Maryland
GWDB CTE COMMITTEE

Maryland Career and Technical Education Annual Report

An Annual Assessment of the State of CTE Under the *Blueprint for Maryland's Future*

Governor's Workforce Development Board
Career and Technical Education Committee

January 2025

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD CTE COMMITTEE

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The GWDB is grateful to the staff of the Maryland State Department of Education and the Maryland Department of Labor who provided the data cited in this report. The GWDB would also like to thank the Local Education Agencies and volunteers who participated in the CTE Expert Review Team visits to date and whose observations informed components of this report.

Table of Contents

January 31, 2025

The Honorable Wes Moore
State House
100 State Circle
Annapolis, Maryland 21401

The Honorable Isiah Leggett
Chair
Accountability and Implementation Board
45 Calvert Street
Annapolis, Maryland 21401

The Honorable Bill Ferguson
President
Senate of Maryland
State House, H-107
Annapolis, Maryland 21401

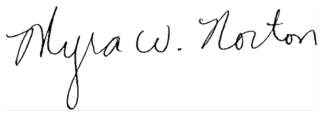
The Honorable Adrienne A. Jones
Speaker
Maryland House of Delegates
State House, H-101
Annapolis, Maryland 21401

Re: Report Required by Md. Code, Educ. § 21-204 (b) (MSAR # 13174) and § 21-209 (k) (MSAR # 12961)

Ladies and Gentlemen:

On behalf of the Governor's Workforce Development Board's (GWDB) Career and Technical Education (CTE) Committee, defined in Md. Code, Educ. § 21-209, I am pleased to submit the following report to the Governor, the Maryland General Assembly, and the Accountability and Implementation Board (AIB). This report details the progress toward attaining the *Blueprint for Maryland's Future* 45% goal, a high-level assessment of the state of CTE within Maryland, an articulation of next steps to set progress targets to reach the 45% goal, and the statewide CTE Framework to guide implementation of the *Blueprint*'s vision.

The CTE Committee extends our gratitude to all of the individuals, organizations, agencies, and leaders who contributed their time and expertise to shape our work presented in this report. We are immensely honored to be part of transforming Maryland's education system and ensuring students graduate prepared for success.



Myra W. Norton
Chair
Governor's Workforce Development Board CTE Committee

cc: Sarah Albert, Department of Legislative Services (5 copies)

Executive Summary

The *Blueprint for Maryland's Future* ("the *Blueprint*") established the Career and Technical Education (CTE) Committee as a unit within the Governor's Workforce Development Board (GWDB). The Governor's Workforce Development Board (GWDB) is the Governor's chief strategy and policy-making body for workforce development.[1] Under the *Blueprint*, the GWDB CTE Committee's purpose is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The GWDB CTE Committee is committed to fundamentally reimagining and redesigning career-connected learning and career pathways to ensure all of Maryland's students have real access to fulfilling and family-sustaining careers.

This annual report, required under Md. Code, Educ. § 21-204 (b) and § 21-209 (k), details the progress toward attaining the *Blueprint*'s 45% goal (see box), a high-level assessment of the state of CTE within Maryland, an articulation of next steps to set progress targets to reach the 45% goal, and the CTE Committee's statewide CTE Framework to guide implementation of the *Blueprint*'s vision.

The *Blueprint* stipulates that, by the 2030-2031 School Year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation.

MARYLAND CTE FRAMEWORK

The Maryland CTE Framework outlines a comprehensive statewide strategy designed to integrate academic and occupational competencies, ensuring students develop the critical thinking, problem-solving, employability, and technical skills required for success in a modern economy. Developed with input from stakeholders and experts in CTE, the CTE Framework identifies key priorities, such as aligning education with current and future workforce needs and scaling high-quality career preparation pathways. Through extensive consultation and iterative feedback, the CTE Framework emphasizes collaboration, innovation, and alignment with the *Blueprint* to achieve its vision.

PROGRESS TOWARD THE 45% GOAL

The *Blueprint*'s 45% goal required the CTE Committee to define what constitutes the completion of the high school level of a Registered Apprenticeship or another industry-recognized credential. The CTE Committee made significant progress in developing and establishing policies around these two definitions (see Figure 1 on the following page for a summary of these two policies). Despite some data limitations, the 2023-2024 School Year data indicates a 9% attainment rate for meeting the *Blueprint* goal, with ongoing efforts to align statewide strategies and address logistical barriers to reaching the 45% goal planned for 2025.

[1] Maryland Executive Order No. 01.01.2023.22. (2023). https://tinyurl.com/execorder01012023

ANNUAL ASSESSMENT OF CTE

Maryland's CTE system is in a transitional phase as districts are in the beginning stages of implementing the *Blueprint*. Early observations from the CTE Expert Review Team visits highlight the strengths in student and instructor engagement and alignment with workforce needs, alongside challenges to grow the infrastructure to meet the needs of an expanded CTE system. Initial assessments from the CTE Expert Review Team emphasize the need for reviewing program access, guidance on career coaching, and the development of a coordinated statewide strategy to scale the high school level of a Registered Apprenticeship. Future annual reports will include deeper analysis resulting from the CTE Expert Review Team visits.

ANNUAL PROGRESS TARGETS TOWARD THE 45% GOAL

Setting annual progress targets toward the 45% goal involves an informed approach to data analysis and development of the strategies needed to scale the high school level of a Registered Apprenticeship and industry-recognized credential completions. Although preliminary targets were considered, the CTE Committee determined that it will establish better-informed targets by December 2025, based on a strategic alignment of employer demand, Local Education Agency (LEA) capacities, and statewide workforce development goals.

Figure 1: Summary of the Two Policies Defining the Blueprint's 45% Goal

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal	✗

[2]

[2] To view the GWDB CTE Committee's policies defining these terms, see Appendix E and F.

Purpose

ABOUT THE GOVERNOR'S WORKFORCE DEVELOPMENT BOARD

On December 21, 2023, Governor Wes Moore signed Executive Order 01.01.2023.22 (rescinding Executive Order 01.01.2015.19) establishing the Governor's Workforce Development Board (GWDB), its membership, its purpose, and its focus areas under the Moore-Miller Administration.[3] This establishes the GWDB as the Governor's chief strategy and policy-making body for workforce development. It further outlines that the Board will serve this function by engaging key business, labor, education, community, and State and local government leaders to collaborate and advise the Governor on business-led workforce approaches that advance Maryland's economic competitiveness and build pathways to work, wages, and wealth for all Marylanders.

The Executive Order solidifies the Board's leadership role in setting the statewide vision and strategy for workforce development, building partnerships to accelerate implementation of that strategy, and holding Maryland's workforce development system accountable for delivering results. As outlined under the Executive Order and in keeping with Federal law, the GWDB is a business-led board, with a majority of members representing the business community, as mandated by the federal Workforce Innovation and Opportunity Act (WIOA) of 2014. Other members include the governor, cabinet secretaries, college leaders, the state superintendent of schools, elected officials, and representatives of labor organizations and community-based nonprofit organizations. For a full list of appointed board members, see Appendix A.

During the process of developing the Moore-Miller Administration's first four-year State Workforce Development Plan, GWDB members collaboratively developed a new vision, mission, set of core values, and focus areas aligned with the Governor's vision.[4]

> ***GWDB Vision:*** *An aligned and coordinated workforce development system delivering talent solutions that support a dynamic, inclusive, and competitive economy, creating opportunities for all businesses to thrive and for every Marylander to access pathways to work, wages, and wealth.*

> ***GWDB Mission:*** *To develop strategies, drive alignment, and accelerate implementation of innovative workforce development solutions that build robust talent pipelines for Maryland's employers and advance pathways to work, wages, and wealth for all Marylanders.*

[3] Maryland Executive Order No. 01.01.2023.22. (2023). https://tinyurl.com/execorder01012023
[4] *Maryland's WIOA State Plan*. (2024).

GWDB Core Values: In keeping with the core values established by the Moore-Miller Administration, the GWDB is dedicated to ensuring that, through our work, we:

- Be Innovative: Collaborate across agencies and stakeholders to identify and implement bold solutions.
- Be Data-Driven: Rely on data and experiences to inform our decisions.
- Move Urgently: Move quickly and diligently with a purpose.
- Challenge the Status Quo: It's okay to disagree and offer a new viewpoint.
- Be Outcomes-Focused: Spend each day focused on leaving no one behind.

Focus Areas: In accordance with the Executive Order, the GWDB's work focuses on the following under the Moore-Miller Administration:

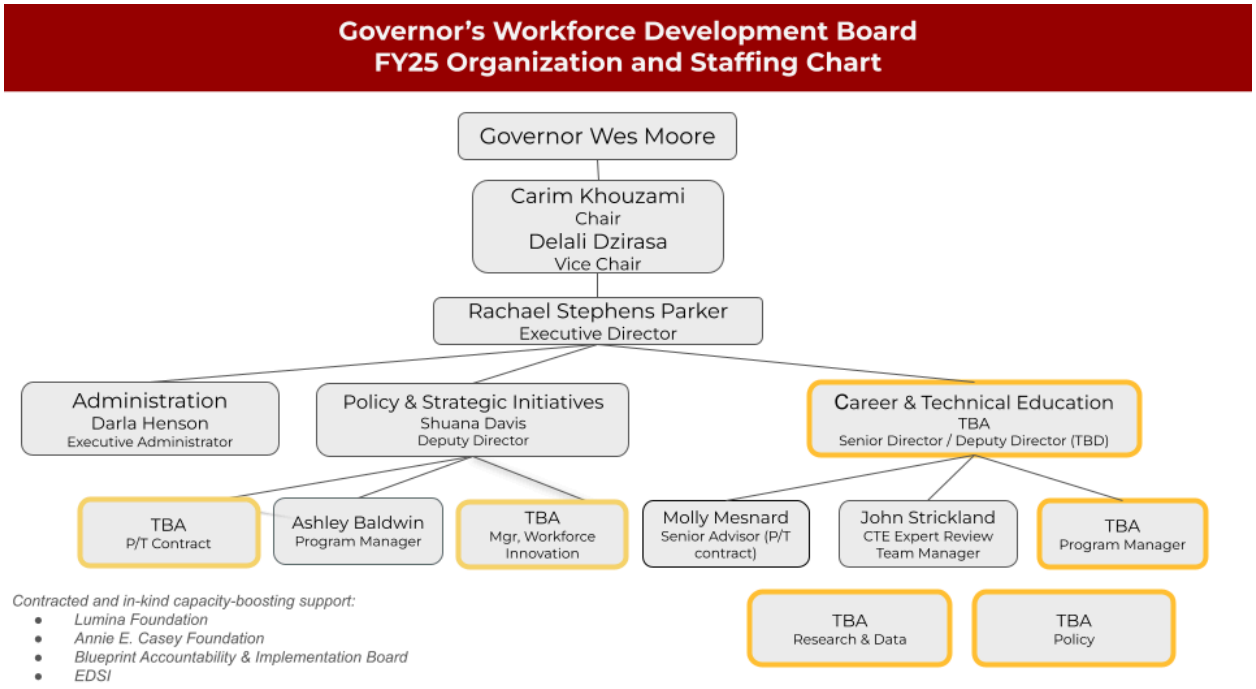
I. Building talent pipelines to supercharge growth in Maryland's key industry sectors;
II. Addressing barriers to employment experienced by underserved populations;
III. Expanding access to affordable, high-quality, career-connected experiential learning and industry-recognized credentials, including apprenticeship and career and technical education opportunities;
IV. Aligning systems, services and resources to strategically leverage Maryland's assets; and
V. Supporting collaboration with local workforce development boards and other local stakeholders to ensure those closest to workforce challenges are central to the solutions.

GWDB STAFFING

The GWDB is an independent agency whose staff comprise a division within the Maryland Department of Labor's Office of the Secretary for budgetary and administrative purposes only.[5] The CTE Committee of the GWDB has its own dedicated staff and also utilizes expertise from GWDB staff, including the Executive Director, Deputy Director, Program Manager, and Executive Administrator, to support its functioning. The CTE Committee had a limited budget for staff in Fiscal Year 2024 (FY24), but was able to secure three new staff positions for FY25, in addition to resources to support a part-time contractual position for FY25. The organizational chart in Figure 2 below exhibits the GWDB staffing structure and highlights key positions being hired for during FY25. As exhibited below, the CTE Committee staff will grow from two full-time staff to five full-time staff and one part-time contractual staff during FY25. Additionally, the GWDB CTE Committee is the recipient of a strategic facilitator grant from the Accountability and Implementation Board (AIB) for FY24 and FY25. The CTE Committee's strategic facilitator is Lateefah Durant, Vice President of Innovation, CityWorks DC. To review the GWDB CTE Committee budget for FY24, see Appendix B.

[5] Maryland Manual On-Line. *Governor's Workforce Development Board - Origin & Functions*. https://msa.maryland.gov/msa/mdmanual/25ind/html/80wof.html

Figure 2: GWDB FY25 Organizational Chart as of December 1, 2024



ABOUT THE GWDB CTE COMMITTEE

The CTE Committee was established under the *Blueprint for Maryland's Future*, Md. Code, Educ. § 21-209, as a unit within the GWDB. The mission of the CTE Committee is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce.[6] The *Blueprint* envisions a system where academic knowledge and occupational competencies are integrated to enable students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century.

The GWDB CTE Committee operates under the oversight of the Accountability and Implementation Board (AIB) and is comprised of the following 11 members of the GWDB, as required in statute:

- The State Superintendent of Schools;
- The Secretary of Higher Education;
- The Secretary of Labor;
- The Secretary of Commerce;
- The Chair of the CTE Skills Standards Advisory Committee; and
- The following six members, jointly selected by the Governor, the President of the Senate, and the Speaker of the House, who collectively represent:
    - Employers;
    - Industry or trade associations;

[6] *Md. Code, Educ. § 21-209.* https://tinyurl.com/mdcode21209

- Labor organizations;
- Community colleges;
- The agricultural community; and
- Experts in CTE programming.

The CTE Committee received funding to support its functions starting in FY23. The initial 11 members of the CTE Committee were all officially appointed by August 2022. In accordance with the *Blueprint*, the Governor, the President of the Senate, and the Speaker of the House jointly appointed Myra Norton as the chair to the CTE Committee.

ANNUAL REPORT REQUIREMENTS

Pursuant to the *Blueprint*, the CTE Committee is required to submit an annual report on or before December 1 each year, beginning in 2024, to the Governor and, in accordance with § 2-1257 of the State Government Article, the General Assembly, and the AIB. The statutory requirements of this annual report are as follows:

1. On or before December 1 each year, beginning in 2024, the CTE Committee shall report to the Governor and, in accordance with § 2-1257 of the State Government Article, the General Assembly, and the Accountability and Implementation Board on the progress, by high school, toward attaining the goals established by the CTE Committee in accordance with subsection (a) of this section.[7]

2. Each year, the CTE Committee shall report to the Governor and, in accordance with § 2–1257 of the State Government Article, the General Assembly, and the Accountability and Implementation Board. The CTE Committee's report shall include:[8]

    a. An annual assessment of the state of CTE within the State; and
    b. Statutory, regulatory, budgetary, and structural changes needed to address the challenges of the evolving CTE system.
    c. Any student-level information in the CTE Committee's report shall be disaggregated by race, ethnicity, gender, family income level, linguistic status, and disability status.

[7] *Md. Code, Educ. § 21-204.* https://tinyurl.com/CTEComm21-204
[8] *Md. Code, Educ. § 21-209.* https://tinyurl.com/mdcode21209

Maryland CTE Framework

BACKGROUND

Under the *Blueprint*, the CTE Committee is charged with developing a statewide Framework for CTE that prepares students for employment in a diverse, modern economy.[9] The *Blueprint* envisions a CTE system where academic knowledge and occupational competencies are integrated, enabling students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century. This new CTE Framework supports CTE offered at the secondary and postsecondary levels and is explicitly linked to the needs of business and industry.

CTE FRAMEWORK DEVELOPMENT

Over 2024, the CTE Committee worked on developing Maryland's CTE Framework in collaboration with Advance CTE, a national nonprofit membership association representing State CTE Directors and other state leaders of CTE, as well as through work with the expert-level staff designees of key CTE Committee members, particularly the Maryland State Department of Education (MSDE).[10]

The process of developing the CTE Framework included:

- Conducting a landscape analysis of promising CTE practices and frameworks from across the country and around the globe;[11]
- Reviewing and consulting the *Blueprint* in the development of the CTE Framework to ensure alignment;
- Analyzing input from Maryland stakeholders as collected through: the WIOA State Plan process; Perkins State Plan process; the Industry-Recognized Credential (IRC) Policy public comment period; CTE Expert Review Team visit observations; and, the Apprenticeship Policy public comment period;
- Facilitating an interactive workshop and discussions with CTE Committee members and their subject matter expert staff designees to provide substantial guidance and input on the development and refinement of the CTE Framework; and
- Conducting three focus groups of stakeholders such as (Local Education Agency (LEA) CTE Directors, Community College CTE/workforce representatives, employers and industry associations to provide input on the CTE Framework.

This internal and external analysis and stakeholder engagement enabled the CTE Committee to identify common themes and priorities in high-performing CTE systems, in Maryland, and align the shaping of the Framework with the *Blueprint*'s intent.

[9] *Md. Code, Educ. § 21-209.* https://tinyurl.com/mdcode21209
[10] Pursuant to Md. Code, Educ. § 21-209, the State Superintendent of Schools is a required member of the CTE Committee. https://tinyurl.com/mdcode21209
[11] To view samples of the landscape analysis of state and international models consulted for the development of the Maryland CTE Framework, see Appendix C.

The GWDB CTE Committee staff presented the draft CTE Framework to CTE Committee members at the May 22 and November 13, 2024, public meetings, to solicit additional feedback. Over the remainder of 2024, staff continued to collaborate with CTE Committee members, designees, and stakeholders to further refine the Framework presented here. The valuable insights of those participating in the meetings, focus groups and interviews were incorporated throughout the development of the CTE Framework.

On January 30, 2025, the CTE Committee approved the CTE Framework presented on the following two pages to be submitted to the AIB for review and approval.

Maryland's CTE Framework

Maryland's Career and Technical Education (CTE) Framework lays out the State's vision and priorities for CTE and supports the goals of the *Blueprint for Maryland's Future*.

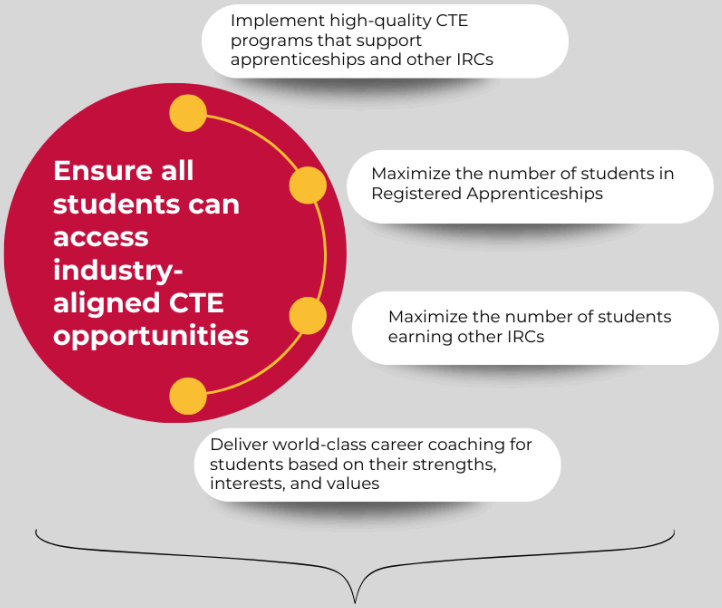
Vision:

Every Maryland student has a clear pathway from high school graduation that leads to work, wages, and wealth. All students will have the opportunity to engage in CTE programs that align to high-skill, high-wage, and/or in-demand careers; lead to earning an industry-recognized credential and/or postsecondary credential; and provide quality work-based learning experiences, with Registered Apprenticeship as the gold standard.

Ensure all students have access to CTE instruction that is aligned with current and future industry needs and prepares them for real-world careers.

Aligning CTE instruction with industry needs is essential for ensuring that students are well-prepared for the workforce. Education, workforce development, and employer stakeholders must work together to create a strong, supportive ecosystem that provides a range of opportunities for young people to learn critical work-ready skills, build careers, and become the next generation of industry leaders. Through this collaboration, Maryland's CTE programs will reflect the skills and competencies that are in demand and ensure that the instruction our students receive is relevant to current and future job market needs. Focusing on incorporating credentials and hands-on learning that signal direct industry value and employability will ensure alignment to industry needs.

To achieve this vision, Maryland's CTE system will do the following:



Every Maryland student has a clear pathway from high school graduation that leads to work, wages, and wealth

Implement high-quality CTE programs that support related instruction for Registered Apprenticeships or attainment of other industry-recognized credentials.

To ensure industry alignment and deliver envisioned outcomes for students, CTE programs must play a substantial role in providing the related instruction necessary for Registered Apprenticeships and facilitating the attainment of industry-recognized credentials. As part of this, Maryland must ensure that its CTE programs provide the foundational skills and knowledge that students need before entering the workforce. This includes both technical skills specific to an occupation as well as general workplace competencies. CTE programs will help ensure that students are well-prepared for the demands of Registered Apprenticeships and successful completion of other industry-recognized credentials, paving the way for rewarding careers.

Maximize the number of students who complete the high school level of a Registered Apprenticeship.

Registered Apprenticeships provide on-the-job training, allowing young people to gain practical skills in their chosen field while earning an income and working alongside experienced professionals. Most importantly, Registered Apprenticeships confer industry-recognized credentials and typically lead to full-time employment opportunities upon completion, providing a clear and affordable pathway into a stable career with opportunities for upward mobility. To prepare young people for these employment opportunities, Maryland's CTE system will partner with the Maryland Department of Labor to prioritize supporting related instruction for the completion of the high school level of a Registered Apprenticeship, given this training model's strong proven return on investment for both employees and employers. The "high school level of a Registered Apprenticeship" is defined by the GWDB CTE Committee as completing 144 hours of related instruction and at least 250 hours of on-the-job training as part of an approved Registered Apprenticeship with the Maryland Apprenticeship and Training Council. [1] [2]

Maximize the number of students who earn other industry-recognized credentials when a Registered Apprenticeship is not available.

An industry-recognized credential (IRC) is defined by the GWDB CTE Committee as a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders. Registered Apprenticeships confer IRCs, and for students that are not participating in Registered Apprenticeship, completing another IRC as defined by the GWDB CTE Committee is another way for them to get on a path to financial security, economic mobility and a rewarding career. [3]

Build a world-class career coaching system that supports student success in post-College and Career Readiness pathways and post-graduation plans aligned to their strengths, interests, and values.

Empowering learners in navigating their career journey requires comprehensive, accessible, and connected career coaching programs that start by engaging young learners. As students develop a solid understanding of their strengths, interests, and values, with the support of career coaches, they and their families will be equipped to make informed decisions about the post-College and Career Readiness (CCR) pathway that is most aligned to their future goals. These post-CCR pathway options include CTE programs of study, including those that support Registered Apprenticeship participation or attainment of other industry-recognized credentials, as well as other pathways.

1: GWDB CTE Committee Apprenticeship Policy: www.gwdb.maryland.gov/policy/gwdbcte2024commapprenticeshippolicy.pdf
2: The Blueprint for Maryland's Future ("the Blueprint") sets a goal that 45% of public high school graduates will complete the high school level of a Registered Apprenticeship or another industry-recognized credential each year, beginning by the 2030-2031 school year. The law states that "to the extent practicable […] the largest number" of students reaching the 45% goal must reach that goal through Registered Apprenticeship.
3: GWDB CTE Committee IRC Policy: www.gwdb.maryland.gov/policy/gwdbcte2024commindustrycredentialpolicy.pdf

CTE FRAMEWORK NEXT STEPS

As previously mentioned, with the assistance of experts at Advance CTE, a national and global comparison of CTE strategic plans, visions, and frameworks was conducted to identify innovative strategies and initiatives to improve and expand CTE and career preparation pathways. From this work, and input from stakeholders in focus groups, promising practices to support each priority were identified and refined. This groundwork enabled the CTE Committee to identify key priority areas for Maryland's CTE Framework that are aligned with *Blueprint* priorities.

Once the CTE Framework is approved by AIB, the CTE Committee will develop a detailed and comprehensive approach to building high-quality CTE programming aligned to the Framework. Some of this work is already underway, as outlined in the CTE Framework, including initiatives such as the IRC Policy and the Apprenticeship Policy. Moreover, the CTE Committee will identify specific strategies for each Framework priority and develop corresponding guidance to implement the vision set forward by the Framework. The CTE Framework guidance will:

- Outline specific strategies that support each priority;
- Leverage Registered Apprenticeship recommendations from the Apprenticeship 2030 Commission;[12]
- Coordinate a strategic statewide plan to scale Registered Apprenticeship in collaboration with the Maryland Department of Labor and other partners;
- Specify stakeholder roles and responsibilities for carrying out the priorities and their associated strategies;
- Define key terms;
- Clearly articulate the criteria and processes for each strategy; and,
- Establish implementation prioritization and a corresponding timeline.

Additionally, while the CTE Framework provides direction to State and local agencies about Maryland's high-level priorities, the CTE Committee also wants to ensure that the CTE Framework is understood and embraced by Maryland residents at-large. As such, the CTE Committee also intends to work with its partners to communicate the vision of the CTE Framework to the general public, including families, students, and community members.

For more information on the CTE Committee's 2025 anticipated work plan, see Next Steps in the "Progress Toward the *Blueprint*'s 45% Goal" section.

[12] The Apprenticeship 2030 Commission is tasked by the Maryland General Assembly with developing a plan to reach 60,000 RAs by 2030, in partnership with the CTE Committee, MD Labor, MSDE, LWDBs, and other relevant entities. The Apprenticeship 2030 Commission will release its final report in early 2025. For more information, visit dls.maryland.gov/policy-areas/apprenticeship-2030-commission.

