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2023

Career Preparation Expansion Act
Report

***Annual Report to the Governor and General
Assembly on the Workforce Outcomes of
Maryland Public High School Graduates***

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REPORT REQUIREMENTS

This Report is submitted in fulfillment of the requirement in *The Career Preparation Expansion Act* (CPEA), Chapter 695 of 2018 (see Education Article § 21-206, Annotated Code of Maryland). The Maryland Longitudinal Data System (MLDS) Center and the Governor’s Workforce Development Board (GWDB) are required to produce a report on high school graduates for the five-year period after graduation on:

1. Wages earned;
2. Hours worked per week; and
3. The industry of employment.

See the **Technical Documentation** in Appendix 2 for information on the MLDS Center, the GWDB, and the data and methods used for this report.

REPORT POPULATION

The population of interest for this report was high school students who graduated from a Maryland public high school with a diploma between January and October of 2017 and are between the ages of 16 and 24 at the time of graduation¹. This is the latest year that high school graduates had five years of available wage data post-high school graduation.

Table A. Maryland Public High School Graduates, 2017, Distribution by Demographic and Economic Characteristics

2017 High School Graduates			
<i>All High School Graduates</i>		57,170	
		#	%
Gender	Female	28,708	50%
	Male	28,462	50%
Ethnicity	Hispanic, Any Race	7,010	12%
Race	African-American/ Black Alone	20,125	35%
	Asian Alone	3,926	7%
	White Alone	27,895	49%
Economic Status ²	FARMS	17,742	31%
	Non-FARMS	39,428	69%

Note: Race is reported independent of ethnicity and some races are omitted to protect small populations therefore values do not equal the total population.

Almost 60,000 students graduated from Maryland public high schools in 2017 under the high school graduate definition used for this report. See **Table A**. High school graduates were disaggregated into educational attainment groups.³ See **Table B**. Definitions used to determine assignment to demographic, economic (students receiving free and reduced price meals or FARMS) and educational groups can be found in the **Technical Documentation** in **Appendix 2** at the end of this report.

Table B. Maryland Public High School Graduates, 2017, Distribution by Educational Attainment, Five Years after Graduation

Educational Attainment Level ³	2017 High School Graduates	
<i>All High School Graduates</i>	57,170	
	#	%
No College	14,679	26%
Some College	18,455	32%
Still in College	10,920	19%
Lower Division Degree	1,771	3%
Certificate	190	<1%
Associate’s	1,581	3%
Bachelor’s Degree or Higher	11,345	20%
Bachelor’s	11,260	20%
Other Degree	85	<1%

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RESULTS

Question 1. Wages Earned Five Years after High School Graduation

Wage Visibility by Educational Attainment

There were 22,797 high school graduates, or 40% of all graduates, who had wages for three consecutive fiscal quarters (“full-quarter wages”⁴) five years after high school graduation (fiscal quarter 2 of 2022⁵) and were therefore included in the wage analysis. See **Table 1**.

Conversely, 60% of high school graduates did not have wage data for the three consecutive fiscal quarters five years after high school graduation. High school graduates excluded from this calculation include individuals who may have had wage data for some but not all of the quarters required to meet the full-quarter definition, had wages from a source not reported to the MLDS⁶, or were unemployed.

Wage visibility, or the rate at which high school graduates meet the definition of full-quarter wages, was around 45% for cohorts where the 5-year wage evaluation point pre-dated COVID-19. See **Table 1**. This rate dropped to 17% for the 2015 cohort (2020 wages), likely due to the COVID-19 economic shutdown in Maryland in 2020.

Table 1. Maryland Public High School Graduates, 2012 to 2017, Wage Visibility, Five Years after High School Graduation

Educational Attainment	Total	Full-Quarter Wages	
		#	%
2012 (2017 wages)	59,510	27,535	46%
2013 (2018 wages)	59,560	27,822	47%
2014 (2019 wages)	58,136	27,330	47%
2015 (2020 wages)	57,509	9,706	17%
2016 (2021 wages)	57,502	23,179	40%
2017 (2022 wages)	57,170	22,797	40%

The wage visibility for the 2016 cohort (2021 wages) rebounded to 40%. The focus of this year’s report, the 2017 cohort (2022 wages), has a wage visibility that is the same as the prior year cohort, but still remains below the wage visibility rates for pre-COVID-19 reporting periods.

