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December 1, 2017

The Honorable Larry Hogan  
State House  
100 State Circle  
Annapolis, Maryland 21401-1925

The Honorable Thomas V. Mike Miller  
H-107, State House  
100 State Circle  
Annapolis, Maryland 21401

The Honorable Michael E. Busch  
H-101, State House  
100 State Circle  
Annapolis, Maryland 21401

RE: More Jobs for Marylanders Act of 2017 – Goals Update Report (MSAR #11299)

Dear Governor Hogan, President Miller, and Speaker Busch:

Attached please find the report required by the More Jobs for Marylanders Act which describes the progress made thus far toward attaining the goals established by the State Board of Education in accordance with §21-204(a) and (b) of the Education Article.

Should you have any questions regarding this report, please contact Dr. Lynne Gilli, Assistant State Superintendent for the Division of Career and College Readiness by email at [lynne.gilli@maryland.gov](mailto:lynne.gilli@maryland.gov) or by telephone at (410) 767-0518.

Best Regards,

Karen B. Salmon, Ph.D.  
State Superintendent of Schools  
KBS:LMG

Attachment

c: Sarah Albert (DLS Library – 5 copies)



**Report to the Governor and General Assembly on the  
More Jobs for Marylanders Act of 2017  
(Chapter 149, Acts of 2017)**

**December 1, 2017**



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## **I. BACKGROUND/INTRODUCTION**

The More Jobs for Marylanders (MJFM) Act of 2017 includes several programs and requirements aimed at increasing skill training and employability of students in Maryland. The Act requires the Maryland State Department of Education (MSDE) in partnership with the Department of Labor, Licensing and Regulation (DLLR) and the Governor's Workforce Development Board (GWDB) to:

- Establish goals for the percentage of students completing Career and Technology Education (CTE) programs, earning credentials and completing youth apprenticeships;
- Develop a method to consider student attainment of industry credentials or completion of a registered apprenticeship program as equivalent to certain academic exam scores; and
- Report to the Governor and General Assembly regarding progress toward attaining goals;

As required in the Act, MSDE will:

- (A) Establish in consultation with DLLR and GWDB for each year from 2018 through 2024, statewide goals so that by 2025, 45% of high school students prior to graduation will:
1. Complete a CTE program; or
  2. Earn industry-recognized occupational or skill credentials; or
  3. Complete a registered youth or other apprenticeship.
- (B) Develop a method to consider student attainment of industry certifications or completion of an apprenticeship program as equivalent to earning a score of three (3) or better on an Advanced Placement (AP) examination if the student:
1. (i) Is enrolled in a State-approved CTE program at the concentrator level or higher; and  
(ii) Successfully earns the industry credential aligned with the CTE program; or
  2. Successfully completes a youth or other apprenticeship training program approved by the Maryland Apprenticeship Training Council.

To monitor the participation and progress of students across education and workforce systems, MSDE will work with DLLR and the Maryland Longitudinal Data System (MLDS) Center. This report outlines the current conditions, baseline data, and potential strategies for reaching the goals of the MJFM Act.

## II. REACHING THE MORE JOBS FOR MARYLANDERS (MJFM) ACT GOALS

### (A) Establishing statewide goals so that by 2025 45% of students complete a Career and Technology Education (CTE) program, earn an industry credential or complete a registered apprenticeship program.

The MJFM Act includes the goal of having 45% of the Class of 2025 meeting requirements as CTE completers, apprenticeship completers, and/or having attained an industry certification. This is an ambitious goal, given the current rate of 26.5%. In the Class of 2016, 22.8% of students completed a CTE program of study. An additional 3.7% of students met the MJFM Act's requirements by earning an industry certification as a CTE Concentrator. With **26.5%** of the Class of 2016 meeting the requirements, there remains a gap of 18.5% or an additional 10,737 graduates to meet this requirement by the year 2025.

The diagram below shows the progression of students through a CTE program of study and baseline data for the Class of 2016. All Maryland students are provided the opportunity to enroll in CTE programs and courses, with nearly 39% of high school students taking at least one CTE course within the 2015-2016 school year. Those who choose to pursue advanced-level CTE courses (designated as *CTE Concentrators*) have the opportunity to earn industry certification(s) related to their technical skills. Many CTE programs have also developed school-to-apprenticeship or youth apprenticeship partnerships. In these programs, students may earn recognition or advancement in a related registered apprenticeship program upon graduation from high school. Students completing the full sequence of CTE courses in a specific program are considered *CTE Completers*.