Progress Toward the *Blueprint*'s 45% Goal

BACKGROUND

The *Blueprint* set a statewide goal that by the 2030-2031 School Year (SY) and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation ("the 45% goal"). The *Blueprint* clarifies that, "to the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing the high school level of a Registered Apprenticeship program approved by the Division of Workforce Development and Adult Learning (DWDAL) within the Maryland Department of Labor."[13] The Accountability and Implementation Board's (AIB) updated implementation plan goes further to clarify that the main objective of the *Blueprint's* Pillar 3 is the creation of rigorous high school apprenticeships as the primary industry-recognized credential for high school graduates.[14]

This annual report requires the CTE Committee to report on the progress, by high school, toward attaining the goals established by the CTE Committee in accordance with the 45% goal. For the purposes of this annual report, the CTE Committee is unable to report on progress by high school. In future iterations of this annual report, the CTE Committee intends to report on progress by Local Education Agency (LEA), and potentially by high school if that level of detail is informative. Presently, the CTE Committee only has access to statewide data pertaining to the 45% goal.

Since the *Blueprint* stipulates measurements based on high school graduates, the CTE Committee will report on completion data for the prior school year. Given the statutorily required deadline of December 1, gathering statewide attainment data may be challenging given the time it takes LEAs and the Maryland State Department of Education (MSDE) to report and clean the data after the prior SY graduation; however, the following reported data is accurate for the 2023-2024 SY to the best of the CTE Committee's knowledge.

DEFINING THE 45% GOAL

The *Blueprint* requires that the CTE Committee define the apprenticeships and industry-recognized credentials (IRC) that count toward the 45% goal. There is no state or federal definition of the "high school level of a Registered Apprenticeship" term used in the *Blueprint*, and with over one million unique credentials available, discerning which ones are valued by employers requires a rigorous evaluation for each IRC.[15] As such, the CTE Committee is responsible for defining these terms and issuing policies on what apprenticeships and IRCs count toward the 45% goal.

[13] *Md. Code, Educ. § 21-204*. https://tinyurl.com/CTEComm21-204
[14] AIB. (2023). *Blueprint Comprehensive Implementation Plan* (p. 122). https://tinyurl.com/aibbpcompplan2023
[15] Credential Engine. (2022). *Counting U.S. Secondary and Postsecondary Education Credentials*. credentialengine.org/all-resources/counting-credentials/

While developing these policies over 2023 and 2024, the CTE Committee took into consideration federal and state regulations, Kirwan Commission reports, existing Maryland programs, lessons from comparable programs nationally and globally, input from stakeholders, and which opportunities meet the underlying objectives of the *Blueprint*. Additionally, the CTE Committee publicly presented drafted policies to multiple stakeholder groups and released three separate public feedback surveys, garnering 190 responses in total. All feedback was reviewed, thematically coded, and considered when revising each policy. The CTE Committee is immensely grateful to members of the public and partners who contributed their valuable input to the final policies developed.

The CTE Committee's Industry-Recognized Credential Policy was developed in collaboration with MSDE to ensure alignment around one policy that clearly defines IRCs, one process and set of criteria to evaluate credentials, and one joint list of approved IRCs that both MSDE and the CTE Committee recognize for Perkins V funding and under the *Blueprint*'s 45% goal, respectively.[16] The IRC Policy reflects the high-demand industries in Maryland and incorporates best practices from across the United States. CTE Committee staff provided multiple public presentations on the IRC Policy and opened the draft policy for two public comment periods, receiving over 160 responses. The CTE Committee reviewed the feedback received, updated the policy, and voted to approve the IRC Policy on May 22, 2024. The IRC Policy was approved by the AIB on August 1, 2024. For the first time in Maryland, this policy sets quality standards for IRCs, ensuring relevance and value to students obtaining an approved IRC. Over fall 2024, MSDE established an IRC Review Committee to review new applications to be considered. In 2025, CTE Committee staff will continue working with MSDE staff to review applications of additional IRCs to be considered, present IRCs recommended to be approved to the CTE Committee, and support MSDE and other partner agencies in developing supporting materials for implementing the new IRC Policy.

While developing the Apprenticeship Policy, the CTE Committee staff worked in close collaboration with staff from the Maryland Department of Labor, which is the State Approving Agency for Registered Apprenticeships, and MSDE. The public was able to provide feedback on the policy during a public comment period in spring 2024. In addition, the CTE Committee presented the draft policy to key stakeholder groups to gather their feedback. The CTE Committee approved the updated policy on August 28, 2024, with the AIB giving final approval on October 24, 2024. This policy sets a minimum standard for Registered Apprenticeship in high school that ensures students obtain quality on-the-job training coupled with related instruction, and that employers are connected to students trained in the skills they need. Additionally, the policy stipulates that youth apprenticeship, which is not a Registered Apprenticeship in Maryland, only counts in the 45% goal when the student earns an approved IRC. Over 2025 and beyond, the CTE Committee intends to support the implementation of this policy through coordinating and crafting a strategic plan to support the massive expansion of Registered Apprenticeships starting in high school. To view these policies in their entirety, reference Appendix E and F. A summary of these policies is provided on the following two pages.

[16] Perkins V is the Strengthening Career and Technical Education for the 21st Century Act was signed into law by President Trump on July 31, 2018. This bipartisan measure reauthorized the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) and continued Congress' commitment in providing nearly $1.4 billion annually for CTE programs. cte.ed.gov/legislation/perkins-v

Maryland
GOVERNOR'S WORKFORCE DEVELOPMENT BOARD

Apprenticeships and Industry-Recognized Credentials for High School Students Under the *Blueprint for Maryland's Future*

Summary of Policy Issuances 2024-01 and 2024-02

The *Blueprint for Maryland's Future* ("the *Blueprint*") established a goal that, by the 2030-31 school year, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential, as defined by the CTE Committee of the Governor's Workforce Development Board ("45% goal"). The CTE Committee has issued two policies to define minimum standards and quality criteria for both the "high school level of a Registered Apprenticeship" and other "industry-recognized credentials" (IRCs) that will be counted toward the *Blueprint*'s 45% goal.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
↳ Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

High School Level of a Registered Apprenticeship

Registered Apprenticeship (RA) provides a structured career pathway and is an earn-and-learn training model proven to have a strong return-on-investment for both apprentices and employers. In Maryland, RAs must be approved by the Maryland Apprenticeship and Training Council (MATC).

A "high school level of a Registered Apprenticeship" is defined as a MATC-approved RA program that begins while an apprentice is in high school, and **requires that students complete a minimum of 144 hours of related instruction (RI) and 250 hours of paid on-the-job training (OJT) before their high school graduation**. Further RA requirements continue post-graduation, in accordance with total program standards approved by MATC.

1. To view the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, visit www.gwdb.maryland.gov/policy.
2. YA only cannot be included in the 45% goal given statutory definitions and interpretation of the law from the AIB.

Industry-Recognized Credential

An industry-recognized credential (IRC) is **a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

The CTE Committee and the Maryland State Department of Education (MSDE) have developed a coordinated IRC vetting process to ensure that State efforts through the *Blueprint* as well as through federal Perkins CTE funding are focused on quality IRCs that fit the above definition.

Specifically, each IRC on the State-approved list used by both the CTE Committee and MSDE must meet the following required quality criteria:

1. *Aligned with in-demand occupations*
2. *Provides documented outcomes*
3. *Validated by industry*
4. *Assessment-based*
5. *Standards-driven*
6. *Attainable and accessible*
7. *Portable*

It is also preferred, but not required, that IRCs also meet the following quality criteria:

1. *Stackable*
2. *Renewable*

Applications for new IRCs to be considered that are not on the approved list will be open annually August 1 through October 31. The IRCs will be reviewed by MSDE and submitted to the GWDB CTE Committee for approval to go into effect the following school year.

Additional information can be found in the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, which can be viewed at www.gwdb.maryland.gov/policy.

ABOUT THE GWDB
The GWDB serves as the Governor's chief strategy and policy-making body for workforce development by engaging key business, labor, education, community, and State and local government leaders to collaborate and advise the Governor on business-led workforce approaches that advance Maryland's economic competitiveness and build pathways to work, wages and wealth for all Marylanders. The GWDB is a business-led board, with a majority of members representing the business community. Other members include the governor, cabinet secretaries, college leaders, the state superintendent of schools, elected officials, and representatives of labor organizations and community-based nonprofit organizations. More information can be found at www.gwdb.maryland.gov

ABOUT THE CTE COMMITTEE
The CTE Committee was established under the *Blueprint for Maryland's Future*, Md. Code, Educ. § 21-209, as a unit within the GWDB. The CTE Committee's mission is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The *Blueprint* envisions a system where academic knowledge and occupational competencies are integrated to enable students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century. The CTE Committee is responsible for strategy and policy for core elements within Pillar 3 of the *Blueprint*, and its work falls under the oversight authority of the Accountability and Implementation Board (AIB). More information can be found at www.gwdb.maryland.gov/ctecomm

CURRENT STATUS AND LIMITATIONS

The *Blueprint* requires that the CTE Committee define the apprenticeships and IRCs that count toward the 45% goal. In early 2024, the CTE Committee presented draft policies defining the apprenticeship programs and the IRCs that will be applied to the 45% goal. These drafts were presented publicly and provided an opportunity for public feedback. The IRC Policy was approved by the AIB on August 1, 2024.[17] The Apprenticeship Policy was approved by the AIB on October 24, 2024.[18] A summary of what counts within the *Blueprint*'s 45% goal as a result of these policies, and in keeping with statute, can be found in the preceding two pages.

IRC Completion

The CTE Committee's approved list of IRCs will not go into effect until the 2025-2026 SY, as it takes time for CTE programs of study to shift their curriculum to align. The original list of MSDE-approved credentials was approximately 600, and the updated CTE Committee approved list is approximately 210 credentials, as of the writing of this report.[19] Given that the updated list of approved IRCs wasn't approved until the summer of 2024, reporting on IRC attainment for the 2023-2024 SY will include students who attained IRCs that are no longer approved. Therefore, the following reported number of graduates earning an IRC is likely not an accurate representation of the number of graduates earning an IRC aligned with the updated policy. In consultation with several LEAs during the CTE Committee's Expert Review Team visits, some districts started to capture data aligned to the CTE Committee's approved list of IRCs, but for the purposes of this report, it is impossible to differentiate between the prior and current list of approved-IRC attainment.

According to MSDE, 4,674 high school seniors earned an industry-recognized credential on MSDE's prior approved list by the time of their 2023-2024 School Year graduation.

High School Level of a Registered Apprenticeship

As of the writing of this report, the apprenticeship database was not set up to clearly delineate a high school student completing a Registered Apprenticeship, as defined by the CTE Committee, since this policy was only just approved in October 2024. Since the design of Registered Apprenticeships is that they would continue after high school, there was no data input system in the apprenticeship database to indicate when a student had graduated high school. Therefore the Maryland Department of Labor's (MD Labor) Division of Workforce Development and Adult Learning (DWDAL) used age as a proxy to determine those *most likely* still in high school. An analysis was conducted of Registered Apprentices in the following age categories, as of June 1, 2024:[20]

[17] To view the GWDB CTE Committee IRC Policy 2024-01, see Appendix E.
[18] To view the GWDB CTE Committee Apprenticeship Policy 2024-02, see Appendix F.
[19] To view the GWDB CTE Committee IRC Policy 2024-01, including a list of approved IRCs, see Appendix E. The CTE Committee will be considering additional IRCs for approval on January 30, 2025. Following this, an updated list of approved IRCs will be posted.
[20] June 1, 2024, was used as the presumptive cutoff date for the 2023-2024 class graduation as graduation dates vary by LEA.

- 16 year olds: 7
- 17 year olds: 123
- 18 year olds: 484

Since the current database did not historically collect information to indicate whether the apprentice was enrolled in high school or if they began an apprenticeship after high school graduation, the number of 18 year olds in a Registered Apprenticeship is not an accurate indicator of the number of high school graduates meeting the 45% goal.[21] However, for the purposes of this report, since the distinction between these two types of apprentices is unknown (i.e. those that started before or after graduation), the CTE Committee made the assumption that all 17 and 18 year olds as of June 1, 2024, started their apprenticeship in high school. Therefore, the approximate total number of high school graduates meeting the 45% goal in the 2023-2024 SY is 607, but this is likely an overestimate given the limitations mentioned above and below.

It should also be noted that the current database does not track on-the-job hours or related instruction, so it is impossible to know if students completed the "high school level" of the Registered Apprenticeship, as defined in the CTE Committee's Apprenticeship policy (i.e. at least 250 hours of on-the-job training and 144 hours of related instruction). MD Labor's apprenticeship team has secured a new database, and part of the build out for this database will be to start collecting data to more clearly track those meeting the "high school level of a Registered Apprenticeship" definition.

It is also unknown if any of these Registered Apprentices also obtained another IRC, and therefore their number could be duplicated in the IRC attainment count. However, given the overall number of approximate high school Registered Apprentices, this potential for duplication was seen as statistically insignificant for the purposes of this report.

Progress Toward the 45% Goal

Based on the data provided above, the state was at 9% attainment toward the *Blueprint*'s 45% goal in the 2024-2025 School Year.

Figure 3: Progress Toward the 45% Goal | 2023-2024 School Year

School Year	IRC Completion	High School Level RA Completion	Total Graduates[22]	Percentage Meeting the Goal
2024-2025	4,674	607	57,759	9%

[21] This is based on the assumption that a student begins kindergarten when they are 5 years old as of September 1, continues their way through 12 years of basic education, and therefore would be 17 or 18 years old in their senior year.
[22] This is the four-year graduation cohort, which is the class of students who entered 9th grade at the same time and then graduated four years later at the end of the 2024-2025 SY.

NEXT STEPS

As noted above, there were multiple limitations in the accurate reporting of data on progress toward the 45% goal for the 2023-2024 SY. The Apprenticeship Policy and IRC Policy were not effective in the 2023-2024 SY and therefore it is impossible to know of this 9%, how many students actually met the approved apprenticeship and IRC definitions. Over the 2024-2025 SY, the CTE Committee is working with its partners at MSDE, MD Labor, AIB, Maryland Longitudinal Data System Center (MLDSC), and LEAs to update data tracking processes and reporting mechanisms. Additionally, MD Labor's apprenticeship team has secured a new database which will greatly assist in modernizing their data tracking capabilities. The CTE Committee will also be hiring a Research Data Analyst in FY25, who will spearhead the mapping of this massive data coordination project and ensure data reported is reliable and unduplicated in future annual reports. Finally, the CTE Committee will ensure future reports include additional relevant data to allow for a more in-depth analysis of *Blueprint* implementation, and that all student-level data will be disaggregated by race, ethnicity, gender, family income level, linguistic status, and disability status.

As the CTE Committee's IRC and Apprenticeship policies are now approved and released, the CTE Committee is working with its partners to develop a coordinated strategic plan for reaching the 45% goal. This will require incredible collaboration between multiple partners at the state-level, with strategies that articulate down to the local areas given the varying degree of employer demand and challenges specific to local areas. The CTE Committee's Apprenticeship Policy details multiple recommended next steps, and the CTE Committee intends to build a coordinated strategic plan utilizing these requested actions over 2025.

The CTE Committee is uniquely positioned to coordinate this development given its placement as a unit within the GWDB and board member representation. In November 2024, Governor Moore launched the Governor's Apprenticeship Pledge in partnership with the GWDB, which will commit industry leaders to creating or expanding Registered Apprenticeship programs.[23] The Pledge's goal is to engage 500 new employers, 5,000 new apprentices, and at least five additional public agencies to register apprenticeships within its first year. The pledge was first signed by AstraZeneca, whose Rockville Facility Executive Director and General Manager Brian Stamper is a GWDB member. Governor Moore also announced action to help make RAs more accessible and affordable through Maryland's community colleges, leveraging the Promise Scholarship Program, wherein eligible community college students can receive up to $5,000 to cover tuition and mandatory fee expenses after federal or state financial aid has been applied.

The GWDB has also engaged business leaders by partnering with the Annie E. Casey Foundation to host the Maryland Business Summit on Engaging the Future Workforce in December 2024, which brought together over 150 leaders from across Maryland's business, policy, and nonprofit sectors to discuss initiatives to empower the future workforce. The Summit focused on equipping Maryland businesses with strategies to engage and empower

[23] To learn more about the Governor's Apprenticeship Pledge, visit www.gwdb.maryland.gov/apprenticeshippledge.

the next generation of workers. The Summit's agenda included keynote addresses, panel discussions, and networking opportunities. Several GWDB members took leading roles in the Summit including Marco Ávila, Vice President of WSP, and Charnetia Young, Director of Workforce Initiatives for CVS Health, who helped businesses understand the benefits of developing youth talent pipelines, shared best practices, and connected with local workforce development teams. The Summit included a call to action for business leaders to pledge their support for providing opportunities to youth, and follow up from this engagement will begin in early 2025.

The GWDB has also formed the Industry Sector Partnership Committee and System Governance Committee, which will complement the work of the CTE Committee in setting sector strategies and in ensuring alignment across key state agencies.

The CTE Committee will also need to consider recommendations from the Apprenticeship 2030 Commission, expected in early 2025, in the coordination of developing a statewide strategy. Additionally, the CTE Committee will also be monitoring the 2025 Maryland legislative session and any resulting legislation that will impact efforts around the CTE Committee's work in strategy development.

In order to deliver on its responsibilities, the CTE Committee has determined that the primary deliverables for the CTE Committee and its staff for 2025 are as follows:

CTE Committee and Staff Deliverables	Expected Completion
Develop and review career coaching metrics, definitions, data collection process, and next steps for conducting an evaluation.	1/30/2025
Review new IRCs for the 2025-2026 School Year.	1/30/2025
Finalize and submit a Statewide CTE Framework to the AIB for approval.	1/30/2025
Hire, onboard, and train four new CTE Committee staff members.	4/30/2025
Partner with MSDE on the development and submission of the Perkins State Plan due to USDOE in 2025.	5/1/2025
Convene a strategic planning retreat among members, staff, and partners to identify strategies, assign tasks and roles, and general guidance to implementing the CTE Framework and scaling Registered Apprenticeships and IRCs to meet the *Blueprint*'s 45% goal.	6/1/2025
Develop companion guidance on specific strategies and state and local partner roles and responsibilities to accomplish the priorities outlined in the CTE Framework.	6/1/2025
Determine and build data processes for various workstreams, inclusive of reporting on the progress toward the 45% goal, LEA data for CTE Expert Review Team visits, and career coaching metrics.	6/30/2025

Deploy and complete 12 CTE Expert Review Team visits and post-visit reports for the 2024-2025 School Year.	6/30/2025
Develop and submit a CTE Expert Review Team Deployment Plan for the 2025-2026 School Year.	7/1/2025
Collaborate with MSDE to incorporate occupational skills standards into course standards.	7/1/2025
Based on the strategic planning retreat, develop and release a clearly articulated plan to implement the statewide CTE Framework and scale Registered Apprenticeships and IRCs.	8/1/2025
Submit a statewide evaluation of career coaching program implementation.	12/1/2025
Develop annual statewide targets for reaching the 45% goal.	12/1/2025
Draft and submit the 2025 annual report.	12/1/2025

Annual Assessment of the State of CTE

BACKGROUND

The CTE Committee is also required to include in its annual report an assessment of the state of CTE within Maryland and statutory, regulatory, budgetary, and structural changes needed to address the challenges of the evolving CTE system.[24] As of the writing of this report, the CTE Committee has conducted six CTE Expert Review Team (ERT) visits this School Year. Given the limited data, which is detailed in prior sections, and limited CTE ERT analysis, the CTE Committee is not able to provide an encompassing representation of the state of CTE across Maryland at this time. The CTE Committee fully intends to have more thorough data analysis coupled with the CTE ERT visits through 2025 to inform this requirement in the report moving forward.

OBSERVATIONS AND INITIAL RECOMMENDATIONS

Despite not having enough information as of this writing to provide an in-depth analysis of the state of CTE overall, there have been several recurring themes observed during CTE ERT visits that point to key areas for policy or programmatic action by the State:

1. **Addressing Insufficient Space Available to Meet Program Demand:** Many CTE programs that are primed to be the related instruction for a Registered Apprenticeship, such as those in electrical, nursing, and automotive tech, are often the ones that LEAs report are oversubscribed. These are the programs that year-over-year have a waitlist, some in the hundreds of students. LEAs are challenged in their capacity to expand these popular programs because of various funding limitations, including: the physical space required for certain programs; the cost of the technology required to outfit an additional space or modernize current spaces; and a limited talent pool of instructors to pull from.
    a. **Funding for CTE Facility Updates:** There is a critical need for state-level funding to update and expand CTE facilities. This includes not only acquiring new equipment but also ensuring that programs remain aligned with evolving industry standards, such as the shift to electric vehicles in the automotive technology CTE program. Partnerships with the private sector could play a vital role in funding these updates, but this will need to be explored further.
    b. **Leveraging Local Community Colleges**: In some instances where feasible, LEAs may be able to utilize their local community college to provide the instruction for some CTE programs when the LEA is unable to due to the reasons mentioned above.

[24] *Md. Code, Educ. § 21-209.* https://tinyurl.com/mdcode21209

2. **Addressing Challenges to CTE Instructor Recruitment**: Professionals willing to leave their industry to teach a CTE program are limited because this often means taking a reduction in pay. The challenge in recruiting qualified professionals from industry to become CTE instructors hinders LEAs from expanding popular programs, and may even be the cause for a program not being offered if an LEA is unable to find a suitable replacement following a CTE instructor's departure.

3. **Capitalizing on High Student Interest in CTE:** Overwhelmingly, students participating in focus groups report incredible passion and connection to their CTE programs. Consistently, CTE students report feeling as though their cohort of classmates are a "family," students are close to their instructors who exude a passion for the curriculum given their tie to the industry, and students deeply enjoy the hands-on application within their CTE program.
    a. **Selection Process for Students Enrolling in CTE**: LEAs utilize slightly different structures for enrolling students in CTE programing. Most utilize some form of a lottery system to ensure equity, but even the arrangement of the lottery system varies across LEAs. This selection system primarily impacts students who want to enroll in a CTE program that is oversubscribed, and therefore the student may not be enrolled in their preferred CTE program. The CTE ERTs will need to analyze these various methods further.

4. **Filling the Gap in State-Level Direction for Career Coaching:** The *Blueprint*'s new career coaching program is still in the early stages of implementation and the roles and responsibilities of the partners look different in each district. Overall, from an administrative perspective, there seems to be an appreciation for having a counseling program focused solely on career planning for the students; however, from a student perspective, the impact of the new programming is hard to quantify at this juncture. Feedback from local stakeholders has consistently demonstrated that the lack of clear direction, expectation-setting, and goal-setting for this new program has made initial rollout difficult, as local partners forge new relationships and build new programs and staffing structures with minimal clarity on program objectives and expectations. As an initial step to fill this gap, the GWDB is leading coordination with state and local partners, along with industry voices, to develop state objectives, definitions, and metrics for assessing the program moving forward.

5. **Addressing Transportation Barriers that Limit Student Participation:** There are multiple transportation challenges that potentially limit students' time and opportunities. This is inclusive of the bus schedules and time spent getting to a CTE center or Community College, therefore limiting a students classroom time during the school day, and limited means of transportation to/from a job site and credential testing sites.

6. **Consider Variations in CTE Availability and Enrollment When Setting State and Regional Targets, Policies, and Implementation Practices:** There is a wide variance in CTE enrollment and matriculation rates to continue through the CTE program of study among LEAs. Out of the first four LEAs the CTE ERT visited this School Year, the CTE ERT observed a range of 17% to 60% in CTE completion rates within an LEA's

graduating class.[25] This is partially a reflection of the variation that naturally exists between what is available in CTE high schools versus comprehensive high schools, how many CTE high schools and/or CTE courses at comprehensive high schools exist in a particular district, the capacity for enrollment at those schools, and the varying culture within a district regarding students' postsecondary plans. The state - and in particular the CTE Committee - must consider what constitutes reasonable and achievable expansion targets for CTE enrollment and matriculation in each district, considering their unique circumstances and capacities, as well as how more opportunities to participate in Registered Apprenticeship, earn IRCs, and participate in other career-connected learning can be provided to students who are not able to enroll in CTE.

7. **Expansion of Registered Apprenticeship**: Scaling Registered Apprenticeship for high school students will require a massive, coordinated, long-term statewide effort, inclusive of regulatory changes and unprecedented investments. Most of the LEAs visited to date by the CTE ERT do not have any students in a formal Registered Apprenticeship. Most apprenticeship data provided by LEAs is on youth apprenticeship, which is not a Registered Apprenticeship in Maryland. For more information on the CTE Committee's plan to develop a strategy to support scaling Registered Apprenticeships, see Next Steps in the "Progress Toward the *Blueprint*'s 45% Goal" section.

NEXT STEPS

The CTE Committee outlined several recommended statutory changes in its FY24-27 Implementation Plan submitted to the AIB in September 2024. As of the writing of this report, the CTE Committee is working with the AIB on their feedback on the implementation plan and therefore will not be making formal statutory recommendations within this report at this time. The CTE Committee intends to have further in-depth analysis of CTE ERT visits and the data collected over this school year, as the new CTE Framework and policies are beginning to be implemented, to ensure future annual reports provide a thorough assessment of the state of CTE, including specific statutory, regulatory, budgetary, and structural changes needed to address the challenges of the evolving CTE system under the *Blueprint*.

[25] CTE Completers are defined as students who meet all requirements in a state-approved CTE program of study, typically completing three or four courses. https://dsd.maryland.gov/regulations/Pages/13A.04.02.02.aspx

Annual Progress Targets Toward the *Blueprint*'s 45% Goal

PURPOSE

The *Blueprint for Maryland's Future* ("the *Blueprint*") set a goal that by the 2030-2031 School Year, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation ("45% goal"). Pursuant to House Bill 1426, Chapter 164 of the 2024 legislative session:[26]

> *"On or before June 1, 2024, the CTE Committee shall establish, for each school year between the 2023-2024 school year and the 2030-2031 school year, inclusive, statewide goals that reach 45% by the 2030-2031 school year, for the percentage of high school students who, prior to graduation, complete the high school level of a Registered Apprenticeship or another industry-recognized occupational credential.*
>
> *To the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing a high school level of a Registered Apprenticeship program approved by the Division of Workforce Development and Adult Learning within the Maryland Department of Labor."*

The Governor's Workforce Development Board (GWDB) CTE Committee submitted draft goal targets to the Accountability and Implementation Board (AIB) on June 1, 2024, pursuant to Md. Code, Educ. § 21-204 referenced above. Those draft targets were informed by the work of a data workgroup, comprised of CTE Committee members, designees, and subject matter experts in CTE and apprenticeship.

