McKinney-Vento Act (Unhoused)	-29	-56	-58	-17		-19			
Youth in foster care	4	-20	-8	-17		81			
Youth with a parent in active military	0	0	-8	-17	-14	-4	13	12	
Migrant students									

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

Cells are highlighted blue if the student group is 5 percentage points above or more than the performance percentage for the total CTE students in the program. -17

- Cells are highlighted orange if the student group performance is 5 percentage points below or less than the performance percentage for the total CTE students in the program.

The performance value is in red if the student group did not meet 90% of the target.

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?	Non-traditional program performance is the one indicator where there is underperformance. There are also identified student groups that are underperforming within specified target areas but not at levels that provide an impact causing overall program or cluster underperformance.
Looking at <i>overall performance</i> , on which indicators are you <u>substantially exceeding</u> the district performance target?	Overall CTE Program Performance

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

ACTIVITY C.2: DETERMINING ROOT CAUSES

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

The only indicator where there is underperformance is non-traditional program performance. This is also represented within disaggregated student group data for M/F within specified clusters and with Black, Students with Disabilities, and Economically disadvantaged students groups where they are underperforming in comparison to other student groups within specified clusters, and with overall performance. Factors that may be contributing to identified underperformance include:

- *Lack of quality instruction resulting in lack of student interest*
- *Subsequent courses in the POS sequence are not offered in given years due to staffing and budget situations*
- *Lack of room within a student’s schedule*
- *Other priorities taking precedence, such as AP or dual enrollment*
- *Lack of information and awareness*
- *Staffing*
- *Stereotypes of specified genders or student groups within given career fields*

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?

There are specified student groups within specified programs that are underperforming in comparison to other student groups and programs. Programs that have student groups that are below site average would include: Career Research and Development, Construction and Development, Teacher Academy of Maryland, PLTW Engineering, Arts, Media & Communication and Transportation Technologies.

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

The most effective approaches will include efforts and activities to directly support:

- *Provide teachers with training and professional development for improved instructional planning and implementation practices*
 - *Providing support for students within identified areas of deficiency within specified curriculum components or aspects*
 - *Expanding relevant experiences that directly relate to industry, career, and professions (field trips, work based learning opportunities, etc...)*
 - *Increasing collaboration with the Career Counseling component of Blueprint requirements to better inform all student groups of career opportunities and the CTE related programs of study that are associated with those opportunities.*
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.]
 - *Provide teachers with training and professional development for improved instructional planning and implementation practices*
 - *Providing support for students within identified areas of deficiency within specified curriculum components or aspects*
 - *Expanding relevant experiences that directly relate to industry, career, and professions (field trips, work based learning opportunities, etc...)*
 - *Increasing collaboration with the Career Counseling component of Blueprint requirements to better inform all student groups of career opportunities and the CTE related programs of study that are associated with those opportunities.*
 - *Providing increased information and awareness to parents and community stakeholders regarding CTE programs of study and related career academy pathways that are available*

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

Component D: Recruiting, Developing, and Retraining CTE Educators

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

ACTIVITY D.1: REVIEW DATA ON CURRENT STAFF

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

Notes:

- *Through collaboration and multiple meetings with the Human Resource Department we have not been able to identify all data points within the provided tables for each cluster/career academy as it is not available. We have, however, been able to identify a summary of CTE staffing as a whole and have included that summary below.*

Summary:

- *HCPSS has a unique structure as it relates to CTE Programs of Study:*
 - *There has been little to no issues of retention or staff turnover with the 13 Programs of study located centrally and all vacancies over the past three years have been as a result of teacher retirement or program expansion*
 - *13 Career Academies housed out of a centralized location that all students / high schools can access*
 - *Teacher surplus has been a primary cause of retention at all high schools and there are multiple contributing factors, including: budget, staffing processes, administrators having all authority with scheduling, etc...*
 - *11 Career Academies offered at every high school*
- *In collaboration with the HCPSS Human Resources Department, the following Career Academy Pathways have been identified as areas where there is a lack of teacher retention. These pathways have also been identified as having a downward trend of interested/available candidates over the past five years.*
 - *Computer Programming / Computer Science*
 - *Culinary / Family and Consumer Science*
 - *Technology Education / Engineering*

Contributing factors that have been identified as reasons that retention has been difficult:

- *There is a higher level of teachers that are able to retire within specified areas, such as Culinary / FACS.*
- *A lack of capacity to provide adequate teacher training and support.*
- *Having to hire conditional/provisional teachers that have too many credits to complete while concurrently teaching, and them leaving the profession as a result of the barriers that are in place for them to become certified.*
- *Young and/or new teachers that are changing careers are struggling to deal with student behavior, classroom management, and the demands of parents and them leaving the profession as a result.*

Contributing factors that have been identified as reasons that available certified candidates are not as prevalent within specified CTE certification areas:

- *There are no colleges / universities within the region that offer Programs of Study for specified CTE teaching certifications, such as Technology Education, FACS*
- *Since the pandemic there has been a severe decline in the number of professionals interested in teaching as a second profession*
- *HCPSS has annual budget and staffing timelines that are behind that of many neighboring districts*

Areas where CTE Staffing processes have found success:

- *Over the past three years CTE has been one of only a few content areas to be fully staffed each year and not have vacancies at the beginning of the school year*
- *Over the past three years CTE has increased the diversity of teachers with hiring at a rate that is equal to, or better, than all other contents*

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		The CTE Program office provides annual Professional Learning and guidance for certified staff and lapses in licensure or certification have not been an issue. The issue is that we have had to hire a large amount of provisional staff over the past two years and they have not been able to complete the required number of credits to become certified.
Staff are aware of the requirements to maintain endorsement.	X		All CTE staff are annually made aware by our HR department, and from the CTE Program directly where appropriate, of requirements and timelines for individuals to maintain endorsements and/or certifications.
Staff have equal access to content-specific professional development opportunities across industries.		X	This is an area where there is an identified need for improvement. With the capacity of the CTE Program Leadership team being limited, there are not equitable opportunities provided for all teaching staff across all clusters or within specified Career Academy

			pathways. Strategies and structures need to be developed to better support the training, professional development, and support of instructional practices for all CTE teachers.
Data is collected on the effectiveness of professional development to ensure it meets the needs of educators.		X	Feedback forms are provided after every professional development opportunity for staff, but there are always limited responses and there is no mechanism or structure in place for the regular collection of data and feedback as it relates to instruction and professional learning / training.

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?

For the 11 Career Academies / Programs of Study offered at all high schools there is a reflection of students served present within the demographics of staff providing instruction as a whole. With the 13 Career Academies / Programs of Study offered at the centralized location that all students can access from their high schools, there is not a reflection of students served through staff demographics other than by M/F.

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?

The majority of instructors are adequately credentialed, licensed, certificated or possess the needed endorsement for their programs of study. There has, however, been an increase in the need to hire conditional/provisional teachers within specified programs of study located at the high schools over the past several years due to a lack of available candidates. The primary obstacle for these provisional/conditional candidates to become certified has been the number of credits and courses that are needed to become certified. Career changers or someone just beginning within education is not interested in having to complete 50+ credits to become certified in a two year period. And, with MSDE increasing

the requirements needed to become certified we foresee this pathway to certification becoming less likely to occur, if not becoming non-existent. Some strategies that can be utilized potentially attract properly certified teachers, or that support additional certifications for staff within other contents that are looking for a change, may include:

- *Recruiting teachers from other content areas to think about moving into CTE and providing guidance and support with required certifications that will need to be obtained.*
- *Working with business / industry partners to seek their support with increasing interest for potential career changers or retirees having a second (short) career with education.*
- *Working with colleges and universities that are outside of our region that still offer programs of study that lead to certifications that are no longer offered through colleges and universities that are within our region so that graduates are aware of opportunities within our district and area.*

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?

As a CTE Program, there are 3 full days per year where all staff receive content specific professional learning and time to collaborate with colleagues (these are county-wide days that occur for all content areas). As it relates to specified or required training and/or professional learning opportunities, these are conducted on an individualized basis and there is no structure or equitable processes that are in place to ensure all staff are receiving professional learning.

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

Barriers that exist include:

- Lack of capacity of the CTE Leadership team to organize and implement Professional Learning and/or needed trainings for all CTE staff across all clusters and Career Academies
- Lack of funding
- Lack of time within the calendar
- Lack of collaboration and support provided amongst CTE instructional colleagues
- Lack of a CTE specific Professional Learning structure and annual timeline
- Lack of resources (space, location, etc...) for Professional Learning to occur

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

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- Provide an increase of support for new, non-tenured, and conditional/provisional teachers
- Create a Professional Learning structure that empowers staff to lead, participate and collaborate with increased PL opportunities
- Recruit internally from other content areas as the path of least resistance for certification in a CTE content areas is when an individual is already certified within another area
- Increase the capacity of the CTE Leadership Team to provide support
- Increase collaboration for information and awareness of instructional opportunities available with colleges and universities outside of our region.