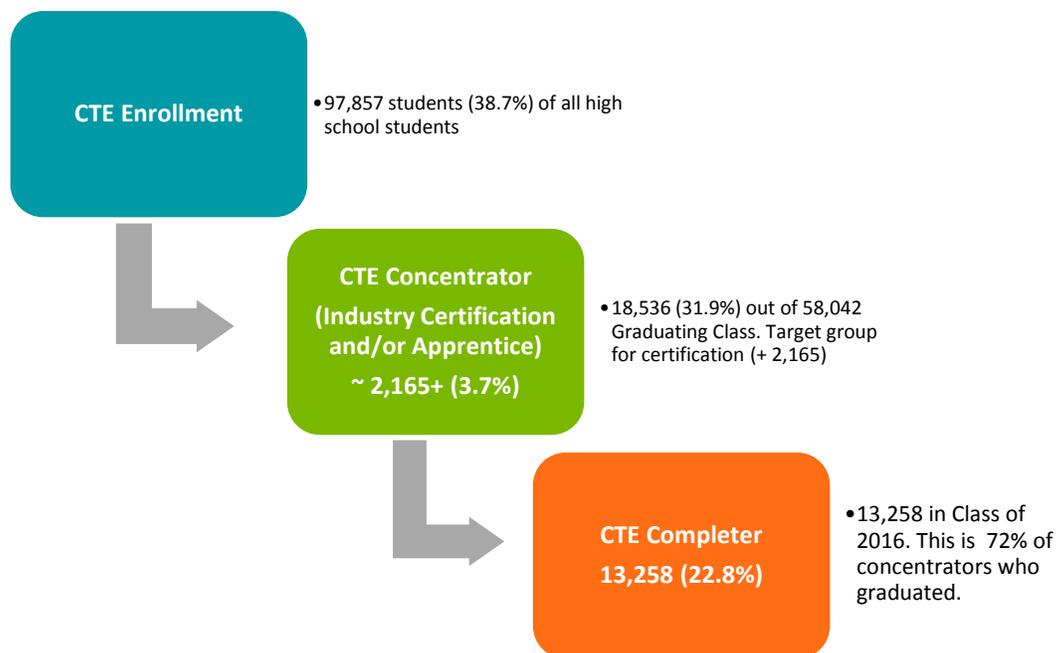


Figure 1. Progression of students through a CTE program of study

Based on current CTE enrollment and program offerings, Maryland will need to expand CTE programming as well as industry certification and youth apprenticeship opportunities to nearly twice as many students (from 15,423 to 26,119 graduates). To reach this goal by January 2025, the following interim goals have been set:

2017	2018	2019	2020	2021	2022	2023	2024
~26.5%	27.5%	29.0%	31.0%	33.5%	36.5%	40.0%	<b>45.0%</b>
(15,423)	15,962 or +539 students	16,832 or +870 students	17,993 or +1,161 students	19,444 or +1,451 students	21,185 or +1,741 students	23,217 or +2,032 students	<b>26,119 or +2902 students</b>
Confirm baseline by Dec. 2017  (see baseline for 2016 in Appendix 1)	Transition year-base trend increase for CTE grads	Expansion of Maryland Apprenticeship program  Data available from MLDS on apprenticeship programs  Base trends for CTE grads & industry certifications	Increased trend for CTE grads & industry certifications  1 <sup>st</sup> Cohort P-TECH Grads (Yr.4)  Increase in Apprenticeship grads	1 <sup>st</sup> Cohort P-TECH Grads (Yr.5)  2 <sup>nd</sup> Cohort P-TECH Grads (Yr.4)  Increased trend for CTE grads & industry certifications	1 <sup>st</sup> Cohort P-TECH Grads (Yr.6)  2 <sup>nd</sup> Cohort P-TECH Grads (Yr.5)  3 <sup>rd</sup> Cohort P-TECH Grads (Yr.4)  Increased trend for CTE grads & industry certification  Increase in Apprenticeship grads	2 <sup>nd</sup> Cohort P-TECH Grads (Yr.6)  3 <sup>rd</sup> Cohort P-TECH Grads (Yr.5)  4 <sup>th</sup> Cohort P-TECH Grads (Yr.4)  Increased trend for CTE grads & industry certification  Increase in Apprenticeship grads	<b>Goal Met</b> 3 <sup>rd</sup> Cohort P-TECH Grads (Yr.6)  4 <sup>th</sup> Cohort P-TECH Grads (Yr.5)  5 <sup>th</sup> Cohort P-TECH Grads (Yr.4)  Increased trend for CTE grads & industry certifications  Increase in Apprenticeship grads