Wage visibility by subsequent educational attainment for the 2017 cohort varied, ranging from a high of 50% for those with *Lower Division Degrees* to a low of 32% for those with a *Bachelor’s Degree or Higher*. See **Table 2**.

Table 2. Maryland Public High School Graduates, 2017, Wage Visibility, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

Educational Attainment	Total	Q2 2022 Full-Quarter Wages	
		#	%
All High School Graduates	57,170	22,797	40%
No College	14,679	5,914	40%
Some College	18,455	8,039	44%
Still in College	10,920	4,302	39%
Lower Division Degree	1,771	885	50%
Bachelor’s Degree or Higher	11,345	3,657	32%

These wage variation patterns are similar to last year’s cohort and cohorts with wages that pre-date COVID-19. Wage visibility consistently ranges from the mid-30% for those who earned a Bachelor’s degree to close to 60% for those who earned an Associate’s degree⁷. This pattern does not suggest that there are no jobs in the Maryland economy for those with a

Bachelor's Degrees or Higher. Rather it reflects that most high school graduates in the *Bachelor's Degrees or Higher* group have not yet had sufficient time since degree attainment to accrue nine consecutive months of post-degree employment. High school graduates in the *Bachelor's Degrees or Higher* group spent

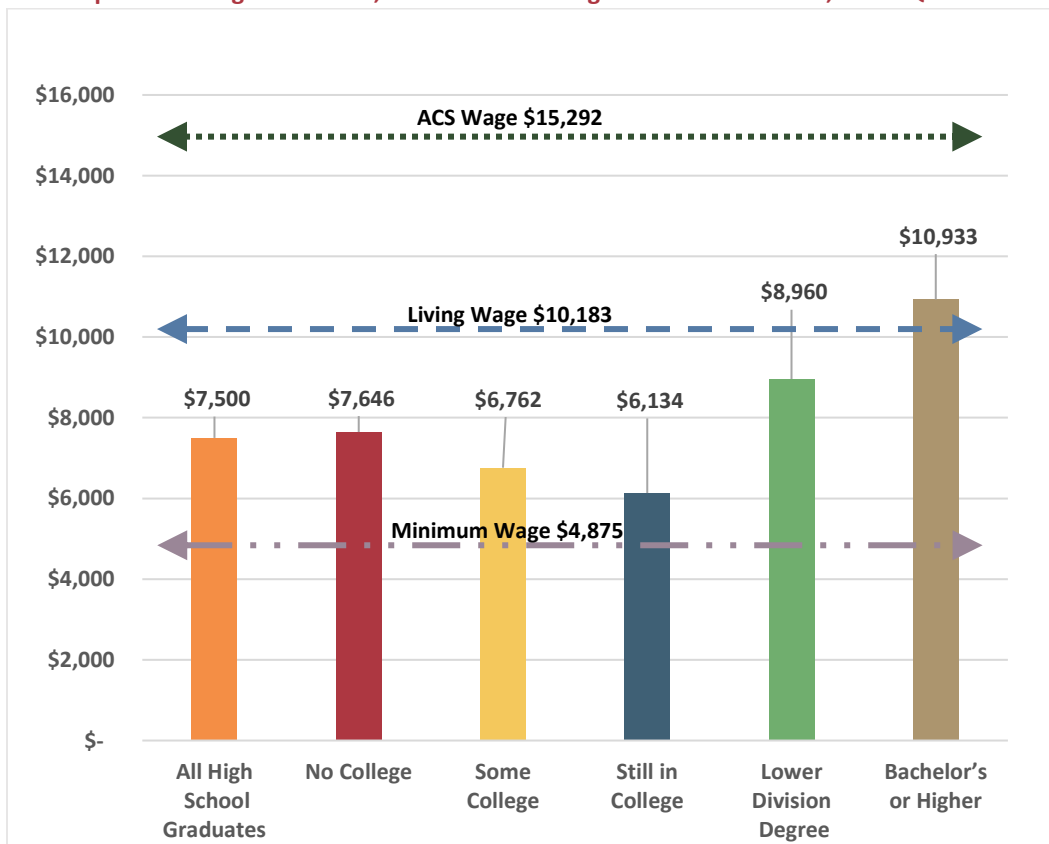
most of the five-year period after high school completing their four-year Bachelor's degree. Comparatively, all other groups were available to pursue career-track employment for at least the last two years of the five year period following high school graduation.