As this work continued in 2024, the CTE Committee has determined that there are multiple considerations to factor in when setting statewide targets that make the setting of these targets at this time an ineffective exercise. The following sections of this report detail the data limitations and a recognition that the CTE Committee cannot effectively set targets until a more thorough employer demand strategy is developed and analysis completed. As such, the CTE Committee respectfully recommends that the due date be amended to develop better informed targets by December 1, 2025.

Over time, the targets developed can be utilized to guide local-level target development; to collectively measure the State's progress year-over-year; to update targets annually based on progress and learnings during *Blueprint* implementation; and to identify areas of strength,

[26] House Bill 1426, Chapter 164. (2024). https://tinyurl.com/hb1426

improvement, and items requiring technical assistance or further guidance in order to achieve *Blueprint* goals for Maryland's students.

BACKGROUND

In early 2024, the GWDB CTE Committee presented draft policies defining the apprenticeship programs and the industry-recognized credentials (IRCs) that will be applied to the *Blueprint*'s 45% goal. These drafts were presented publicly and provided an opportunity for public feedback. The IRC Policy was approved by the AIB on August 1, 2024.[27] The Apprenticeship Policy was approved by the AIB on October 24, 2024.[28] A summary of what counts within the *Blueprint*'s 45% goal can be found below.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

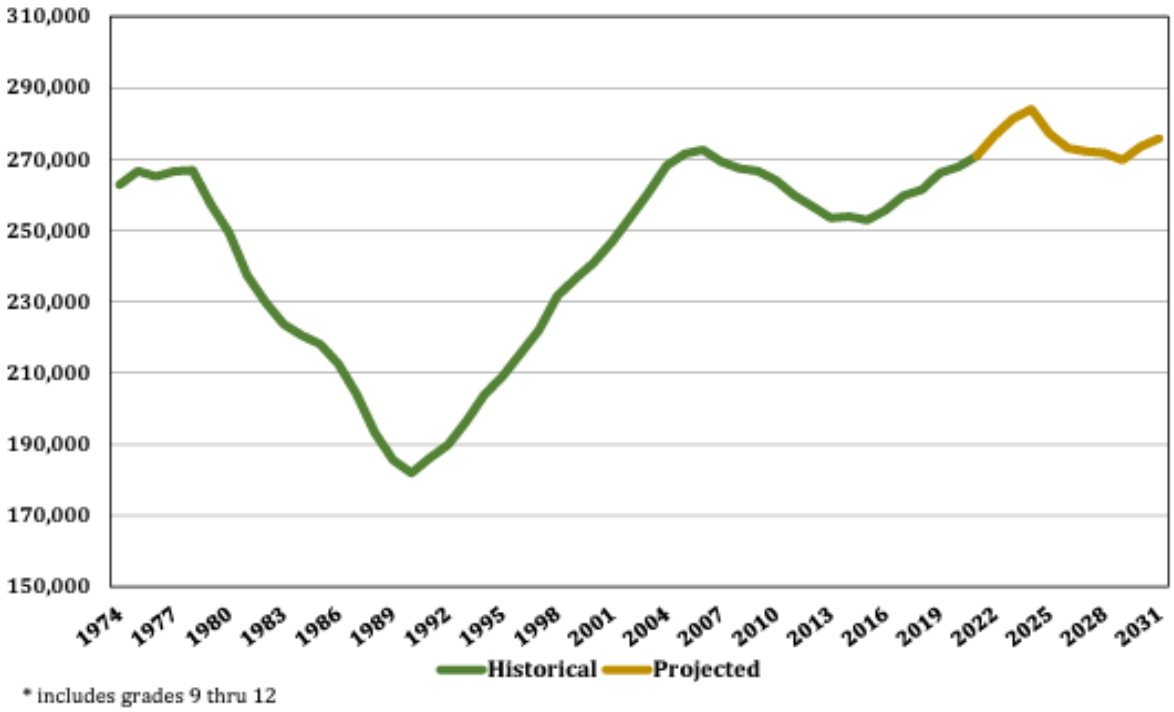
Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

The GWDB CTE Committee formed a data workgroup of subject matter experts, including CTE Committee members and designees, representatives from State Agencies and Local Education Agencies (LEAs), in Spring 2024 to review the available data and define the approach to setting these goals.

Based on projected growth in public school enrollments, there will be approximately 70,000 high school graduates from public schools in the 2030-2031 School Year (SY) (see Figure 4 below).[29] Thus, the target number of graduates needed to meet the *Blueprint*'s 45% goal in the 2030-2031 SY is approximately 31,500.

[27] To view the GWDB CTE Committee IRC Policy 2024-01, see Appendix E.
[28] To view the GWDB CTE Committee Apprenticeship Policy 2024-02, see Appendix F.
[29] MD Dept. of Planning. (Aug. 2022). *Public School Enrollment Projections 2022-2031*. https://tinyurl.com/3w27n27h

Figure 4: Public High School Enrollment in Maryland, Historical and Projected, 1974-2031



LIMITATIONS TO TARGET SETTING

The GWDB CTE Committee data workgroup met and reviewed available data on annual projected job openings, credentials, and apprenticeable occupations for high school students in Spring 2024 to make recommendations to the CTE Committee on defining the approach to setting annual targets to reach the 45% goal.[30] Given that the draft definitions of the apprenticeship programs and IRCs that would count toward the *Blueprint*'s 45% goal were not finalized and approved until later in 2024, the first year of data that will align with the *Blueprint*'s 45% goal will not be available until after the 2024-2025 SY is complete.[31] In summary, the workgroup identified a number of data limitations and determined that there was no precise baseline data for the number of students meeting the 45% goal elements per the updated policies, nor are there any historical trends from which future growth in these elements can be projected. Given these limitations, the most straightforward approach was to set annual targets that map backwards from 45% in the 2030-2031 SY to the current 2024-2025 SY.[32] The data workgroup then developed a framework of assumptions to guide this approach, and presented targets mapping backwards from 45%.

[30] To learn more about the data workgroup's analysis, data limitations, and methodology, see Appendix D.
[31] Note that per the IRC Policy, the new list of approved IRCs will not go into effect until the 2025-2026 SY. However, the CTE Committee intends to work with MSDE and LEAs to extrapolate out the approved IRCs from the 2024-2025 SY data to inform future projections.
[32] The data workgroup decided not to include the 2023-2024 SY since that year was already ending, and the updated draft definitions of what qualifies as meeting the *Blueprint*'s 45% goal were not released until the end of the 2023-2024 SY; therefore, setting goals for a school year that already passed was not logical.

Due to the data limitations, it was also decided that these targets could not differentiate which portion would be attained through the Registered Apprenticeship (RA) pathway or through IRC attainment in the early years. The *Blueprint* statute stipulates that, "To the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing a high school level of a Registered Apprenticeship program," which indicates a desire for the number of Registered Apprenticeships starting in high school to increase dramatically.[33] Generally speaking, an assumption can be made that IRC attainment will make up more of the progress in the first few years, as it will take time to scale RA growth among high school students.

The CTE Committee staff also worked with staff at the Maryland Department of Labor and Apprenticeship 2030 Commission members to analyze 10-year job opening projections for apprenticeable occupations. However, without a specific strategy for targeting these occupations and industries, projecting the market share that could be converted to a Registered Apprenticeship for high school students was also an imprecise mathematical exercise.

When considering all of these factors, the CTE Committee has determined that presenting targets that are not based on a specific strategy for scaling RA and IRCs is not a valuable measurement. As such, the CTE Committee believes that a more thoughtful analysis can be completed following the work of coordinating alignment around a statewide strategy over 2025. Therefore, the CTE Committee respectfully recommends that the target setting deadline be amended to December 1, 2025.

NEXT STEPS

The CTE Committee and its data workgroup recognize the intent of the *Blueprint* and its stated goal that 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential each year, beginning by the 2030-2031 SY. In the absence of applicable historical data to allow for a statistically rigorous trend analysis, and in light of the significant shifts the *Blueprint* calls for in policies and programs, this milestone-setting backwards mapping exercise is not an effective approach. The gap between this unknown true baseline and the 45% goal underscore the importance of a well-coordinated, multi-stakeholder approach that does not rest the responsibility solely on LEAs, particularly in expanding Registered Apprenticeships for high school students.

The GWDB CTE Committee and data workgroup also recognize the need to partner with the AIB, MSDE, MD Labor, LEAs, and other local partners inclusive of the Local Workforce Development Boards and Community Colleges, to develop local annual targets to support the State's goal. Progress toward the 45% goal is going to vary across regions of the State, with 45% being the target Statewide average. Depending on the school district and local economy and employer demand, the optimal or maximum attainment of Registered

[33] While the AIB's Comprehensive Implementation Plan generally re-states the statute text, the plan does state that one of the objective goals under Pillar 3 is that, "The number of students enrolled in CTE programs and participating in high school-level registered apprenticeships increases until 45% of high school students earn an industry-recognized credential, *primarily* by completing the high school level of a registered apprenticeship, by FY 2031." AIB. (2023). *Blueprint Comprehensive Implementation Plan* (p. 122). https://tinyurl.com/aibbpcompplan2023

Apprenticeships and IRCs may be higher or lower. However, given the relatively new approach of scaling RAs for high school students, LEAs will need guidance and assistance on projections for RA growth within their local area. This cannot be done until the statewide strategy is further developed.

These goals will need to be developed in partnership and must reflect the efforts of all partners in this work including MD Labor, MSDE, Local Workforce Development Boards, Community Colleges, LEAs, and others. The type of inputs to consider in developing these goals include local/regional job openings projections, number of employers secured for participation in RAs that start in high school, the number of related instruction courses offered that align to RAs, and the number of CTE programs of study that include RA options or lead to the completion of other IRCs, as defined by the CTE Committee.

Increasing the percentage of Maryland public high school graduates who complete the high school level of a Registered Apprenticeship or another IRC will require coordinated action across State and local stakeholders. A number of required actions are summarized in the GWDB CTE Committee's policies on IRCs and Registered Apprenticeships under the *Blueprint* and will be subjects of future guidance and implementation assistance from the CTE Committee as well as individual members, including MSDE and MD Labor.[34] Over 2025, the CTE Committee intends to coordinate the development of the following:

I. Employer Demand Strategy

Within the recommendations to come out of the Apprenticeship 2030 Commission, for which two CTE Committee members sit on, and Governor Moore's RAISE Act, there is the potential for legislation to establish an entity responsible for employer Registered Apprenticeship recruitment within the Maryland Department of Labor.[35] The CTE Committee would work with this group to execute on strategies in three key categories of industries and employers:

1. For industries where Registered Apprenticeships are well-established, identify the opportunity for growing the number of Registered Apprenticeships available to high school students.
2. For industries where there are some Registered Apprenticeships, but they are not pervasive, identify what is needed to expand apprenticeship, and particularly apprenticeships for high school students.
3. For industries that do not currently have Registered Apprenticeships, identify those with the largest workforce needs now and in the future, where apprenticeships could be a viable solution. Once the most promising industries have been identified, concentrated workgroups should be formed comprised of the appropriate business leaders, industry experts, and apprenticeship experts. These workgroups should identify which professions/roles are apprenticeable and assess what is needed to develop these apprenticeships. From here, these workgroups should estimate, with heavy employer input, the

[34] To view all policies, visit www.gwdb.maryland.gov/policy.
[35] Senate Bill 431 (2025 Legislative Session). *Registered Apprenticeship Investments for a Stronger Economy (RAISE) Act*. mgaleg.maryland.gov/mgawebsite/Legislation/Details/sb0431

number of apprenticeships that could be available for high school students should any identified barriers be removed.

From these three workstreams, the CTE Committee should have estimates of the number of Registered Apprenticeships that could be available, pending removal of any identified barriers, for high school students.

II. LEA Strategy for Meeting Employer Demand

Following the identification of apprenticeships available in the future, work needs to be done to determine the locations of these future apprenticeships and the school systems in those locations who will be working with employers to build these programs and recruit students. This will require convening of workgroups comprised of LEAs and employers to develop the student recruitment strategy, identify any barriers for the LEA regarding programming, and develop strategies to address those barriers. This work should be done for each of the three categories of apprenticeship expansion identified above. Following this work, targets can be set that are based on this kind of comprehensive analysis.

In reviewing timelines for this work, the CTE Committee intends to develop statewide targets to be included in the next annual report, due December 1, 2025.

Appendix Guide

A. List of GWDB Members, as of January 2025
B. CTE Committee FY24 Appropriation and Actuals
C. CTE Framework National and Global Landscape Analysis
D. CTE Data Workgroup Review, Data Limitations, and Methodology for Target Setting
E. GWDB CTE Committee Industry-Recognized Credential Policy
F. GWDB CTE Committee Apprenticeship Policy

Appendix A | Governor's Workforce Development Board Members

BOARD MEMBERS (as of January 2025)

Hon. Wes Moore, Governor

Carim V. Khouzami
Board Chair
President & CEO
BGE

Delali Dzirasa
Board Vice Chair
Founder & CEO
Fearless

A. Ferris Allen, III
Thoroughbred Horse Trainer
Warwick Stable

Kevin Anderson
Secretary
Maryland Department of Commerce

Hon. Vanessa Atterbeary
State Delegate, District 13
Maryland House of Delegates

Alexander Austin
President & CEO
Prince George's Chamber of Commerce

Marco V. Ávila, P.E.
Vice President
WSP

Calvin Ball
County Executive
Howard County

John D. Barber, Jr.
Senior Council Representative of Local 197
Eastern Atlantic States Regional Council of Carpenters

Hon. Joanne C. Benson
State Senator, District 24

Jody Boone
Acting Assistant State Superintendent, Division of Rehabilitation Services
Maryland State Department of Education

Donald Boyd
Director of Teaching and Learning
Dorchester County Public Schools

Brian S. Cavey
International Vice President
International Association of Heat and Frost Insulators & Allied Workers

Dr. Annesa Cheek
President
Frederick Community College

Donna Edwards
President
MD State and DC AFL-CIO

MacKenzie Garvin
Director
Baltimore City Mayor's Office of Employment Development

Steven W. Groenke
General Manager
Himmelrich Associates, Inc.

Kevin D. Heffner
President & CEO
LifeSpan Network

Stacey Herman
Assistant Vice President, Neurodiversity and Community Workforce Development
Kennedy Krieger Institute

Matthew R. Holloway
Owner & Operator
Quantico Creek Sod Farms, Inc.

Dr. Roderick King
Chief Diversity, Equity & Inclusion Officer
University of Maryland Medical System

Larry Letow
CEO US
CyberCX

Robert Limpert
Territory Manager – MD & VA
iCEV Multimedia

Aminah "Amie" J. Long
Human Resources Director
Chaney Enterprises

Jessica Mente
Director of Training
Royal Farms

Kirkland J. Murray
President & CEO
Anne Arundel Workforce Development Corporation
President, Maryland Workforce Association

Stephen Wayne Neal
President & CEO
K. Neal International Trucks, Inc.
K. Neal Idealease

Myra W. Norton
CTE Committee Chair
Senior Director
Johns Hopkins Technology Ventures

Sanjay Rai
Secretary
Maryland Higher Education Commission

Edward C. Rothstein (COL Ret)
Commissioner
Carroll County Commissioner's Office

Martin “Marty” Schwartz
President
Vehicles for Change

Michelle B. Smith
President & CEO
1st Choice, LLC

Brian Stamper
Executive Director, Cell Therapy Operations
AstraZeneca

Inez Stewart
SVP-CHRO
Johns Hopkins Medicine

Teaera Strum
Chief Executive Officer
Strum Contracting Company, Inc.

Michael D. Thomas
Vice President, Workforce Development & Continuing Education
Baltimore City Community College

Perketer Tucker
Director, Office of Adult Education and Literacy Services
Maryland Department of Labor

Charles T. Wetherington
President
BTE Technologies, Inc.

Jennifer Woods
President & CEO
Future Business Leaders of America

Carey Wright
State Superintendent of Schools
Maryland State Department of Education

Portia Wu
Secretary
Maryland Department of Labor

Charnetia V. Young
Director, Diversity Workforce Initiatives
CVS Health

NON-VOTING MEMBERS

The following members of the Governor's Cabinet participate as ex-officio non-voting members to serve in an advisory capacity and to partner on initiatives of the Board that are relevant to their department missions.

Carol Beatty
Secretary
Maryland Department of Disabilities

Jacob "Jake" Day
Secretary
Maryland Department of Housing and Community Development

Rafael López
Secretary
Maryland Department of Human Services

Paul Monteiro
Secretary
Maryland Department of Service and Civic Innovation

Carmel Roques
Secretary
Maryland Department of Aging

Vincent "Vinny" Schiraldi
Secretary
Department of Juvenile Services

Laura Herrera Scott
Secretary
Maryland Department of Health

Carolyn J. Scruggs
Secretary
Maryland Department of Public Safety and Correctional Services

Paul Wiedefeld
Secretary
Maryland Department of Transportation

Anthony "Tony" Woods
Secretary
Maryland Department of Veterans Affairs

Appendix B | GWDB CTE Committee Fiscal Year 2024 Appropriation and Actuals

Description	2024 Appropriation
Salaries and Fringe Benefits	
Technical and Special Fees	$700,000.00
Communications	
Travel	
Vehicles	
Contractual Services	
Supplies and Materials	
Equipment - Replacement	
Grants, Subsidies and Contributions	
Fixed Charges	
TOTAL	**$700,000.00**

Special Fund Expenditures	2024 Actual
Salaries and Fringe Benefits	$202,783.62
Technical and Special Fees	
Communications	$6.06
Travel	$4,538.09
Vehicles	
Contractual Services	$255,633.00
Supplies and Materials	$1,018.84
Equipment - Replacement	$2,850.00
Grants, Subsidies and Contributions	$160,888.00
Fixed Charges	$3,530.94
TOTAL	**$631,248.55**

Appendix C | CTE Framework National and Global Landscape Analysis

MD CTE Framework	U.S. Landscape Analysis
Focus Area	
College and Career Readiness (CCR) Standard	**Florida's** Talent Development Council's Strategic Plan for 2020-2030 lists equity and access as a strategic priority. The following are strategies that support this priority: • Utilize data to identify benchmarks and targets to identify and address equity gaps. • Conduct an inventory of current practices in education that are working to close equity gaps by gathering stakeholder input regarding programs and practices that will help address equity gaps. **Hawaii's** 2023-2029 Implementation Plan includes high-quality learning resulting in equitable outcomes as a strategic priority. The following is an action item that support this priority: • Provide training and coaching for teachers to integrate activities that are culturally relevant with real-world application. **Nebraska's** Strategic Priorities include student achievement data use as major goals. The following are some strategies to support this priority: • Analyze performance data to assess effectiveness in eliminating inequities in student access to success in high-quality CTE programs of study. • Assist educators in making the formal shift to collecting data to ensure CTE programs are successful in serving all students.
Career Counseling	**Colorado's** 2019-2024 Strategic Plan lists access to ongoing career advisement and development as a strategic goal. The following are a few of the listed strategies that support this priority: • Advisors, student services, and CTE instructors align efforts to have meaningful career conversations with students.

	• Instructors are equipped with the skills to have meaningful career conversations with students about their skill sets and career choices. • Instructors, staff, and counselors have access to current and relevant workforce data to guide learners to careers that provide a quality standard of living and future opportunities. **Florida's** Talent Development Council's Strategic Plan for 2020-2030 lists increased early career-related education and exposure as a strategic goal. The following is a select strategy that supports this priority: • Build partnerships among K-12, postsecondary education, technical education, adult education, industry, apprenticeships, specialty training, and other partners to facilitate earlier engagement in career exploration and work-based learning opportunities for all student populations. **Hawaii's** 2023-2029 Implementation Plan lists that all K-12 students engage in various career, community, and civic opportunities as a desired outcome of their strategic goals. The following is a select department action item that supports this priority: • Provide training, coaching, and resources for schools to offer age-appropriate experiences for career exploration and development that advance progressively through the K-12 continuum.
Career-Connected Learning	**Colorado's** 2019-2024 Strategic Plan includes access to meaningful work-based learning opportunities as a strategic goal. The following are strategies that support this priority: • Key stakeholders lead work-based learning initiatives by collaborating with education and workforce partners. • Local areas and state partners collaborate and provide clearly defined and readily available resources for learners, employer worksites, and educational institutions. • CTE programs intentionally connect classroom instruction and activities with workplace skills, duties, and responsibilities. **New Mexico's** Strategic Plan includes experiential learning opportunities as a strategic goal to expand high-quality CTE. The following are objectives that support this priority:

	• Increase the number of students who participate in and successfully complete experiential learning opportunities and earn an industry-recognized credential. • Increase the number of employers partnering with schools to provide experiential learning opportunities. **Delaware's** Strategic Plan includes scaling and sustaining meaningful work-based learning experiences as a major priority. The following are strategies that support this priority: • Engage employers and local education agencies to build institutional capacity and facilitate work-based learning experiences. • Ensure secondary students are successful in work experiences. • Align data systems to improve work-based learning programming.
	Missouri's CTE Advisory Council CTE Strategic Plan includes industry-recognized credentials/technical skill attainment as a major objective to enhance CTE program quality. The following are improvement actions that support this priority: • Evaluate the relevance of current programs and create a plan to develop relevant programs to ensure that they meet the needs of business and industry. • Develop a comprehensive professional development plan that supports CTE teachers' success and quality staff retention. • Develop and implement a comprehensive and systematic process that increases the percentage of CTE students who are CTE Certificate earners.
	Ohio's Credit Flexibility & Simultaneous Credit policies allow for students to integrate coursework and make connections across multiple disciplines. • *Simultaneous Credit* refers to full or partial credit students earn in more than one content are while they are enrolled in a single course. • *Credit Flexibility* is the customizing of educational delivery to the learning styles and interests of individual students. They customize aspects of their learning around their interests and needs, which might include flexible schedules and a choice of modalities (e.g., online learning, work-based learning and community-based projects), as well as options to pursue niche interest areas, combine subjects and graduate early.

	Linked Learning, a **California** statewide initiative, that combines rigorous academics, work-based learning, career and technical education (CTE), and student supports to prepare them for academic college, career, and life. • *Rigorous academics* aligned to admissions requirements for state colleges and universities. • *Career technical education* delivering concrete knowledge and skills through a carefully structured sequence of courses. • *Work-based learning* providing students with exposure to real-world workplaces through job shadowing, apprenticeships, internships, and more. • *Comprehensive support services* including counseling and supplemental instruction in reading, writing, and math to address the individual needs. **Colorado's** 2019-2024 Strategic Plan lists quality CTE programs that meet industry needs as a major goal. The following are a few of the listed strategies that support this priority: • Develop a rubric for evaluation of CTE program performance. • CTE programs provide learners with technical training aligned to industry and academic standards. • CTE programs use data related to in-demand occupations and student outcomes to create and sustain CTE programs of study. • Educators and staff receive technical assistance to implement quality programs that qualify for approval. **New York's** 2021-2026 CTE Strategic Plan includes CTE program management as an area of focus. The following findings align with this priority: • Develop targeted professional learning for teachers on project-based learning, culturally relevant and sustaining education, and upskilling via externships and long-term professional development opportunities. • Ensure schools receive customized support towards receiving and maintaining program approval and progression to high-quality CTE.
Industry Needs	**Delaware's** Strategic Plan lists alignment between education and workforce development efforts as a core priority. The following are a few of the listed strategies that support this priority: • Align data systems to improve policy and programming for in-school and out-of-school youth and adults. • Establish convening routines, partnership agreements,

	and a reflective process to share success, facilitate support, and engage in program improvement and innovation. **Maine's** 2022-2026 Strategic Plan includes cohesive alignment between education pathways and labor market needs as a major goal. The following strategic efforts support this priority: • Collect and analyze the alignment of workforce market data and CTE programs of study. • Sponsor statewide CTE workshop on emerging workforce trends. • Define the industry skill requirements for the current labor market and future workforce needs. **Colorado's** 2019-2024 Strategic Plan lists preparation for the workforce through industry partnerships as a strategic goal. A few of the listed strategies support this priority: • Business and industry partners advise on developing CTE programs, standards, and sequencing. • Partners align their individual efforts with priorities for the CTE system. • Partners ensure relevant stakeholders are included and agree on shared priorities and action items.

International Models

Country	International Aligned-Examples
Australia	**Australia's BECOME Career Education Programme** aims to provide students with career education beginning in upper-elementary. The program's objective is that career education should be early, often, and integrated into students' broader education experience.
Germany	**German apprenticeships and vocational education and training systems** are embedded into their larger education system, with approximately 60% of professionals in their workforce having past apprenticeship/VET experience. This seamless integration helps advance Germany forward in select industries, such as manufacturing.
Switzerland	The **Swiss apprenticeship model** follows the supply and demand of labor market needs, hiring only as many apprentices as they anticipate needing in the coming years. Strong partnerships between employers and training providers benefit the overall system, especially students themselves.
Netherlands	Maastricht University in the Netherlands incorporates **Problem-Based Learning (PBL)**, which revolves around four learning principles: constructive, contextual, collaborative, and self-directed learning (CCCS). PBL engages in hands-on training, small group work, and specific lecture requirements. Similar to Maryland, PBL practices drove primary education systems towards preparing learners to meet secondary education requirements (testing included) to enter into a career pathway.

Appendix D | CTE Data Workgroup Review, Data Limitations, and Methodology for Target Setting

The GWDB is grateful to the CTE Committee's data workgroup for their work and thoughtful consideration for this goal-setting report. Workgroup members included:

- Dr. Donald Boyd, Supervisor of Strategic Initiatives, Dorchester County Public Schools (CTE Committee Member)
- Brian Cavey, International Vice President, International Assoc. of Heat and Frost & Allied Workers (CTE Committee Member)
- Matthew Holloway, Owner & Operator, Quantico Creek Sod Farms, Baywater Farms, Baywater Seafood (CTE Committee Member)
- Richard W. Kincaid, Senior Executive Director, Office of College and Career Pathways, Maryland State Department of Education
- Chris MacLarion, Director, Apprenticeship and Training, Division of Workforce Development and Adult Learning, Maryland Department of Labor
- Bess Rose, Ed.D., Statistician, Maryland Longitudinal Data System Center
- Daniel Rosewag, Coordinator of CTE, Howard County Public School System
- Sarah Sheppard, Director of Education and Workforce, Maryland Department of Commerce
- Michael Thomas, Vice President, Workforce Development and Continuing Education, Baltimore City Community College (CTE Committee Member)

The data workgroup met in spring 2024 to inform the annual statewide targets set within this report.