Table 1. Projected interim CTE goals to reach MJFM Act 45% goal by January 2025.

**(B) Developing a method to consider student attainment of industry credentials or completion of a registered apprenticeship program as equivalent to earning a score of three (3) or better on an Advanced Placement examination.**

Industry certification options are aligned to specific CTE programs of study. For example, students in a welding program work toward the National Center for Construction Education and Research (NCCER) certification and/or the American Welding Society (AWS) certification. Generally, students in advanced-level CTE courses (CTE Concentrators) are prepared for

industry certification and/or licensure requirements. Within Maryland's CTE program framework, the list of CTE programs aligned with approved industry certifications is updated annually and participation level data is provided from each school system on industry certifications completed by graduates.

In Maryland, youth can also connect to apprenticeship activities in one of three ways: 1) through school to apprenticeship programs, 2) through the Apprenticeship Maryland youth program, and 3) through existing Registered Apprenticeship programs. DLLR is the state agency that maintains program records and statistics for apprenticeship programs.

In a joint report from DLLR and MSDE to the Governor and General Assembly on September 1, 2017, it was noted that apprenticeship data is currently not available to the MLDS Center. In order to be able to produce reporting that helps policymakers understand the impact of apprenticeship on student workforce outcomes and how those outcomes compare to other pathways into the workforce, the MLDS Center staff members determined that they will need the following types of data from both the youth apprenticeship efforts and registered apprenticeship programs:

1. Student/apprentice information;
2. Professional/technical credential conferred;
3. Workforce program type;
4. Apprenticeship area and type; and
5. Sponsor, employer, and job placement information.

Staff members in DLLR and MSDE will continue efforts to work with the MLDS Center staff to align data collection to complete the reporting requirements of the MJFM Act.

### **III. STRATEGIES AND LIMITATION IN REACHING MJFM ACT GOAL**

To meet the requirements of MJFM Act, several initiatives will be required to support an increase in the number and percentage of students completing a CTE program of study, attaining an industry certification or completing an apprenticeship program prior to graduation from high school. Furthermore, the Every Student Succeeds Act (ESSA) plan submitted to the United States Department of Education (US DoE) in September of 2017 includes proposed accountability measures to equate completion of industry certifications or registered apprenticeship programs with an AP score of three (3) or better. The ESSA plan which was approved by the State Board of Education is under review at US DoE and it is expected to be approved in January of 2018.

MSDE in partnership with DLLR will focus on four (4) strategies to achieve the goals:

1. Increase CTE enrollment and completion so more high school students graduate career ready and transition into the workforce in their chosen career pathway;
2. Expand CTE programs and options such as the new P-TECH pathways;
3. Increase access and support for *CTE Concentrators* earning industry certifications as they prepare for specific careers; and
4. Expand youth apprenticeship opportunities across all industry sectors, including new Apprenticeship Maryland programs in non-traditional occupations.
5. MSDE has already taken steps to integrate within the accountability measures of MSDE's ESSA plan a method to equate an AP score of three (3) to the completion of an industry certification or registered apprenticeship program.

