



Career & Technical Education Expert Review Team

Post-Visit Report
MONTGOMERY COUNTY PUBLIC SCHOOLS

Governor's Workforce Development Board
Career and Technical Education Committee

March 2026

GOVERNOR'S WORKFORCE DEVELOPMENT BOARD CTE COMMITTEE

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The Governor's Workforce Development Board is grateful to the CTE Expert Review Team members that participated in the exploration of this District's CTE programs, as well as central office and school leadership, staff, and students that contributed valuable insights regarding CTE programs in their Local Education Agency (LEA).

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Executive Summary

The *Blueprint for Maryland's Future* ("the *Blueprint*") established the Career and Technical Education (CTE) Committee within the Governor's Workforce Development Board (GWDB) to develop an integrated, globally competitive framework for providing CTE to Maryland students in public schools, postsecondary institutions, and the workforce. As part of this effort, the *Blueprint* calls on the CTE Committee to establish, administer, and supervise Expert Review Teams (ERT) to visit schools offering CTE pathways. CTE ERTs are a key tool through which the state observes and tracks the progress of local education agencies (LEAs) in implementing CTE programs that align with the *Blueprint's* vision and the CTE Committee's framework and policies. In addition to reviewing progress, the visits are intended to provide support and identify technical assistance needs as LEAs build their CTE systems.

This CTE ERT visited Montgomery County Public Schools (MCPS), located in Central Maryland, on April 24, 2025. This was the eleventh CTE ERT visit conducted by the CTE Committee during the 2024-2025 School Year (SY). MCPS is the largest school district in Maryland. MCPS has 13 Career Clusters that organize their 51 CTE programs in Montgomery County. Thomas Edison High School serves as the CTE Center for MCPS, but Seneca Valley High School (SVHS) and Clarksburg High School are considered "regional hubs" that offer high-demand CTE programs. All 25 MCPS high schools are comprehensive high schools, meaning they are traditional schools with core classes and include CTE offerings. The CTE ERT visited Northwest High School (NWHS) and Seneca Valley High School (SVHS).

Two CTE Committee members/designees, three representatives from state agency partners, three CTE Committee staff members/contractual support, one CTE teacher from a neighboring LEA, two employer representatives, one WorkSource Montgomery representative (local workforce development board), one CTE Director from a neighboring LEA, and two school administrators from neighboring LEAs participated in the CTE ERT visit to MCPS. This report summarizes observations and initial recommendations that the CTE ERT developed by reviewing the LEA's self-reported data with district leaders and by conducting interviews, focus groups, school tours, and classroom visits during the CTE ERT visit.

MCPS's progress toward the *Blueprint's* goal that by the 2030-2031 SY, 45% of high school graduates shall complete the high school level of a Registered Apprenticeship or another industry-recognized credential (45% goal) is at 6.9%, according to the Technical Skills Assessments (TSA) and IRC guidelines for the 2024-2025 SY.¹ MCPS leadership pointed to the cost of IRCs as one of the biggest challenges to increasing IRC attainment. It should be noted that MCPS is building long-term infrastructure for achieving the 45% goal by the 2030-2031 SY. For the 2023-2024 SY, 43.4% of graduating students in MCPS participated in CTE, meaning they had earned at least one credit in a CTE Program of Study. 28.2% of graduating

¹ The updated [CTE IRC Policy](#), published in December 2024, does not go into effect until the 2025-2026 SY.

students were CTE concentrators, meaning they have completed at least two courses and are enrolled in a third course in a CTE program of study.

One unique aspect that may be considered a takeaway for the State would be how MCPS has structured their Career Coaching through the Montgomery County Career Advising Program (MOCOCAP). There is one Career Coach for each of MCPS's 25 high schools and one Career Coach for every two MCPS middle schools, but each high school has a team of 10 Career Champions, who are MCPS employees that earn a stipend and assist with facilitating career advising. These Career Champions are familiar faces for students and support Career Coaches. While Career Coaches are employed through the local workforce development board - WorkSource Montgomery - MCPS hired 11 Career Advising Cluster Leads that support the Career Coaches and help integrate career advising into content areas. This Career Coaching structure may be a best practice other LEAs may want to emulate.

Below is a summary of the observations and findings from this visit:

MCPS Internal Strengths

- Administrators', Teachers', and Counselors' Passion for Supporting Students
- Career Coaching Structure
- Dual Enrollment Options for Students
- Work-Based Learning Participation with Internships and Site-Based Work Experience
- CTE Teachers Have A Great Deal of Expertise and Experience in Subject-Matter
- Corequisites for CTE Programs
- Overcoming Language Barriers
- Success with Individuals Preparing for Non-Traditional Fields

MCPS Internal Challenges

- Progress Toward the 45% Goal
- IRC Attainment Rate
- CTE Teachers Have High Workloads
- Curriculum is Focused on College-Bound Students
- CTE Marketing and Information Sharing Hurdles Have Led to Challenges with CTE Student Enrollment and Retention
- Transportation to School is Inconsistent for a Few Students
- Phased Career Advising Rollout Means Older Students Miss Out
- Students in Internships Want More Guidance

MCPS External Factors

- Strength: "Worlds of Work" Event
- Strength: Abundant Potential for Business Partnerships
- Strength: Partnerships with WorkSource Montgomery and Montgomery College
- Challenge: Transportation to WBL Opportunities
- Challenge: CTE Teachers Do Not Participate in Program Advisory Committees

MCPS Potential Next Steps

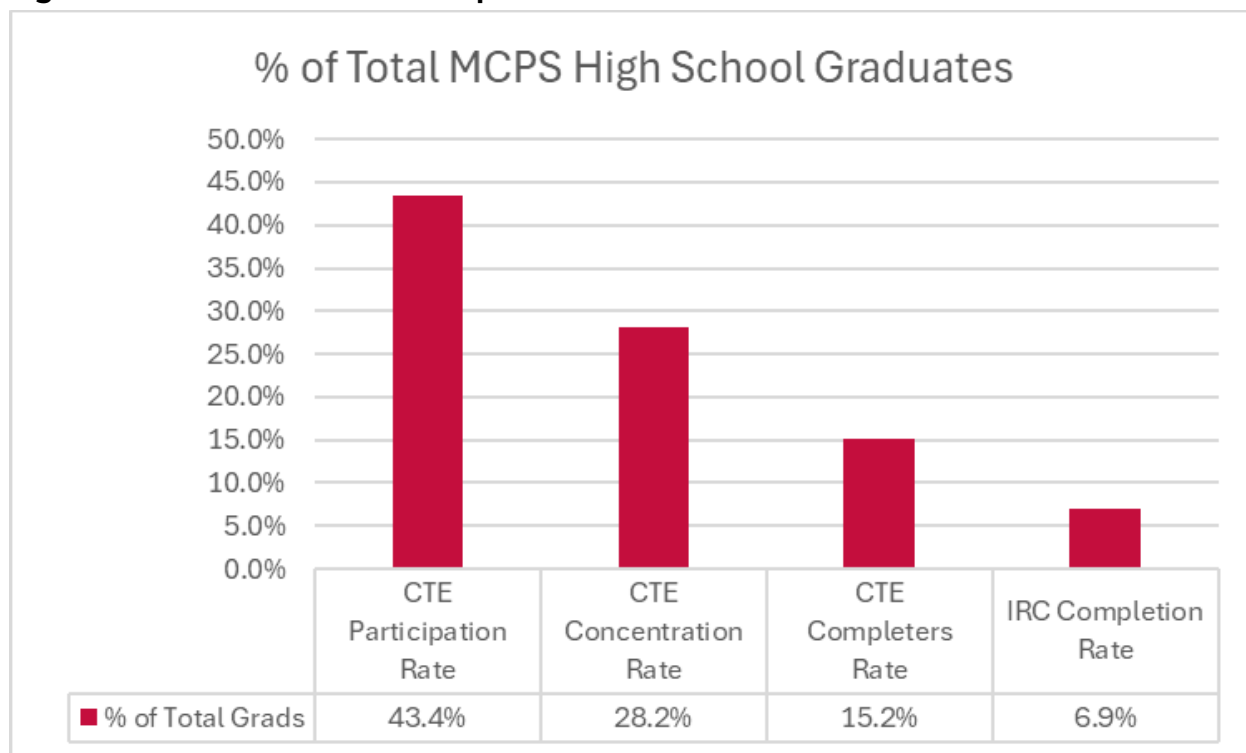
- Brainstorm Strategies to Improve Awareness of and Training for IRCs
- Coordinate More Intentional Collaborations Among the Career Coaching Team, School Counselors, and CTE Teachers
- Consider Creating More Opportunities for CTE Exploration
- Create a Transition Plan for Students Beginning WBL Opportunities
- Brainstorm Solutions to Transportation Hurdles

- Improve CTE Marketing and Pathways Beyond College
- Explore Technical Assistance with MSDE and the Maryland Department of Labor (MD Labor) in Meeting the *Blueprint's* 45% Goal

The CTE Committee staff, along with the CTE ERT, have collaborated on this report to provide observations and preliminary points of analysis to readers. In this document, readers will find the purpose of the CTE ERT, a brief explanation of MCPS, a summary of the CTE ERT visit, Strengths, Challenges, and External (SCE) analysis, and Potential Next Steps for the LEA to consider.

Please feel free to reach out to the CTE Committee or CTE Committee staff to answer any questions, comments, or concerns at GWDB.CTE@maryland.gov.

Figure 1: MCPS CTE and IRC completion rates 2024-2025 SY.



Purpose of the CTE ERT

The *Blueprint for Maryland's Future* (“the *Blueprint*”), Md. Ann. Code, Ed. Art. §21-209, established the Career and Technical (CTE) Committee as a unit within the Governor’s Workforce Development Board (GWDB). The GWDB serves as the Governor’s chief strategic and policy-making body for workforce development in the State of Maryland.² The purpose of the CTE Committee is to build an integrated, globally competitive framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The CTE Committee aims to fundamentally reimagine and redesign career-connected learning and career pathways to ensure all of Maryland’s students have real access to fulfilling and family-sustaining careers.

The *Blueprint* requires the CTE Committee to establish, administer, and supervise CTE ERTs to visit schools with CTE pathways.³ The goals of these visits are to: 1) review alignment of district programs and practices with *Blueprint* vision and policies, 2) assure a LEA’s CTE programs and practices are consistent with the Maryland CTE Framework and policies on the high school level of a Registered Apprenticeship (RA) and Industry-Recognized Credentials (IRCs), and 3) support technical assistance needs for LEAs as they create new systems, programs and practices in order to support *Blueprint* goals and expand career-connected learning, especially Registered Apprenticeship and other IRC attainment, for their students. Ultimately, the CTE ERTs report back to the CTE Committee on district progress toward *Blueprint* goals, common challenges, and opportunities for policy change, technical assistance, or other support to meet those goals. The CTE Committee staff will publish a summary of findings from CTE ERT visits every December within the CTE Committee’s annual report.⁴

The CTE ERT Program has three phases that transition from Phase 1: Discovery, to Phase 2: Analyze and Assist, and Phase 3: Evaluate. The primary goal in Phase 1 is to visit all 24 LEAs and build a baseline set of observations to understand the state of CTE in Maryland, along with common challenges LEAs face in creating a robust CTE system. The common challenges will inform what technical assistance sessions will be in Phase 2, which will focus on alignment, systemic data collection, and assistance. Phase 2 is set to begin in the 2026-2027 SY, so the specifics for Phase 2 will be planned in Spring 2026. Phase 3 will begin in the 2028-2029 SY and will focus on evaluating progress toward *Blueprint* goals, but will be more specifically planned during Phase 2.

The CTE Expert Review Team visit to MCPS consisted of members from various backgrounds and brought expertise in areas such as student learning, workforce development, and CTE, ensuring a comprehensive review of the LEA’s CTE programs (see Appendix A).