Data Considered

The data workgroup reviewed multiple data points and trend growth, including:

- As of March 2024, when the data workgroup was formed, there were:
    - 969 active Youth Apprentices in the 2023-2024 SY
    - 51 active Registered Apprentices (RA) that were of high school age[36]
- In 2023, approximately 4,000 CTE concentrators obtained an industry-recognized credential (IRC), which was 7% of the graduating high school school students.

The data workgroup also reviewed, as context to its deliberations:

- Maryland's Youth Apprenticeship historical growth, demographics, and industry breakdown[37]

[36] Since the design of RAs are that they continue after high school, there was no data indicator in the RA database of when a student has graduated high school. Therefore age was used as a proxy to determine those most likely still in high school.
[37] MD Labor. (2023). *Youth Apprenticeship Advisory Committee Annual Report*. labor.maryland.gov/employment/appr/youthapprannrep2023.pdf

- Data provided by the University of Baltimore's Jacob France Institute (JFI) on Maryland's current job postings, current and projected employment levels, and expected total job openings per year over the next decade. To consider likely apprenticeship opportunities for high school students, these reports focused on occupations that require more education or training than a high school diploma but less than a Bachelor of Arts degree.[38] The top 40 occupations with the highest projected job openings were then categorized as being apprenticeable for a high school student, partially, or not.
- Wisconsin's Youth Apprenticeship historical growth, as Wisconsin is considered a national leader in Youth Apprenticeships.[39]

Limitations

The data workgroup analyzed and discussed the limitations within the data sets mentioned above, including:

1. Due to limited data, it is unknown the number of Youth Apprenticeships that also earned an IRC that would qualify under the *Blueprint*'s updated definition issued by the GWDB CTE Committee.
2. The new list of approved IRCs will not go into effect until the 2025-2026 SY, as it takes time for CTE programs of study to shift their curriculum to align. The original list of MSDE-approved credentials was approximately 600, and the updated approved list is approximately 210 credentials, as of the writing of this report.[40]
3. The reporting of IRCs earned is not entirely precise. IRC completion reporting by LEAs is a mixture of students self-reporting to their CTE instructor and certification vendors providing reports back to the instructor. Additionally, licensing bodies typically only notify the student, and hence the need for the student to self-report their licensure attainment.[41]
4. Job opening projections do not equate to a clear conversion of employers willing to transition to a Registered Apprenticeship because:
    a. Positions listed could be filled by an adult, who would often be able to work 40 hours full-time in comparison to a high school student;
    b. Apprenticeship is voluntary for employers; and
    c. If there is a recession, job openings may plummet and high school students participating in the apprenticeship could be laid off.
5. The incoming cohort of ninth graders, graduating in 2028, would be the first class with the updated apprenticeship and industry-recognized credential options fully available as part of their high school planning starting in ninth grade; therefore, the 2030-2031 goal would likely only reflect four graduating classes with the updated options fully available to them.

[38] To view this JFI report, see Appendix D in the CTE Committee's FY24-27 Implementation Plan.
[39] Wisconsin Youth Apprenticeship dashboard: https://dwd.wisconsin.gov/apprenticeship/ya/yoda.htm
[40] To view the list of approved IRCs, see Appendix E.
[41] The Maryland Longitudinal Data System Center (MLDSC) is currently working on expanding Maryland licensing reporting. Additionally, MLDSC has recently entered into a data sharing agreement with Microsoft to report on Microsoft credentials earned. But this is one of the few third-party vendors reporting data directly. MLDSC, MSDE, MD Labor, and the GWDB CTE Committee intend to look into expanding the direct reporting of licensing and certifications over the upcoming year.

6. There are a lot of data modernizations and implications in order to accurately report apprenticeship and IRC completion in future school years. The CTE Committee is working with its partner agencies at MD Labor, MSDE, MLDSC and others to address these implications over the current school year.
7. Accuracy of current projections with regards to macroeconomic conditions, degree requirements, and workforce characteristics (e.g., larger than expected shifts in hiring practices, employment opportunities, etc.) is impossible to predict.

Defining the Denominator and Numerator

The data workgroup reviewed various approaches to defining the denominator in this target setting exercise, i.e. how to project the number of "high school graduates" that would be counted in each year. The workgroup decided to align with MSDEs approach to ensure one method of reporting from both MSDE and the CTE Committee. MSDE technically does not produce graduation projections but utilizes Every Student Succeeds Act (ESSA) targets, which are based on a 0.39% annual increase. The caveat with this approach is that the graduation rates are based on cohorts defined in ninth grade, so these are not aligned with twelfth grade enrollment. For example, a student in a ninth grade cohort who drops out before twelfth grade would be included in the denominator of the cohort graduation rate, but not in twelfth grade enrollment. Additionally, approximately 1% of students receive a certificate of completion and not a diploma. These students are included in the cohort but not as graduates.

As for the numerator, this is the number of high school graduates who complete the high school level of a Registered Apprenticeship plus those that earn an industry-recognized credential, unduplicated. As some students may complete both, the priority will be to count students in the following preferred order:

1. Number of high school graduates who complete the "high school level" of a Registered Apprenticeship prior to graduation, which is completing 144 hours of related instruction and 250 hours of on-the-job training.
2. Number of high school graduates earning an IRC on the CTE Committee's list of approved-IRCs.
    a. Youth apprentices earning an IRC will be counted in the IRC attainment.

There are still nuances within the IRC Policy that are under review wherein a student may earn credit toward the IRC while in high school and can be counted, but the actual credential cannot be earned while the student is in high school (such as those with an age requirement of 18 years old, which some high school seniors are not due to the typical grade cutoff start date being those born by September 1st). The CTE Committee is working with representatives of its members at MSDE and MD Labor, as well as representatives of MLDSC and other partners, in defining these unique instances.

Maryland
GWDB CTE COMMITTEE

Career and Technical Education: Industry-Recognized Credentials

Policy on Industry-Recognized Credential Definition and Criteria, Approval and Review Process, and List of State-Approved Credentials Under the *Blueprint for Maryland's Future*

Governor's Workforce Development Board
Career and Technical Education Committee
Policy Issuance 2024-01

December 2024

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD CTE COMMITTEE

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Senior Director
Johns Hopkins Technology Ventures

Kevin Anderson
Secretary
Maryland Department of Commerce

Dr. Donald Boyd
Director of Teaching and Learning
Dorchester County Public Schools

Brian Cavey
International Vice President
International Association of Heat and Frost Insulators and Allied Workers

Matthew Holloway
Owner & Operator
Quantico Creek Sod Farms, Baywater Farms, Baywater Seafood

Robert Limpert
Director of Workforce Development
Harford Community College

Dr. Sanjay Rai
Secretary
Maryland Higher Education Commission

Michael Thomas
Vice President, Workforce Development and Continuing Education
Baltimore City Community College

Dr. Carey Wright
State Superintendent of Schools
Maryland State Department of Education

Portia Wu
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Governor's Workforce Development Board

The Governor's Workforce Development Board is grateful to the staff of the Maryland State Department of Education who made extensive contributions to this policy, as well as the hundreds of industry representatives, educators, workforce development professionals, and other constituents who contributed valuable insight during its development.

Policy Issuance 2024-01

TO: Maryland State Department of Education; Maryland Department of Labor; Maryland Higher Education Commission; Local Education Agencies; Maryland Community Colleges; Maryland Local Workforce Development Boards; employers; and other pertinent agencies and stakeholders

FROM: Governor's Workforce Development Board CTE Committee

DATE: December 4, 2024

SUBJECT: Policy on Industry-Recognized Credentials Under the *Blueprint for Maryland's Future*

PURPOSE: To provide policy guidance on defining industry-recognized credentials of value and on the CTE Committee-approved list of industry-recognized credentials that will count toward the *Blueprint for Maryland's Future* 45% goal.

ACTION: Applicable staff at the above named agencies will ensure all relevant employees, service providers, and vendors are aware of this updated policy and will issue compliant implementation or procedural guidance, if and as needed.

EFFECTIVE: Beginning in the 2025-2026 School Year (i.e., July 1, 2025)

QUESTIONS:

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Table of Contents

Executive Summary

The College and Career Readiness (CCR) Pillar of the *Blueprint for Maryland's Future* ("the *Blueprint*") aims to ensure that students graduate from high school with the knowledge and skills required to be successful as they enter college or begin their career, and that they be on a structured career pathway at the time of graduation.[1] [2] This requires the creation of a career and technical education (CTE) system that champions Registered Apprenticeships starting in high school, which culminates in a nationally recognized industry-recognized credential upon completion, and that also prioritizes other industry-recognized credentials that prepare and qualify high school graduates for work within in-demand fields.[3]

The following policy outlines a new statewide definition for industry-recognized credentials, and which credentials will support the *Blueprint* goal that, by the 2030-2031 School Year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation.

The Governor's Workforce Development Board (GWDB) CTE Committee defines an industry-recognized credential as:

> *An industry-recognized credential (IRC) is a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.*

In order to be approved by the GWDB CTE Committee as an IRC within this definition, **an IRC must meet the following seven core criteria and two optional criteria**, which are further defined in the following policy guide:

1. Aligns with In-Demand Occupations
2. Provides Documented Outcomes
3. Validated by Industry
4. Assessment-Based
5. Standards-Driven
6. Attainable and Accessible
7. Portable
8. Stackable (preferred, but not required for approval)
9. Renewable (preferred, but not required for approval)

This policy guide provides more information on the updated CTE Committee and Maryland State Department of Education (MSDE) State-approved list of IRCs for application to high school programs (effective beginning in the 2025-2026 School Year), as well as the IRC application, review, and approval process.

[1] House Bill 1300. (2021). The *Blueprint for Maryland's Future*. aib.maryland.gov/Pages/blueprint-law.aspx
[2] Apprenticeship 2030 Commission. (Jan. 2024). *Interim Report*. https://bit.ly/424pf9d
[3] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023

Introduction

In Maryland, as in the rest of the United States, the work to advance economic mobility and independence has evolved dramatically in the post-pandemic economy. Transformative economic shifts, driven by rapid technological innovation and the long-term impacts of the Great Recession, global pandemic, and other economic headwinds, have reshaped the landscape of education and employment. Earning an industry-recognized credential (IRC) in addition to a high school diploma is increasingly critical to success in a growing range of jobs, including entry-level opportunities. In recognition of this reality, Maryland is committed to expanding pathways to credentials and family-sustaining careers, including through Registered Apprenticeship and career and technical education (CTE) pathways.

The Governor's Workforce Development Board's (GWDB's) CTE Committee and the Maryland State Department of Education (MSDE) recognize the importance of building greater alignment between education and workforce needs - including through modernizing the State's approach to conferring high-value industry-recognized credentials that meet the demands of our state's economy and lead to pathways to work, wages, and wealth. With a myriad of these credentials offered across each CTE program of study, discerning and transparently articulating their real-world value is a complex but crucial task. Maryland is part of a national movement of 26 states incorporating industry-recognized credentials into their high school accountability measures.[4] The CTE Committee is charged with making critical decisions on how these credentials are being identified, assessed, and awarded under the *Blueprint for Maryland's Future* ("the *Blueprint*").

This policy lays out guidelines for Maryland's educational and workforce development leaders to identify high-value industry-recognized credentials with clarity and conviction. It calls for a collaborative approach to ensure transparency and clear alignment on messaging to students, caregivers, educators, and employers.

The most essential criterion for high-value industry-recognized credentials is unequivocal: they must be a conduit to employment that ensures a family-sustaining wage. Achieving this standard requires a unified effort from industry, workforce development, K-12, and postsecondary education leaders to identify and endorse the credentials that align with the needs of the labor market, particularly in high-skill, high-wage, and/or in-demand fields. Encouraging learners to attain these credentials, coupled with meticulous data collection and reporting, is imperative. Maryland's leadership must guide more students, especially those from historically marginalized and underserved communities, toward quality credentials as a stepping stone to work, wages, and wealth. The vitality of Maryland's economy and keeping the State's promise to leave no one behind hinge on our commitment to this endeavor.

[4] United States Department of Education (USDOE). (September 2019). *Bridging the Skills Gap: Career and Technical Education in High School*. https://www2.ed.gov/datastory/cte/index.html

Purpose

The *Blueprint for Maryland's Future* ("the *Blueprint*") establishes a goal that by the 2030-2031 School Year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation. The intention of this goal is to ensure that students graduate from high school with the knowledge and skills required to be successful as they enter college or begin their career, and that the student be on a structured career pathway at the time of graduation.

The *Blueprint* goes on further to state that, to the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing a high school level of a Registered Apprenticeship.[5] This requires the creation of a CTE system that offers rigorous high school apprenticeships as the primary industry-recognized credential that produces graduates ready and qualified to work within in-demand fields.[6] Every graduate of a Registered Apprenticeship program receives a nationally recognized credential, referred to as a Certificate of Completion.[7] **Therefore, completers of the "high school level of a Registered Apprenticeship" will go on to earn an industry-recognized credential as they complete the Registered Apprenticeship after graduation.**

The *Blueprint* requires that the GWDB CTE Committee define the apprenticeships and industry-recognized credentials that count toward the 45% goal.[8] The CTE Committee and the Maryland State Department of Education (MSDE) recognize that it is essential to align around one policy that defines industry-recognized credentials, one process and set of criteria to evaluate credentials, and one joint list of approved industry-recognized credentials that both MSDE and the CTE Committee recognize for Perkins V funding and under the *Blueprint*'s 45% goal, respectively.[9]

[5] *Md. Code, Educ. § 21-204*. https://tinyurl.com/CTEComm21-204
[6] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023
[7] This portable credential signifies that the apprentice is fully qualified to successfully perform an occupation. Many Registered Apprenticeship programs, particularly in high-growth industries such as healthcare, advanced manufacturing, and transportation, also offer interim credentials as apprentices master skills at each stage of their Registered Apprenticeship.
[8] To view a summary defining the apprenticeships and IRCs that count toward the 45% goal, see Appendix D.
[9] Perkins V is the Strengthening Career and Technical Education for the 21st Century Act, which was signed into law by President Trump on July 31, 2018. This bipartisan measure reauthorized the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) and continued Congress' commitment in providing nearly $1.4 billion annually for CTE programs. cte.ed.gov/legislation/perkins-v

Defining Industry-Recognized Credentials

The *Blueprint for Maryland's Future* requires that the GWDB CTE Committee define which industry-recognized credentials (IRCs) count toward the 45% goal (i.e., that 45% of public high school students complete the high school level of a Registered Apprenticeship or another industry-recognized credential before they graduate).

SCOPE

The GWDB CTE Committee and MSDE have worked together to coordinate development of one shared list of approved IRCs that both MSDE and the CTE Committee will recognize, in accordance with the CTE Committee's definition and criteria detailed below. The following definition, core criteria, application process, and list of approved IRCs will be recognized for the purposes of:

- CTE Committee's oversight of progress toward the *Blueprint*'s 45% goal; and
- MSDE's approval of post-College and Career Readiness pathways and for federal Perkins V funding of programs.[10]

In the future, there may be additional applications for a statewide definition and criteria for IRCs. However, this policy focuses solely on the application of the following definition and criteria only to the two items listed above, and therefore is not applicable to IRC-approval outside the defined scope.

DEFINITION

> **An industry-recognized credential (IRC) is a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

[10] Note, this is for Perkins formula funding, so this policy is not applicable to grant funded Perkins programming.

CORE CRITERIA

Industry-recognized credentials must meet each of the seven core criteria listed below:

1. **Aligns with In-Demand Occupations:** The credential is associated with occupations that are in high demand or emerging within Maryland as defined by the Governor's Workforce Development Board (GWDB) using state labor market data and employer feedback, or as defined as a regional need or emerging credential by the Local Workforce Development Board.

2. **Provides Documented Outcomes:** There is evidence of positive employment and wage outcomes for individuals who have obtained the IRC, demonstrating its effectiveness in contributing to workforce readiness and economic advancement.
    a. In cases where the credential does not lead to a living wage job, or where data is not yet available, the credential should show that it can be stacked with other credentials, exhibiting progression in a career pathway with positive wage outcomes; or that it meets criteria 1 since it leads to an in-demand occupation.

3. **Validated by Industry:** The credential is recognized by multiple employers within an industry sector and is developed or endorsed by industry associations when applicable, ensuring its relevance and value in the job market.

4. **Assessment-Based:** The credential is awarded upon successful completion of an assessment process that may include written, oral, or performance evaluations, demonstrating the individual's mastery of specific knowledge, skills, and abilities required for a particular occupation or skill area.

5. **Standards-Driven:** The credential is based on industry-accepted standards for skills and competencies, ensuring that it reflects the current needs and practices of the relevant industry.

6. **Attainable and Accessible:** The credential is attainable by high school students through secondary, postsecondary, or other training programs and is accessible to a wide range of learners, including special populations, to support equity and inclusion in access to attainment of IRCs.[11]

7. **Portable:** The credential can support employment in more than one region of the state and, where applicable, outside the state.

[11] USDOE defines the term "special populations" within the Carl D. Perkins CTE Act of 2006, https://www.govinfo.gov/content/pkg/COMPS-3096/pdf/COMPS-3096.pdf

It is preferable for the IRC to also meet these additional two criteria (stackable and/or renewable), but these are not a requirement for approval as they are not universally applicable to every valuable IRC:

8. **Stackable:** The credential can:
    a. be transferred seamlessly to postsecondary work through acceptance for credit or hours in core program courses at an institution of higher education;
    b. be counted toward hours in an aligned Registered Apprenticeship program; or
    c. be part of a prescribed coherent sequence of IRC that show progressive skill development and qualify credential earners for professional advancement within their industry.[12]

9. **Renewable:** Where applicable, the credential is renewable, requiring holders to engage in continuous learning or re-assessment to maintain the credential's status and relevance.

COMPLETION

In order for a public high school student to be considered as successfully "completing" a "high school level of" an industry-recognized credential to be counted in the *Blueprint*'s 45% goal, the student must meet one of the following:

1. Credential is awarded to the student upon successful completion of an assessment process that may include written, oral, or performance evaluations before they graduate high school;[13] or
2. When the collective college credit earned in high school can be applied toward a specific postsecondary certificate or degree that is recognized by the industry for a specific occupation and meets the IRC criteria as defined in this policy;[14] [15] or
3. Completion of a pre-apprenticeship program that meets the quality standards of the IRC criteria as defined in this policy.[16] [17]

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[12] USDOE Stackable Credentials Tool Kit, developed by the Mapping Upward project, provides an overview of the stackable credentials approach and strategies for tracking success, course correcting, and measuring impact. https://cte.ed.gov/initiatives/community-college-stackable-credentials

[13] The CTE Committee recognizes that there are instances in which a high school student, because of their age, may be unable to be assessed for an IRC prior to graduation. Some IRCs have age restrictions wherein the assessment-taker must be 18 years of age. The CTE Committee will coordinate with MSDE, Maryland Higher Education Commission (MHEC) and other relevant agencies to develop guidance in consideration of these instances.

[14] See the section titled "Recommended Next Steps" under #1 for further information on defining this term.

[15] This entails meeting the preferred criteria of Stackable (a. *The credential can be transferred seamlessly to postsecondary work through acceptance for credit or hours in core program courses at an institution of higher education*.)

[16] See the section titled "Recommended Next Steps" under #2 for further information on defining this term.

[17] The U.S. Department of Labor (USDOL) defines pre-apprenticeship as "a training model designed to assist individuals who do not currently possess the minimum [academic or skills] requirements for selection into an apprenticeship program to meet the minimum selection criteria established in a program sponsor's apprenticeship standards required under part 29 of this chapter (29 CFR part 29) and which maintains at least one documented partnership with a Registered Apprenticeship program. It involves a form of structured workplace education and training in which an employer, employer group, industry association, labor union, community-based organization, or educational institution collaborate to provide formal instruction that will introduce participants to the competencies, skills, and materials used in one or more apprenticeable occupations." USDOL. (March 5, 2024). *Training and Employment Notice No. 23-23*. www.dol.gov/agencies/eta/advisories/ten-23-23.

IRC completion as defined above may be completed in conjunction with programs including CTE programs of study (POS) and/or youth apprenticeship programs. It must also be recognized that not all CTE POS will necessarily lead to an industry-recognized credential on the State-approved list.[18] Here are a few considerations when there is no credential directly tied to the POS:

- Lean into opportunities to expand the high school level of Registered Apprenticeships into new occupations and POS.
- Understand that not *every* student is going to engage in programming that counts toward the 45% goal - it is okay for a student to be in the other 55% of high school students.
- Remember that the 45% goal is for *all* high school students, not just CTE students. Take special consideration of dual enrollment students as an opportunity to earn approved IRCs and participate in Registered Apprenticeships.

[18] Throughout this publication, the "State-approved" list is recognized as a function of both MSDE (for Perkins) and the CTE Committee (for the *Blueprint*'s 45% goal).

Application Process For New Industry-Recognized Credentials

Local Education Agencies (LEAs), Community Colleges, Local Workforce Development Boards (LWDBs), and other organizations in Maryland must submit an application for industry-recognized credentials (IRC) that are not on the approved list to be considered.[19] This section details the requirements for requesting an IRC be assessed for approval, timelines for the application process, and alternative routes to approval for credentials unique to local and regional labor markets.

The electronic application for a new IRCs may be accessed by clicking here. The application window to consider new IRCs not on the approved list will be open annually from August 1-October 31.

CREDENTIALS UNIQUE TO LOCAL WORKFORCE NEEDS

There may be instances in which IRCs emerge that bring great value to local or regional employers but do not meet the full criteria for inclusion on the CTE Committee-MSDE listing of qualified statewide credentials. Local applications for credentials unique to local workforce needs must be verified by the LWDB in partnership with the LEA; submissions made by LEAs, Community Colleges, or other organizations without the support of the LWDB will not be considered. The expectation is that the application and supporting documentation will be submitted as a collaborative effort between the LWDB, LEA, and/or Community College.

As a part of the submission, requesting organizations must provide supporting documentation to ensure MSDE and the CTE Committee can assess whether the credential satisfies the criteria for local demand. Supporting documentation includes, at a minimum:

- Documented support from the LWDB and the LEA, such as a letter from the associated CTE Local Advisory Council (LAC). The documented support must make a compelling argument that the credential is necessary for an entry-level position and is valued and supported by local employers.

TIMELINE

The timeline for making requests for credentials to be reviewed for the CTE Committee and MSDE approved list, and for moving through the approval process, is detailed in the table below.

[19] See Appendix A for the approved list of IRCs, as of October 2024.

Date	Description
August 1 [20]	Online application for new industry-recognized credentials to be assessed **opens**.
October 31	Online application for new industry-recognized credentials to be assessed **closes**.
November	MSDE reviews each submission for completeness and follows up with requesting entities to gather any additional information needed to make a recommendation to approve or not approve.
December	MSDE prepares submission packages for each industry-recognized credential application meeting foundational application requirements, including a recommendation to **approve** or **not approve** the IRC. All packets and recommendations will be sent to CTE Committee staff by December 31st for review by the full CTE Committee.
January	The CTE Committee will formally vote to **approve** or **not approve** each IRC package provided to them by MSDE. Once a formal determination is made, MSDE will notify the requesting entity of the status via email. Each approved IRC will be added to the state-approved list for use in the upcoming school year.
February	MSDE and the CTE Committee will publish the annual State-Approved Industry-Recognized Credential list for use in the upcoming school year.
July 1	The State-Approved Industry-Recognized Credential list goes into effect for the upcoming school year.

[20] Note that the 2024 application opened August 26, 2024; however, it is the intention of the CTE Committee and MSDE that the application will open on August 1 every year thereafter.

Review Process For Existing Industry-Recognized Credentials

To ensure the relevance and quality of industry-recognized credentials (IRCs) within CTE programs, the Maryland State Department of Education (MSDE) collaborates closely with the Governor's Workforce Development Board (GWDB) CTE Committee to conduct a comprehensive review of existing approved IRCs every two years. This biennial review process is a cornerstone of Maryland's commitment to aligning CTE programs with the evolving needs of the industry and the labor market. The following narrative outlines this collaborative review process.

Each August through November on even-numbered years, with 2024 marked as the inaugural year, MSDE and the CTE Committee embark on a strategic review of the IRCs currently included in the state's CTE programs. This systematic and collaborative process ensures that each credential remains relevant, meets the high-quality standards expected by the industry, and aligns with the state's workforce development goals.

Step 1: Data Collection and Analysis

The review process begins with MSDE collecting data and feedback on the utilization, outcomes, and perceived value of each IRC from a variety of stakeholders, including educators, students, industry partners, and workforce development professionals. This step may involve analyzing employment trends, wage data, and job placement rates for credential holders, as well as soliciting feedback through surveys and focus groups.

Step 2: Labor Market Information (LMI) Review

Simultaneously, the GWDB in collaboration with MSDE conducts an in-depth analysis of current LMI to identify emerging trends, skills demand, and potential gaps in the state's workforce. This analysis helps in assessing whether the existing IRCs continue to align with economic development strategies and labor market needs.

Step 3: Review

With this foundational data in hand, MSDE and the CTE Committee review each IRC against the established statewide CTE Framework.[21] This collaborative effort ensures a comprehensive evaluation from multiple perspectives, emphasizing the credential's relevance, quality, and contribution to student success.

[21] Pursuant to Md. Code, Education, § 21-209 (https://tinyurl.com/mdcode21209), the CTE Committee is charged with developing a statewide framework for CTE that prepares students for employment in a diverse, modern economy. This CTE Framework is still forthcoming as of the date of issuance of this policy.

Step 4: Stakeholder Engagement

MSDE and the GWDB CTE Committee engage with stakeholders to discuss the findings of their review and gather additional insights. This engagement may take the form of public forums, workshops, or targeted meetings with industry advisory boards, ensuring that the review process benefits from a wide range of expertise and viewpoints.