**1. Increase CTE enrollment and completion so more high school students graduate career ready and transition into the workforce in their chosen career pathway.**

While CTE enrollment varies across school systems, the recent trend shows continuing increases in enrollment and CTE program completion. For detailed information by school system, please see: <https://www.mdctedata.org/>

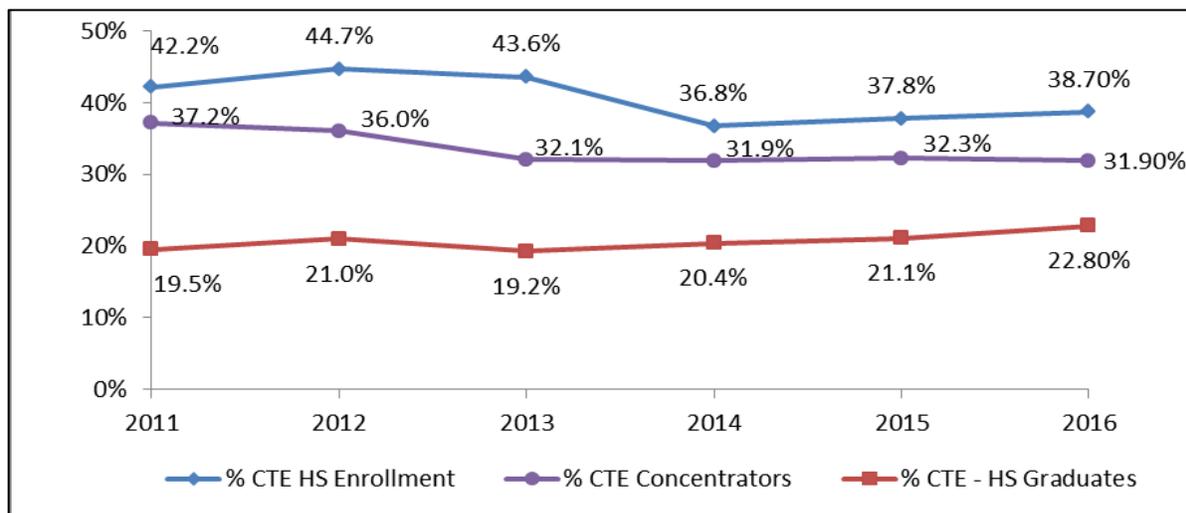


Figure 2. Percentage of CTE enrollment, concentrators and graduates.

In the Class of 2016, 22.8% of students completed a CTE program of study with an average increase of 1.2% or approximately 697 students each year. Based on these CTE graduation trends, CTE graduation rates should continue to increase by at least 8.4% or approximately 4,876 by 2024.

The Carl D. Perkins Career and Technical Education Act of 2006 is scheduled to be reauthorized. Once the law is passed and funding is appropriated, MSDE may have funding

available to provide incentive grants to school systems to expand CTE programs and support student completion of industry certifications and/or CTE programs. This will only further assist growing CTE enrollments and completion helping to meet the 45% MJFM goal.

**2. Expanding CTE programs and options such as the new P-TECH pathways.**

The Pathways in Technology Early College High School (P-TECH) is an early college model which combines high school, college and employment. The P-TECH pathway offers a CTE program sequence that starts in grade nine (9) and culminates in the attainment of an associate’s degree and high school diploma in up to six (6) years. The P-TECH model allows MSDE to develop and offer various additional CTE programs in high-wage, high-skill, and high-demand career areas. The first P-TECH pilots began in 2016 with a cohort of 100 students in one school system. In 2017, 184 students were added across four school systems. In 2018 and every subsequent year, approximately 296 students will be added to the P-TECH program.

2017	2018	2019	2020	2021	2022	2023	2024
students	students	students	students	students	students	Students	students
100	100	100	100	100	100	100	100
184	184	184	184	184	184	184	184
	296	296	296	296	296	296	296
		296	296	296	296	296	296
			296	296	296	296	296
				296	296	296	296
				296	296	296	296
					296	296	296
					296	296	296
						296	296
							296
			<b>1<sup>st</sup> cohort 4yr grads</b>	<b>1<sup>st</sup> cohort 5yr grads</b>	<b>1<sup>st</sup> cohort 6yr grads</b>	<b>2<sup>nd</sup> cohort 6yr grads</b>	<b>3<sup>rd</sup> cohort 6yr grads</b>
				<b>2<sup>nd</sup> cohort 4yr grads</b>	<b>2<sup>nd</sup> cohort 5yr grads</b>	<b>3<sup>rd</sup> cohort 5yr grads</b>	<b>4<sup>th</sup> cohort 5yr grads</b>
					<b>3<sup>rd</sup> cohort 4yr grads</b>	<b>4<sup>th</sup> cohort 4yr grads</b>	<b>5<sup>th</sup> cohort 4yr grads</b>
							<b>~827 grads</b>

Table 2. Projected P-TECH enrollment and graduation trend to January 2025.