² Executive Order No. 01.01.2023.22. (2023). <https://tinyurl.com/execorder01012023>

³ Md. Ann. Code, Ed. Art. §5-412 <https://tinyurl.com/5cb36cvy>

⁴ Md. Ann. Code, Ed. Art. §21-209, <https://bit.ly/3W0JoeU>

About Montgomery County Public School System

Montgomery County Public Schools (MCPS), located in Central Maryland, enrolls 51,997 high school students and is the largest school district in Maryland. MCPS reported less than 5% of graduating high school students earn an IRC excluding Technical Skills Assessments (TSA), with 6.9% of graduating students completing an IRC or TSA. The Local Education Agency (LEA) offers 51 CTE programs covering a wide range of areas of specialization, from Accounting to Teacher Academy of Maryland. MCPS is in alignment with WorkSource Montgomery's Local Workforce Plan's focus on building key sectors like biotechnology, healthcare, and IT. The CTE clusters with the highest enrollment are Manufacturing, Engineering, and Technology, Human Resource Services, and Health and Biosciences. This demonstrates MCPS's focus on developing a robust workforce targeting IT and healthcare as key sectors.

One unique aspect about MCPS is the Montgomery County Career Advising Program (MOCOCAP). Career Coaches in Montgomery County are employed by the local workforce development board, WorkSource Montgomery. Every MCPS high school has a designated Career Coach and there is one Career Coach assigned to every two MCPS middle schools. In each MCPS high school, 10 Career Champions, who are MCPS employees that earn a stipend to help facilitate some of the Career Coaches' work, assist the Career Coaches. Career Champions earn a professional development stipend for participating in the MOCOCAP. For instance, a Physical Education teacher who is a Career Champion may host an afterschool resume workshop for students. In this way, MCPS students have a familiar face to introduce them to career advising and career coaches have support in providing individualized counseling services. MCPS also employs Career Advising Cluster Leads and Career Advising Curriculum Support Teachers that support the coaches navigating MCPS, especially with integrating career advising into core content areas.

Students enrolled in CTE programs have the opportunity to earn IRCs and 6.9% of graduating students earned an IRC; however, this rate comes from the previously approved Technical Skills Assessment (TSA) and IRC list as the updated list approved by the CTE Committee does not go into effect until the 2025-2026 SY. The CTE IRC Policy published in December 2024 may impact MCPS' attainment rate for 2025 and beyond.⁵ Additionally, 26 graduating students completed the high school level of a Registered Apprenticeship. MCPS has 15% of graduating students complete a CTE program.

MCPS has CTE offerings at its CTE Center, Thomas Edison High School, and at all 25 MCPS high schools, but schools like Seneca Valley High School (SVHS) and Gaithersburg High

⁵ GWDB CTE Committee. (December 2024). *Career and Technical Education: Industry-Recognized Credentials*.

<https://www.gwdb.maryland.gov/policy/gwdbcte2024commindustrycredentialpolicy.pdf>



Schools are considered “regional hubs” because they offer high-demand CTE programs. While all 51 programs are available to all MCPS students, students either must enroll in a program at their home high school, enroll in a program at a regional site with available seats, or apply to be entered into a lottery for programs at the regional sites. Students take courses at both their home school and at the regional hub, and some students may be eligible to apply to a full-time comprehensive regional program. Bus transportation is provided to students.

Summary of Visit

Prior to the visit, the Career and Technical Education (CTE) Expert Review Team (ERT) members attended a virtual orientation to review the visit agenda, materials, and tools. During this session, Montgomery County Public Schools' (MCPS's) CTE Lead Staff provided an overview of the Local Education Agency's (LEA's) CTE system, explaining MCPS's overarching goals and how they connect with CTE, data on enrollment in CTE, and MCPS's Dual Enrollment initiatives. This pre-visit orientation helped the CTE ERT understand the specific context and priorities of Montgomery County's CTE programs, setting the stage for focused observations and discussions during the visit.

This CTE ERT conducted its visit on April 24, 2025. The CTE ERT visited Northwest High School (NWHS), one of MCPS's 25 comprehensive high schools with CTE offerings, which includes 636 CTE students in 8 of MCPS's 51 CTE programs. The CTE ERT also visited Seneca Valley High School (SVHS), which is a regional CTE hub with 1,067 students in 17 of MCPS's 51 CTE programs. The CTE ERT did not visit MCPS CTE Center, Thomas Edison High School, because the CTE ERT wanted to visit multiple schools that were close to each other and SVHS and NWHS are only 3 miles apart. The CTE ERT conducted school tours to observe programs in action and held focus group conversations with students, teachers, administrators, and school and career counselors. Throughout the day, the team engaged in discussions with stakeholders to gain insights into the strengths and challenges of the CTE programs. These conversations revealed valuable information about how CTE supports students' postsecondary pathways and career goals, as well as areas where the LEA could enhance program access and resources.

The CTE Expert Review Team visit to MCPS consisted of members from various backgrounds, and brought expertise in areas such as student learning, workforce development, and CTE, ensuring a comprehensive review of the LEA's CTE programs (see Appendix A). Throughout the day, the team engaged in observations, interviews, and focus groups with stakeholders to gain insights into the strengths and challenges of the CTE programs. The CTE Committee staff created a set of questions for each focus group: leadership, teachers, students, career counselors/coaches, and school counselors (See Appendix D). These questions aimed to uncover the experience these stakeholders have in CTE by asking questions about professional development opportunities, their opinions on their experience in CTE classes, their perspective on hurdles, *etc.* (see Appendix D).

After the visit, the CTE ERT compiled their individual notes and shared it with CTE Committee staff. A week after the visit, the CTE ERT gathered together for a debrief, where the team members collaborated, reviewed, and discussed their compiled observations. These conversations revealed valuable information about how CTE in MCPS supports students' postsecondary pathways and career goals, as well as areas where the LEA could enhance program access and resources. Together, these data, observations, focus groups, interviews, and debrief help inform the following SCE analysis and Potential Next Steps.

OBSERVATIONS FROM THE EXPERT REVIEW TEAM VISIT

ABOUT THE SCE ANALYSIS

A SCE Analysis is meant to organize the CTE ERT's observations and notes into internal factors - Strengths and Challenges - and External factors. This method of analysis is based on the SWOT analysis method, which also differentiates between internal and external factors. This SCE analysis will help readers differentiate among internal Strengths, internal Challenges, and External factors, which are conventionally Opportunities and Threats. The CTE ERT did not have the opportunity to observe and coordinate with external stakeholders, but external factors came up in interviews, focus groups, debrief, and orientation that must be documented. With a SCE Analysis, readers may use this section to target changes and best practices internally.

INDICATORS OF STRENGTHS AND CHALLENGES

Strength: Administrators', Teachers', and Counselors' Passion for Supporting Students

The CTE ERT heard expressions of feelings of family and community from the administrators to students at MCPS. MCPS administrators, teachers, and counselors seem to all adapt to students' and industries' evolving needs. Students have multiple avenues to provide feedback to MCPS stakeholders. During the pre-visit orientation, one MCPS administrator told the CTE ERT, ***"The feedback that we received from our students was the fact that work-based learning made school more exciting for them."*** MCPS is working toward improving their work-based learning options for students with WorkSource Montgomery and the Montgomery County Career Advising Program (MOCOCAP). In focus groups with Career Coaches and Champions, several stakeholders spoke with passion about supporting students, one of whom went as far as exclaiming ***"this is a dream job!"*** MCPS administrators, staff, and faculty all have a passion for supporting students that has created a sense of belonging that helps students succeed.

Strength: Career Coaching Structure

MCPS's partnership with WorkSource Montgomery and the creation of the Montgomery County Career Advising Program (MOCOCAP) has resulted in a Career Coaching structure other LEAs may look to emulate. In the 2023-2024 school year (SY), MCPS piloted career advising with just 6th graders and 9th graders, but for the 2024-2025 SY, MCPS has career advising for all students. Several times throughout the CTE ERT visit, CTE ERT members noted positive feedback about career advising and that there is notable collaboration across the school to encourage students to participate in career advising and CTE. During the career coaching focus group, the CTE ERT learned there is a great deal of trust in Career Coaching across the school. The Career Coaching team told the CTE ERT that they have added trust in each other because they are on the same page about what is important to them. One focus group participant said, ***"We love to see kids' passion"*** and others agreed, adding, ***"Love opening doors for them [students]"*** and ***"Love helping struggling kids."*** This positive feedback and shared values demonstrate MCPS's strength in creating a supportive atmosphere, which is beneficial to career advising.

Career Coaches in Montgomery County are employed through WorkSource Montgomery and there is one Career Coach assigned to each MCPS high school and one Career Coach for every two MCPS middle schools. In order to support the Career Coaches' work, each Career Coach is assisted by 10 Career Champions, who are MCPS employees that earn a stipend to help facilitate the Career Coach's work, host events about career advising, and connect students with appropriate support. For instance, a history teacher may bring in someone who works for the federal government to talk about how their curriculum connects with industry skills and roles. These Career Champions serve as a familiar face while introducing and integrating career advising into curriculum. The two Career Coaches the CTE ERT spoke to also had previous experience with MCPS, so they had established connections in the school system and were familiar with the schools to which they were assigned. In addition to Career Champions, MCPS also employs 11 Career Advising Cluster Leads that support the Career Coaches navigating the schools. MCPS also employs three Career Advising Curriculum Support Teachers who help teachers integrate career advising into their content areas, ensuring students' learning is connected to career advising. Part of the success of this model could be attributed to what appears to be a productive collaboration between MCPS and WorkSource Montgomery where roles and staffing is clearly defined.

The CTE ERT was also impressed with the dialogic model the Career Coaches and Champions use at MCPS. At MCPS, career advising begins with conversations - sometimes in small groups, sometimes individually - with students to develop a baseline of self-awareness. From there, students complete RIASEC assessments and questionnaires, which Career Coaches and Champions use to inform one-on-one career advising.⁶ The CTE ERT observed how MCPS targets metacognition, which is the skill of analyzing and adapting one's own internal process of thinking, problem-solving, and learning, as an important learning component integrated across the curriculum. This metacognition paired with the wrap-around career advising has created a strong career coaching structure that helps MCPS students define what their version of success looks like and provides students with pathways to achieve that success.

Strength: Dual Enrollment Options for Students

MCPS has five different programs to support Dual Enrollment (DE) at no cost for students, with MCPS having the highest number of graduating students with an Associate's Degree and at least 45 college credits. Jumpstart to College (JTC) may be MCPS's most popular Dual Enrollment program with 2,198 students in the 2023-2024 SY.⁷ MCPS's Virtual Middle College (VMC) is the newest Dual Enrollment program. With VMC, Early College, and Middle College programs, MCPS high school students may enroll at Montgomery College (MC) and take college credit courses to earn their high school diploma and Associate's Degree. The college credits are earned through online MC courses and students are supported through a transition plan to prepare them for the online college course experience. The Pathways in

⁶ RIASEC is a career-matching system that categorizes people and work environments into six personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) to help individuals find jobs that align with their natural interests.

⁷ To learn more about the JTC program, visit:

<https://www.montgomeryschoolsmd.org/curriculum/partnerships/jump-start>

Technology Early College High School (P-TECH) is exclusively offered at Clarksburg High School. P-TECH students may earn an Associate of Applied Science (AAS) degree from MC at no cost, so students simultaneously earn a high school diploma and an AAS degree in Cloud Computing and Information Technology. Students may also earn industry-recognized certifications, giving P-TECH graduates a competitive edge when applying to entry-level positions. The only entry point to P-TECH is in 9th grade and students must apply during 8th grade through a lottery-based enrollment process. The wide variety of Dual Enrollment options available to MCPS students helps them not only decide what they want to learn, but how to learn as well.

Through MCPS's Dual Enrollment programs, students develop skills that train them to be both professionals and college students. In both teacher and student focus groups, the CTE ERT observed a push toward dismantling the myth that college is the only path to success. In Dual Enrollment orientations and transition plans, it was clear MCPS integrated career advising. One student told the CTE ERT how their Dual Enrollment helped them narrow down their interests: ***"I know I love biology and the community college helped me develop that."*** MCPS's Dual Enrollment programs are a strength because they bridge the gap between high school and college while integrating career advising.