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

Next Steps

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

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

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

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

CONNECTING GOALS TO AN ANNUAL BUDGET FOR PERKINS FUNDING

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

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

ENSURING ALIGNMENT WITH PERKINS REQUIREMENTS

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

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

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

Root Cause	Strategy	Sample Activities	Resource	Description
The district maintains programs that have been historically offered but are no longer aligned to Maryland’s labor market needs	Sunset programs that are no longer preparing students for high-skill, high-wage in-demand careers	<ul style="list-style-type: none"> Analyze program enrollments, standards, postsecondary pathways, and employers to assess whether sunsetting is warranted. Develop strategy and timeline for sunsetting a program and internal and external communication plans to share information. Explore alternative educational options for students currently enrolled that will allow them to transition to other programs. Consult with the union and educators to arrange transition options, which may include reassignment or retraining. Review state regulations and district policies to identify barriers to sunsetting programs 	How to sunset an educational program	This blog post describes considerations in sunsetting and educational programming, including warning signs of need, considerations before moving forward, and concrete steps to take when a decision to discontinue is made.
	Introduce new programs that are aligned to Maryland or regional 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.

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	Engage industry experts to review curriculum and	Increasing Access to Industry Experts in High Schools	This report by Advance CTE profiles state

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

Appendix B: Sample Strategies for Component B: Student Participation and Persistence 2024 - 2026

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	CTE Options at my School	Fairfax County Public

		support students in identifying the CTE opportunities at their school.		Schools (VA) hosts a webpage that helps students learn about CTE programs offered in their school replete with videos and detailed program descriptions.
Families and educators do not appreciate CTE’s benefit and discourage youth from enrolling	Improving messaging to families, community groups, and educators to help them understand the benefits CTE confers	Undertake a comprehensive marketing campaign to educate families about CTE	<u>CTE Vision Toolkit</u> <u>CTE Marketing Best Practices & Campaigns</u>	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	<u>CTE Letter of Intent Signing Day: College</u> <u>CTE Signing Day: Employment</u>	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.

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

PROBLEM: STUDENTS ARE NOT PERSISTING IN CTE PROGRAMS.

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

				<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>
		<p>Explore why students from some racial-ethnic groups face obstacles in CTE programming and take steps to address them.</p>	<p><u>A Guide to Discussing Racial Equity</u></p>	<p>Review this guidebook to learn how to hold discussions around racial equity to identify.</p>
		<p>Conduct a curricular review to identify and remove unintentional gender bias.</p>	<p><u>Assessing the Enrollment and Retention of Nontraditional Learners</u></p>	<p>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.</p>
<p>Students do not understand the personal and economic benefits of completing advanced coursework and entering the field.</p>	<p>Offer students mentors and real-world workplace experiences to inform their career decisions.</p>	<p>Pair students with mentors who can offer them one-on-one guidance to encourage them to pursue a career.</p>	<p><u>Partnering Students with Industry Mentors</u></p>	<p>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.</p>
		<p>Place students in authentic work-based learning (WBL) experiences, including internships and apprenticeships, to help them learn about the benefits from obtaining</p>	<p><u>Work-based Learning Toolkit</u></p>	<p>The U.S. Department of Education created this resource to support state and local program administrators in learning about WBL, engaging employers, measuring</p>

		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. Incorporate reading and writing activities, technical manuals, industry-related texts, and project-based assignments that require critical thinking and communication skills. Incorporate math skills into CTE classrooms. Encourage collaboration and co-teaching between CTE and academic teachers.	CTE and Academic Integration Self-Assessment Rubric ACTE Integration of Academics and CTE Section Math-in-CTE	New York has developed a four-level rubric that educators can use to assess the status of district/college integration of academic skills in CTE programming. ACTE hosts a virtual collaboration to share ideas and effective practices. Visit the Resource Section to download tools to fuel your integration efforts. The Southern Regional Education Board has developed curricular tools that enhance the teaching of math that is already embedded in CTE programs.
		Use results from academic assessments to target educational remediation so that high school students enter college ready to learn.	Rigorous K-12 Assessments Help Reduce Remediation	This brief from offers examples of how higher states are 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

<p>recognized credential.</p>	<p>resolve them.</p>	<p>Develop strategies to identify students who may face challenges in paying for exams and find ways of offsetting costs.</p> <p>Work with exam providers, employers, and community organizations to provide fee waivers or scholarships for certification exams, materials, and training courses.</p> <p>Work with credentialing vendors to expand testing sites and administer exams in convenient and accessible locations.</p>	<p>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
<p>Students face financial or geographical barriers that prevent them from pursuing an industry-recognized credential.</p>	<p>Identify obstacles to students earning an industry recognized credential and take steps to resolve them.</p>	<p>Use Maryland’s Perkins V basic grant to fund student attainment of an industry-recognized credential.</p> <p>Develop strategies to identify students who may face challenges in paying for exams and find ways of offsetting costs.</p> <p>Work with exam providers, employers, and community organizations to provide fee waivers or scholarships for certification exams, materials, and training</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>	<p>Teach CTE Recruitment Toolkit</p> <p>Becoming a CTE Teacher in Maryland</p>	<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><u>State and Local Strategies for Diversifying the CTE Educator Workforce</u></p> <p><u>Diversifying the Teaching Profession: How to Recruit and Retain Teachers of Color</u></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](#)