Step 5: Decision Making and Implementation

Based on the analysis, stakeholder feedback, and collaboration between MSDE and the CTE Committee, decisions are made regarding the continuation, modification, or removal of IRCs from the state-approved list. This step ensures that the credential offerings remain dynamic and responsive to the needs of both students and employers.

Step 6: Communication and Support

Following the review, MSDE communicates the outcomes to all stakeholders, providing clear rationales for decisions made. Additionally, MSDE offers guidance and support to CTE programs affected by any changes, ensuring a smooth transition and maintaining the integrity of the CTE offerings.

Recommended Next Steps

In consideration of the valuable stakeholder input received during two rounds of public feedback, the Governor's Workforce Development Board (GWDB) CTE Committee recommends that the following steps be taken to support implementation of this updated policy.[22]

1. The CTE Committee recognizes that there are multiple pathways for students to enter a career prepared for the rigor required of the occupation, which are inclusive of Registered Apprenticeships, industry-recognized credentials, and college credit that is well-aligned to their chosen career field. The CTE Committee recommends that the Maryland State Department of Education (MSDE) and the Maryland Higher Education Commission (MHEC) develop appropriate guidance to define "completion" when the collective college credit earned in high school can be applied toward a specific postsecondary certificate or degree that is recognized by the industry for a specific occupation (such as an engineering or teaching degree). There are valuable instances where courses lead to advanced standing at the postsecondary level within the student's identified career and the degree itself meets the standard of an industry-recognized occupational credential established within this policy.

2. There are instances in which a quality pre-apprenticeship could meet the industry-recognized credential criteria established within this policy.[23] Therefore, the CTE Committee and the Maryland Department of Labor's Division of Workforce Development and Adult Learning, MSDE, and if applicable, the Maryland Apprenticeship and Training Council (MATC), will explore whether there is a need or desire to develop separate guidance or processes around reviewing and approving pre-apprenticeship program completions as an IRC.[24]

3. MSDE, in coordination with the CTE Committee, shall develop guidance and marketing materials to assist Local Education Agencies (LEAs) and other relevant partners in implementation and communication of this updated policy. As part of this work, MSDE already intends to develop the following companion materials, in coordination with the CTE Committee:
    - **Guidance**: instructions on operationalizing a new list of State-approved IRCs, updated data reporting practices, the process for having new IRCs considered for approval, and recommended guidance on braiding funding to support the expansion of IRC attainment.
    - **Credential Assessment | Business Rules for Assessing Quality Criteria:** detailed step-by-step instructions for how each criteria is assessed.
    - **Program of Study Crosswalk**: to map out which IRCs are aligned with State-approved CTE programs.

[22] For more information on the IRC stakeholder engagement conducted, see Appendix C.
[23] See USDOL Training and Employment Notice No. 23-23 (March 5, 2024) for more information on quality pre-apprenticeships. www.dol.gov/agencies/eta/advisories/ten-23-23
[24] As this process is still under consideration, pre-apprenticeship sponsors are encouraged to apply through the online IRC application in 2024 for consideration in the 2025-2026 SY. marylandpublicschools.org/about/Pages/DCCR/industry-credentials.aspx

- **One-pagers for in-demand IRCs**: to provide LEAs, career coaches, students, caregivers, and others with information on what careers specific IRCs lead to, what the earning potential is, testing requirements, and other pertinent information for making informed decisions.

4. MSDE, in coordination with the CTE Committee, shall review the following concerns regarding equity and access in order to determine the most appropriate next steps for addressing these challenges:
    - Geographical limitations in credential testing sites and frequency of credential assessments being provided to all Maryland students;
    - Resources for testing accommodations for students with disabilities.

5. The GWDB CTE Committee will work with relevant agencies to explore and refine the application of the IRC definition and criteria in other settings in addition to/outside of high school programs.

6. The GWDB CTE Committee will work with MSDE, MHEC, and in consultation with the Maryland Longitudinal Data System Center (MLDSC), to develop guidance around IRCs earned shortly after high school graduation, specifically for those that have an age requirement of 18 years old.

For more information on recommended actions to support growth in Registered Apprenticeships for high school students that support the *Blueprint*'s 45% goal, please see the CTE Committee's Apprenticeship Policy.[25]

APPENDIX GUIDE

A. List of Approved IRCs for the 2025-2026 School Year, as of October 2024
B. IRC National Landscape Analysis
C. Information on the Development of the IRC Definition, Criteria, and Stakeholder Engagement
D. Summary of Definitions for Programs to Count Toward the *Blueprint*'s 45% Goal

[25] To view the GWDB CTE Committee's Apprenticeship Policy Issuance 2024-02, visit www.gwdb.maryland.gov/policy.

Appendix A | State-Approved Industry-Recognized Credentials, as of October 2024

Beginning July 1, 2025, the State-approved industry-recognized credentials (IRCs) meeting all required core criteria are listed in the table below.[26] Once approved by the GWDB CTE Committee, MSDE will publish the annual State-approved IRC list on a publicly available website in a format that can be downloaded. Please reference the application process section for new IRCs not in the list below to be considered.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Arts, Media, and Communication	11017	Adobe Certified Professional After Effects	Adobe (Certiport)
Arts, Media, and Communication	11018	Adobe Certified Professional Animate	Adobe (Certiport)
Arts, Media, and Communication	11005	Adobe Certified Professional Dreamweaver	Adobe (Certiport)
Arts, Media, and Communication	11006	Adobe Certified Professional Illustrator	Adobe (Certiport)
Arts, Media, and Communication	11007	Adobe Certified Professional InDesign	Adobe (Certiport)
Arts, Media, and Communication	11008	Adobe Certified Professional Photoshop	Adobe (Certiport)
Arts, Media, and Communication	11009	Adobe Certified Professional Premiere Pro	Adobe (Certiport)
Arts, Media, and Communication	11013	Certified Associate Webmaster (CAW)	WOW
Arts, Media, and Communication	11016	Certified Web and Mobile App Developer Associate	WOW
Arts, Media, and Communication	11015	Certified Web Animator Associate	WOW
Arts, Media, and Communication	11012	Certified Web Designer Associate (CWDSA)	WOW
Arts, Media, and Communication	11014	Certified Web Developer Associate (CWDVA)	WOW
Arts, Media, and Communication		Unity Certified User Certification - Artist	Unity (Certiport)

[26] This list of approved IRCs is accurate as of October 2024. A complete list of approved IRCs for the 2025-2026 SY will be posted publicly in February 2025.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Arts, Media, and Communication		Unity Certified User Certification - Programmer	Unity (Certiport)
Arts, Media, and Communication		Unity Certified User Certification - VR Developer	Unity (Certiport)
Business Management and Finance		Microsoft Office Associate	Microsoft
Business Management and Finance	21013	Quickbooks Certified User Desktop Certification	Intuit
Business Management and Finance	21014	Quickbooks Certified User Online Certification	Intuit
Construction and Development	31001	Autodesk AutoCAD Certified User	Autodesk
Construction and Development	31002	Autodesk Revit Certified User	Autodesk
Construction and Development	31017	AWS Certified Welding - BZ	American Welding Society (AWS)
Construction and Development	31014	AWS Certified Welding - FCAW	American Welding Society (AWS)
Construction and Development	31012	AWS Certified Welding - GMAW	American Welding Society (AWS)
Construction and Development	31013	AWS Certified Welding - GMAW-S	American Welding Society (AWS)
Construction and Development	31015	AWS Certified Welding - GTAW	American Welding Society (AWS)
Construction and Development	31016	AWS Certified Welding - SAW	American Welding Society (AWS)
Construction and Development	31011	AWS Certified Welding - SMAW	American Welding Society (AWS)
Construction and Development	31021	EPA Section 608 Core plus Type I	ESCO Group
Construction and Development	31022	EPA Section 608 Core plus Type II	ESCO Group
Construction and Development	31023	EPA Section 608 Core plus Type III	ESCO Group
Construction and Development	31026	EPA Section 608 Technician	ESCO Group

Career Cluster	IRC Code	Credential Name	Issuing Entity
Construction and Development	31024	Leadership in Energy and Environmental Design (LEED) Green Associate Credential	U.S. Green Building Council (USGBC)
Construction and Development	31005	NCCER Core plus Level 1 Carpentry	National Center for Construction Education & Research (NCCER)
Construction and Development	31006	NCCER Core plus Level 1 Electrical	National Center for Construction Education & Research (NCCER)
Construction and Development	31009	NCCER Core plus Level 1 HVAC	National Center for Construction Education & Research (NCCER)
Construction and Development	31008	NCCER Core plus Level 1 Industrial Maintenance	National Center for Construction Education & Research (NCCER)
Construction and Development	31004	NCCER Core plus Level 1 Masonry	National Center for Construction Education & Research (NCCER)
Construction and Development	31007	NCCER Core plus Level 1 Plumbing	National Center for Construction Education & Research (NCCER)
Construction and Development	31010	NCCER Core plus Level 1 Welding	National Center for Construction Education & Research (NCCER)
Construction and Development		Occupational Safety and Health Administration (OSHA) 30 Certification	Occupational Safety and Health Administration
Consumer Services, Hospitality and Tourism	41002	Barber License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41010	Barber Stylist License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41004	Certified Fundamentals Cook (CFC)	American Culinary Federation (ACF)
Consumer Services, Hospitality and Tourism	41005	Certified Fundamentals Pastry Cook (CFPC)	American Culinary Federation (ACF)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Consumer Services, Hospitality and Tourism	41007	Hospitality & Tourism Specialist Exam	American Hotel & Lodging Educational Institute
Consumer Services, Hospitality and Tourism	41001	Cosmetology License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41009	Hairstylist License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41003	Nail Technician	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41006	National ProStart Certificate of Achievement	National Restaurant Association
Consumer Services, Hospitality and Tourism	41008	ServSafe Manager	ServSafe
Environmental, Agricultural and Natural Resources	51005	Animal Science Specialist certification (AEST)	Agriculture Education Services & Technology Inc. (AEST)
Environmental, Agricultural and Natural Resources	51004	Certified Floral Designer	American Institute of Floral Designers (AIFD)
Environmental, Agricultural and Natural Resources	51001	Certified Professional Horticulturist (CPH)	Maryland Nursery, Landscape and Greenhouse Association, Inc.
Environmental, Agricultural and Natural Resources	51007	EETC Principles of Small Engine Technology	Engine & Equipment Training Council (EETC) through iCEV
Environmental, Agricultural and Natural Resources	51006	Erosion and Sediment Control	Maryland Department of the Environment (MDE)
Environmental, Agricultural and Natural Resources	71012	ESRI ArcGIS Desktop certification	ESRI Academy
Environmental, Agricultural and Natural Resources	71011	Geographic Information System (GIS) certification	Digital Quest

Career Cluster	IRC Code	Credential Name	Issuing Entity
Environmental, Agricultural and Natural Resources	51002	Maryland Registered Veterinary Technician (RVT) License	Maryland Department of Agriculture
Health and Biosciences	61010	Biotechnician Assistant Credentialing Exam (BACE)	Biotility
Health and Biosciences	61032	CAHIMA Certified Coding Associate (CCA)	Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
Health and Biosciences	61031	CAHIMA Registered Health Information Technician (RHIT)	Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
Health and Biosciences	61006	Certified Clinical Medical Assistant (CCMA)	National Healthcareer Association
Health and Biosciences	61005	Certified Dental Assistant (DANB)	Dental Assisting National Board, Inc.
Health and Biosciences	61011	Certified Dental Assistant (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61059	Certified Medical Administrative Assistant (CMAA)	National Trade Institute
Health and Biosciences	61057	Certified Medical Assistant (CMA)	American Association of Medical Assistants (AAMA)
Health and Biosciences	61038	Certified Medical Laboratory Assistant (CMLA)	American Medical Technologists (AMT)
Health and Biosciences	61001	Certified Nursing Assistant (CNA)	Maryland Board of Nursing
Health and Biosciences	61009	Certified Orthodontic Assistant (DANB)	Dental Assisting National Board, Inc.
Health and Biosciences	61013	Certified Orthodontic Assistant (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61004	Certified Pharmacy Technician (CPhT)	Pharmacy Technician Certification Board
Health and Biosciences	61003	Certified Pharmacy Technician (ExCPT)	National Healthcareer Association

Career Cluster	IRC Code	Credential Name	Issuing Entity
Health and Biosciences	61058	Certified Professional Coder (CPC)	American Academy for Professional Coders
Health and Biosciences	61014	Certified Registered Central Service Technician (CRCST)	IHAHCSM
Health and Biosciences	61021	Certified Respiratory Therapist	National Board for Respiratory Care (NBRC)
Health and Biosciences	61020	Certified Supervised Counselor - Alcohol and Drug	Maryland Department of Health
Health and Biosciences	61029	Certified Surgical Technologist (NBSTSA)	National Board of Surgical Technology and Surgical Assisting (NBSTSA)
Health and Biosciences	61036	Computed Tomography (ARRT)	American Registry of Radiologic Technologists (ARRT)
Health and Biosciences	61041	Dental Assistant (RDA)	American Medical Technologists (AMT)
Health and Biosciences	61056	Dental Hygenist License (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61012	Dental Radiation Technologist (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61002	Geriatric Nursing Assistant (GNA)	Maryland Board of Nursing
Health and Biosciences	61035	Magnetic Resonance Imaging (ARRT)	American Registry of Radiologic Technologists (ARRT)
Health and Biosciences	61030	Maryland Licensed Massage Therapist (LMI) License	Board of Massage Therapy Examiners
Health and Biosciences	61027	Maryland Physical Therapy License	Maryland Board of Physical Therapy Examiners
Health and Biosciences	61040	Medical Administrative Specialist (CMAS)	American Medical Technologists (AMT)
Health and Biosciences	61037	Medical Assistant (RMA)	American Medical Technologists (AMT)
Health and Biosciences	61062	National Certified Medical Assistant (NCMA)	National Center for Competency Testing (NCCT)
Health and Biosciences	61008	National Entry Level Dental Assistant (DANB)	Dental Assisting National Board, Inc.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Health and Biosciences	61015	NCLEX - Licensed Practical Nurse	Maryland Board of Nursing
Health and Biosciences	61060	Pharmacy Technician License	Maryland Board of Pharmacy
Health and Biosciences	61039	Phlebotomy Technician	American Medical Technologists (AMT)
Human Resource Services	71013	Child Development Associate	Council for Professional Recognition
Human Resource Services	71002	Emergency Medical Responder (EMR) (MIEMSS)	Maryland Institute for Emergency Medical Services Systems (MIEMSS)
Human Resource Services	71016	Emergency Medical Technician (EMT) (NREMT)	National Registry of Emergency Medical Technicians
Human Resource Services	71001	Emergency Medical Technician (EMT) (MIEMSS)	Maryland Institute for Emergency Medical Services Systems (MIEMSS)
Human Resource Services	71021	ESRI GIS Fundamentals Foundation (EGFF2201)	ESRI Academy
Human Resource Services	71003	Fire Fighter I	Maryland Fire and Rescue Institute
Human Resource Services	71004	Fire Fighter II	Maryland Fire and Rescue Institute
Human Resource Services	71008	Hazardous Material Operations	Maryland Fire and Rescue Institute
Human Resource Services	71020	Nationally Registered Paramedic	National Registry of Emergency Medical Technicians
Human Resource Services	71019	Paramedic (MIEMSS)	Maryland Institute for Emergency Medical Services (MIEMSS)
Human Resource Services	71009	ParaPro	Educational Testing Service (ETS)
Human Resource Services	71010	PraxisCORE	Educational Testing Service (ETS)
Human Resource Services	71006	Rescue Tech - Site Ops	Maryland Fire and Rescue Institute
Human Resource Services	71007	Rescue Tech - Vehicle and Machinery Extraction	Maryland Fire and Rescue Institute
Human Resource Services	71005	Truck Company Fireground Ops	Maryland Fire and Rescue Institute

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81025	98-366: Networking Fundamentals	Microsoft
Information Technology	81024	98-367: Security Fundamentals	Microsoft
Information Technology	81023	98-381: Introduction to Programming using Python	Microsoft
Information Technology	81026	98-383: introduction to Programming using HTML and CSS	Microsoft
Information Technology	81027	98-388: Introduction to Programming using Java	Microsoft
Information Technology	81022	Apple Swift Level 1	Certiport
Information Technology	81050	AWS-CP (Amazon Web Services Cloud Practitioner)	Amazon Web Services
Information Technology	81051	AWS-SA (Amazon Web Services Solutions Architect Associate)	Amazon Web Services
Information Technology		CCNA	Cisco (Certiport)
Information Technology		CCST Cybersecurity	Cisco (Certiport)
Information Technology		CCST IT Support	Cisco (Certiport)
Information Technology		CCST Networking	Cisco (Certiport)
Information Technology	81011	Cisco CCT	Cisco (Certiport)
Information Technology	81005	CompTIA A+	Computing Technology Industry Association (CompTIA)
Information Technology	81004	CompTIA ITF	Computing Technology Industry Association (CompTIA)
Information Technology	81009	CompTIA Linux+	Computing Technology Industry Association (CompTIA)
Information Technology	81006	CompTIA Network+	Computing Technology Industry Association (CompTIA)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81008	CompTIA PenTest+	Computing Technology Industry Association (CompTIA)
Information Technology	81007	CompTIA Security+	Computing Technology Industry Association (CompTIA)
Information Technology	81030	Cyber Crime Investigator (CCI)	Department of Defense
Information Technology		Cyber Ops	Cisco (Certiport)
Information Technology	81052	CYSA+ (Cybersecurity Analyst)	CompTIA
Information Technology	81029	Digital Forensic Examiner (DFE)	Department of Defense
Information Technology	81028	Digital Media Collector (DMC)	Department of Defense
Information Technology	81042	IT Specialist: Cybersecurity	Cisco
Information Technology	81038	IT Specialist: Databases	Certiport
Information Technology	81040	IT Specialist: Java	Certiport
Information Technology	81037	IT Specialist: Network Security	Certiport
Information Technology	81036	IT Specialist: Networking	Certiport
Information Technology	81039	IT Specialist: Python	Certiport
Information Technology	81010	LPI Linux Essentials	Linux Professional Institute (LPI)
Information Technology	81041	Magnet Certified Forensics Examiner (MCFE)	Magnet Forensics
Information Technology	81035	Microsoft Certified: Azure Fundamentals	Microsoft
Information Technology	81034	Oracle Certified Associate, Database SQL	Oracle
Information Technology	81033	Oracle Certified Associate, Java SE 8 Programmer	Oracle
Information Technology	81003	Oracle Certified Foundations Associate, Database	Oracle

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81002	Oracle Certified Foundations Associate, Java	Oracle
Manufacturing, Engineering and Technology	31020	ADDA Apprentice Drafter Exam	American Design Drafting Association
Manufacturing, Engineering and Technology	31027	Autodesk 360 Fusion	Autodesk
Manufacturing, Engineering and Technology	31003	Autodesk Inventor Certified User	Autodesk
Manufacturing, Engineering and Technology		Certified Additive Manufacturing Fundamentals	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology	91016	Certified Logistics Associate	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology	91017	Certified Logistics Technician	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified Manufacturing Associate	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology		Certified Manufacturing Technologist	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology		Certified Onshape Professional	Onshape
Manufacturing, Engineering and Technology		Certified Production Technician 4.0	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified Production Technician CPT+ Skill Boss	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified SolidWorks Associate (CSWA-Mechanical Design)	SolidWorks
Manufacturing, Engineering and Technology		Certified SolidWorks Professional (CSWP-Mechanical Design)	SolidWorks

Career Cluster	IRC Code	Credential Name	Issuing Entity
Manufacturing, Engineering and Technology		FCR-O1 (Operator 1)	FANUC America
Manufacturing, Engineering and Technology		FCR-O2 (Operator 2)	FANUC America
Manufacturing, Engineering and Technology	91011	NIMS CNC Milling: Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91009	NIMS CNC Milling: PGM Setup & Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91010	NIMS CNC Turning: Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91008	NIMS CNC Turning: Programming Setup & Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91007	NIMS Drill Press Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91006	NIMS Grinding Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91002	NIMS Job Planning, Benchwork & Layout with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91003	NIMS Manual Milling Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91004	NIMS Turning Operations: Turning Between Centers with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Manufacturing, Engineering and Technology	91005	NIMS Turning Operations: Turning Chucking Skills with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Transportation Technologies	101061	Advanced Climate Control Manufacturer Specific	Ford Motor Company
Transportation Technologies	101068	Advanced Engine Performance Specialist Test L1	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101020	ASE A1: Engine Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101021	ASE A2: Automatic Transmission/Transaxle	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101022	ASE A3: Manual Drive Train & Axles	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101023	ASE A4: Suspension & Steering	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101024	ASE A5: Brakes	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101025	ASE A6: Electrical/Electronic Systems	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101026	ASE A7: Heating & Air Conditioning	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101027	ASE A8: Engine Performance	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101028	ASE A9: Light Vehicle Diesel Engines	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101006	ASE Student: Automatic Transmission/Transaxle	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101059	ASE Student: Automobile Service Technology	National Institute for Automotive Service Excellence (ASE)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Transportation Technologies	101002	ASE Student: Brakes	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101003	ASE Student: Electrical/ Electronic Systems	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101004	ASE Student: Engine Performance	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101005	ASE Student: Engine Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101008	ASE Student: Heating and Air Conditioning	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101009	ASE Student: Maintenance and Light Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101007	ASE Student: Manual Drive Train and Axles	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101010	ASE Student: Painting and Refinishing	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101001	ASE Student: Suspension and Steering	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101060	ASE: Inspection Maintenance & Minor Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101064	ASE/609 Refrigerant Recovery and Recycling	ASE Refrigerant Recovery and Recycling Program
Transportation Technologies	101019	Class A Commercial Driver License (CDL)	Maryland Department of Transportation
Transportation Technologies	101052	Class B Commercial Driver License (CDL)	Maryland Department of Transportation
Transportation Technologies		Commercial Learner's Permit (CLP)	Maryland Department of Transportation
Transportation Technologies	101013	Diesel Engines student	National Institute for Automotive Service Excellence (ASE)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Transportation Technologies	101062	Differential and 4WD Systems	Ford Motor Company
Transportation Technologies		FAA Part 107 Drone Pilot License	Federal Aviation Administration
Transportation Technologies		Forklift Operator Certificate	Multiple: Must be Occupational Safety and Health Administration Approved
Transportation Technologies		Hazardous Materials Handler Certification	Multiple: Must be Department of Transportation Approved
Transportation Technologies	101014	I-CAR Aluminum GMA (MIG) Welding Certificate	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101055	I-CAR Non-Structural Technician Platinum ProLevel 1 Credential	Inter-Industry Conference on AutoCollision Repair (I-CAR)
Transportation Technologies	101054	I-CAR Refinish Technician Platinum ProLevel 1 Credential	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101012	I-CAR Steel GMA Welding Certificate	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101069	Maintenance and Light Repair G1	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101063	Manual Transmission and Transaxle Repair	Ford Motor Company
Transportation Technologies	101015	Non-Structural Analysis and Damage Repair student	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101011	Structural Analysis and Damage Repair student	National Institute for Automotive Service Excellence (ASE)

Appendix B | Industry-Recognized Credentials National Analysis

OVERVIEW

In the rapidly evolving landscape of the American workforce, the significance of industry-recognized credentials (IRCs) has become increasingly prominent. These credentials serve as a vital bridge, connecting the skills and knowledge acquired through career and technical education (CTE) programs with the specific needs and standards of various industries. As the nation strives to align educational outcomes with the demands of a competitive global economy, states across the country are implementing strategic initiatives to define, approve, and integrate IRCs into their CTE programs.

This section presents a comprehensive overview of the approaches taken by a selection of states to cultivate a skilled workforce through the endorsement of IRCs. Each state's strategy reflects a commitment to enhancing the employability of students and the robustness of the state's economy. These efforts are not only indicative of a national trend toward workforce development but also highlight the unique regional demands and educational philosophies that shape state-specific programs.

MSDE staff and the CTE Committee staff examined the varied methodologies and criteria employed by states including Alabama, Colorado, Delaware, Florida, Kansas, Louisiana, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas. Through this process, it becomes clear that while the objectives may be similar, the pathways to achieving them are as diverse as the states themselves. This national landscape review offers insights into the collaborative efforts between educational institutions, industry leaders, and governmental agencies to ensure that the credentials provided are not only recognized and valued by employers but also tailored to the economic and labor market trends of each state.

The following summarizes a deep dive into the state models of Delaware, Florida, and Texas, which aligned most closely with the intent and purpose of the *Blueprint for Maryland's Future* and the CTE Committee and MSDE's collaboration, respectively. The following three states were extensively consulted as a proposed definition, characteristics, and process for IRCs were being considered.

STATE-MODEL DEEP DIVE

Delaware

In Delaware, an IRC is a mark of professional and technical competence that is highly regarded in various industries. These credentials are conferred by certification bodies that are acknowledged by industry sectors as benchmarks of proficiency in specific occupational roles or skill areas. To earn such a credential, individuals must undergo a rigorous assessment process that may involve written, oral, or practical examinations, demonstrating their knowledge, skills, and abilities pertinent to a particular job. These certifications are often

time-bound, requiring holders to periodically renew their credentials through a recertification process to maintain their status.

Local Education Agencies (LEAs) are encouraged to submit applications for new IRCs to the Delaware Department of Education (DDOE). The DDOE has established an internal program review committee that opens the application process each fall or when it is time to revise the credentials associated with current CTE programs of study. LEAs interested in applying must furnish the DDOE with data that supports the quality of the IRC they propose. This data is scrutinized by the review committee, which then makes a recommendation regarding the classification of the credential into one of three categories: foundational, essential, or preferred. These categories are determined based on how well the credential meets established quality criteria.

The DDOE reviews the committee's recommendation and the supporting data to make a final decision. They also document their rationale, providing transparency and setting a precedent for future evaluations. The Delaware review committee employs a specific rubric to assess the quality of an IRC. This rubric includes criteria such as alignment with DDOE career and technical education programs of study, relevance to in-demand occupations within the state or region, value to employers, and the credential's ability to lead to employment, higher wages, career advancement, and job security. Additionally, the rubric considers whether the credential is portable across industries, stackable toward further training, validated by a third party, and requires a minimum number of instructional hours for attainment. Finally, it assesses whether the credential is sufficient for employment and career progression.