Strength: Work-Based Learning Participation with Internships and Site-Based Work Experience

MCPS reported 27.5% of graduating students, or 3,303, participate in work-based learning (WBL). MCPS reported 26 graduating students participated and completed a high school level Registered Apprenticeship, which amounts to less than 1% of graduating students who participated in WBL opportunities. MCPS also reported 6 youth apprentice participants and completers among graduating students. This leads the CTE ERT to believe that the remaining 3,271 students were participating in internships or site-based work experience (SBWE) for their WBL opportunities. SBWE is a 135-hour program specifically for 12th graders enrolled in College/Career Research and Development (CCRD) and focuses on applying classroom knowledge in a professional setting. For an LEA with 12,009 graduating students, it is impressive to see 27.5% of graduating students participate in WBL opportunities.

There are multiple factors that may impact how MCPS has such high engagement with WBL opportunities. MCPS employs Internship/Apprenticeship teachers during summer months to support students who are completing their internship/apprenticeship during that period, and this may be a best practice other LEAs should adopt. During the Career Coaching focus group, the CTE ERT learned that internships are a priority in MCPS because students are interested in attending college and think it will help their applications. The Career Coaching team also told the CTE ERT that they have a shared spreadsheet so they can keep track of their advising and elevate challenges to brainstorm solutions. These spreadsheets not only track when students are met with, but what their interests are, key due dates, and other useful information. One focus group participant said, ***"Interns are so good industries will look for more."*** Students corroborated this success, with one student saying, ***"The internship was the highlight for me and it led to a summer job."*** MCPS's WBL participation rate among graduating students is a strength and demonstrates their commitment to student success.

Strength: CTE Teachers Have a Great Deal of Expertise and Experience in Subject-Matter

Figure 2: MCPS Science Classroom with Music Equipment.



The CTE ERT observed how administrators, faculty, and staff were all passionate about students, and the CTE ERT was especially impressed with the level of expertise and experience CTE teachers brought to the classroom. During a school tour, the CTE ERT observed how a science teacher integrated music into their classroom to further engage students. This teacher brought music equipment to the classroom to demonstrate to students how technology has impacted music recording and editing. The Northwest High School (NWHS) teacher sponsor of the Secret Society of Science Songwriters (4SW) won the Music Educator Wammie award in 2020. Throughout the visit, the CTE ERT

observed the ways the CTE teachers go above-and-beyond for their students. During a teacher focus group, one teacher explained the importance of having great CTE teachers: ***“Teachers build programs. Seneca is wildly successful because every single one of my teachers is phenomenal. All 22 teachers in my department put in more hours in a day than they should because they know the content and know what it means to be successful in their field.”*** Other teachers in the focus group agreed, explaining that when MCPS students find a teacher they like, they spread the word and will soon find that teacher has higher enrollment numbers.

One factor that may impact teacher expertise and experience is the development of Professional Learning Communities (PLCs) in MCPS. PLCs meet monthly to collaborate on best practices, common challenges, and other subjects. In an LEA as large as MCPS, CTE teachers may find peers who teach similar courses and collaborate with them. One teacher told the CTE ERT how important their PLC collaborations are for their own professional development and for serving students. This teacher expanded and told the CTE ERT that they used their PLC to place students into internships. MCPS’s CTE teachers are an asset because of the expertise and experience they bring for students to learn.

Strength: Corequisites for CTE Programs

MCPS utilizes corequisites for CTE courses to ensure students have the necessary academic foundation to succeed in their technical training. There are corequisites that students can take to support their academic development through their CTE programs or as Dual Enrollment support. For instance, a student in Project Lead the Way, Engineering may take Algebra 1 as a corequisite if they have not completed it yet to support their foundational math skill development. Corequisites provide useful support for students as they receive support in real time as they take on more challenging courses. A student struggling with the algebra portion of their CTE course may receive live help that may help students connect

content from core classes with CTE course content. These corequisites are a best practice that support students developing foundational skills for their CTE programs and support students transitioning into college.

Strength: Overcoming Language Barriers

During the visit and through research on MCPS's website, the CTE ERT learned that MCPS offers a plethora of resources to assist both students and families to overcome language barriers. MCPS has the Language Assistant Services Unit (LASU), which provides in-person and video interpretations, written translations, and a telephone interpretation service that allows staff to immediately connect with an interpreter for short encounters or for calls to parents. MCPS also offers online and hard copies of school announcements, course catalogues, and other materials in a variety of different languages. MCPS offers crucial materials digitally in Amharic, French, Japanese, Korean, Portuguese, Spanish, and Vietnamese. These resources help create equitable access to CTE offerings.

During the pre-visit orientation, one of the CTE lead staff told the CTE ERT that the largest and fastest growing population in MCPS was Latin(x). In order to accommodate this growing population, MCPS finds classes and programs that have high multilingual numbers and assigns a multilingual specialist as an assistant to that class. For instance, the CTE ERT learned that the Automotive program in Seneca Valley High School (SVHS) has a multilingual specialist in Spanish because there were high numbers of multilingual students who spoke Spanish as their primary language. These language resources are crucial for helping MCPS's largest and fastest growing population group overcome potential language barriers.

Strength: Success with Individuals Preparing for Non-Traditional Fields

During the pre-visit orientation, CTE lead staff raved about MCPS's success with individuals preparing for non-traditional fields. Perkins V defines individuals preparing for non-traditional fields as an occupation or field of work where individuals from one gender comprise less than 25% of the total individuals employed in that field. Examples of non-traditional fields for females include Construction Trades and Welding, Computer Programming, and Aviation Maintenance, while examples of non-traditional fields for males include Nursing, Cosmetology, and Elementary Education. MCPS's data corroborates their claims about success with individuals preparing for non-traditional fields. Table 1 demonstrates the success of trying to create more balance in CTE programs. Six of MCPS's Eleven Career Clusters have more than 25% non-traditional enrollment and every MCPS Career Cluster, except the Transportation Technologies Career Cluster, has reached at least 20% enrollment for individuals preparing for non-traditional fields.

During the pre-visit orientation, CTE lead staff told the CTE ERT, ***“We have really been focusing on getting more girls into construction. We have been running summer programs, having women leaders from Montgomery County who are into construction come into schools and talk to our girls just to make sure that all of our students see themselves in their programs.”*** This demonstrates the ways MCPS is working toward creating equitable access and outcomes for students while making sure students see role models that look like them in fields they want to pursue.

Table 1: MCPS Career Cluster enrollment by gender.

MCPS's Career Clusters	Total	Female	Male	X ⁸
Arts, Media, and Communications	520	163	354	3
Business Management and Finance	1,685	622	1,057	6
Career Research and Development	951	326	622	3
Construction and Development	452	92	358	2
Consumer Services, Hospitality, and Tourism	1,342	700	642	0
Environmental Agriculture and Natural Resources	161	89	70	2
Health and Biosciences	2,511	1,977	530	4
Human Resource Services	2,586	1,949	625	12
Information Technology and Cybersecurity	1,983	438	1,541	4
Manufacturing, Engineering, and Technology	4,672	1,464	3,199	9
Transportation Technologies	513	71	442	0
Total	17,376	7,891	9,440	45

Challenge: Progress Toward the *Blueprint's* 45% Goal

Through the CTE ERT Data Brief and during the pre-visit orientation, the CTE ERT learned that MCPS has made 6.9% progress toward the *Blueprint's* goal, that by the 2030-2031 SY, 45% of high school graduates shall complete the high school level of a Registered Apprenticeship or another industry-recognized credential (45% goal). This reported progress is according to the Technical Skills Assessments (TSA) and IRC guidelines for the 2024-2025 SY.⁹ MCPS serves 51,997 high school students, 12,009 of whom were graduating students, making MCPS the largest LEA by enrollment in Maryland. Among the 11 LEAs the CTE ERT visited in the 2024-2025 SY, MCPS has the lowest progress toward the 45% goal. Moreover, MCPS administrators project that by the 2030-2031 SY, their progress toward the 45% goal will be between 23% and 25%. Because MCPS is Maryland's largest LEA by enrollment, MCPS not obtaining a percentage of progress that is closer to 45% will have a great impact on the State's ability to achieve an average of 45% across 24 LEAs.

Despite MCPS's projections, administrators, faculty, and staff are making a considerable effort to achieve the 45% goal. During the pre-visit orientation, CTE lead staff told the CTE ERT

⁸ MCPS uses the identifier X to encompass all identities that do not specifically align to the Female/Male binary.

⁹ The updated [CTE IRC Policy](#), published in December 2024, does not go into effect until the 2025-2026 SY.

about how they are laying the foundation for these goals and that it takes time and resources to do that in an LEA as large as MCPS. After completing MOCOCAP's effective pilot year in the 2023-2024 SY, CTE administrators were confident in the program's impact moving forward. CTE lead staff also referenced how their continued collaboration with WorkSource Montgomery has and will continue to positively impact MCPS's progress toward the 45% goal. MCPS's progress toward the 45% goal has been and will continue to be a challenge for both MCPS and for the State at-large because MCPS is Maryland's largest district by enrollment.

Challenge: IRC Attainment Rate

MCPS's CTE lead staff told the CTE ERT that less than 5% of graduating students earned an IRC, excluding TSAs. Despite being the largest LEA by enrollment in Maryland, MCPS has the lowest IRC attainment rate among the 11 LEAs the CTE ERT visited in the 2024-2025 SY. In focus groups with CTE teachers and the Career Coaching team, the CTE ERT observed how there was a need for improvement in understanding what IRCs were available for their areas. One teacher told the CTE ERT, ***"we have not received direction on IRCs."*** In the focus group with students, the CTE ERT learned that one student earned 4 IRCs and found them all on their own without teachers' or counselors' assistance. Teachers from the Project Lead the Way programs agreed that their programs are simply not set up for students to earn IRCs. Meanwhile, other teachers looked at cost being a large barrier to IRCs, as one teacher told the CTE ERT their IRC assessment was \$550 and was increasing to \$650 for the 2025-2026 SY. This teacher acknowledged that Perkins V funding covered the cost for these IRC assessments, but for an LEA as large as MCPS, it was not a sustainable cost. Another teacher explained that the IRC assessments are not in alignment with their CTE curriculum, so they believe they are setting their students up for failure by not preparing them for the IRC assessment. One teacher told the CTE ERT that they ***"don't teach breadth of information to prepare students for IRCs."*** Students also questioned the usefulness of earning an IRC when they must earn a four-year degree to be competitive in their field. For instance, a student in the Computer Science program may decide to omit the Cloud Computing IRC assessment because they believe they must earn a college degree to be successful in the field and it is too cumbersome to take another assessment. Regardless of the reason, MCPS is Maryland's largest district by enrollment and their IRC attainment rate is and will continue to be a challenge that will not only impact MCPS, but Maryland's progress toward the 45% goal.

Challenge: CTE Teachers Have High Workloads

During the CTE ERT visit to MCPS, the CTE ERT observed how CTE teachers have high workloads. CTE teachers told the CTE ERT during focus groups that they feel like they must overload their classes to keep up with the number of students who want to enroll in their classes. Teachers also told the CTE ERT that there are scheduling challenges that have led to teachers instructing two different CTE sections at the same time. Students corroborated the teachers' perspective, adding that they felt like the quality of instruction went down because there were CTE students who enrolled in the course to get an "easy A", taking away the teacher's attention from serving all students. CTE students told the CTE ERT how large of an impact the teacher has on the program, so if a specific CTE teacher is well-liked among students, more students will attempt to enroll in that teacher's class without analyzing

whether this CTE program aligns with their education and career goals. When asked about what challenges they are facing, one student put it plainly to the CTE ERT, **“we need more teachers.”** CTE students also told the CTE ERT that teachers are the primary person who provides career advising related to their CTE program.

Despite MCPS teachers' high workload, teachers seemed interested in finding more relevant professional development, collaboration, and mentorship opportunities. MCPS teachers instruct students with passion, experience, and expertise, yet the CTE ERT observed how high workloads will continue to be a challenge for CTE teachers.