Based on the present and estimated enrollment trends for P-TECH programs, 827 P-TECH students will graduate in 2024 contributing to meeting the MJFM 45% goal.

**3. Increase access and support for CTE Concentrators earning industry certifications as they prepare for specific careers.**

In 2016, 22.8% of Maryland’s high school graduates completed a CTE program of study with an additional 3.7% of students meeting the MJFM Act requirements by earning an industry certification as a CTE Concentrator. In the past six (6) years, high school students’ access to industry-certifications has increased, as well as the percent passing technical skill assessments and earning CTE-related industry certifications.

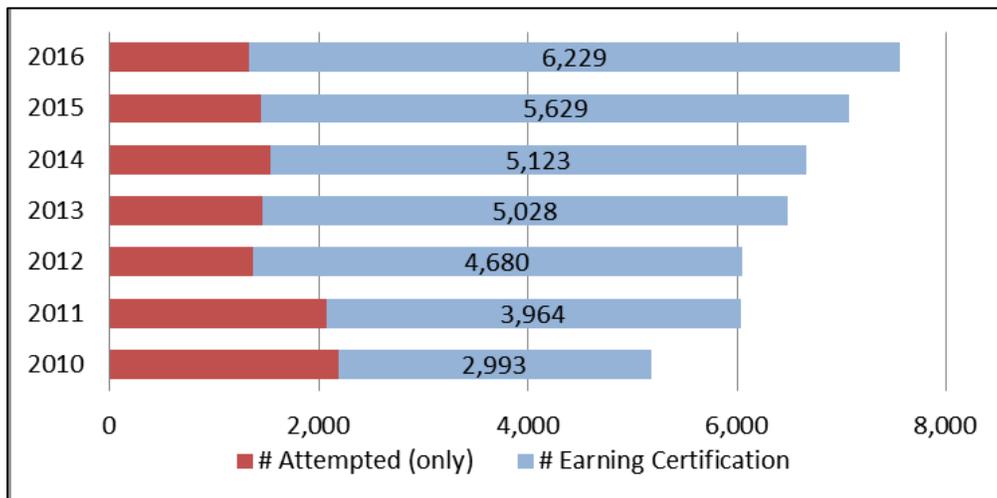


Figure 3. Technical skill attainment: CTE students attempting and earning industry certifications.

As students reach advanced-level CTE courses (CTE Concentrators), they may be ready to earn stackable credentials to further enhance their career success. However, these industry certifications require third-party administered industry assessments with testing fees varying from \$15 to \$185 per assessment (costs vary by subject/career field). Currently, student participation in these assessments is somewhat limited due to costs.

**4. Expand youth apprenticeship opportunities across all industry sectors, including new Apprenticeship Maryland programs in non-traditional occupations.**

Various K-12 local school systems in Maryland offer school-to-apprenticeship programs in collaboration with selected sponsors of Registered Apprenticeship programs. These programs are administered in partnership with local school systems. DLLR tracks whether the apprenticeship takes place in a registered apprenticeship program. This is done through the attestation of the sponsor/participating employer when they register an apprentice with DLLR.

The Apprenticeship Maryland pilot program in Frederick and Washington counties gives Maryland businesses the unique opportunity to train, influence and shape high school students into top-performing employees. Each local school system received grant funds to launch apprenticeships that prepare juniors and seniors to enter employment and further education in

STEM-related high-skill, high-growth, high-wage sectors, such as healthcare, biotechnology, information technology, construction and design, banking and finance, and advanced manufacturing. Local schools currently administer the program and provide data to DLLR.

Expanding the school-to-apprenticeship programs and the Apprenticeship Maryland program to all 24 school systems has the potential to vastly increase the number of students completing an apprenticeship program. Students completing a youth apprenticeship earn an industry-recognized certification from DLLR.

Youth can also enroll and be accepted into one of Maryland's existing Registered Apprenticeship programs without the assistance of a participating school system or the Apprenticeship Maryland youth program. Participant data for these Registered Apprentices is maintained by DLLR.

