**Annual Report to Governor and General Assembly on
Pathways in Technology Early College High School (P-TECH)**

Pathways in Technology Early College High School (P-TECH) Act of 2017

(Chapter 591, Acts of 2017)

January 15, 2019

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I. Background/Introduction

Maryland is a leading state in the nation in terms of a high quality public education system from early childhood preschool through higher education. Maryland is expanding pre-kindergarten programs, offering innovative K-12 initiatives, and providing world-class colleges and universities. Early college experiences through Advanced Placement (AP), International Baccalaureate (IB), and Dual Enrollment (DE) are an important part of this system. The Pathways in Technology Early College High School (P-TECH) program strengthens the connection between education and career opportunities while advancing degree completion goals in Maryland. Every P-TECH student will complete a Maryland State Department of Education (MSDE) approved Career and Technology Education (CTE) program.

Pathways in Technology Early College High Schools (P-TECH) are innovative early college programs that create clear pathways from high school to college and careers for young people from all academic backgrounds. In six years or less, students graduate with a high school diploma and a no-cost, two-year Associate of Applied Science (AAS) degree. Each P-TECH program requires a partnership among three entities: a local school system (LSS), a local institution of higher education, and a local employer. P-TECH schools work with industry partners and a local community college to ensure an up-to-date curriculum that is academically rigorous and economically relevant. The program also includes one-on-one mentoring, workplace visits and skills instruction, paid summer internships and first-in-line consideration for job openings with a school's partnering company.

P-TECH was designed to address workforce needs by preparing young people from all backgrounds for academic achievement and technical, middle-skill employment. IBM created the P-TECH program in order to link education to economic development and illuminate a pathway from high school to college and career.

Middle-skill jobs, which require education beyond high school but less than a four-year degree, make up the largest part of the labor market in the United States and in each of the 50 states. In Maryland, 42% of jobs are at the middle skill level and 46% are at the high skill level, which is defined as jobs requiring a Bachelor's or Advanced Degree. All too often, key industries in our country are unable to find enough sufficiently trained workers to fill these jobs (National Skills Coalition). While Maryland exceeds the nation in producing graduates with associate's degrees (44.7% in Maryland versus 38.2% nationwide) (2017 MHEC Data Book), there are more than 115,000 open computer-science related jobs in Maryland (Maryland Department of Commerce).

The Maryland State Department of Education (MSDE) consulted with the Maryland Higher Education Commission (MHEC) throughout the development and implementation of the P-TECH program. Members of the MHEC staff assisted in developing the P-TECH Request for Proposals, reviewing the grant applications and served on the P-TECH State Steering Committee.

II. Implementation

In the 2017-2018 school year, three (3) Maryland school systems offered P-TECH programs. For data on specific P-TECH program performance measures, see Table 1 on page 5.

School System/Community College	School Site	Career Pathway	2017-2018 Cohorts
Allegany County Public Schools/ Allegany College of Maryland	Allegany, Fort Hill and Mountain Home High Schools and the Allegany Career and Technology Center	Information Technology, Cyber Security	Freshmen
Baltimore City Public Schools/Baltimore City Community College	Carver Vocational-Technical High School	Cyber Security Assurance and Computer Information Systems	Freshmen and Sophomores
	Paul Laurence Dunbar High School	Nursing, Respiratory Care, Physical Therapy Assistant	Freshmen and Sophomores
Prince George's County Public Schools/Prince George's Community College	Frederick Douglass High School	Health Information Management	Freshmen
		Hospitality Services Management	Freshmen

Students in the P-TECH programs at Carver Vocational-Technical High School and Paul Laurence Dunbar High School in Baltimore City as well as the P-TECH students enrolled in P-TECH at Frederick Douglass High School in Prince George's County Public Schools took credit-bearing college courses during the 2017-2018 school year. P-TECH students in Allegany County enrolled in their first college courses in the fall of 2018.

Employers are integral partners in the development and implementation of a P-TECH school. Allegany P-TECH students have been paired with mentors from several companies including IBM, Northrup Grumman, Exclamation Labs, First United Bank, Western Maryland Health Systems and Willets Systems. Allegany P-TECH students presented about their experience in the P-TECH program to Governor Hogan when he visited Allegany County.

P-TECH students at Frederick Douglass High School were matched with their mentors in a ceremony held at the College Park Marriott. P-TECH students also participated in several fieldtrips to the partnering community college and employer sites. Frederick Douglass P-TECH students are provided with opportunities for extended day learning and summer learning.