Challenge: Curriculum is Focused on College-Bound Students

Throughout the CTE ERT visit to MCPS, the CTE ERT observed how MCPS administrators, faculty, and staff were trying to change the prevailing belief that college should be the primary option for students and toward helping students consider post-graduation options beyond college. The vast majority of students the CTE ERT spoke to are considering college as their primary path beyond graduation. Although MCPS's effective Dual Enrollment programs provide access to college courses for students, this could also have the adverse effect of enhancing the long-standing belief that in order to be successful in finding family-sustaining employment, one must earn a college degree. Focus groups with CTE teachers and the Career Coaching team revealed this belief held true with those who interact with the students most frequently: CTE teachers and the Career Coaching team told the CTE ERT that college is the primary path for their students. The CTE ERT learned school counselors do not advocate for or talk about CTE options like Carpentry or Cosmetology beyond 8th grade when they introduce students to CTE. Students appreciated the real-world experience they gained in CTE programs, but they still reported prioritizing college as their primary pathway. Students told the CTE ERT that some students do not enroll in CTE because they prefer to earn college credits to lower their future student loan amount. MCPS's work-based learning (WBL) opportunities also reflect this belief, as students told the CTE ERT they chose internships because they thought it looked better on college applications than an apprenticeship.

In the pre-visit orientation, CTE administrators told the CTE ERT that they are working toward building a system that helps students recognize paths beyond college. Because of the success of the pilot year of career advising in MCPS, administrators are confident future cohorts of CTE students will see options beyond college. The Career Coaching team told the CTE ERT about how when they started, they had to rely on old systems and beliefs that prioritize college as the post-graduation pathway. Now, they are bending and mending these old systems and beliefs to provide students with apprenticeships, career advising, etc. so students understand all of their post-graduation pathways. MCPS administrators, faculty, and staff face the challenge of a long-held belief that college is the primary path to obtain gainful and family-sustaining employment, but they are making a concerted effort to provide all post-graduation pathways to students.

Challenge: CTE Marketing and Information Sharing Hurdles Have Led to Challenges with CTE Student Enrollment and Retention

During focus groups with CTE teachers, CTE students and the Career Coaching teams, the CTE ERT observed how marketing CTE to MCPS students and sharing information with MCPS students has been a challenge. The Career Coaching team told the CTE ERT they work with teachers to create pre-scripted presentations about MCPS's CTE programs, so that it is not just school counselors sharing that information. The Career Coaching team also informed the CTE ERT that there is CTE and Career Coach signage throughout the building and at the main entrance. All three parties told the CTE ERT that the strongest and most prevalent strategy for marketing has been using word-of-mouth, where students share their experiences with friends and family members, who then enroll in CTE programs. One participant in the Career Coaching focus group told the CTE ERT that there is a "legacy factor", where younger siblings enroll in CTE if their older sibling was involved in CTE.

Students explained that their peers do not know enough about CTE and that they wish there was both more quantity and quality of students in their CTE programs. Some students in focus groups and the school tour revealed that they did not know anything about their CTE program before they enrolled. Students told the CTE ERT they received information about CTE in 8th grade when they were choosing their classes, but school counselors never talked to them about CTE again. Students also told the CTE ERT that school counselors do not promote CTE options like carpentry, cosmetology, and HVAC, that they show you these programs in 8th grade, but never talk about it again afterwards. One student told the CTE ERT they joined their program because they were walking around the school and saw the garage and became interested in it that way, but otherwise did not know about the school's CTE options.

In addition to marketing challenges, MCPS administrators, faculty, and staff face a challenge with sharing information with CTE students. Every CTE program has its own designated website with a short description of the program, sample courses, potential certifications, where the program is offered, and associated career opportunities for all 51 CTE programs. Students may also learn about MCPS's CTE offerings from the "MCPS High School Course Catalog". That said, none of the students the CTE ERT spoke to knew they could switch schools to attend a different CTE program. The CTE ERT learned that though it is rare, it is possible for students to enroll in and complete multiple CTE programs if the student's schedule can accommodate it, but the other students in the focus group were shocked to learn this. MCPS students are also able to switch into and begin the enrollment process for a different CTE program, but students the CTE ERT spoke to did not know this. During the school tour, the CTE ERT learned that Seneca Valley High School hired a new CTE administrator for the school, an Assistant Principal who is only focused on CTE programming, which will alleviate this challenge. Ultimately, the CTE ERT observed MCPS is facing a nuanced challenge with both marketing CTE and keeping students informed as they face challenges with retaining CTE students. Among the 11 LEAs the CTE ERT visited in the 2024-2025 SY, MCPS had the lowest CTE completion rate among graduating students at 15%, which is less than half of next lowest CTE completion rate among graduating students, which is Cecil County Public Schools, who had a 33% CTE completion rate among graduating students. MCPS's challenges associated with marketing CTE and sharing information with students certainly are a factor for why 15% of graduating students complete a CTE program.

Challenge: Transportation to School is Inconsistent for a Few Students

During focus groups with students, the CTE ERT learned students face inconsistent transportation challenges. For most students, transportation did not seem to be a problem, but for some students, transportation was a challenge. One student had a change of school assignment (COSA) and said they had no issues with transportation getting to their home school, then to their CTE program. Most other students agreed that they did not face challenges with transportation, except for a small number of students who were quite vocal about the challenges they faced with transportation. One student explained that their bus was incredibly inconsistent, sometimes not even showing up to their stop. They said there were many occasions where they had no other choice but to ride their bicycle up to five miles on roads that do not have bike lanes to get to school, claiming, ***“It’s like having to climb uphill both ways”***. Another student explained that their bus transportation challenges were enough that they felt like they had no choice but to find their own transportation to school in the morning. A third student agreed, saying that their bus ride in the morning can be 20 minutes and sometimes it can be 40 minutes, making them late for their first period at school. In addition to transportation challenges getting to school, students told the CTE ERT that they have turned down WBL opportunities because they did not have consistent transportation available. School administrators told the CTE ERT their students will be able to test for their Non-Commercial Learner’s Instructional Permit at school, which may help alleviate this challenge. Ultimately, the CTE ERT observed MCPS’s students are facing transportation inconsistency.

Challenge: Phased Career Advising Rollout Means Older Students Miss Out

During the pre-visit orientation, MCPS’s CTE lead staff told the CTE ERT that career advising was in pilot with just 6th and 9th graders for the 2023-2024 SY and that career advising was available for everyone in the 2024-2025 SY. With that in mind, during focus groups in MCPS, no students knew anything about career advising. Students did not know who Career Champions were or who their Career Coach was. This may be because the CTE ERT spoke mostly to students in 11th and 12th grade, who were not exposed to career advising yet that SY, or as one CTE ERT member explained, it could be because students are meeting with so many people that they do not recognize the Career Coaching team. Regardless of the reason, MCPS’s and MOCOCAP’s phased rollout for career advising has led to students telling the CTE ERT they did not know anything about career advising at MCPS, who their Career Coach was, or who their school’s Career Champions were. With a district as large as MCPS is, it makes sense to choose a phased rollout for career advising to ensure the long-term success of the MOCOCAP, but older students still missed out on useful career advising. The CTE ERT also observed an unclear process for the Career Coach’s initial interactions with students, adding to the challenge students are facing with career advising. Despite how successful MOCOCAP has been in MCPS, the CTE ERT observed that no students in focus groups knew about their Career Coach or the Career Champions.

Challenge: Students in Internships Want More Guidance

As previously noted, the overwhelming majority of students who participated in work-based learning at MCPS did so through internships. During focus groups with students, the CTE ERT learned that there is a need for more guidance for students participating in internships. One student told the CTE ERT, ***“the internship was the highlight for me and it led to a***

summer job,” but also talked about how challenging it was when starting the internship. Another student agreed, explaining the adjustment was hard, **“In order to learn, you have to do it.”** Other students agreed that participating in an internship is incredibly different from being in the classroom. Students at Seneca Valley High School agreed with their peers from Northwest High School, saying, **“Internships are hard, but there is not enough guidance.”** Another student agreed, explaining that there does not seem to be a consistent plan or consistent support for students in internships, where students are told, **“Do this, then we’ll see what happens.”** CTE teachers corroborated students’ perspective, explaining an **“Internship is enrichment, not learning.”** Teachers talked amongst themselves and said it would be ideal if students could complete a “Capstone” or a “Practicum” so students may still earn school credit as well. While internship enrollment is a strength at MCPS, students have faced challenges when starting an internship and are eager for more guidance, especially when transitioning from the demands of school to an internship.

INDICATORS OF EXTERNAL FACTORS AND INFLUENCES

A SCE Analysis is meant to organize the CTE ERT's observations and notes into internal factors - Strengths and Challenges - and External factors. This method of analysis is based on the SWOT analysis method, which also differentiates between internal and external factors. With a SCE Analysis, readers may use this section to advocate for change with external partners.

External Strength: "Worlds of Work" Event

The Montgomery County Career Advising Program (MOCOCAP), in partnership with MCPS and Montgomery College (MC), hosted around 2,500 MCPS 8th graders in the inaugural MOCOCAP Worlds of Work (WoW) experience. The WoW is a trademarked event started by West AlabamaWorks, who, along with their partners, adapted the model for MOCOCAP. The MOCOCAP WoW was a three-day event at the MC Rockville campus where students were able to interact with representatives from over 175 local employers and businesses from Montgomery County and the surrounding areas. During the pre-visit orientation, MCPS's CTE lead staff told the CTE ERT that the MOCOCAP WoW was in its pilot year and specifically targeted 8th graders because they are less likely to have preconceived notions about potential career paths than their older peers. 8th grade is also when MCPS students select their education pathway through high school, including CTE programs of study. The MOCOCAP WoW serves as a strong example for the plethora of strategies MCPS uses as an entry point for CTE and career advising. The MOCOCAP WoW serves as a best practice that LEAs of a similar size should consider emulating.

External Strength: Abundant Potential for Business Partnerships

Montgomery County serves the most students out of any LEA in Maryland and has one of the largest economic footprints in Maryland. The CTE ERT observed how MCPS has many students participate in internships, and during the pre-visit orientation, CTE lead staff told the CTE ERT they have created partnerships with a few businesses to enroll students into the high school level of a Registered Apprenticeship (HSLRA). During focus groups with teachers and students, the CTE ERT learned MCPS's College/Career Research Development (CCRD) Program and its teachers have developed connections with dozens of local employers to help students research college and career pathways. One teacher told the CTE ERT that there are no challenges at all getting employers to take high school students. Other teachers agreed and explained the kinds of partnerships they have developed with local employers, like guest speakers, "lunch and learns", field trips, and other similar events. One member of the Career Coaching team agreed and explained that **"Interns are so good industries will look for more."** Another member of the Career Coaching team disagreed, explaining there is a lack of partnership opportunities and it is a difficult challenge to get students enrolled in work-based learning (WBL) opportunities. That said, several students told the CTE ERT that they had internships or employment through the connections that started from MCPS. The CTE ERT observed an abundance of potential for business partnerships in Montgomery County, and while there is work to do to support the growth of HSLRAs in Montgomery County, the CTE ERT sees MCPS's potential for growth as a strength.

External Strength: Partnerships with WorkSource Montgomery and Montgomery College

WorkSource Montgomery (WSM) is the local workforce development board for Montgomery County and Montgomery College (MC) serves as the community college for the county. MCPS has built strong relationships with both parties that have helped create a system that emphasizes career-connected learning. WSM leads the MOCOCAP and helps provide valuable data and information about jobseekers and employers in the region. WSM and MCPS partnered to give students access to more WBL opportunities, especially internships and youth apprenticeships. WSM also plays a critical role in supporting the Summer RISE initiative, which is a 5-week, 50-hour summer program for rising 11th and 12th graders. In addition, MC and MCPS have a strong partnership with dual enrollment and other programs and events. For instance, the previously mentioned MOCOCAP WoW event was held at Montgomery College's Rockville campus. Partnerships with WSM and MC will be crucial for MCPS as it reaches toward the *Blueprint's* 45% goal.