Florida

In Florida, non-degree credentials are subject to rigorous standards to ensure they serve the economic interests of both individuals and the broader labor market. Florida's Reimagining Education and Career Help (REACH) Act requires that credentials must first and foremost demonstrate their relevance to labor market needs.[27] This is determined either by the Labor Market Estimating Conference for statewide demand or by local demand as identified by the Credentials Review Committee. The credentials must also prove that the competencies they impart are in sync with what the market requires, ensuring that individuals are equipped with skills that are currently in demand by employers. Furthermore, there must be evidence that individuals who have earned these credentials find employment and earn wages that are at least at the middle- to high-level, with a preference for those credentials that lead to high-level wages.

An industry certification, which is a voluntary credential assessed by a third-party entity, falls under this statute if it does not have a statewide articulation agreement for college credit or if it has such an agreement for no more than 14 college credits in a related associate degree program. Entities such as the Florida College System, Local Workforce Development Boards, and Florida school districts can submit credentials for consideration. They must provide detailed information through an online application, including the type of credential, relevant codes, direct links to information about the credential, contact details for the certifying agency, program titles and numbers, industry sector focus, proof of demand, and more. A

[27] Florida Statute. (2021). *Chapter 14.36(2)(a)*. https://flsenate.gov/Laws/Statutes/2021/14.36

joint review team, established by the Credentials Review Committee and comprising representatives from the Florida Department of Education, the Florida Department of Economic Opportunity, and CareerSource Florida (the statewide workforce policy and investment board), conducts quarterly evaluations of submitted credentials. They assess these against the Framework of Quality, and those meeting the criteria are recommended for inclusion on the Master Credentials List. The Credentials Review Committee votes on these recommendations, and the approved list is then presented to the CareerSource Florida Board of Directors and subsequently to the State Board of Education. Once approved, the Master Credentials List is updated on the CareerSource Florida website.

Annually, the credentials on the Master Credentials List are reviewed against new labor market data, and those that no longer meet the Framework of Quality are phased out, following the same review steps as the quarterly updates. The Framework of Quality, which guides the evaluation of credentials, places a strong emphasis on demand and wage levels. By linking a credential to a Standard Occupational Classification (SOC) code, it can be associated with an occupation, its demand indicators can be assessed, and evidence of associated wage levels can be provided. This structured approach ensures that the credentials recognized in Florida are not only of high quality but also of high value to both the workforce and the economy.

Texas

In Texas, the passage of House Bill 22 in 2017 marked a significant shift in how high school student achievements are measured.[28] The Texas Education Agency (TEA) was tasked with incorporating the attainment of industry-based certifications (IBCs) into the Student Achievement domain of the state's public-school accountability system. This move underscores the state's commitment to preparing students for in-demand careers, recognizing that success in the workforce or in postsecondary education is a key indicator of a school's effectiveness.

IBCs are not merely accolades; they signify that a student has acquired skills valued by industry, skills that not only enhance employability immediately after high school but also serve as a foundation for further achievement and independence in life. These certifications are tied to specific career clusters or occupations and are measured against recognized standards. An individual earns a certification by passing an assessment that validates their industry-specific skills. These certifications are granted by certifying entities such as trade associations or industry-approved testing organizations, rather than by secondary schools or institutions of higher education. They are typically time-limited, requiring ongoing professional development or retesting to maintain the certification.

LEAs in Texas must navigate a thorough application process to have an IBC approved for each CTE program of study. The TEA, which reviews these applications, looks for certifications that are aligned with industry standards, portable across different job contexts, affordable, and accessible to all students. Once an application is submitted, TEA has a 30-day window to review it, with approved certifications remaining valid for three years. The TEA's review process for IBCs is multi-faceted:

[28] 85th Texas Legislature. (2017). *House Bill 22*. https://legiscan.com/TX/text/HB22/id/1625647

1. The TEA solicits nominations for IBCs.
2. The Ray Marshall Center at the University of Texas at Austin evaluates whether the certifications are recognized and valued by the industry.
3. Tri-agency staff, including the TEA, review whether the certifications meet the definition of a true certification.[29]
4. Tri-agency partners recruit panels for further evaluation.
5. The TEA develops a rubric and conducts reviewer training.
6. Panels, typically comprising two members (with a third if necessary), review the certifications for portability, the presence of a certifying entity, and coverage of the Texas Essential Knowledge and Skills (TEKS) content.
7. Tri-agency partners complete a quality assurance process.
8. The approved list of IBCs is then released.

The rubric used by the TEA to validate and approve IBCs includes several criteria:

1. The certification must be a true reflection of skill attainment and valid for a specific period.
2. It must be recognized and valued by the industry, as evidenced by employer surveys that show the certification influences hiring and wage decisions.
3. The certification should be attainable by high school students, meaning a typical 17 or 18-year-old should be able to earn it by graduation.
4. It must be portable, meaning it is recognized regionally, by multiple employers, or as a stepping stone to more advanced postsecondary or apprenticeship opportunities.
5. The certifying entity must be independent of the educational program to ensure the skills are validated outside of course completion.
6. The certification should serve as a capstone or end-of-program achievement, taken after the completion of TEKS-based coursework within a program of study.

This structured approach ensures that the certifications deemed valuable by the TEA are not only indicative of a student's readiness for college and career but also reflective of the skills that are in demand within the Texas labor market.

STATE-MODEL SUMMARY

Across the United States, a mosaic of credentialing initiatives reflects a concerted effort to bridge education with the evolving demands of the workforce. These initiatives, while varied in their approach, collectively underscore a commitment to equipping students with IRCs that signal competence and readiness for in-demand careers.

The strategic efforts range from Alabama's Success Plus initiative, which systematically aligns credentials with labor market needs and mandates annual reassessments, to Kansas' Excel in CTE legislation that incentivizes students' attainment of IRCs in high-demand sectors. Louisiana's Jump Start CTE program and North Carolina's Essential & Career Credentials list further exemplify the drive to connect educational pathways directly to employment opportunities, ensuring that credentials are not only recognized by employers but also lead to

[29] In March 2016, Texas Governor Greg Abbott created the Tri-Agency Workforce Initiative. The Governor tasked the Commissioners of the Texas Education Agency (TEA), the Texas Higher Education Coordinating Board (THECB) and the Texas Workforce Commission (TWC) to work together on developing strong links between education and industry, with the goal of helping Texas grow in economic prosperity.

sustainable wage premiums. Ohio and Tennessee have developed robust systems to validate credentials against industry needs, with Ohio integrating labor market data and industry feedback into its review process, and Tennessee ensuring credentials align with secondary and postsecondary education programs. Pennsylvania's forthcoming credential registry, funded by the American Rescue Plan, promises a user-friendly platform to guide individuals toward valuable, stackable credentials. Delaware's approach involves a detailed rubric to categorize credentials into foundational, essential, or preferred, based on their alignment with CTE programs and market demands. Florida's rigorous standards for non-degree credentials emphasize labor market relevance and positive employment outcomes, with a quarterly review process to maintain a current and responsive Master Credentials List. Texas has taken legislative action to integrate the attainment of IBCs into the public-school accountability system, recognizing the importance of industry-valued skills for student success beyond high school. This integration is a testament to the state's forward-thinking approach to education and workforce development.

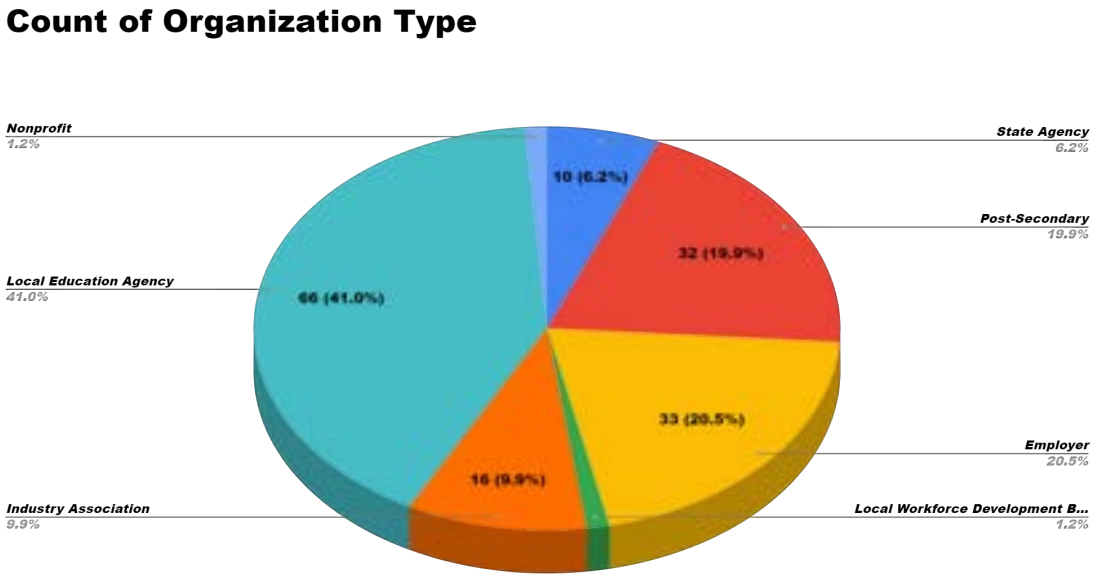
Despite the diversity of these programs, they share a common set of strengths, including a clear focus on aligning credentials with in-demand jobs and involving state workforce boards and employers in the credential review process. However, they also face similar challenges, such as the need for agility in adapting to rapidly changing industry landscapes and the complexity of the credentialing processes, which can be resource-intensive for both educational institutions and students. The future of these initiatives lies in their ability to remain dynamic and responsive. Streamlining application and review processes, ensuring regular updates to reflect the latest industry trends, and balancing the focus on wage outcomes with other employment benefits are all critical steps toward strengthening these credentialing systems. By doing so, they can better serve not only the students and workers who earn these credentials but also the broader economic interests of the states in which they operate.

Appendix C | Industry-Recognized Credential Development and Stakeholder Engagement

The Governor's Workforce Development Board (GWDB) CTE Committee collaborated with the Maryland State Department of Education (MSDE) to examine national best practices, and gathered input from a range of stakeholders to inform the development of an aligned industry-recognized credential (IRC) definition, set of criteria, and approval process.[30]

The CTE Committee and MSDE issued the initial proposed draft IRC definition and criteria as a joint product for public comment in mid-December 2023. This feedback was reviewed, thematically coded to uplift recurring themes, and the framework updated as a result of feedback. The updated draft IRC policy was then released for a second public comment period in mid-March 2024. Throughout this process, the CTE Committee and MSDE have presented and met with multiple stakeholder groups to solicit additional feedback. The CTE Committee received over 160 responses to the public feedback form. Feedback was representative of a wide variety of stakeholders, including Local Education Agencies (LEAs), Local Workforce Development Boards, employers and industry associations, and postsecondary educators (see Figure 1 below). This feedback informed a thoughtful analysis and revision of the final definition and required criteria as presented in this policy.

Figure 1: Respondents to the public feedback forms represented the following organization types



[30] For more information on the national landscape review of other state IRC models, see Appendix B.

As a result of the feedback, and specifically respondents indicating which of the original 10 proposed criteria were the most valuable, the CTE Committee refined the approval of IRCs to include seven core criteria and two preferred, but not required, criteria.

MSDE then assessed the current list of state-approved credentials that had previously been approved for Perkins V within Maryland. The GWDB CTE Committee and MSDE assessed this list against the updated criteria because this ensured that these credentials were already available within CTE programs of study and therefore in operation to ensure acceleration of implementation for in-demand credentials. This review resulted in an initial list of a little over 200 approved IRCs. This initial approved list was shared publicly and made available for comment beginning February 28, 2024; however, it was noted that as of the release of that draft publication, there were several credentials that were still being evaluated due to requiring additional information for consideration. MSDE reviewed these remaining credentials in spring 2024 and the accompanying list in this publication under Appendix A is current as of October 2024.

The updated IRC Policy was approved by the CTE Committee on May 22, 2024, and submitted to the Accountability and Implementation Board (AIB) for consideration. The AIB approved the IRC Policy on August 1, 2024. The policy within this publication is the final approved policy 2024-01.

Maryland
GOVERNOR'S WORKFORCE DEVELOPMENT BOARD

Apprenticeships and Industry-Recognized Credentials for High School Students Under the *Blueprint for Maryland's Future*

Summary of Policy Issuances 2024-01 and 2024-02

The *Blueprint for Maryland's Future* ("the *Blueprint*") established a goal that, by the 2030-31 school year, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential, as defined by the CTE Committee of the Governor's Workforce Development Board ("45% goal"). The CTE Committee has issued two policies to define minimum standards and quality criteria for both the "high school level of a Registered Apprenticeship" and other "industry-recognized credentials" (IRCs) that will be counted toward the *Blueprint*'s 45% goal.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

High School Level of a Registered Apprenticeship

Registered Apprenticeship (RA) provides a structured career pathway and is an earn-and-learn training model proven to have a strong return-on-investment for both apprentices and employers. In Maryland, RAs must be approved by the Maryland Apprenticeship and Training Council (MATC).

A "high school level of a Registered Apprenticeship" is defined as a MATC-approved RA program that begins while an apprentice is in high school, and **requires that students complete a minimum of 144 hours of related instruction (RI) and 250 hours of paid on-the-job training (OJT) before their high school graduation**. Further RA requirements continue post-graduation, in accordance with total program standards approved by MATC.

1. To view the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, visit www.gwdb.maryland.gov/policy.
2. YA only cannot be included in the 45% goal given statutory definitions and interpretation of the law from the AIB.

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD www.gwdb.maryland.gov

Industry-Recognized Credential

An industry-recognized credential (IRC) is **a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

The CTE Committee and the Maryland State Department of Education (MSDE) have developed a coordinated IRC vetting process to ensure that State efforts through the *Blueprint* as well as through federal Perkins CTE funding are focused on quality IRCs that fit the above definition.

Specifically, each IRC on the State-approved list used by both the CTE Committee and MSDE must meet the following required quality criteria:

1. *Aligned with in-demand occupations*
2. *Provides documented outcomes*
3. *Validated by industry*
4. *Assessment-based*
5. *Standards-driven*
6. *Attainable and accessible*
7. *Portable*

It is also preferred, but not required, that IRCs also meet the following quality criteria:

1. *Stackable*
2. *Renewable*

Applications for new IRCs to be considered that are not on the approved list will be open annually August 1 through October 31. The IRCs will be reviewed by MSDE and submitted to the GWDB CTE Committee for approval to go into effect the following school year.

Additional information can be found in the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, which can be viewed at www.gwdb.maryland.gov/policy.

ABOUT THE GWDB

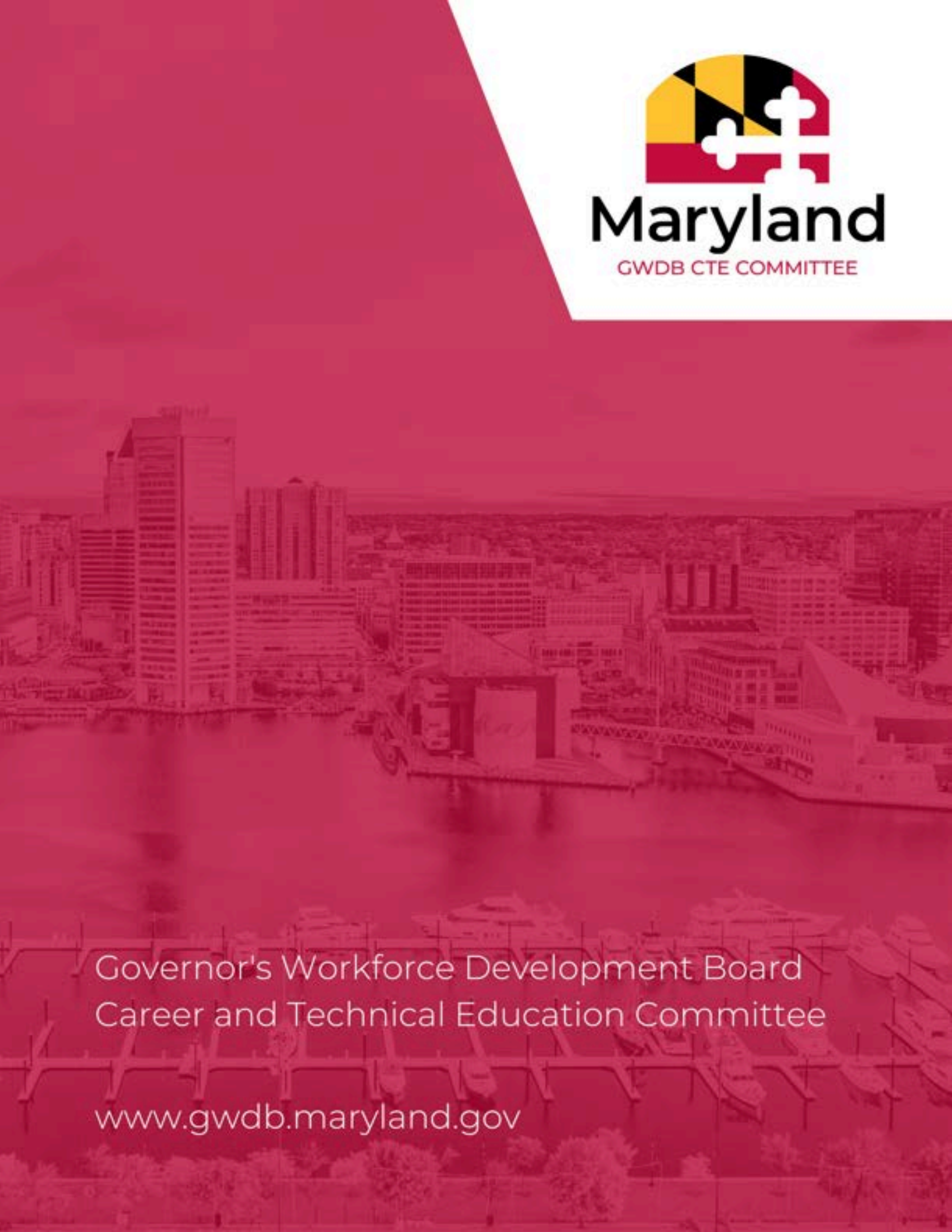
The GWDB serves as the Governor's chief strategy and policy-making body for workforce development by engaging key business, labor, education, community, and State and local government leaders to collaborate and advise the Governor on business-led workforce approaches that advance Maryland's economic competitiveness and build pathways to work, wages and wealth for all Marylanders. The GWDB is a business-led board, with a majority of members representing the business community. Other members include the governor, cabinet secretaries, college leaders, the state superintendent of schools, elected officials, and representatives of labor organizations and community-based nonprofit organizations. More information can be found at www.gwdb.maryland.gov

ABOUT THE CTE COMMITTEE

The CTE Committee was established under the *Blueprint for Maryland's Future*, Md. Code, Educ. § 21-209, as a unit within the GWDB. The CTE Committee's mission is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The *Blueprint* envisions a system where academic knowledge and occupational competencies are integrated to enable students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century. The CTE Committee is responsible for strategy and policy for core elements within Pillar 3 of the *Blueprint*, and its work falls under the oversight authority of the Accountability and Implementation Board (AIB). More information can be found at www.gwdb.maryland.gov/ctecomm

Maryland

GWDB CTE COMMITTEE



Governor's Workforce Development Board
Career and Technical Education Committee

www.gwdb.maryland.gov

Maryland
GWDB CTE COMMITTEE

Apprenticeships for High School Students in Maryland

Policy on Apprenticeships for High School Students Under the *Blueprint for Maryland's Future*

Governor's Workforce Development Board
Career and Technical Education Committee
Policy Issuance 2024-02

December 2024

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD CTE COMMITTEE

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The Governor's Workforce Development Board CTE Committee is grateful to Erin Roth, Chris Maclarion, and Logan Dean of the Maryland Departments of Labor's Division of Workforce Development and Adult Learning, as well as Richard Kincaid of the Maryland State Department of Education, for their extensive contributions to the development of this policy.

Policy Issuance 2024-02

TO:	Maryland Department of Labor; Maryland State Department of Education; Maryland Higher Education Commission; Local Education Agencies; Maryland Community Colleges; Maryland Local Workforce Development Boards; employers; and other pertinent agencies and stakeholders
FROM:	Governor's Workforce Development Board CTE Committee
DATE:	December 4, 2024
SUBJECT:	Policy on Apprenticeships for High School Students Under the *Blueprint for Maryland's Future*
PURPOSE:	To provide policy guidance on the apprenticeships for high school students that will support and be counted toward the *Blueprint for Maryland's Future* "45% goal" that, by the 2030-2031 school year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation.
ACTION:	Applicable staff at the above named agencies will ensure all relevant employees, service providers, and vendors are aware of this updated policy and will issue compliant implementation or procedural guidance, if and as needed.
EFFECTIVE:	Immediately (i.e. starting in the 2024-2025 School Year)
QUESTIONS:	Rachael Stephens Parker Executive Director Governor's Workforce Development Board rachael.parker@maryland.gov O: 410-767-2131 C: 443-800-5702 Molly Mesnard Senior Advisor, CTE Committee Governor's Workforce Development Board molly.mesnard@maryland.gov C: 443-401-0709 For general inquiries, please email gwdb.cte@maryland.gov.

Table of Contents

Executive Summary

The College and Career Readiness (CCR) Pillar of the *Blueprint for Maryland's Future* ("the *Blueprint*") aims to ensure that students graduate from high school with the knowledge and skills required to be successful as they enter college or begin their career, and that they be on a structured career pathway at the time of graduation.[1] [2] This requires the creation of a Career and Technical Education (CTE) system that offers rigorous high school apprenticeships and other industry-recognized credentials that produce graduates ready and qualified to work within in-demand fields.[3] To this end, the *Blueprint* established a goal that, by the 2030-2031 School Year (SY), 45% of public high school graduates will have completed the high-school level of a Registered Apprenticeship or another industry-recognized credential, as defined by the Governor's Workforce Development Board (GWDB) CTE Committee ("45% goal").[4]

This policy:

1. **Defines the *Blueprint*'s term "high school level of a Registered Apprenticeship**" as a Registered Apprenticeship (RA) with the State of Maryland that a student begins during high school, and in which they complete at least 144 hours of related instruction and 250 hours of on-the-job training prior to graduation, with remaining required hours post-graduation;[5]
2. **Requires steps be taken to rapidly expand Registered Apprenticeships for high school students** as the preferred method for fulfilling the *Blueprint's* 45% goal; and
3. **Counts Youth Apprenticeship**, which in Maryland is not a Registered Apprenticeship, **toward the 45% goal only under the industry-recognized credential (IRC) category when the youth apprentice earns an IRC** as defined by the CTE Committee.[6]

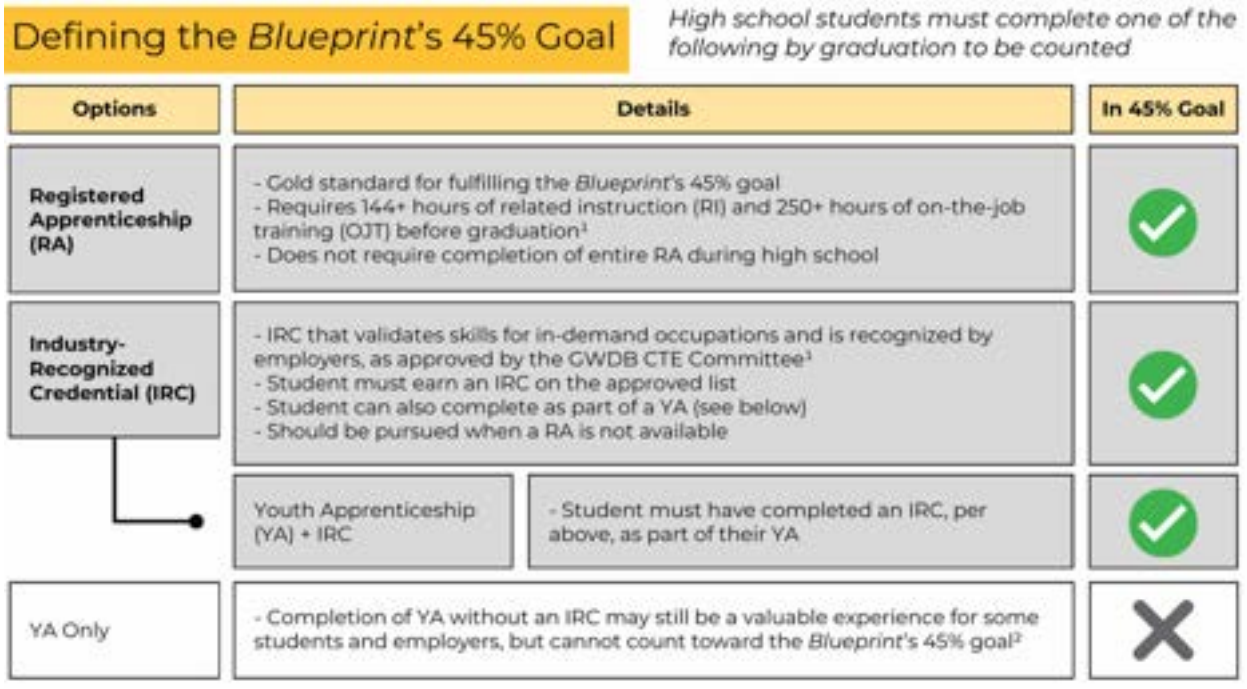
[1] House Bill 1300. (2021). The *Blueprint for Maryland's Future*. aib.maryland.gov/Pages/blueprint-law.aspx
[2] Apprenticeship 2030 Commission. (Jan. 2024). *Interim Report*. https://bit.ly/424pf9d
[3] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023
[4] The CTE Committee is responsible for setting policy around what programs count toward the *Blueprint*'s 45% goal.
[5] As reflected in this policy, the GWDB CTE Committee and Maryland Department of Labor have agreed to discontinue use of the term School-to-Apprenticeship, or STA, effective immediately. This decision has been made in response to stakeholder feedback on this policy during the public comment period.
[6] To view the GWDB CTE Committee's Industry-Recognized Credential Policy Issuance 2024-01, visit www.gwdb.maryland.gov/policy.