P-TECH Healthcare students at Dunbar High School visited Johns Hopkins Hospital where they received hands-on training from health care professionals. Certified Registered Nurse Anesthesiologists instructed Dunbar P-TECH students in the practice of taking vital signs and Physical Therapists demonstrated the proper use of rehabilitative equipment and

technology. Additionally, Dunbar P-TECH students traveled to Washington, D.C at the invitation of the Congressional Black Caucus Foundation to participate in a STEAM (Science, Technology, Engineering, the Arts and Mathematics) workshop.

Carver P-TECH students visited several industry sites in the 2017-2018 school year including the IBM Center for Cognitive Government in Washington, D.C., Under Armor's Headquarters, and IBM's Data Center in Herndon, Virginia. Additionally, Carver P-TECH students met quarterly with their mentors and covered topics such as problem solving, engineering, design thinking, programming and algorithms.

III. **Data Collection/Evaluation**
Maryland State Department of Education staff members from the Divisions of Career and College Readiness and Curriculum, Assessment and Accountability developed policies, processes, and tools to collect and analyze the required P-TECH data. Staff members met with P-TECH administrators and accountability teams in the local school systems to review the P-TECH evaluation requirements outlined in the law and to review processes for collecting, reporting, and analyzing P-TECH data.

Performance measure data were submitted to MSDE for the P-TECH programs in Allegany County, Baltimore City and Prince George's County Public Schools and are detailed in Table 1: P-TECH Performance Measures for P-TECH programs with enrollment in the 2017-2018 school year. Not all data points included in the P-TECH Act of 2017 can be reported at this time because students have not matriculated through the program.

IV. Data and Informational Tables

Table 1: P-TECH Performance Measures for P-TECH programs with enrollment in the 2017-2018 school year

Based on Student Enrollment as of September 30th 2017
(data in the below table was submitted to the Division of Career and College Readiness)

P-TECH Reporting Requirements	Carver	Dunbar	Allegany	Frederick Douglass - Health	Frederick Douglass Hospitality
• The number of students enrolled in each P-TECH school	76 (46 freshmen) (30 sophomores)	91 (50 freshmen) (41 sophomores)	22 freshmen	31 freshmen	28 freshmen
• The rate of attrition, if any, from each P-TECH school by grade and cohort (9th Grade)	48% (24 of the 46 freshmen returned as sophomores)	20% (40 of the 50 freshmen returned as sophomores)	0% (all 22 freshmen returned as sophomores)	3% (30 of the 31 freshmen returned as sophomores)	11% (25 of the 28 freshmen returned as sophomores)
• The rate of attrition, if any, from each P-TECH school by grade and cohort (10th Grade)	0% (all 30 sophomores returned as juniors)	0% (all 40 sophomores returned as juniors)	N/A	N/A	N/A
• The number of students at each P-TECH school who have an IEP plan, have a 504 Plan, or are English Language Learners	IEP – 9 504 - 2	IEP – 8 504-5	IEP – 2 504 - 1	IEP – 1 504 - 1	504 - 3
• The percentage of P-TECH students who meet the free and reduced meal plan income criteria in each P-TECH school	64%	54%	50%	29%	21%

Based on Student Outcomes as of June 30th 2018 (for freshmen and sophomore P-TECH students)
(data in the below table was submitted to the Division of Curriculum, Assessment and Accountability)
*by June 30, 2018, when the outcome data was submitted, Carver reported 70 P-TECH students enrolled and Dunbar reported 84

P-TECH Reporting Requirements	Carver (70)*	Dunbar (84)*	Allegany (22)	Frederick Douglass – Health (31)	Frederick Douglass - Hospitality (28)
• How P-TECH students performed on federal and state assessments (Pass Rate) o PARCC Math	0/51 (0%)	4/77 (5.19%)	14/19 (73.68%)	22/31 (70.97%)	17/26 (65.38%)
• How P-TECH students performed on federal and state assessments (Pass Rate) o PARCC English	0/32 (0%)	0/38 (0%)	Not yet taken	0/31 (0%)	0/28 (0%)
• The number of P-TECH students on track for high school 4 year graduation	67	81	22	30	25
• The number of P-TECH students on track for a 4 year P-TECH completion (AAS and HS diploma by year 4)	11	34	7	30	25
• The number of P-TECH students on track for a 5 year P-TECH completion.	6	2	10	1	3
• The number of P-TECH students on track for a 6 year P-TECH completion.	12	8	5	0	0

Table 2A: FY 2018 P-TECH School Planning and Supplemental Grants

P-TECH Supplemental grants are annual grants (targeted, non-competitive) from MSDE to local school systems with P-TECH programs.
- $750/student (based on P-TECH Program Fall Enrollment Validation File submitted to MSDE by October 30th of each year).
- Local school system must match 100% (in-kind matching is allowable) of supplemental school grant funds.