External Challenge: Students Need More Support Finding WBL Opportunities

During focus groups with students, the CTE ERT learned that several students who participated in WBL opportunities found those opportunities themselves. Students reported they were prepared for WBL opportunities because of their CTE program, but most of them found those opportunities of their own volition. One student shared that they appreciated the opportunity to be in the College and Career Research and Development Career Cluster because it helped them figure out how to apply to jobs and that they would not be working part-time if it was not for what they learned in that CTE program. Another student shared that they did not receive any career guidance until they found their internship in 12th grade, which is when this student interacted with the Internship Coordinator for the first time. However, the Career Counseling Team explained to the CTE ERT how Career Counselors and Champions share information with the Internship/Apprenticeship Coordinator to create a steady stream of support for students. Teachers also corroborated the Career Counseling Team, noting how they attempt to leverage their industry connections to place students into WBL opportunities. Perhaps an important reason for this challenge is because MCPS piloted career counseling in 2023-2024 SY and implemented it across the school system in 2024-2025 SY and the vast majority of students the CTE ERT spoke to were in 12th or 11th grade, meaning it is likely that students were not yet fully aware of the Internship/Apprenticeship Coordinator's role in finding WBL opportunities. As MCPS continues implementing career counseling across the school system, the CTE Committee anticipates improvement in supporting students finding WBL opportunities.

External Challenge: Transportation to WBL Opportunities

One topic that came up several times as a challenge throughout the day was transportation. Students, teachers, and the Career Coaching team all agreed that transportation was a major hurdle for students to participate in WBL opportunities. Some students talked about how the lack of reliable transportation was an important reason for why they did not participate in WBL opportunities. One student told the CTE ERT that they specifically chose a WBL opportunity that was close to both the school and their home to make transportation easier for them. One student said the MCPS buses were inconsistent and that there were no

afterschool buses for non-high school activities. Another student agreed, explaining that MCPS's school buses were so inconsistent that they felt like they had to find their own transportation, which has allowed this individual to now participate in WBL opportunities. One of the CTE lead staff told the CTE ERT that MCPS will be hosting tests for Non-Commercial Learner's Instructional Permit at Seneca Valley High School, which helps students overcome one hurdle in the process of finding independent and reliable transportation. Ultimately, MCPS faces a challenge with transporting students to WBL opportunities.

External Challenge: CTE Teachers Do Not Participate in Program Advisory Committees

In MCPS, instructional specialists from the Department of College and Career Readiness (DCCR) typically meet with Program Advisory Committees (PACs), not teachers. PACs are the primary mechanism for CTE teachers to collaborate with industry leaders to ensure their curriculum is in alignment with modern workplace needs. During focus groups with teachers, the CTE ERT learned that CTE teachers did not know what PACs were, nor did they know any information about them. Instructional specialists represent MCPS and a representative from Montgomery College serve on PACs, then relay that information to CTE teachers. CTE teachers then must rely on receiving that information from the instructional specialists or by relying on their own external connections and professional learning communities (PLCs). The teachers the CTE ERT spoke to seemed eager for more information, for more professional development, and more opportunities for external collaborations. Teachers face the challenge of relying on instructional specialists to stay up-to-date on the latest evolution of industry needs, whereas teachers in other districts directly participate in PAC meetings.

POTENTIAL NEXT STEPS

Although the CTE ERT has presented its observations in this report, these observations and potential next steps are preliminary. The purposes of Phase 1 of the CTE ERT are to establish a baseline for progress toward *Blueprint* goals across Maryland and identify key challenges. While the following Potential Next Steps are preliminary, they are areas MCPS may look for improvement in and something the CTE ERT will look at more closely as the CTE Committee transitions into Phase 2 in the 2026-2027 SY. In other words, these potential next steps are not a directive, but opportunities of improvement to explore. These Potential Next Steps are meant to be the beginning of a conversation with MCPS that will continue into Phase 2, and for this reason, these Potential Next Steps do not comprehensively address the challenges the CTE ERT notes in this report. In Phase 2, the CTE ERT will target specific areas to gain a more comprehensive understanding of the state of CTE in MCPS.¹⁰ While Phase 2 is focused on analysis and assistance, it is when the CTE ERT can make recommendations to the AIB to withhold funding if there is resistance complying with the *Blueprint*.¹¹

Brainstorm Strategies to Improve Awareness of and Training for IRCs

One of the leading challenges the CTE ERT identified was how less than 5% of graduating MCPS students earned an IRC, which is the lowest among the 11 LEAs the CTE ERT visited in the 2024-2025 SY. MCPS leadership referenced cost as an important factor for why IRC attainment has been a challenge. Considering MCPS has the highest enrollment among Maryland's LEAs, MCPS's low IRC completion rate among graduating students will severely impact Maryland's progress toward the 45% goal. The CTE ERT recognizes MCPS is in the process of laying a foundation to reach toward *Blueprint* goals, and in a district as large as MCPS, that will take some time. That said, some CTE teachers the CTE ERT spoke to did not know about IRCs in their field. Some of the students the CTE ERT spoke to said they found and completed IRCs on their own without support from MCPS faculty and staff. For these reasons, the CTE ERT recommends MCPS brainstorm strategies for CTE faculty and staff to learn more about IRCs and to incorporate IRC completion into MCPS's curriculum with greater vigor. For instance, at neighboring Howard County Public Schools, administrators and teachers collaborated to analyze the results of the first year of IRC assessments and revised curriculum to ensure student success in IRC assessments. Because of Montgomery County's size, the CTE Committee understands that not all approaches may be feasible for MCPS, but MCPS should explore how to improve awareness of and training for IRCs. MCPS should also consider strategies to help students understand the benefits of completing an IRC, especially for those students who will need a four-year degree to be competitive in their respective fields. Even though an IRC assessment may be cumbersome for students because they have to take another assessment, it will give them a competitive edge when applying to entry-level positions, especially when competing with others who also have four-year degrees. Moving forward, MCPS should brainstorm how to improve IRC attainment rates,

¹⁰ GWDB CTE Committee. (July 1, 2024). CTE Committee Expert Review Team Deployment Plan School Year 2024-2025. https://gwdb.maryland.gov/ctecomm/ctecomm-ctedeploymentplan_draftsy24-25_62624.pdf

¹¹ AIB's Updated Comprehensive Implementation Plan, August 2023, <https://drive.google.com/file/d/1PsYQGhld5Qwk7PgK2cEubr68SSKrG5dH/view?usp=sharing>.

which may begin with improving awareness for what IRCs are and how they may benefit students.

Coordinate More Intentional Collaborations Among the Career Coaching Team, School Counselors, and CTE Teachers

The CTE ERT observed information gaps that led to students misunderstanding various policies and programs or simply lacking awareness. For instance, several students were not aware that they could complete multiple CTE programs simultaneously. The CTE ERT specifically observed that there was not much counseling for students in CTE beyond 8th grade, especially in the 1) Construction and Development, 2) Consumer Services, Hospitality, and Tourism, and 3) Transportation Technologies Career Clusters. CTE students also told the CTE ERT that they understand internships can be challenging, and that students need more guidance when transitioning into WBL opportunities. In order to address these challenges, the CTE Committee recommends MCPS create intentional collaborations among the Career Coaching team, school counselors, and CTE teachers. This may be a quarterly convening, a monthly newsletter to keep the parties collaborating and informed, or another strategy to make sure there are clear lines of communication among these parties. Regardless of what the collaboration looks like, MCPS should explore more intentional opportunities for collaboration among these stakeholders.

Consider Creating More Opportunities for CTE Exploration

One of the challenges the CTE ERT observed revolved around low retention rates for CTE students. During focus groups with students, the CTE ERT learned that students became frustrated when they had peers in class who did not take the CTE program seriously. They told the CTE ERT that teachers are already dealing with difficulties, but when their attention is pulled away to deal with students who do not take the program as seriously as them, it creates challenges for them. Students also told the CTE ERT that they did not receive much information about CTE options after 8th grade, especially about programs in the 1) Construction and Development, 2) Consumer Services, Hospitality, and 3) Tourism, and Transportation Technologies Career Clusters. In order to alleviate these challenges, the CTE Committee recommends MCPS create more opportunities for CTE exploration.

Opportunities for CTE exploration may take various forms, but MCPS should consider creating more opportunities for students to explore CTE programs that would fit MCPS's local needs. For instance, a CTE exploration course structured like the CTE exploration courses at Somerset County Public Schools or Wicomico County Public Schools would be logistically challenging, but would address the challenges MCPS is facing. If there is no time during the academic year to add a new class, MCPS could explore a summer camp model that exposes students to a different CTE program every week. A CTE project showcase, such as a capstone, where students present the work they have done in their CTE courses or in their WBL opportunities to fellow students and potential industry partners may be a useful strategy to get students and community members to better understand what CTE is and what its benefits are. The CTE ERT has also visited a few districts that created two-to-five minute introductory videos to their CTE programs, outlining the kind of work they will do, what skills students can expect to develop, and what the short and long term benefits are. Additionally,

MCPS could survey students that don't complete their CTE program to conduct a root cause analysis and identify the primary reason(s) students do not continue in their programs. Regardless of the strategy, the CTE Committee recommends MCPS create more opportunities for CTE exploration to help alleviate the lack of CTE Program awareness among students.

Create a Transition Plan for Students Beginning WBL Opportunities

One of the challenges that came up during focus groups with students revolved around students struggling with their transition from school to an internship. MCPS's Dual Enrollment has been a strength as MCPS has become the LEA with the highest number of high school graduates who have earned an Associates Degree and 45+ college credits in Maryland. CTE lead staff, faculty, and students all pointed to the transition plans and support for students in Dual Enrollment programs as an important factor for their success, but the CTE ERT learned students want transition plans and structured support for their WBL opportunities as well. As MCPS plans to continue expanding its WBL programs, administrators, faculty, and staff should collaborate to create transition plans for students beginning WBL opportunities. As one teacher told the CTE ERT, “[an] **internship is enrichment, not learning,**” and this transition is a difficult one for students to make as they have been in learning environments, not enrichment environments. While the high school level of a Registered Apprenticeship (HSLRA) incorporates intentional learning experiences and mentorship, helping students transition to the needs and rhythms of a workplace will be necessary for their development and success.

Brainstorm Solutions to Transportation Hurdles

Most students said they did not face any transportation challenges, but the few who did brought up inconsistencies with school buses, challenges with WBL opportunities, and challenges with obtaining independent transportation. Students told the CTE ERT about their school bus showing up late or not at all, making them miss valuable instruction time for their first period. Students also cited transportation challenges as being one of the primary reasons they did not participate in WBL opportunities. On the other hand, focus groups with teachers and the Career Coaching team revealed a belief that these transportation challenges are directly related to the "attendance crisis" they are experiencing. The CTE ERT has observed transportation challenges across the state, but the CTE Committee recommends MCPS brainstorm solutions to some of its local transportation challenges. Other districts have come up with unique solutions, like offering Driver's Education courses through the school, which the LEA funded through a grant they earned from their local workforce development board. Another district used carryover career counseling funds to purchase a passenger van to transport students for career exploration activities. At another district, one teacher completed van training so they can drop students off at different locations to complete their internships. Transportation challenges are impacting schools across the country, so the CTE Committee recommends MCPS brainstorm solutions to their specific transportation challenges.

Improve CTE Marketing and Pathways Beyond College

An observation that came up several times throughout the CTE ERT visit was that MCPS's CTE marketing needs improvement and that it seems like MCPS is structured in a way that prioritizes college as the primary pathway for students. The CTE Committee believes these challenges are interrelated as CTE programs across the U.S. are working against a negative stigma. All of the students the CTE ERT spoke to in Northwest High School and Seneca Valley High School had plans for college after graduation. MCPS has made a concerted effort to get various stakeholders to understand the benefits of CTE, but specifically targeting the career pathways available to students beyond college should be a priority for MCPS. One school district in Maryland that also has the overwhelming majority of students enter either college or the military within six months of graduating has claimed success using a combination of introductory videos for each CTE program and advertising CTE as a pathway for students to earn an entry-level position immediately upon graduating high school. Perhaps as MCPS expands its HSLRA opportunities for students, it may alleviate some of the negative stigma associated with CTE, but in the meantime, MCPS should find a way to market CTE as a viable alternative pathway to family-sustaining employment.