DLLR is dedicated to reenergizing the State's apprenticeship system by integrating it into the workforce system. In 2016, the Maryland General Assembly unanimously approved Senate Bill 92 (Chapter 343) a measure that transferred the Apprenticeship and Training Council and the Youth Apprenticeship Advisory Committee to the Division of Workforce Development and Adult Learning within DLLR. The measure, which took effect October 1, 2016, was a strategic initiative of DLLR to better align the needs of Maryland's businesses with the apprenticeship system. The transfer of the program also presented greater opportunities for Maryland's youth to engage in the apprenticeship system.

Moreover, DLLR has recognized the need to update the current data system housing the State's apprenticeship data. DLLR has been working with the United States Department of Labor to migrate the State's apprenticeship data to the Registered Apprenticeship Partners Information Data System (RAPIDS). This system will allow the State to provide participant level data to the United States Department of Labor for reporting and tracking purposes. DLLR has been participating in trials of the RAPIDS 2.0 system and is now migrating sponsor information. The MLDS center is currently working with DLLR on a system to access the data once available. It is anticipated that this process and system testing will be completed by 2019.

**5. Develop a method integrated within the accountability measures of MSDE to equate students' earning an AP score of three (3) to CTE concentrators earning the industry credential aligned with the CTE program; or completing a registered apprenticeship program.**

As noted previously, MSDE plans to recognize and support student attainment of industry certifications through the accountability requirements under the Every Student Succeeds Act. Currently, schools must report the percentage of students designated College and Career Ready (CCR). CTE students are expected to meet the CCR designation in the same manner, with the same options as other students. However, if students enroll in a CTE program of study, they have an additional reassessment option - a Technical Skill Assessment, recognized by MSDE, where

students have the option to pursue and attain an industry-recognized certification. These CCR designation options have been included in the Maryland ESSA plan that was submitted for approval by the US DoE in September 2017. Currently, in the ESSA plan CTE concentrator students can receive credit for completion of a “well-rounded curriculum” in two specific ways, both of which are on par with scoring a three (3) or better on an AP examination (Indicator for Readiness for Postsecondary Success; ESSA 2017). CTE concentrator students will receive credit if, prior to graduating or exiting with a certificate of completion, they attain an industry certification from a CTE program or complete a youth apprenticeship program.

MSDE will continue efforts to initiate activities to reach the 45% MJFM Act goal by 2025 and align data collection to complete the reporting requirements of the MJFM Act. MSDE will report on baseline data and progress in the Annual MJFM report in December 2018.

Appendix 1. Number and Percentage of CTE High School Grads by County, 2016

	2016	2016	2016	2016	2016
County	Total Grads	CTE Grads	Dual Grads	Percent CTE Grads	# Needed to Attain 45%
Kent	123	90	79	73.17%	0
Garrett	274	193	90	70.44%	0
Somerset	148	77	14	52.03%	0
Talbot	304	158	68	51.97%	0
Caroline	318	165	100	51.89%	0
Washington	1,511	764	376	50.56%	0
Dorchester	256	113	63	44.14%	2
Queen Anne's	525	230	114	43.81%	6
St. Mary's	1,149	499	225	43.43%	18
Carroll	2,172	925	481	42.59%	52
Calvert	1,262	522	292	41.36%	46
Worcester	466	191	165	40.99%	19
Harford	2,623	1,060	708	40.41%	120
Charles	2,074	758	565	36.55%	176
Baltimore City	4,065	1,295	1,117	31.86%	534
Wicomico	845	223	58	26.39%	157
Allegany	604	146	98	24.17%	125
Frederick	2,871	693	405	24.14%	599
Cecil	1,133	273	155	24.10%	237
Baltimore County	7,290	1,725	1,277	23.66%	1,556
Howard	4,018	715	367	17.79%	1,093
Anne Arundel	5,239	651	347	12.43%	1,707
Montgomery	10,434	1,032	323	9.89%	3,663
Prince George's	7,809	760	216	9.73%	2,754
<b>Total</b>	<b>57513</b>	<b>13258</b>	<b>7703</b>	<b>23.05%</b>	<b>12864</b>

Based on 2016 baseline data, the larger counties will need to increase CTE program completion rates by far greater percentages than the smaller counties in order for MSDE to meet the MJFM Act 45% goal by January 2025.