The CTE Committee is required to establish annual statewide targets for each school year to reach the 45% goal by the 2030-2031 SY.[7] Overall, there are projected to be roughly 70,000 public high school graduates in the 2030-2031 SY.[8] Thus, the target number of graduates needed to meet the *Blueprint*'s 45% goal in the 2030-2031 SY is approximately 31,000. The CTE Committee's annual targets to build toward the 45% goal are forthcoming.

The CTE Committee is authorized under the *Blueprint* to issue recommendations to the Accountability and Implementation Board (AIB) on whether to withhold a portion of a school district's funds, based on findings of the CTE Expert Review Teams or the CTE Committee's assessment of a district's progress toward the 45% goal.[9] The CTE Committee will recommend funds be withheld if the district is not demonstrating compliance with CTE Committee's policies or guidance, and are not making progress to increase the number of students engaged in the high school level of a RA or another IRC pathway. The CTE Committee recognizes that targets and expectations for meeting the 45% goal need to be clearly delineated before recommendations of this nature are made, and thus will not recommend such action to the AIB until the above-mentioned targets are defined and publicly issued, the CTE Committee's statewide CTE Framework is formally issued, as well as implementation guidance to support the expansion of RAs and IRCs for high school students.

In Figure 1 below is a summary of the CTE Committee's Apprenticeship Policy and IRC Policy of which programs count toward the *Blueprint*'s 45% goal. These policies have been approved by the AIB.

Figure 1: Programs that Count Toward the Blueprint's 45% Goal



[7] *Md. Code, Educ. § 21-204.* https://tinyurl.com/CTEComm21-204
[8] MD Dept. of Planning. (Aug. 2022). *Public School Enrollment Projections 2022-2031.* https://tinyurl.com/3w27n27h
[9] AIB. (2023). *Blueprint Comprehensive Implementation Plan.* https://tinyurl.com/aibbpcompplan2023

Policy on Apprenticeships Under the *Blueprint for Maryland's Future*

DEFINING THE *BLUEPRINT*'S "HIGH SCHOOL LEVEL OF A REGISTERED APPRENTICESHIP"

The *Blueprint* term "high school level of a Registered Apprenticeship" is defined as starting a Registered Apprenticeship (RA) program recognized by the State of Maryland before high school graduation. This must include both on-the-job training and related instruction that take place while a student is enrolled in high school. Specifically, completing the "high school level" of a RA requires that the student complete at least 144 hours of related instruction (RI) and at least 250 hours of paid on-the-job training (OJT) prior to graduation. Additional RI and OJT hours required for each RA will be completed post-graduation in accordance with the total requirements of the student's RA program, as approved by the Maryland Apprenticeship and Training Council (MATC). The high school level of a Registered Apprenticeship, as defined here, is the preferred "gold standard" method for fulfilling the 45% goal.[10]

Registered Apprenticeship offers a highly structured career pathway after high school graduation for participants, and RA has been proven effective for apprentices and their employers.[11] Partnership, alignment, and shared accountability across partners, particularly the Maryland Department of Labor (MD Labor) and the Maryland State Department of Education (MSDE), toward RA expansion goals is critical to providing these high-quality opportunities to students. For more information on definitions, see Appendix B.

Completing the "high school level of a Registered Apprenticeship" requires completing at least 144 hours of RI and at least 250 hours of paid OJT that align to the requirements of the RA in which the student has enrolled.[12] Additional requirements may be imposed based on the specific RA arrangements between student employees and sponsors, according to the RA program parameters approved by MATC. As MATC is the approving entity, the expectation is that the RA sponsor will include in their application that the full RA will complete a minimum of 2,000 hours of OJT, 250 of which must be completed prior to high school graduation to meet the 45% goal.[13] OJT may take place both during the typical school day, through modified

[10] The *Blueprint* stipulates that of the 45% goal, "to the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing a high school level of a Registered Apprenticeship program…" *Md. Code, Educ. § 21-204*. https://tinyurl.com/CTEComm21-204
[11] The benefits of Registered Apprenticeship are detailed in Appendix C.
[12] In the event that the students' RA is canceled through no fault of their own (i.e. economic downturn leads to layoffs etc.), or the student or employer opt to terminate the agreement, as long as the student has completed 144 hours of RI and 250 hours of OJT while enrolled in a RA program, they will have met the requirement of completing the "high school level of a Registered Apprenticeship."
[13] Per stakeholder feedback, one of the core benefits of the RA model is that RI and OJT take place concurrently (i.e. over the same time period or, if that is not possible, closely timed one after the other). The 250 OJT floor can be

student schedules, and outside school hours, inclusive of nights, weekends, and breaks (i.e. summer etc.). If an employer or program sponsor wishes to propose exceptions to these minimum requirements for the high school level of a RA based on industry- or occupation-specific needs of the employer, they may send a letter of justification to the GWDB CTE Committee and MATC for approval.

TIMELINE

This policy will be effective immediately, starting in the 2024-2025 School Year (SY). The CTE Committee is aware that planning and apprenticeship applications for the 2024-2025 SY have already been put in place before this policy was adopted. As such, the CTE Committee understands that the 2024-2025 SY will be a year of transition, and that scaling RAs will take time. The 2024-2025 SY data on progress toward the 45% goal will serve as a "true baseline" upon which to build progress in subsequent years.

achieved in one summer full-time, or part-time during the academic year, depending on the needs of the employer and apprentice. The 144 RI floor is the recommended minimum already in practice for RA and YA. It is equivalent to one standard year course or one semester course if double blocked. These floors were designed, in accordance with stakeholder feedback, to allow flexibility for a student to pursue participation in a RA beginning in either the eleventh or twelfth grade and continuing after graduation.

Expanding Registered Apprenticeship Program Offerings for High School Students

EXISTING TOOLS AND RESOURCES TO EXPAND REGISTERED APPRENTICESHIP

There are several tools and resources available to Local Education Agencies (LEAs), Local Workforce Development Boards (LWDBs), employers, intermediaries and other partners to support the implementation and expansion of Registered Apprenticeships (RAs). The CTE Committee aims to elevate awareness of these available tools and calls on all relevant parties to maximize their use toward RA expansion for high school students:

- State-approved CTE programs can provide the related instruction (RI) component of RA.[14] This is inclusive of dual enrollment students, for which the local Community College can provide the RI. Additional providers of RI may include the RA sponsors and online providers.
- County boards of education should award credit toward a high school diploma for OJT and RI completed under a RA program.[15]
- OJT can take place during traditional school hours through schedule modifications that are already allowable, or during non-school hours to include after school, weekends, and/or non-school weekdays (i.e. summer, holidays etc.), which allows for additional flexibility in completing the hour requirement. RI should ideally be completed concurrently with OJT under the RA model. RA sponsor applications must adhere to State regulations regarding credit.[16]
- The U.S. Department of Education's Office of Career, Technical, and Adult Education (OCTAE) has stated that funds available under the Federal Perkins Act may be used to develop, improve, and support RA programs.[17]
- Maryland law prohibits employment discrimination on the basis of age for those 16 and older. In addition, age is not a factor used to set workers' compensation rates

[14] RI identified in the RA Standards of Apprenticeship is at the discretion of the RA program sponsor. The final Standards of Apprenticeship will be approved by MATC and DWDAL.
[15] *Md. Code, Educ. § 7-205.4.* https://bit.ly/4b1vIWj.
[16] COMAR 09.12.43.05, Standards of an Apprenticeship Program, states: (1) Upon a showing of satisfactory evidence, advanced standing or credit up to 50% of on-the-job training or related instruction, or both, may be granted to an apprentice for previously acquired experience, training, skills, or aptitude, provided that wages shall be commensurate for any progression step of advanced standing or credit awarded. (2) In order for a specific apprentice to obtain credit for more than 50% of these requirements, the sponsor shall: (a) Send a written request to the Council detailing why the credit should be granted; and (b) Obtain the explicit written approval of the Council to grant the credit to the apprentice. https://dsd.maryland.gov/regulations/Pages/09.12.43.05.aspx.
[17] United States Department of Education (USDOE). (Feb. 28, 2023). *Program Memorandum OCTAE 23-1.* https://bit.ly/3O6PTZk.

under any rating plan approved in the State, so the employment of a minor does not impact an employer's workers compensation rates.[18] [19]

- Both State and federal law prohibit minors from performing certain hazardous work; in some instances the prohibited hazardous work involves an entire worksite, which prohibits the minor from performing work at that worksite altogether, while in other instances a particular machine or activity is prohibited, meaning a minor could complete work that does not involve those hazardous machines or activities. There are limited exceptions to the federal prohibitions for student learners.[20] [21]
- MD Labor's Maryland Apprenticeship and Training Program (MATP) maintains repositories of grants and tax credits, if available, to support expansion of RA programs:
    - Apprenticeship Grant Funding Opportunities
    - Maryland Tax Credit for Eligible Apprentices[22]
- MD Labor's MATP team has expanded from 12 to 26 staff, significantly increasing the number of Apprenticeship Navigators in regions across the State to support MD Labor's strategy to recruit the considerable number of employers required to meet the State's RA expansion goals.[23]
- LWDBs are vital partners in expanding apprenticeship in their local areas. To learn more, contact the Maryland Workforce Association or LWDB directly.[24]
- In November 2024, Governor Moore launched the Governor's Apprenticeship Pledge in partnership with the Governor's Workforce Development Board (GWDB), which will commit industry leaders to creating or expanding Registered Apprenticeship programs.[25] The Pledge's goal is to engage 500 new employers, 5,000 new apprentices, and at least five additional public agencies to register apprenticeships within its first year. Governor Moore also announced action to help make RAs more accessible and affordable through Maryland's community colleges, leveraging the Promise Scholarship Program, wherein eligible community college students can receive up to $5,000 to cover tuition and mandatory fee expenses after federal or state financial aid has been applied.

REQUESTED ACTIONS TO EXPAND REGISTERED APPRENTICESHIP

The CTE Committee requests the following actions to expand RA programs for high school students. These next steps were developed in consultation with MSDE, MD Labor, and other partners, and were informed by recommendations from stakeholders during the public feedback period, as well as recommendations presented in the Apprenticeship 2030

[18] Maryland Insurance Agency Bulletin 24-3, posted January 24, 2024, clarifies that age does not impact workers compensation rates. https://bit.ly/47UbOKg.
[19] Certain occupations are declared to be hazardous for minors. For more information on the employment of minor's, see this MD Labor fact sheet: https://www.dllr.state.md.us/labor/wages/minorfactsheet.pdf.
[20] A complete list of hazardous work under State law can be found in the Labor and Employment Article, Section 3 -206, Annotated Code of Maryland: labor.maryland.gov/labor/wages/minorfactsheet.pdf. For prohibitions under federal law, see www.dol.gov/sites/dolgov/files/WHD/legacy/files/childlabor101.pdf.
[21] For employers with questions about minors and hazardous occupations, please reach out to the Employment Standards Service at dldliemploymentstandards-dllr-@maryland.gov.
[22] As of the writing of this policy, this tax credit is in effect until June 30, 2025, per Chapter 643 of 2020.
[23] To view contact information for an Apprenticeship Navigator and their assigned county, visit labor.maryland.gov/employment/appr/apprnavigators.shtml.
[24] For a list of LWDBs and direct links, visit marylandworkforceassociation.org/about-us/.
[25] To learn more about the Governor's Apprenticeship Pledge, visit www.gwdb.maryland.gov/apprenticeshippledge.

Commission's Interim Report.[26] The CTE Committee calls on a number of partners, as specified below, to take action in five key areas:

1. Targeting Resources and Investment Toward RA Expansion
2. Increasing Employer Engagement
3. Removing Barriers to Participation for High School Students
4. Improving Data Tracking and Performance Monitoring
5. Addressing Regulatory Barriers to RA Expansion

Requested actions around these five key areas are detailed below.

1. Targeting Resources and Investment Toward RA Expansion

1.1. Prioritize investment toward RA growth where possible, including through existing and new or grant-based funding, to align resources that will help scale RAs to meet employers' talent needs and address challenges or barriers to participation.[27]

Responsible Partners: All State and local agencies engaged in workforce development (inclusive of education, workforce, and economic development agencies and organizations, as well as other agencies with resources to support workforce development in specific sectors)

1.1.1. Resources will need to be allocated to address the barriers to accessing RAs, including, but not limited to: transportation barriers to/from job sites and the institution providing the RI; increasing availability of RI through additional instructors and RI delivery sites when a program is oversubscribed.[28]

1.2. In order to manage the massive expansion of RAs starting in high school, a long-term investment in a database where MD Labor's team can track outcomes and connect employers, LEAs, students, LWDBs, and other relevant approved-partners to the RA opportunities will need to be procured. See recommendation section 4 for additional recommendations regarding data.

Responsible Partner: MD Labor

2. Increasing Employer Engagement

2.1. Provide training to employers and necessary staff to support the conversion and/or creation of RAs starting in high school.

Responsible Partner: MD Labor to train existing RA sponsors, new RA employers, and relevant workforce program staff.

Responsible Partner: MSDE, in collaboration with MD Labor, to train LEA/school staff (inclusive of leadership and educators).

[26] The Apprenticeship 2030 Commission is tasked by the Maryland General Assembly with developing a plan to reach 60,000 RAs by 2030, in partnership with the CTE Committee, MD Labor, MSDE, LWDBs, and other relevant entities. Apprenticeship 2030 Commission. (Jan. 2024). *Interim Report*. https://bit.ly/424pf9d

[27] "Funding" and "Additional Personnel" were the highest ranked support that respondents to the public feedback form indicated needing in order to implement this Apprenticeship Policy. Respondents represented a mix of stakeholders, with the top respondents representing LEAs (48.1%), employers (18.5%), and postsecondary (7.4%).

[28] Chapter 857 of the 2024 Maryland legislative session establishes a driver education grant program for public schools. This fund will be administered by MSDE and is intended to provide grants to public schools in offering driver education courses to students. This may be one resource in addressing transportation barriers. tinyurl.com/HB1482

2.2. Share information on age restrictions, hazardous occupations, licensing, workers compensation and other age-related regulatory misinformation that may prevent employers from hiring 16- to 17-year-olds when they can.

Responsible Partners: MD Labor, GWDB

2.3. Recruit and support Youth Apprenticeship sponsors in transitioning to RA sponsors or RA participating employers, where feasible. Work directly with approved employers to transition their YA to RA programs beginning in 2024, where an RA is appropriate for their business needs, and report outcomes on employer transitions annually to the GWDB CTE Committee.

Responsible Partner: MD Labor

3. Removing Barriers to Participation for High School Students

3.1. Develop a master scheduling guide with promising practices for LEAs to consider, providing examples of ways to adjust high school student schedules.[29] [30]

Responsible Partner: MSDE with guidance and oversight from the GWDB CTE Committee

3.1.1. LEAs must adjust high school schedules to support student and employer participation in RA, based on employer-specific needs and MATC-approved RA program parameters.

3.2. Redesign CTE programs of study to better accommodate and support the integration of RA to align curriculum to meet the RI requirements. If there is not an applicable RA for the occupation at the time, the CTE program of study should ensure alignment toward completion of another IRC, as defined by the GWDB CTE Committee.

Responsible Partners: MSDE, in collaboration with LEAs, Community Colleges, and other stakeholders

3.3. Develop comprehensive toolkits for schools, educators, career coaches, caregivers, and students to understand the benefits and encourage participation in RA.

Responsible Partners: MSDE, in collaboration with the GWDB CTE Committee and MD Labor

3.4. Prepare career coaches to support students in their path toward an RA and during the RA while they are in high school.

Responsible Partners: LWDBs, LEAs, and Community Colleges

3.4.1. Tailor training to support a variety of students, including those with disabilities or requiring more intensive individualized career coaching, that is coordinated with other school support systems to successfully participate in the rigors of an RA.

[29] To view sample student schedules presented by MSDE in 2023, see slides 20-22: https://tinyurl.com/et62t3tn

[30] Delaware's Delcastle Technical High School provides students with a paid cooperative training work opportunity with a flexible scheduling model that could serve as one example. In some situations, the student employee works full-time for a two-week period and attends school full-time for two weeks alternately. delcastle.nccvt.k12.de.us/apps/pages/co-op.

3.4.2. Prepare career coaches to counsel students on meeting the requirements to enter an RA.[31]

3.4.3. Prepare career coaches and other appropriate staff to support a smooth transition for the student as they graduate and enter the next phase of their RA after high school.

3.5. Inform students, families, and relevant staff that earned income for students enrolled in school and under the age of 18 is excluded from household income for purposes of SNAP benefits eligibility.[32]

Responsible Partners: Maryland Department of Human Services, LEAs, MD Labor, and MSDE

3.6. See recommendation 1.1.1 regarding targeting investments to address barriers.

4. Improving Data Tracking and Performance Monitoring

4.1. Enhance both quantitative and qualitative data collection to ensure alignment to the *Blueprint* goals and analysis to address challenges.

Responsible Partners: MD Labor, MSDE, GWDB CTE Committee, and LEAs

4.1.1. MATP shall add to the RA employer checklist a reporting requirement to confirm that the employer was informed of both RA and Youth Apprenticeship.[33]

4.1.2. LEAs shall collect proof of employment and hours for both RA and Youth Apprenticeship participants from the employer.

4.1.3. LEAs shall track the reason why a student cancels or does not complete a RA or Youth Apprenticeship during high school and report this to MATP. MATP will then report this to the CTE Committee annually.

4.2. Develop guidance on data implications for LEAs and other partners to support implementation of recommendation 4.1.

Responsible Partners: MD Labor, in collaboration with MSDE and GWDB CTE Committee

4.3. Modernize data systems to ensure partner agencies, including LEAs, can access information on connecting to RA sponsors and student participation. See recommendation 1.2 on investments that will be necessary in order to complete this task.

Responsible Partner: MD Labor

4.4. Monitor and publicly share employment and postsecondary education outcomes for RA and Youth Apprenticeship completers.

Responsible Partners: Maryland Longitudinal Data System Center (MLDSC), in collaboration with GWDB CTE Committee, MD Labor, and MSDE

4.4.1. Develop a public-facing dashboard to share this information with routine updates.

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[31] For instance, there may be a requirement to complete a specific course, obtain a driver's license, submit to a background check, pass a drug test and/or physical, etc.

[32] To view the SNAP Manual Code of Federal Regulation, see 7 CFR 273.9(c)(7)): https://tinyurl.com/msj46678

[33] DWDAL will explore expanding data reporting to capture reasons why an employer chooses to solely pursue Youth Apprenticeship. This data could then be reported and analyzed to better understand employers' needs and possible constraints when hiring high school students.

4.5. Track and share with the GWDB CTE Committee upon request, and no less than annually, progress toward the 45% goal, and supporting data for analyses on growth and challenges.[34]

Responsible Partners: MD Labor, MSDE, LEAs

5. Addressing Regulatory Barriers to RA Expansion

5.1. Streamline the RA approval and registration process, where feasible, to make it easier and faster for employers/program sponsors to establish new RAs.[35]

Responsible Partners: MD Labor and MATC

5.2. Review licensing regulations for occupations where licensing boards place age requirements, and where "apprenticeship licensing" exists and where participants have an "apprentice" license, but there is not a formal RA pathway. Where possible, pursue legislative changes so that steps can be taken to develop RAs that include high school students in these occupations if/as appropriate.

Responsible Partners: MD Labor

5.3. Monitor master scheduling constraints with respect to students' ability to participate in RA and simultaneously meet graduation requirements. Review the Code of Maryland Regulations (COMAR) graduation requirements and, if applicable, make recommendations to amend.[36]

Responsible Partners: MSDE and the Maryland State Board of Education, in collaboration with AIB and GWDB CTE Committee, where appropriate

There are also matters of federal policy that currently present barriers to participation in RA for some students in public high schools. The CTE Committee recognizes that the inability for ***undocumented students*** to obtain employment authorization is a barrier to participating in RA, since participation in RA requires certain documentation. This is a regulatory requirement of the U.S. Department of Homeland Security's (USDHS's) Citizenship and Immigration Services (USCIS), and therefore outside the purview of the GWDB or its member agencies to change.[37] However, the GWDB and member agencies will explore opportunities to recommend certain programming exceptions or funding mechanisms to open opportunities to undocumented students that may be considered toward the 45% goal. Should appropriate solutions be reached, the GWDB CTE Committee will issue additional guidance related to this population of students.

All of the above recommendations should be implemented in close collaboration with the GWDB CTE Committee to ensure alignment across the State and fidelity to the *Blueprint*. Over 2025, the GWDB CTE Committee will work with its partners to develop a coordinated strategic plan that will incorporate the recommendations above for reaching the 45% goal.

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[34] Pursuant to House Bill 1426, Chapter 164 of the 2024 Maryland General Assembly legislative session, on or before December 1 each year, beginning in 2024, the CTE Committee shall report on the progress toward attaining the goals established by the CTE Committee. *Md. Code, Educ. § 21-204*. https://tinyurl.com/CTEComm21-204

[35] In order to remain in compliance with the USDOL RA regulations, state agencies are limited by certain federal rules on some registration requirements. It should also be noted that the application requirements serve as a critical quality assurance function in helping to ensure that RAs meet the standard as intended.

[36] COMAR 13A.03.02.03: https://dsd.maryland.gov/regulations/Pages/13A.03.02.03.aspx

[37] USCIS: www.uscis.gov/green-card/green-card-processes-and-procedures/employment-authorization-document

This will require incredible collaboration between multiple partners at the state-level, with strategies that articulate down to the local areas given the varying degree of employer demand and challenges specific to local areas.

The CTE Committee is authorized under the *Blueprint* to issue recommendations to the AIB on whether to withhold a portion of a school district's funds, based on findings of the CTE Expert Review Teams or the CTE Committee's assessment of a district's progress toward the 45% goal.[38] [39] The CTE Committee will recommend funds be withheld if the district is not demonstrating compliance with CTE Committee policies or guidance, and are not making progress to increase the number of students engaged in the high school level of a RA or another IRC pathway. The CTE Committee recognizes that targets and expectations for meeting the 45% goal need to be clearly delineated before recommendations of this nature are made, and thus will not recommend such action to the AIB until the above-mentioned targets are defined and publicly issued, and until the CTE Committee's CTE Framework and all policies associated with the 45% goal are formally issued as well. The CTE Committee will further recommend that, in instances where a jurisdiction is not making progress on these goals or fully complying with relevant policy or guidance, that the CTE Committee and its partner agencies first provide these jurisdictions with targeted technical assistance to address the identified challenges in growing high school RAs or the attainment of IRCs, before the mechanism of withholding funds is enforced. As new policies on RAs and IRCs are put in place, the CTE Committee acknowledges that there will be several years of building programming and capacity, and it will take several school years before data is available to effectively identify areas struggling with growth.

STRENGTHENING YOUTH APPRENTICESHIP TO ENSURE POSITIVE EMPLOYMENT OUTCOMES

Registered Apprenticeship is the preferred method of fulfilling the *Blueprint's* goals. The CTE Committee recognizes that, while Youth Apprenticeship is not a Registered Apprenticeship in Maryland and does not continue after graduation or always culminate in an IRC as RA does, Youth Apprenticeship provides value, given the varying needs and preferences of students and employers.[40] This can be a way to provide paid OJT, mentorship, and professional networking opportunities for students.[41]

As such, the CTE Committee recommends that Youth Apprenticeship count toward the *Blueprint*'s 45% goal under the industry-recognized credential (IRC) category only when the apprentice earns, by graduation, an IRC as defined by the CTE Committee.[42] This better aligns Youth Apprenticeship to *Blueprint* goals and ensures participating students have advanced standing on a structured career pathway that they can continue after

[38] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023
[39] It should be noted that the CTE Committee recognizes the conflicting messaging within this requirement - that while the *Blueprint* necessitates a jurisdiction-level collaborative approach between LEAs, Community Colleges, LWDBs, and State Agencies, as written under the law, only LEAs face potential fiscal consequences.
[40] More information on youth apprenticeship in Maryland as well as national and global best practices can be found in Appendix D.
[41] MD Labor and MSDE Youth Apprenticeship policy issuance describes how occupations are determined to be apprenticeable: www.labor.maryland.gov/employment/mpi/mpi12-22.pdf
[42] To view the GWDB CTE Committee's Industry-Recognized Credential Policy Issuance 2024-01, visit www.gwdb.maryland.gov/policy.

graduation. MSDE and LEAs are generally responsible for aligning the RI and curriculum to the Youth Apprenticeship, which is included in the Youth Apprenticeship program's application for approval presented to MATC. Youth Apprenticeships without an aligned IRC can continue to be approved by MATC; however, they will not count toward the *Blueprint*'s 45% goal.

The CTE Committee will review data reports being gathered by MD Labor in partnership with MSDE and MLDSC on employment offered to youth apprentices after graduation, and may make future recommendations to MD Labor, MATC, the AIB and/or the Maryland General Assembly based on analysis of the data reported.

Additional Resources

POLICIES TO REFERENCE

- **Maryland Department of Labor and Maryland State Department of Education Policy Issuance 2022-12** (December 2022): current Youth Apprenticeship policy. www.labor.maryland.gov/employment/mpi/mpi12-22.pdf
- **Governor's Workforce Development Board CTE Committee Industry-Recognized Credential (IRC) Policy Issuance 2024-01** (December 2024): IRC definition, core criteria, process, and approved list of IRCs that will count toward the *Blueprint*'s 45% goal. www.gwdb.maryland.gov/policy

APPENDIX GUIDE

A. Background on Apprenticeship and the *Blueprint for Maryland's Future*
B. Summary of Definitions for Programs to Count Toward the *Blueprint*'s 45% Goal
C. Background Information on Registered Apprenticeship
D. Background Information on Youth Apprenticeship
E. 2023 Data on Registered Apprenticeship, Youth Apprenticeship, and Industry-Recognized Credential Participation and Completion by Maryland High School Graduates

Appendix A | Background on Apprenticeship and the *Blueprint For Maryland's Future*

The *Blueprint for Maryland's Future* ("the *Blueprint*") set a statewide goal that by the 2030-2031 School Year, 45% of Maryland high school graduates shall complete "the high school level of a Registered Apprenticeship or another industry-recognized occupational credential." The *Blueprint* clarifies that "to the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing the high school level of a Registered Apprenticeship program approved by the Division of Workforce Development and Adult Learning within the Maryland Department of Labor." The Accountability and Implementation Board's (AIB) Comprehensive Implementation Plan clarifies that the main objective of the *Blueprint's* Pillar 3 is the creation of rigorous high school apprenticeships as the primary industry-recognized credential for high school graduates.[43]

There is no state or federal definition of the "high school level of a Registered Apprenticeship" term used in the *Blueprint*.[44] As such, the CTE Committee is responsible for defining this term and issuing policy and guidance based on this definition. While developing this policy, the CTE Committee took into consideration federal and state regulations, Kirwan Commission reports, existing Maryland programs, lessons from comparable programs nationally and globally, and input from stakeholders.