Explore Technical Assistance with MSDE and the Maryland Department of Labor (MD Labor) in Meeting the *Blueprint's* 45% Goal

In order to achieve the *Blueprint's* 45% goal, establishing and expanding RAs should be one of MCPS's priorities. MCPS should explore closer collaboration with MD Labor's Apprenticeship Navigators on what opportunities are available for high school students in Montgomery County and the surrounding Central Maryland region. At the time of the visit, MCPS reported they had 26 graduates participate in the high school level of a Registered Apprenticeship (HSLRA). MCPS has started apprenticeships with Hands on Dental and Independent Electrical Contractors (IEC) Chesapeake. MCPS reported that they do not believe they will reach the 45% goal by the 2030-2031 SY. The CTE Committee will be developing more targeted technical assistance around this topic, and facilitating a community of practice utilizing findings from CTE ERT visits in the future. The CTE Committee recognizes that policies defining the 45% goal were not issued until December 2024, and this CTE ERT visit took place in Spring 2025, so all of those implementing this work and the partnerships required are still in the early stages of development. Exploring technical assistance with MSDE, MD Labor, and the CTE Committee will prove to be a useful addition to MCPS meeting the 45% goal.

APPENDIX GUIDE

- A. Visit Participants
- B. LEA Brief
- C. Visit Agenda
- D. Interview & Focus Group Questions

Appendix A | Visit Participants

Name	Role
Dawud Abdur-Rahman	Chair, Bryans Road Business Association
Erika Bailey	Associate Manager, Workforce Initiatives at CVS Health
Natalie Belcher	Instructional Facilitator, Howard County Public Schools
Dr. Billie Brice	Academic Dean, Queen Anne’s County Public Schools
Stacey Butler	Senior Manager, Workforce Initiatives at CVS Health (CTE Committee member designee)
Gretchen Cheney	Policy Analyst, Accountability and Implementation Board
Lateefah Durant	Strategic Facilitator and VP of Innovation, CTE Committee and CityWorks DC
John Hattery	Deputy Director, WorkSource Montgomery
Dr. Edrees Nawabi	Research Data Analyst, CTE Committee
Jason Perkins-Cohen	Deputy Secretary, Maryland Department of Labor (CTE Committee member designee)
Dr. Sanjay Rai	Secretary of Higher Education (CTE Committee member)
Daniel Rosewag	Director of Strategic Initiatives, Howard County Public Schools
Ryan Sackett	Secondary School Support, Maryland State Department of Education
John Strickland	Expert Review Team Manager, CTE Committee
Terry Walker	Architectural Design Teacher, Howard County Public Schools

Appendix B | LEA Brief

Montgomery County

CTE LEA LEAD STAFF	
Name	Role(s)
Dr. Irina LaGrange	Director, College and Career Readiness and Districtwide Programs
Dr. Genevieve Floyd	Director, Division of Career and Postsecondary Partnerships and Career Advising
Mr. Steve Boden	Supervisor, Foundations Office (CTE Trade Programs, Information Technology and Hospitality and Tourism Programs of Study)
Shawn Krasa	Supervisor, Work-Based Learning
Kelly Dunston	Coordinator, Technology and Engineering
Nicola Richards-Wright	Coordinator, Career and Postsecondary Partnerships and Career Advising

COMPREHENSIVE HIGH SCHOOLS WITH CTE	
All 25 High Schools – See Appendix for listing	

LEA CTE Center	
Thomas Edison High School	

CTE ERT VISIT	
Date	School(s)
April 24, 2025	Northwest High School Seneca Valley High School



LEA CTE ENROLLMENT, PARTICIPATION and COMPLETION RATES

	Montgomery County	School #1	School #2
Total Enrollment (# of all HS students)	51,997	2,300	2,409
Total Enrollment (# of all graduating students)	12,009	604	538
CTE Participation Rate ¹² (% of all graduating students)	43.4%	63%	66.4%
CTE Concentration Rate (% of all graduating students)	28.2%	52%	39.9%
CTE Completers Rate (% of all graduating students)	15.17%	10.8%	26.4%
IRC Completion Rate (% of all graduating students) ¹³	<5% 6.86% TSA	<5%	7.8%
Work-Based Learning Participants ^{14, 15} (# of all graduating students)	27.5%	X	X
Dual Enrollment Participants ¹⁶ (# of all graduating students)	1272	141	88
Dual Enrollment Completers ¹⁷ (# of all graduating students)	1189	138	84
Apprenticeship Participants (# of all HS students)	RA: 26 YA: 8	RA: 0 YA: 0	RA: 0 YA: 0
Apprenticeship Participants (# of all graduating students)	RA: 26 YA: 6	RA: 0 YA: 0	RA: 0 YA: 0
Apprenticeship Completers (# of graduating students)	RA: 26 YA: 6	RA: 0 YA: 0	RA: 0 YA: 0
Progress Towards 45% Goal¹⁸	<5%	<5%	7.8%

¹² CTE Participants are students completing not less than one credit in a MSDE-approved CTE program of study. CTE Concentrators are students who have completed at least two courses and are enrolled in a third course in a single MSDE-approved CTE program of study. CTE Completers are students who meet all requirements in a state-approved CTE program of study, typically three or four courses.

LEA CTE OFFERINGS

CTE Program Enrollment

Program Name	Total Enrollment	Number of Students on Waitlist (FY25)
Broadcast Media POS	272	
Graphic Communications	51	40 (Edison)
Interactive Media Production POS	197	
Accounting and Finance	30	
Business Management	665	
Marketing	503	

¹³ Defined as the percentage of all graduating students who have earned an IRC (as defined by the CTE Committee)

¹⁴ Participation is defined as the number of all high school students or all graduating students who have participated in the high school portion of a registered apprenticeship (RA) or an AMP youth apprenticeship (YA). Completion is defined as the number of all graduating students who have completed the high school level of a Registered Apprenticeship (RA) or have completed both an AMP youth apprenticeship (YA) and an IRC (YA completers who don't earn an IRC will not count towards 45% goal).

¹⁵ Work-based learning includes internships, job shadowing, and other job-based experiences.

¹⁶ Participation is defined as the number of all graduating students participating in dual enrollment (does not count towards the 45% goal unless they earn an IRC).

¹⁷ Dual enrollment completers is defined as the number of all graduating students who earned college credit through dual enrollment.

¹⁸ This metric is calculated by adding together the Apprenticeship Completion Rate (RA completers plus YA completers who also earn an IRC) and the IRC Completion Rate (based on draft guidance from the CTE Committee), divided by the total number of graduating students.

Program Name	Total Enrollment	Number of Students on Waitlist (FY25)
NAF Academy of Finance	487	
Apprenticeship Maryland	30	
College/Career Research and Development	921	
Construction and Development — Carpentry	52	
Construction and Development — Construction and Design Management	172	
Construction and Development — Electricity	46	110 (Edison)
Construction and Development — HVAC	56	17 (Edison)
Construction and Development — Plumbing	79	42 (Edison)
Construction and Development — Principles of Architecture and CAD Technology	47	240
Cosmetology	156	254 (Edison), 55 (Gaithersburg)
Hospitality and Tourism Management (HTM)	807	105 (Edison)
Hospitality Management	96	
Professional Restaurant Management	283	266 (Edison)

Program Name	Total Enrollment	Number of Students on Waitlist (FY25)
Certified Professional Horticulturist (CPH)	77	
Curriculum for Agricultural Science Education (CASE)	84 ¹⁹	
Health Professions (BIOMED/HP) Program	182	25 (Wheaton)
Biotechnology	45	
Healthcare Professions: Certified Medical Assistant Option	821	183 (Seneca Valley)
Healthcare Professions: Certified Nursing Assistant Option	662	375 (Edison)
Healthcare Professions	190	
Healthcare Professions: Pharmacy Technician Option	—	
Healthcare Professions: Physical Rehabilitation Science Option	144	
PLTW: Biomedical Sciences	467	38 (Gaithersburg)
Child Development Associate Preschool Program	1,576	

¹⁹ CASE is currently underenrolled at Sherwood High School

Program Name	Total Enrollment	Number of Students on Waitlist (FY25)
Fire Science and EMT Program	4	
JROTC — Army	63	
JROTC — Naval	370	
Justice, Law, and Society	284	
Law Enforcement and Leadership	126	46 (Edison)
Teacher Academy of Maryland POS	163	
Computer Science / CODE.ORG	1,406	
IT Networking Academy (CISCO)	120	
Mobile Applications and Software Development (APPLE)	43	
Network Operations	136	28 (Edison)
NAF Academy of Information Technology — Web Design	161	
P-TECH Pathways in Network and Information Technology	117	236 (One location only)
PLTW: Engineering	4,672	38 (Wheaton)

Program Name	Total Enrollment	Number of Students on Waitlist (FY25)
Automotive Collision Repair	125	24 (Edison)
Automotive Technology	292	56 (Edison), 20 (Gaithersburg)
Aviation and Aerospace	60	
Aviation Pilot Unmanned Aircraft Systems (UAS)	36	

Progress Towards the 45% Goal:

- What are you projecting, for next school year, in growth towards the 45% goal for your district? – We are projecting at least 5% of our students will attain an IRC.
 - Next 3 years? – We are projecting to have at least 15% of graduates within 3 years
 - Next 5 years? – we are projecting 20% within 5 years
 - By SY 2030-2031? – We are projecting 23-25% by SY2030-2031
- What are your plans for expanding Registered Apprenticeships in your LEA?
 - We are partnering with WorkSource Montgomery to assist us in finding employers who are able to create registered apprenticeship opportunities for our students. Thus far we have created partnership with Hands on Dental and they are now a registered apprenticeship employer and have employed over 19 students as Dental Apprentice. We have also partnered with IEC Chesapeake and they have employed approximately seven students are electrical apprentice.

Program Plans for Future

- Are there any new programs you plan on adding to your current programming within the next 2 school years? Why are you adding/not adding the program(s)?
 - There are no plans to add, sunset, or expand any program in the next two years. Currently, the District is prepping for a boundary study and detailed evaluation of all our programs. The data gather from this analysis will determine next steps.
- Are there any current programs you plan on expanding upon within the next

- 2 school years? Why are you expanding upon the program(s)?
- Are there any programs you are taking away within the next 2 school years? Why are you taking away the program(s)?

Enrollment Practices

- How do students enroll in programs? There are local and regional programs. Students may enroll in a program at their local high school, or apply to be entered into a lottery for programs at our regional and/or hub sites.
- Are all CTE programs offered to all students? Yes
- Can a student participate in a CTE program at another school? Yes. Students are able to participate in programs at another school, either via the application process or seat availability at neighboring schools.

Program Design

- What are some best practices from CTE in your LEA that you think are worth sharing with other CTE programs across the state? A few best practices include:
 - Career advisors assigned to all high schools.
 - All Middle School students participate in the Junior Achievement Finance Park Activity, which is held at our Technical High School. During the visit students get the opportunity to tour the facility and see our CTE programs in practice.
 - The use of corequisite with some programs to increase student achievement and success in the program.
 - Internship/Apprenticeship teacher employed during summer months to support students who are completing their internship/apprenticeship during that period.

LEA Support for Schools

- How is CTE financial support structured within the LEA? - Both local funds and Perkins grant are used to support all our CTE programs
- How is CTE staffing structured within the LEA? – Each comprehensive high school hire the staff that is needed to teach each course based on enrollment. The Technical High School has full time staff to teach all CTE courses offered.

Career Exploration

- What career exploration is available to students in your LEA? The options available are:
 - Career Speakers
 - Field Trips
 - Apprenticeship
 - Internships
 - Clinicals
 - RAISEC self-assessment – Uncover strengths, interest and value
 - Job Shadowing
 - Mock Interviews
 - [World of Work \(WOW\)](#) event

- How do the students access their career coach(es)? – Students may access their coach via drop ins, pull outs and/or appointments.
- How does/do the career coach(es) serve students in your LEA? There is one career coach per high school. The coaches have conversations with students around RIASEC and share info about career programs. Students are met one on one, in small groups and/or large group.