Median Quarterly Wages by Educational Attainment

Overall, the median quarterly wage for all high school graduates with full-quarter wages was \$7,500 in the 20th quarter – fiscal quarter 2 of 2022. This was approximately \$2,500 below the living wage⁸ in Maryland and \$7,792 below the ACS median earnings for all workers in Maryland.⁹ This result was not uniform across all educational attainment groups.

High school graduates with some college, and those still in college had a median quarterly wage that fell approximately \$3,500 below the living wage. Those with a college degree were either just under or just over the living wage. See **Chart 1**.

Chart 1. Maryland Public High School Graduates, 2017, Median Quarterly Wages by Educational Attainment Compared to Wage Indicators, Five Years after High School Graduation, Fiscal Quarter 2 of 2022



The *No College* group, which presumably went directly into the workforce, had a higher median quarterly wage than that of the *Some College* and *Still in College* groups. This is likely because high school graduates in this group had five years to incrementally build higher wages while progressing through career-track employment.

The fact that students in the *Still in College* group had the lowest median quarterly wage is likely the result of working in a part-time capacity to prioritize pursuing a college education. These students may have had a portion of their living expenses covered by their parents or received federal, state, or institutional financial aid to cover their living expenses.

The *Some College* group, who had some college but did not earn a degree, had a median quarterly wage below the living wage and \$900 below that for high school graduates who did not continue on to college. In fact, the median quarterly wage for those with *Some College* is only \$600 more than those *Still in College*. This lower wage may reflect two concepts. First, as compared to the *No College* high school graduates, the *Some College* high school graduates delayed entry into career track employment and are just now receiving the entry level wages their *No College* peers received five years prior. Second, the *Some College* high school graduates intermittently pursued postsecondary education, splitting their time and focus between college and the workforce, rather than concentrating on either earning a degree or building career-track employment.

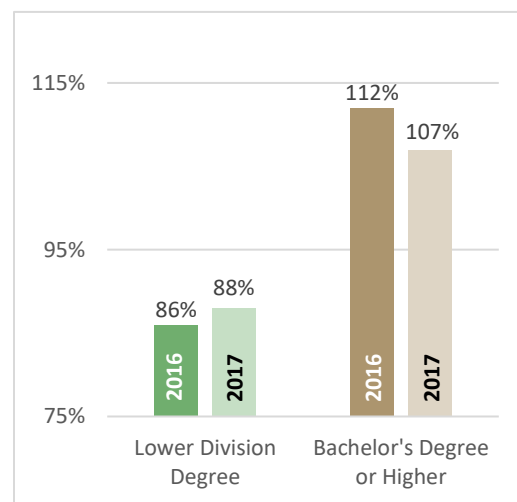
High school graduates who completed a *Bachelor's Degree or Higher* had a median quarterly wage about \$800 above the living wage. This higher wage is present even though this group of high school graduates had only

been in the workforce for approximately six to nine months since completing their college degrees. As such, this wage represents entry-level earnings rather than five years of progressively building wages.

Those with an Associate's degree or postsecondary Certificate (*Lower Division Degree*) had a median quarterly wage about \$1,300 above high school graduates with *No College* but were still \$1,200 below the living wage. And, at the point of wage observation, *Lower Division Degree* graduates may have been in the workforce post-college graduation for only two or three years, making this wage an early career wage rather than one that results from five years of continuous employment like those with *No College*.

While these patterns are similar to last year, one notable pattern, relative to last year, is that the gap between the median quarterly wage and the living wage closed slightly for those in the *Lower Division Degree* group while the surplus between the median quarterly wage and the living wage for those in the *Bachelor's Degree or Higher* group decreased. See **Chart 2**.