School System	School Site	Grant Type	Grant Award Amount	Local Match (only required for Supplemental Grants)
Allegany County Public Schools	Allegany, Fort Hill and Mountain Home High Schools and the Allegany Career and Technology Center	Supplemental School Grant	$16,500	$16,500
Baltimore City Public Schools	New Era Academy	P-TECH Planning Grant	$100,000	n/a
	Carver Vocational-Technical and Paul Laurence Dunbar High Schools	P-TECH Supplemental School Grants	$132,750	$132,750
Baltimore County Public Schools	Dundalk High School	P-TECH Planning Grant	$93,031	n/a
Montgomery County Public Schools	Clarksburg High School	P-TECH Planning Grant	$99,688	n/a
Prince George's County Public Schools	Frederick Douglass High School	Supplemental School Grant	$46,500	$46,500

Table 2B: FY 2018 Local Funds Used to Support P-TECH
Local Funds are defined as:
- Local monies spent in support of P-TECH outside of grant and matching funds
- Solely dedicated to P-TECH (not part of a teacher salary who has P-TECH students in their class)

School System	School Site	Amount of Local Funds
Prince George's County Public Schools	Frederick Douglass - Hospitality	$316,319
Prince George's County Public Schools	Frederick Douglass - Health Information	$316,319

Table 2C: FY 2018 P-TECH College Supplemental Grants

P-TECH Supplemental College grants are annual grants (targeted, non-competitive) from MSDE to P-TECH College Partners.
- A P-TECH Supplemental College Grant is an amount equal to the <u>tuition and mandatory fees</u> that would normally be charged for the classes in which P-TECH students are enrolled.
- The state share of a P-TECH Supplemental College Grant shall be calculated and distributed by the state to college partners and equals:
  - 50% for counties that received a Disparity Grant in the prior fiscal year; or
  - 25% for counties that did not received a Disparity Grant in the prior fiscal year.
- If the funds distributed to the college from the state are not enough to cover the costs of tuition and fees, then the local share of a P-TECH Supplemental College grant shall be calculated and distributed by a county board, to college partners and equals the amount not paid by the state.

College	Grant Award Amount
Baltimore City Community College	$102,363
Prince George's Community College	$20,770

Table 3: The industry partners associated with each P-TECH school and the pathway sequence created for each P-TECH school

School System/Community College	School	Industry Partners	Career Pathways
Allegany County/Allegany College	**Allegany Career and Technology Center**	Western MD Health Systems	Information Technology Cyber Security
Baltimore City/ Baltimore City Community College	**Paul Laurence Dunbar High School**	Johns Hopkins Hospital, Kaiser Permanente and University of Maryland, Baltimore	Nursing, Respiratory Care, Physical Therapy Assistant,
	Carver Vocational Technical High School	IBM	Cyber Security Assurance and Computer Information Systems
	New Era Academy	Port of Baltimore and United States Coast Guard	Supply Chain Management
Baltimore County/Community College of Baltimore County	**Dundalk High School**	Whiting-Turner Contracting, KCI Technologies, Black and Decker and Alban CAT	Engineering Technology
Montgomery County/Montgomery College	**Clarksburg High School**	Daly Computers, Inc. and the Information Technology Foundation	Network and Information Technology
Prince George's County/Prince George's Community College	**Frederick Douglass High School**	Medstar Health	Health Information Management
		Marriott	Hospitality Services Management

Table 4: P-TECH Enrollment for 2018-2019 School Year Submitted as of September 30, 2018

Total P-TECH Enrollment for the 2018-2019 School Year is 587 students

School System/Community College	School Site	2018-2019 Enrollment
Allegany County Public Schools/ Allegany College of Maryland	Allegany, Fort Hill and Mountain Home High Schools and the Allegany Career and Technology Center	25 freshmen 22 sophomores
Baltimore City Public Schools/ Baltimore City Community College	New Era Academy	25 freshmen
	Carver Vocational-Technical High School	71 freshmen 24 sophomores 30 juniors
	Paul Laurence Dunbar High School	69 freshmen 40 sophomores 41 juniors
Baltimore County Public Schools/ Community College of Baltimore County	Dundalk High School	60 freshmen
Montgomery County Public Schools/ Montgomery College	Clarksburg High School	62 freshmen
Prince George's County Public Schools/Prince George's Community College	Frederick Douglass High School	Hospitality Pathway 35 freshmen 25 sophomores Health Information Technology Pathway 28 freshmen 30 sophomores