INFORMATION FOR VISITING SCHOOLS

School #1: Northwest High School

School Leadership: Mr. Scott E. Smith

School Contact: 240-740-7100

School Website: <https://www.montgomeryschoolsmd.org/schools/northwesths/>

School #2: Seneca Valley High School

School Leadership: Mr. Ricardo E. Hernandez

School Contact: 240-740-6400

School Website: <https://www.montgomeryschoolsmd.org/schools/senecavalleyhs/>

Overview of Meeting Participants

CTE Lead, School Administrators & Staff

Name	Role	Location
Dr. Irina Lagrange	Director, College and Career Readiness and Districtwide Programs	Central Services
Dr. Genevieve Floyd	Director, Career and Postsecondary Partnerships and Career Advising	Central Services
Mr. Scott Smith	Principal	Northwest High School
Danielle Abdelsalam	Assistant Principal	Northwest High School
Mr. Ricardo Hernandez	Principal	Seneca Valley High School

Name	Role	Location
Ms. Adrian Charley	Assistant Principal	Seneca Valley High School
Ms. Jennifer Fischer	Resource Teacher	Northwest High School
Ms. Nicola Richards-Wright	Coordinator, Career and Postsecondary Partnerships and Career Advising	Central Services
Mr. Shawn Krasa	Supervisor, Work-based Learning	Central Services
Ms. Andrea Buckley	Instructional Specialist, College and Career Readiness and Districtwide Programs	Central Services
Dr. Arthur Williams	Supervisor, Career Advising	Central Services
Ms. Karen Danco	Supervisor, Division of Consortia Choice and Application Program Services (DCCAPS)	Central Services

Teachers and Faculty

Northwest High School

Name	Subject	Years in Position	Classes
Avi Silber	Biotechnology		<ul style="list-style-type: none"> • Molecular Biotechnology
Katherine Skiscim	Child Development		<ul style="list-style-type: none"> • Child Growth and Development, Learning Environment for Preschoolers
Todd Varesco	College and Career Development		<ul style="list-style-type: none"> • Career Seminar

Kristin Vick	Academy of Finance		<ul style="list-style-type: none"> • Financial Planning • Principles of Finance
Stephen Sell	Computer Science		<ul style="list-style-type: none"> • Computer Programming
Conor Prachar	Academy of Finance		<ul style="list-style-type: none"> • International Finance
Dana Uehling	Computer Science		<ul style="list-style-type: none"> • AP Computer Science Principles
Lisa Shapiro	Dual Enrollment		<ul style="list-style-type: none"> • Dual Enrollment
Jennifer Fischer	CTE Resource Teacher		<ul style="list-style-type: none"> • Computer Science

Seneca Valley High School

Name	Subject	Years in Position	Classes
Christopher Colbert	PLTW Engineering		<ul style="list-style-type: none"> • Introduction to Engineering
Darren Black	Construction		<ul style="list-style-type: none"> • Intro to Construction Design
Matthew Waas	PLTW Engineering		<ul style="list-style-type: none"> • Principle of Engineering • Digital Electronics
Judith Daniels	Network Operations		<ul style="list-style-type: none"> • Network Operations
Melissa North	Hospitality and Tourism		<ul style="list-style-type: none"> • Hospitality and Tourism Management • Principles of Hospitality and Tourism
Nicole Prachar	Child Development		<ul style="list-style-type: none"> • Child Development

CTE PROGRAMS AND ENROLLMENT AT VISITING SCHOOLS

Northwest High School CTE Data

Summary Metrics (FY24-FY25):

- Total Enrollment (Programs at school): 636
- Total Enrollment (All CTE students): 735
- Completion Rate Among Graduates: 10.8%
- IRC Attainment Rate Among Graduates: <5%

Cluster	CTE Program	Enrollment Number (FY25)
Business, Management and Finance	NAF Academy of Finance	151
Business, Management and Finance	Accounting and Finance	47
Career Research and Development	Apprenticeship Maryland	1
Career Research and Development	College/Career Research Development	214
Health and Biosciences	Biotechnology	45
Information Technology	Computer Science/Code.org	88
Human Resource Services	Child Development Associate (CDA) Preschool	89
Human Resource Services	Fire Science and Rescue	0

Seneca Valley High School CTE Data

Summary Metrics (FY24-FY25):

- Total Enrollment (Programs at school): 1,067

- Total Enrollment (All CTE students): 1,082
- Completion Rate: 26.4%
- IRC Attainment Rate: 7.8%

Cluster	CTE Program	Enrollment Number (FY25)
Career Research and Development	Apprenticeship Maryland	0
Career Research and Development	College/Career Research Development	34
Construction and Development	Carpentry	7
Construction and Development	Construction Electricity	16
Construction and Development	Heating, Ventilation and Air Conditioning	7
Construction and Development	Construction Design Management	94
Consumer Services, Hospitality and Tourism	Hospitality and Tourism Management	62
Health and Biosciences	Health Professions: Pharmacy Tech	20
Health and Biosciences	Health Professions: Certified Clinical Medical Assistant	282
Information Technology	Computer Science/Code.org	67

Cluster	CTE Program	Enrollment Number (FY25)
Information Technology	Network Operations	55
Manufacturing and Engineering	Project Lead the Way: Engineering	158
Human Resource Services	Child Development Associate (CDA) Preschool	98
Human Resource Services	Fire Science and Rescue	0
Human Resource Services	Law Enforcement: Homeland Security	73
Human Resource Services	Navy JROTC	43
Transportation	Automotive Technology (MLR)	51

Overview of CTE Programs

There are 51 CTE Programs of Study that are offered in MCPS. The Programs of Study are listed in Appendix B, and a description of each can be found [here](#).

LEA STUDENT DEMOGRAPHICS

	Maryland	Montgomery County FY24
District Student Demographics (2023)	276,495	160,223
% Asian	7%	13.7%
% American Indian / Alaska Native	<1%	0.2%

% African American	33%	21.6%
% Hispanic	21%	35.2%
% Native Hawaiian / Other Pacific Islander	<1%	0.1%
% Two or More Races	4%	5.3%
% White	34%	23.9%
% Students with Disabilities	11%	13.9%
# of Multi-Lingual Learners	9%	19.8%
% Free and Reduced Meals (FARMS)	47%	44.2%
Child Poverty Rate % (2022)	12%	10.7%
Unemployment Rate % (2024) (Montgomery Co. 2023)	3%	1.9%

COMMUNITY CONTEXT

Nearby Universities & Community Colleges

- Universities at Shady Grove
- Montgomery College

Economic Profile

1,058,474 Population (2023)

Population grew by 9,680 over the last 5 years and is projected to grow by 4,857 over the next 5 years.

533,201

Total Regional Employment Jobs decreased by 15,144 over the last 5 years but are projected to grow by 4,240 over the next 5 years.

\$125.6K

Median Household Income (2022) Median household income is \$50.4K above the national median household income of \$75.1K.

LOCAL EDUCATION AGENCY (LEA) BRIEF

CTE Expert Review Team Visit

Montgomery County Public Schools

Takeaways

As of 2023 the region's population increased by 0.9% since 2018, growing by 9,680. Population is expected to increase by 0.5% between 2023 and 2028, adding 4,857.

From 2018 to 2023, jobs declined by 2.8% in Montgomery County, MD from 548,344 to 533,201. This change fell short of the national growth rate of 4.5% by 7.3%. As the number of jobs declined, the labor force participation rate decreased from 67.9% to 64.7% between 2018 and 2023.

Concerning educational attainment, 27.0% of Montgomery County, MD residents possess a Bachelor's Degree (5.9% above the national average), and 5.6% hold an Associate's Degree (3.2% below the national average).

The top three industries in 2023 are Federal Government, Civilian, Education, and Hospitals (Local Government), and Restaurants and Other Eating Places

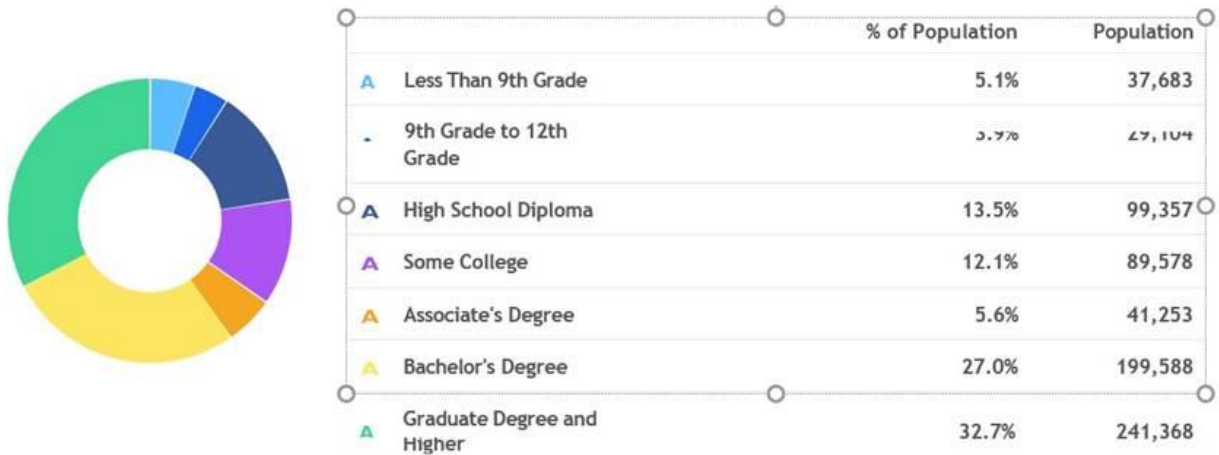
Jul 2024 Labor Force Breakdown

Total Population (2024): 1,058,708

- 16+ Civilian Non-Institutionalized Population: 842,786
 - Labor Force: 567,425
 - Employed: 550,267
 - Unemployed: 17,158
 - Not in Labor Force (16+): 275,361
- Under 16, Military, and Institutionalized Population: 215,923

Educational Attainment²⁰

Concerning educational attainment, 27.0% of Montgomery County, MD residents possess a Bachelor's Degree (5.9% above the national average), and 5.6% hold an Associate's Degree (3.2% below the national average).



²⁰ Data obtained from US Census Bureau <https://www.census.gov/>

LEADING BUSINESS GROUPS²¹

Company	Industry	Size Category
Foundation for the National Institutes of Health	Government Agency	1000+
Montgomery County Public Schools	Educational Services	1000+
FDA	Government Agency	1000+
United States Department of Health and Human Services	Government Agency	1000+
University of Maryland	Educational Services	1000+
Montgomery County Government	State Agency	1000+
Marriott International	Accommodation and Food Services	1000+
Montgomery College	Educational Services	1000+
National Institute of Standards and Technology	Government Agency	1000+
AstraZeneca	Research and Pharmaceutical	1000+

MCPS Appendix A

MCPS Schools with CTE Programs

- Albert Einstein High School
- Bethesda-Chevy Chase High School
- Blair Ewing Center (Alternative Programs)
- Clarksburg High School
- Col. Zadok Magruder High School
- Damascus High School
- Gaithersburg High School
- James Hubert Blake High School
- John F. Kennedy High School
- John L. Gildner Regional Inst. for Children & Adolescents
- Montgomery Blair High School

²¹ Maryland Department of Labor, Division of Workforce Development and Adult Learning <https://www.labor.maryland.gov/lmi/emplists/worcester.shtml>

- Northwest High School
- Northwood High School
- Paint Branch High School
- Poolesville High School
- Quince Orchard High School
- Richard Montgomery High School
- Rockville High School
- Seneca Valley High School
- Sherwood High School
- Springbrook High School
- Thomas Edison High School of Technology
- Thomas S. Wootton High School
- Walt Whitman High School
- Walter Johnson High School
- Watkins Mill High School
- Wheaton High School
- Winston Churchill High School

MCPS Appendix B

Listing of CTE Programs of Study

Cluster	Programs of Study
Arts, Media, and Communication	Audiovisual Communications and Broadcast Technologies
Arts, Media, and Communication	Graphic Communications (PrintED)
Arts, Media, and Communication	Interactive Media Production
Business Management and Finance	Academy of Finance (NAF)
Business Management and Finance	Accounting and Finance

Cluster	Programs of Study
Business Management and Finance	Business Management
Business Management and Finance	Marketing
Career and Research Development	Apprenticeship Maryland Program
Career and Research Development	Career Research and Development
Construction and Development	Construction Design and Management
Construction and Development	Construction Maintenance Professions - HVAC
Construction and Development	Construction Trades Professions - Carpentry
Construction and Development	Construction Trades Professions - Electrical
Construction and Development	Construction Trades Professions - Masonry
Construction and Development	Construction Trades Professions - Plumbing
Consumer Services, Hospitality, and Tourism	Careers in Cosmetology
Consumer Services, Hospitality, and Tourism	Culinary Arts (ACF)