There are currently two types of apprenticeships for high school students in Maryland:

- Registered Apprenticeship (RA) which begins in high school and continues after graduation (formerly referred to as "School-to-Apprenticeship" in Maryland), or
- Youth Apprenticeship (also known as the Apprenticeship Maryland Program (AMP)), which has been modeled to mirror elements of the RA model - specifically, paid on-the-job learning with concurrent related instruction - and is completed while the student is in high school.

The inspiration for the *Blueprint* making apprenticeship a widely available route to careers comes from the effective apprenticeship systems in certain European countries, notably Austria, Denmark, Germany, and Switzerland. These countries demonstrate that advanced economies can hire, train, and retain young people so that they become highly skilled workers throughout their careers. In Switzerland, 95% of 25-year-olds have either an apprenticeship or a Bachelor of Arts (BA) degree.[45] Apprenticeships in these countries are

[43] AIB. (2023). *Blueprint Comprehensive Implementation Plan* (p. 122). https://tinyurl.com/aibbpcompplan2023
[44] On January 17, 2024, USDOL issued a Notice of Proposed Rulemaking (NPRM) to revise the regulations for Registered Apprenticeship. The NPRM included the creation of a "registered CTE apprenticeship." However, the NPRM was withdrawn on November 27, 2024, by the Office of Information and Regulatory Affairs. The GWDB CTE Committee will continue to monitor the development of any new federal apprenticeship regulations.
[45] Nancy Hoffman and Robert Schwartz, "Gold Standard: The Swiss Vocational Education and Training System" (Washington, DC: National Center on Education and the Economy, 2015). ncee.org/wp-content/uploads/2015/03/SWISSVETMarch11.pdf.

embedded in their education systems through Technical Vocational Education programs beginning in late high school. In countries with the most expansive and high-quality apprenticeship systems, apprenticeships begin after the completion of compulsory education, and youth and young adults engage at much higher rates than in the U.S. In Switzerland, 70% of each youth cohort undertakes apprenticeships, for careers in a range of occupations from high-tech, human services, health, business services as well as traditional trades. The Swiss apprenticeship system is strongly supported by Swiss employers, who credit it with being a major contributor to the continuing vitality and strength of the Swiss economy.[46] In Germany, about 60% of German workers have completed apprenticeship training and 1.5 million apprentices were in vocational education in 2017. Germans typically start an apprenticeship after finishing secondary school when they are between 16 and 20 years old.[47]

While the *Blueprint*'s 45% goal is modeled on elements that have contributed to the successes seen in these countries, it is worth noting some key differences between these countries and the U.S. In Switzerland, compulsory education ends with the equivalent of the U.S. high school 10th grade, so all students are choosing next steps on career pathways including apprenticeships, around the age of 16. These countries also make significant financial investments to support apprenticeships. Furthermore, these countries also have much higher rates of labor organization than Maryland or other states in the U.S., as well as varying regulatory features to promote employer engagement, all of which further supports apprenticeship as a cornerstone to talent development.

It is for these reasons that the strides Maryland plans to make under the *Blueprint* are unprecedented in the U.S. To demonstrate: Wisconsin hosts by far the largest and most developed high school apprenticeship program, which has been in place for 30 years. As of the 2022-2023 Fiscal Year, nearly 8,200 Wisconsin high school students participated in a youth apprenticeship, but few are Registered Apprenticeships.[48] These non-registered youth apprentices constitute a modest share (6.5%) of the combined enrollment of about 122,000 students in Wisconsin high schools.

Overall, the *Blueprint* envisions the realignment of high school CTE to serve as related instruction for Registered Apprenticeships as one method for increasing public investment to support apprenticeship under the existing U.S. education model.

[46] Nancy Hoffman and Robert Schwartz. (2015). *Gold Standard: The Swiss Vocational Education and Training System*. National Center on Education and the Economy. https://ncee.org/wp-content/uploads/2015/03/SWISSVETMarch11.pdf
[47] CESifo. (2023). *The Value of Early-Career Skills*. www.cesifo.org/en/publications/2023/working-paper/value-early-career-skills
[48] Wisconsin Youth Apprenticeship dashboard: https://dwd.wisconsin.gov/apprenticeship/ya/yoda.htm

Appendix B | Definitions of Programs To Count Toward the *Blueprint*'s 45% Goal

The underlying purpose of the Blueprint's 45% goal is to provide every student with multiple high-quality pathways leading to a good job. To accomplish this goal, RA should be considered the gold standard of work-based learning experiences. As such, LEAs should follow several orders of operation when advising students and scheduling them into these experiences. These orders of operations act as a filter to determine the optimal placement of the student into the work-based learning experience.

The **RA** is the gold standard and should be the **first consideration** for students moving into an apprenticeship program. If a RA isn't available for a particular pathway or isn't the right choice for a particular student, the LEA must document the reason(s) why a RA wasn't selected and then move forward to the next best option.

Once the decision has been made to move beyond the RA and the reason has been documented, then another **IRC** should be the **second consideration**. A **YA + IRC may be particularly beneficial**, as it provides paid work experience alongside the IRC. If the YA + IRC isn't available for a particular pathway or isn't the right choice for a particular student, the LEA must document the reason(s) why and then move forward to the IRC option. YAs that include IRCs will be counted toward the 45% goal under the IRC category, *not* under the RA category.

The GWDB CTE Committee will collect and summarize findings and trends from this documentation as part of its annual reporting on progress toward *Blueprint* goals and as part of ongoing refinement of policy.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

DEFINITIONS

High School Level of a Registered Apprenticeship: The CTE Committee defines the *Blueprint* term "high school level of a Registered Apprenticeship" to allow high school students 16 years old and above to enter a Registered Apprenticeship while in high school and continue after graduation, with graduation credits awarded for the portion of the RA completed while in high school. RAs are registered with the Maryland Apprenticeship and Training Program (MATP) in the Maryland Department of Labor's (MD Labor) Division of Workforce Development and Adult Learning (DWDAL) and/or the U.S. Department of Labor, and successful completion of a RA includes earning an industry-recognized credential. More information on RA can be found in Appendix C.

The specific number of on-the-job training (OJT) hours required while the apprentice is in high school will vary based on the employer's hiring needs, job requirements, and the student's schedule. **At a minimum, a student must complete 250 hours of OJT and 144 hours of related instruction (RI) prior to graduation to be counted toward the 45% goal.** The OJT is paid and the apprentice is under a mentor's supervision during working hours. A RA requires that a student complete a minimum of 144 hours of concurrent RI per year, provided by a high school, trade school, community college, or the employer/sponsor. This 144 hours can be delivered through a State-approved CTE program of study, or outside of a CTE program of study if appropriate and approved by the RA sponsor, and generally equates to two semesters per year of curriculum.

Youth Apprenticeship (YA): Youth Apprenticeship is jointly administered by MD Labor and the Maryland State Department of Education (MSDE). It is modeled to include several elements of Registered Apprenticeship but is not a Registered Apprenticeship with the U.S. Department of Labor or MD Labor. Youth Apprenticeship is currently categorized as a State-approved CTE program of study. Students complete 450 paid OJT hours under the direction of a mentor, and at least one year of RI prior to high school graduation. While Youth Apprenticeship does not meet all of the standards of a traditional RA, it requires meaningful engagement of both employers and students, and goes through an approval process with MD Labor, MSDE, and MATP. Successful completion of a Youth Apprenticeship is not itself an IRC in the way that completion of a RA is, but IRCs (defined below) can be included in Youth Apprenticeship programs. Youth Apprenticeships can be counted toward the *Blueprint*'s 45% goal only when the youth apprentice completes an IRC, with qualifying credentials and "completion" both defined by the GWDB CTE Committee.[49]

Industry-Recognized Credential (IRC): The GWDB CTE Committee developed and adopted a definition and set of quality criteria for IRCs under the *Blueprint* in 2024, concurrent to the adoption of this apprenticeship policy. The definition, criteria, assessment and approval process, and list of approved credentials can be accessed at www.gwdb.maryland.gov/policy.

[49] To view the GWDB CTE Committee's Industry-Recognized Credential Policy Issuance 2024-01, visit www.gwdb.maryland.gov/policy.

Figure 2: Comparison of Registered Apprenticeship and Youth Apprenticeship in Maryland

	Registered Apprenticeship	Youth Apprenticeship
Approval	• Maryland Department of Labor • U.S. Department of Labor	• Maryland State Department of Education • Maryland Department of Labor
Monitoring of Apprenticeship Programs/Employers	• Maryland Department of Labor • Maryland Apprenticeship and Training Council	• Local Education Agency • Maryland State Department of Education • Maryland Department of Labor • Maryland Apprenticeship and Training Council
Approval of Related Instruction (RI)	• Maryland Department of Labor • Maryland Apprenticeship and Training Council • Maryland State Department of Education, when developing CTE course alignment to RI	• Local Education Agency • Maryland State Department of Education
Registration and Tracking of Apprentices	• Maryland Department of Labor	• Local Education Agency • Maryland Department of Labor
Employer/Sponsor Recruitment	• Maryland Department of Labor • Local Workforce Development Boards	• Local Education Agency • Maryland State Department of Education • Maryland Department of Labor • Local Workforce Development Boards
Managing and Adjusting Student Academic Schedules	• Local Education Agency • Maryland State Department of Education	• Local Education Agency • Maryland State Department of Education

Maryland
GOVERNOR'S WORKFORCE DEVELOPMENT BOARD

Apprenticeships and Industry-Recognized Credentials for High School Students Under the *Blueprint for Maryland's Future*

Summary of Policy Issuances 2024-01 and 2024-02

The *Blueprint for Maryland's Future* ("the *Blueprint*") established a goal that, by the 2030-31 school year, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential, as defined by the CTE Committee of the Governor's Workforce Development Board ("45% goal"). The CTE Committee has issued two policies to define minimum standards and quality criteria for both the "high school level of a Registered Apprenticeship" and other "industry-recognized credentials" (IRCs) that will be counted toward the *Blueprint*'s 45% goal.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

High School Level of a Registered Apprenticeship

Registered Apprenticeship (RA) provides a structured career pathway and is an earn-and-learn training model proven to have a strong return-on-investment for both apprentices and employers. In Maryland, RAs must be approved by the Maryland Apprenticeship and Training Council (MATC).

A "high school level of a Registered Apprenticeship" is defined as a MATC-approved RA program that begins while an apprentice is in high school, and **requires that students complete a minimum of 144 hours of related instruction (RI) and 250 hours of paid on-the-job training (OJT) before their high school graduation**. Further RA requirements continue post-graduation, in accordance with total program standards approved by MATC.

1. To view the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, visit www.gwdb.maryland.gov/policy.
2. YA only cannot be included in the 45% goal given statutory definitions and interpretation of the law from the AIB.

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD www.gwdb.maryland.gov

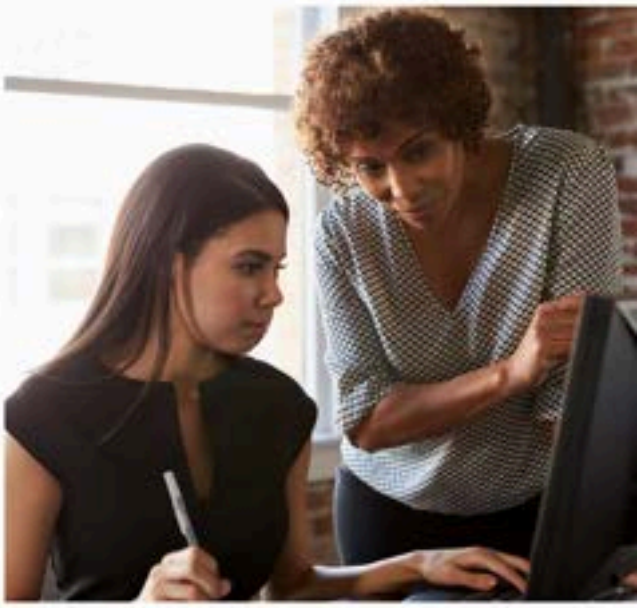
Industry-Recognized Credential

An industry-recognized credential (IRC) is **a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

The CTE Committee and the Maryland State Department of Education (MSDE) have developed a coordinated IRC vetting process to ensure that State efforts through the *Blueprint* as well as through federal Perkins CTE funding are focused on quality IRCs that fit the above definition.

Specifically, each IRC on the State-approved list used by both the CTE Committee and MSDE must meet the following required quality criteria:

1. *Aligned with in-demand occupations*
2. *Provides documented outcomes*
3. *Validated by industry*
4. *Assessment-based*
5. *Standards-driven*
6. *Attainable and accessible*
7. *Portable*



It is also preferred, but not required, that IRCs also meet the following quality criteria:

1. *Stackable*
2. *Renewable*

Applications for new IRCs to be considered that are not on the approved list will be open annually August 1 through October 31. The IRCs will be reviewed by MSDE and submitted to the GWDB CTE Committee for approval to go into effect the following school year.

Additional information can be found in the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, which can be viewed at www.gwdb.maryland.gov/policy.

ABOUT THE GWDB

The GWDB serves as the Governor's chief strategy and policy-making body for workforce development by engaging key business, labor, education, community, and State and local government leaders to collaborate and advise the Governor on business-led workforce approaches that advance Maryland's economic competitiveness and build pathways to work, wages and wealth for all Marylanders. The GWDB is a business-led board, with a majority of members representing the business community. Other members include the governor, cabinet secretaries, college leaders, the state superintendent of schools, elected officials, and representatives of labor organizations and community-based nonprofit organizations. More information can be found at www.gwdb.maryland.gov

ABOUT THE CTE COMMITTEE

The CTE Committee was established under the *Blueprint for Maryland's Future*, Md. Code, Educ. § 21-209, as a unit within the GWDB. The CTE Committee's mission is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The *Blueprint* envisions a system where academic knowledge and occupational competencies are integrated to enable students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century. The CTE Committee is responsible for strategy and policy for core elements within Pillar 3 of the *Blueprint*, and its work falls under the oversight authority of the Accountability and Implementation Board (AIB). More information can be found at www.gwdb.maryland.gov/ctecomm

Appendix C | Background on Registered Apprenticeship

Registered Apprenticeship (RA) is a proven model of career preparation that combines classroom instruction with hands-on training under the guidance of a mentor ("journey worker"). The trainee ("apprentice") is a paid employee whose wages progressively increase as they make skill gains. What they learn in the classroom ("related instruction") complements and reinforces what they learn by doing ("on-the-job training"). RAs consist of 5 core elements:

1. Employer involvement
2. On-the-job training (2000 hours or more)
3. Related instruction (144 hours per year)
4. Rewards for skill gains
5. Industry-recognized credential

RAs are effective at addressing challenges on both the supply and demand sides of the labor market. Completing a RA ensures the apprentice access to a high-quality career pathway by providing them paid work experience, progressive wage increases, classroom instruction, and a nationally recognized credential upon completion. Employers benefit from meeting their workforce needs by directly developing and preparing their workforce. Employers are more likely to create productive and well-paying jobs where they can rely on apprentices to master an array of relevant skills. Apprenticeships have also been shown to reduce turnover, improve company morale, and improve co-worker productivity, among other benefits.[50] [51] Additionally, groups of employers or intermediaries such as unions, community organizations, trade associations, or institutions of higher education can jointly apply to sponsor RAs, easing the administrative burden on individual employers.

RAs can provide young people with work experience and employability skills and help offset the observed decline in youth employment. Evidence suggests that early work experience pays off in terms of higher lifetime income.[52] Slow growth in earnings of the 60% of workers with less than a Bachelor of Arts (BA) degree is an economic problem with serious social consequences.[53] RAs provide opportunities for good jobs with strong wage outcomes and rewarding careers.[54] Starting a RA in high school offers several advantages:

- By continuing a RA after high school graduation, the student graduates with a job and a clear next step on a structured career pathway;
- Links between classroom learning and real-world application improve academic achievement and employment outcomes;
- Lost earnings during training are minimized compared to other training options because apprentices are employed and earn wages; and,
- Existing funding for related high school courses, especially CTE courses, reduce the costs to employers by providing much or all of the RI required for an apprenticeship.

[50] USDOL TEGL 13-16 Attachment III: https://tinyurl.com/yu555m6n
[51] Marotta, John, Robert Lerman, Daniel Kuehn, and Myca San Miguel. (2022). *Beyond Productivity: How Employers Gain More from Apprenticeship.* Brief prepared for USDOL ETA. Urban Institute. https://tinyurl.com/4wj7x62n
[52] Carr, R. V., Wright, J. D., & Brody, C. J. (1996). *Effects of High School Work Experience a Decade Later: Evidence from the National Longitudinal Survey*. Sociology of Education, 69(1), 66-81. https://doi.org/10.2307/2112724
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Appendix D | Background on Youth Apprenticeship

Youth Apprenticeship is a model of earn-and-learn career-connected learning that is closely modeled after Registered Apprenticeship. The U.S. has a highly varied national landscape of definitions, quality, and performance across different states, and the model has been evolving and growing across the country for nearly three decades. National thought leaders who seek to apply international best practices for youth apprenticeship in the U.S. encourage adoption of youth apprenticeship programs that meet four quality criteria, which mirror core criteria for Registered Apprenticeships. These were identified by a consortium of national subject matter experts through the Partnership to Advance Youth Apprenticeship (PAYA) and acknowledged by the Maryland Department of Labor and the Maryland State Department of Education in a Youth Apprenticeship joint policy issuance in 2022:[55] [56]

1. Paid, on-the-job training under the supervision of skilled employee mentors
2. Related classroom-based or technical instruction
3. Ongoing assessment against established skills and competencies
4. Culmination in a portable, industry-recognized credential and postsecondary credit

Across the country, states are testing and expanding youth apprenticeship opportunities and working toward the development of programs that meet all four of these criteria. Maryland has an opportunity to lead the nation on youth apprenticeship, with the first two criteria already being delivered. The GWDB CTE Committee Apprenticeship Policy includes the addition of one component of the fourth criteria as a requirement to ensure more Youth Apprenticeships can align toward *Blueprint* goals when a RA is not available.

Studies of the impact of youth apprenticeship programs that meet the above quality criteria indicate positive outcomes for students and employers. For instance, studies of Wisconsin's youth apprenticeship program found that youth apprentices demonstrated lower rates of absenteeism than their high school peers, and that after graduation they were more likely to be employed in the industry associated with their youth apprenticeship than their peers who completed CTE courses in the same industry. They were also more likely to have long-term career plans and long-term educational plans than their high school peers. Employers rated youth apprentices more favorably than other entry-level workers and a large majority reported benefits to their companies.[57]

The recommendations put forward in the GWDB CTE Committee's Apprenticeship Policy aims to further ensure that Youth Apprenticeship delivers quality employment and career outcomes for students and positive business impacts for employers, and to ensure that such outcomes are more consistently measured and reported going forward.

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[55] MD Labor and MSDE Policy Issuance 2022-12. (December 2022). www.labor.maryland.gov/employment/mpi/mpi12-22.pdf
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[57] Robert Lerman & Lindsey Tyson. (2023). *Wisconsin's Well-Structured Youth Apprenticeship Program*. https://urbn.is/48f3ntb

Appendix E | 2023 Data on Registered Apprenticeship, Youth Apprenticeship, and Industry-Recognized Credential Completion by Maryland High School Students

Based on projected growth in public school enrollment, there will be approximately 70,000 high school graduates in the 2030-2031 School Year.[58] Thus, roughly 31,000 graduates will need to complete the high school level of a Registered Apprenticeship or another industry-recognized credential (IRC) in order to meet the *Blueprint*'s 45% goal.

As of December 31, 2023, Maryland had 201 active Registered Apprenticeship (RA) programs which enrolled primarily adults aged 18 and over. These active RAs consist of individual employer programs as well as large group joint and non-joint programs with hundreds of participating employers. Of the approximately 12,000 active RAs, approximately 51 were RAs that were of high school age and just over 100 total, including these 51, started their RA during high school.[59] As of December 31, 2023, there were also 831 high school students enrolled in non-registered Youth Apprenticeship programs; however, current available data does not indicate how many of these students would meet the requirements within this policy of earning an IRC as part of their Youth Apprenticeship.

In 2023, approximately 4,000 CTE concentrators obtained an IRC, which was 7% of the graduating high school students. It should be noted however that this attainment rate is based on MSDE's original list of approved IRCs, which was approximately 600, and the updated CTE Committee approved list is approximately 210 credentials, as of the writing of this report.[60] Given that the updated list of approved IRCs wasn't approved until the summer of 2024, the IRC attainment from 2023 cannot be broken down by which students earned credentials on the new approved list.

Overall in 2023, approximately 7% of students would have potentially qualified toward the *Blueprint*'s 45% goal when including RA and IRC attainment. The majority of these students earned non-Registered Apprenticeship IRCs. Maryland is making historic investments in scaling RA, as emphasized within the Moore-Miller Administration's 2024 State Plan and the Governor's Apprenticeship Pledge.[61] [62]Additionally, the Apprenticeship 2030 Commission is tasked by the Maryland General Assembly with developing a plan to reach 60,000 RAs by 2030, in partnership with the GWDB CTE Committee, MD Labor, MSDE, Local Workforce Development Boards, and other relevant stakeholders. Goals and support for reaching both the *Blueprint*'s 45% goal and the 60,000 goal will be developed through close coordination across State partners and stakeholders.

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[58] MD Dept. of Planning. (Aug. 2022). *Public School Enrollment Projections 2022-2031*. https://tinyurl.com/3w27n27h
[59] Since the design of RAs are that they continue after high school, there is currently no data indicator when a student has graduated high school. Therefore age was used as a proxy to determine those most likely still in high school.
[60] To view the GWDB CTE Committee's IRC Policy Issuance 2024-01, visit www.gwdb.maryland.gov/policy.
[61] Moore-Miller Administration. (2024). *2024 State Plan* governor.maryland.gov/priorities/Documents/2024%20State%20Plan.pdf
[62] To learn more about the Governor's Apprenticeship Pledge, visit www.gwdb.maryland.gov/apprenticeshippledge.

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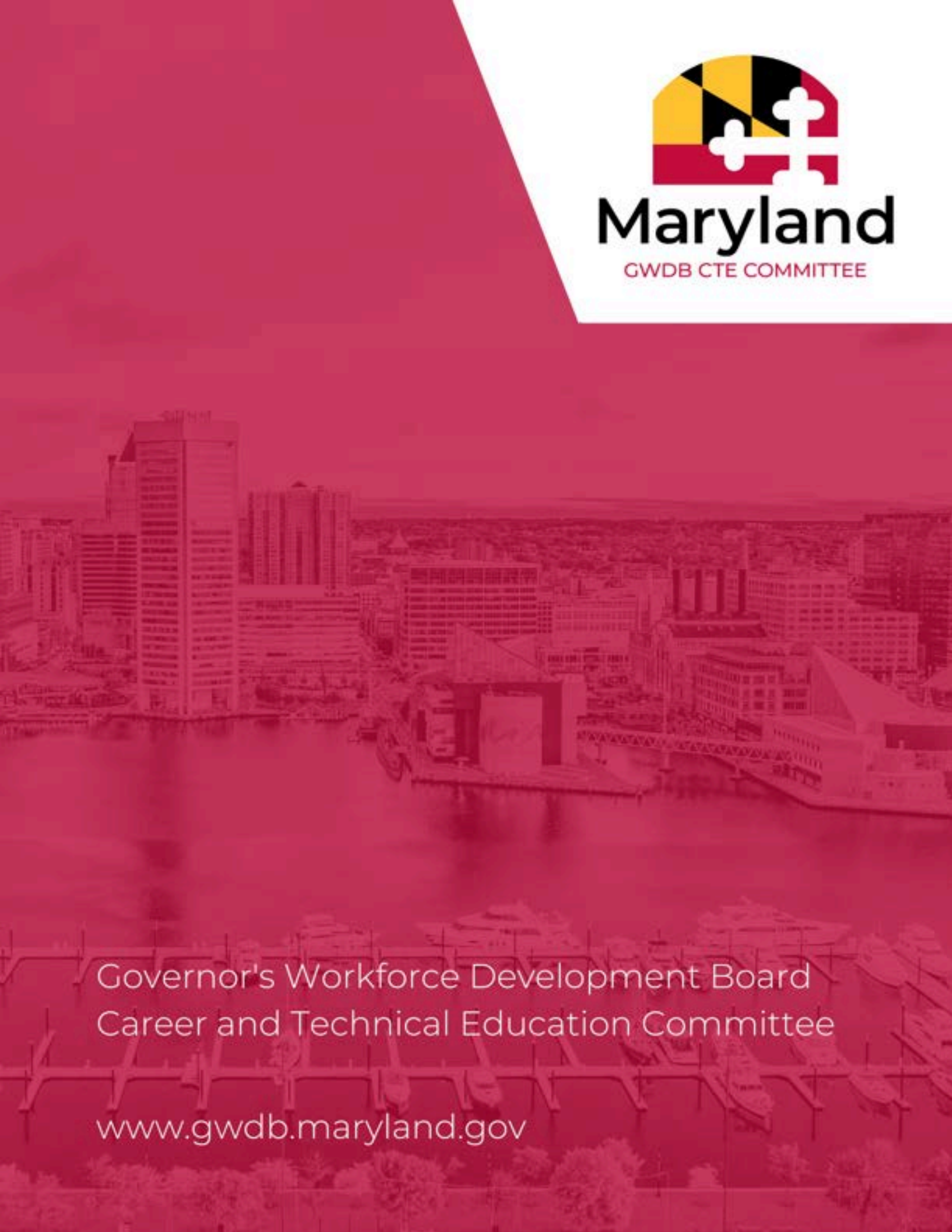

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