Cluster	Programs of Study
Consumer Services, Hospitality, and Tourism	Food and Beverage Management (ProStart)
Consumer Services, Hospitality, and Tourism	Hospitality and Tourism Management
Environmental, Agriculture, and Natural Resources	CASE – Natural Resources
Environmental, Agriculture, and Natural Resources	Horticultural Services - CPH
Health and Biosciences	Academy of Health Professions - Allied Health Dual Enrollment
Health and Biosciences	Academy of Health Professions - Allied Health Intern
Health and Biosciences	Academy of Health Professions - Certified Clinical Medical Assistant
Health and Biosciences	Academy of Health Professions - Certified Nursing Assistant
Health and Biosciences	Academy of Health Professions - Pharmacy Technician
Health and Biosciences	Academy of Health Professions - Physical Rehabilitation
Health and Biosciences	Biomedical Science (PLTW)

Cluster	Programs of Study
Health and Biosciences	Biotechnology
Health and Biosciences	Health Professions/Allied Health Professions and Related Sciences - Biomedical Sciences
Human Resource Services	Army Junior Reserve Officers Training Corps (AJROTC)
Human Resource Services	Criminal Justice, Law and Society
Human Resource Services	Early Childhood Education Child Development Associate (CDA) Preschool
Human Resource Services	Fire Emergency Medical Training/ High School Cadet (MFRI)
Human Resource Services	Homeland Security and Emergency Preparedness - Criminal Justice/Law Enforcement
Human Resource Services	Navy Junior Reserve Officers Training Corps (NJROTC)
Human Resource Services	Teacher Academy of Maryland
Information Technology	Computer and Information Sciences/Code.Org
Information Technology	IT Networking Academy (Cisco)
Information Technology	NAF Academy of Information Technology - Web Design

Cluster	Programs of Study
Information Technology	Mobile Applications and Software Development (Apple) Program
Information Technology	Network Operations
Manufacturing, Engineering and Technology	Drafting and Design Technology
Manufacturing, Engineering and Technology	Pre-Engineering (PTLW)
P-TECH	P-TECH: Pathways in Network and Information Technology
Transportation Technologies	Aeronautics, Aviation, Aerospace Science and Technology
Transportation Technologies	Aeronautics, Aviation, Aerospace Science and Technology - Unmanned Aircraft
Transportation Technologies	Autobody/Collision Repair Technician
Transportation Technologies	Automotive Technology Maintenance and Light Repair- Plus (NATEF)
Transportation Technologies	Local Automotive Collision Repair
Transportation Technologies	Local Automotive Transportation Technologies



Appendix C | Visit Agenda

Visit Date: April 24, 2025

Time: 7:10am

Location AM:
Northwest High School

[13501 Richter Farm Rd,
Germantown, MD
20874](#)

Location PM:
Seneca Valley High School

[19401 Crystal Rock
Dr. Germantown,
MD 20874](#)

Arrival Time: 7:10am-7:15am

AM Session: Northwest High School

Team 1:

John Strickland, James Bell,
Natalie Belcher, Erika Bailey, Stacey Butler,
Ryan Sackett,
Jason Perkins-Cohen, John Hattery

Team 2:

Edrees Nawabi, Lateefah Durant, Billie
Brice, Dan Rosewag,
Gretchen Cheney, Terry Walker, Sanjay Rai

Time and Activity

7:10am-7:25am: Meet and Greet
and Light Refreshments
7:30am-8:15am: Career Coach Focus Group
8:20am-9:05am: Student Focus Group
9:05am-9:10am: Break
9:10am-10:10am: School Tour & Discussion
10:10am-10:20am: Checkout and Departure

Time and Activity

7:10am-7:25am: Meet and Greet and Light
Refreshments
7:30am-8:15am: Teacher Focus Group
8:20am-9:05am: Student Focus Group
9:05am-9:10am: Break
9:10am-10:10am: School Tour & Discussion
10:10am-10:20am: Checkout and Departure

PM Session: Seneca Valley High School

Team 1:

John Strickland, James Bell,
Natalie Belcher, Erika Bailey, Stacey Butler,
Ryan Sackett,
Jason Perkins-Cohen, John Hattery

Team 2:

Edrees Nawabi, Lateefah Durant, Billie
Brice,
Dan Rosewag, Gretchen Cheney, Terry
Walker, Sanjay Rai

Time	Activity	Time	Activity
10:30am-10:45am	Arrival and Check In	10:30pm-10:45pm	Arrival and Check In
10:45am -	Teacher Focus Group	10:45am -11:30	Career Coach Focus Group

11:30am		am	
11:30am – 12:05pm	Lunch	11:30am – 12:05pm	Lunch
12:15pm – 1:00pm	Student Focus Group	12:15pm – 1:00pm	Student Focus Group
1:05pm – 2:20pm	School Tour & Discussion	1:05pm – 2:20pm	School Tour & Discussion
2:25pm-3:00pm	End of Day Debrief & Gathering	2:25pm-3:00pm	End of Day Debrief & Gathering

Team Member Roles:

Team 1

Facilitator/Recorder: John Strickland

Notes/Time: Billie Brice

Team 2

Facilitator/Recorder: Edrees Nawabi

Notes/Time: Lateefah Durant

Appendix D | Interview & Focus Group Questions

Focus Group Reminders

To be used by team facilitator for focus group participants before starting

- We're here on behalf of the CTE Committee, committed to improving CTE programs in line with Maryland's goals outlined in the *Blueprint*.
- Our team represents a variety of different perspectives. Our members here today are teachers, administrators, school leaders, researchers, employers, local workforce board members, and CTE Committee staff and board members.
- Our purpose in this visit is to try to understand what is in place now in your LEA, including plans for expanding or strengthening existing programs and current challenges. We also want to identify any strong practices in place that we might be able to highlight statewide. These visits will also inform the CTE Committee's development of the statewide CTE framework.
- We are not here to "assess" or grade CTE programming or CTE teachers in schools or LEAs.
- After the visit, CTE Committee staff will draft a LEA report summarizing what we saw and heard, including our understanding of the LEA's CTE strategy, current strengths and challenges, and suggestions to help the LEA reach its goals.
- We look forward to hearing about your experiences and your thoughts on what's working and where we can support CTE here in your LEA.
- We would like to record this session (except student groups) to capture your thoughts accurately—does that work for you all? To be clear, this recording is only for note-taking purposes; we ensure confidentiality meaning no names will be cited in our reports.
- Your contributions today will help us improve CTE programs both here and statewide. Any questions before we start?

Questions for School Leadership

Priority Questions:

1. How long have you been in your role? What is your background in CTE?
2. Can you give us an overview of the structure of CTE programs in your school / LEA? *If not addressed, ask about: Dual enrollment, WBL, Range of programs, Application process, Transportation*
3. What are the school's current priorities for CTE in your school/LEA? *If not addressed, ask about: Eliminate/add programs, Apprenticeship, Increasing enrollment, Working with industry*
4. In your opinion, how well does the programming at your school align with key (*high-growth, high-wage*) industries in your community and statewide?
5. Is there capacity for all interested students to participate in CTE programs? Are there any barriers to enrollment?
6. For those students who are not able to enroll and stay on a waitlist, what's the process for those students? What happens if they don't get off the waitlist?
7. How does the LEA/district update CTE programs? What are some current plans you have for adding new programs, expanding existing programs or eliminate current programs?
8. From your perspective, what are the strengths of your LEA/school's CTE program, and what have you made the most progress on recently?
9. What do you see as the key challenges facing your LEA/school now?
10. Where would you like the LEA to be in five years in regards to CTE?

Additional Questions:

- Are any CTE teachers earning National Board Certification? If so, have they been able to move into differentiated roles?
- How do you collaborate with local business and industry and community colleges?
- Do you have sufficient teachers for current programs? If not, what are the issues in recruiting them?
- What's your process for reviewing the IRCs currently offered to students as part of their CTE program?

- What measures are in place to assess the long-term impact of CTE programs on students' career trajectories and contributions to the local economy?
- Do certain programs have higher completion rates than others?
- Are there clear pathways from current CTE programs to community college certificate and degree programs?
- What strategies are employed to raise awareness and improve perceptions of CTE programs among students, parents, and the broader community?

Questions for CTE Teachers

Instructions for focus group lead: Please start by asking everyone to introduce themselves with the first question. Since there are a lot of questions to get through, ask for a few people, not everyone, to answer each of the following questions, asking for different perspectives as needed.

Priority Questions:

1. What program do you teach in? How long have you been in your role? What is your background in this area?
2. Can you give us an overview of your CTE program? *If not addressed, ask about: Dual enrollment, WBL, IRCs, completion rates, post-grad options*
3. Do you have contact with employers in your industry? If so, what partnerships have been most beneficial for students?
4. Where do students from your program go after graduating (i.e., further training, work, college, etc.)?
5. What support do you and/or the school provide to help CTE students develop post-graduation plans? *Are your students getting time with a Career Coach as part of that support?*
6. If you could redesign your subject's program of study, what would you change?
7. What professional learning opportunities are available for you?
8. From your perspective, what are the strengths of your school's CTE programs?
9. What do you need as a CTE teacher that you feel you may not be getting?
10. What do you see as the key CTE challenges facing your school now?

Additional Questions:

- How do you collaborate with your colleagues (CTE and academic teachers)?

- Do any of your programs have school-based businesses that serve the school community and/or local clients?
- Do you think the certification requirements for CTE teachers are well-aligned to what was needed to teach in the area you teach in?
- Do most students who enroll in your program intend on completing the program?
- Can you share a success story of a former student who has benefited from your program?
- How do you measure the effectiveness of your CTE program, and what data or feedback informs changes or improvements?

Questions for CTE Students

Priority Questions:

1. What year are you, what program are you enrolled in, and why did you choose the program you're in?
2. How did you learn about the program you are enrolled in now? What was the process of getting in to the program?
3. How has your experience in the classroom been for your CTE classes? Is it different from your other classes?
4. Have you had any work experience as part of your program?
5. If you have a different home school, how do you get to your CTE program and / or to your job (if applicable)?
6. Will you graduate with any certifications/credentials or college credits?
7. What is your plan post-graduation, and how did you develop it?
8. How much do you know about careers in your industry (salary, training paths)?
9. What would you say is the best thing about your program?
10. If you could change anything in your program, what would it be?

Additional Questions:

- Are there any CTE programs you think the school/LEA should offer that it does not now?
- Have you participated in any competitions or extracurricular activities related to your CTE program? If so, what was your experience like?
- How well do you feel your CTE program is preparing you for the workforce or further education in your chosen field?
- How do your family and friends perceive your enrollment in a CTE program, and has their perception changed since you started?
- How does your school promote CTE programs to students, and what improvements would you suggest to increase awareness and interest?
- Looking back on when you first enrolled in your CTE program, what advice would you give to students who are currently considering CTE as an option?

Questions for School Counselors/Career Coaches & Staff

Instructions for focus group lead: Please start by asking everyone to introduce themselves with the first question. Since there are a lot of questions to get through, ask for a few people, not everyone, to answer each of the following questions, asking for different perspectives as needed.

Priority Questions:

1. How long have you been in your role? What is your background in this role?
2. How is school counseling and career counseling organized at your school? Do the counselors work together?
3. Is there a work-based learning coordinator and if so what is their scope of work and how do they interact with counselors?
4. How does the school counseling staff and career counseling staff stay up-to-date with CTE programming and workforce trends in the LEA and the state?
5. How are students introduced to CTE programs? Do students have opportunities for career exploration/education?
6. How are CTE students supported in making post-graduation plans?
7. How are parents and families introduced to programs? Are there other efforts to publicize CTE in the community?
8. What do you see as the strengths of CTE in this school?
9. What do you see as the key challenges facing your LEA/school's CTE programs?

Additional Questions:

- Do you track post-graduation outcomes, such as enrolling in further education / training or entering the workforce?
- In what ways does the school involve parents and the community in the CTE program?
- How are students who change their mind about a career path supported?
- How do you think the CTE guidance could be improved? Is feedback on guidance and support collected from students?
- Are there issues with students being able to access CTE programs? If so, what are the reasons and what are current strategies to address access issues from a counseling perspective?



Maryland

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