Chart 2. Maryland Public High School Graduates, 2016 and 2017, Ratio of Living Wage to Median Quarterly Wage, Five Years after High School Graduation, Fiscal Quarter 2 of 2021 and 2022



The share of the living wage covered by the median quarterly wage for those with a *Lower Division Degree* was up two percentage points for the 2017 cohort compared to the 2016 cohort. Conversely, the surplus of the median quarterly wage beyond the living wage *declined* five percentage points for those with a *Bachelor's Degree or Higher*.

Currently, the *No College*, *Some College*, and *Still in College* groups are on pace to earn \$1 million in their lifetime, while individuals with some level of college degree are on pace to earn \$1.5 to \$2 million in their lifetime.¹⁰ The results for both groups align to research¹¹ on the financial returns to education.

Variation to Living Wage by Educational Attainment

Another way to analyze wages five years after high school graduation is to determine the number of graduates with full-quarter wages that had wages above the living wage. Identifying the number of high school graduates with quarterly wages above the living wage

helps to quantify the number of graduates that were engaged in the workforce at a level that provides for or exceeds the basic cost of living in Maryland and the number who may be engaged in the workforce but unable to meet these basic expenses. See **Table 3**.

Table 3. Maryland Public High School Graduates, 2017, Wage Visibility and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

Educational Attainment	2017 High School Graduates						
	Total	Full-Quarter Wages Q2 2022			Variation to Living Wage (\$10,183)	Above Living Wage	
		#	%	Median Quarterly Wage		#	%
All High School Graduates	57,170	22,797	40%	\$7,500	\$(2,683) ↓	6,561	29%
No College	14,679	5,914	40%	\$7,646	\$(2,537) ↓	1,589	27%
Some College	18,455	8,039	44%	\$6,762	\$(3,421) ↓	1,591	20%
Still in College	10,920	4,302	39%	\$6,134	\$(4,049) ↓	1,005	23%
Lower Division Degree	1,771	885	50%	\$8,960	\$(1,223) ↓	360	41%
Bachelor's Degree or Higher	11,345	3,657	32%	\$10,933	\$750 ↑	2,016	55%

↑value is above the living wage, ↓ value is below the living wage (\$10,183).

From this perspective, overall, 29% of high school graduates with full-quarter wages had a quarterly wage above the living wage. Conversely, 71% of high school graduates did not have sufficient wages to meet the basic cost of living in Maryland, despite being engaged in the labor market for nine consecutive months.

The rate of high school graduates with wages above the living wage was lowest for those with *Some College* where only 20% of high school graduates in this group, despite having some level of additional postsecondary education, had wages above the living wage. This low rate may again confirm the split focus of this group,

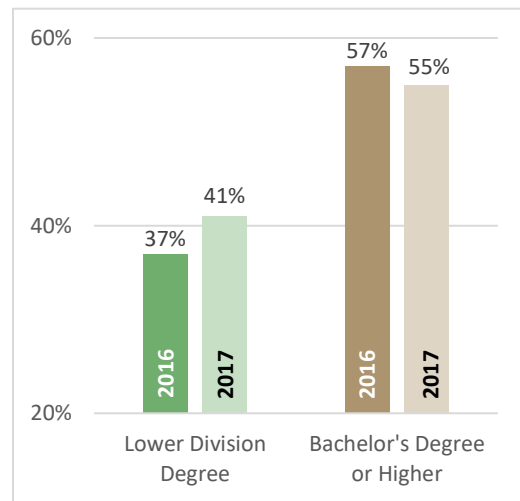
trying to both work and go to college without being able to focus exclusively on either pursuit.

The number of high school graduates with *No College* with wages above the living wage was 27%. This rate is slightly higher than the rate for those with *Some College*; however, unlike those with *Some College* those with *No College* were available to fully engage in the labor market for the entire five year period and yet over two-thirds were unable to realize wages that progress to meet the basic costs of living in Maryland. This point is particularly important when one considers that the *No College* and *Some College* graduates make up approximately 61% of high school graduates with full-quarter wages (13,953 of the 22,797 with full-quarter wages) , yet collectively only 23% of this combined group have a quarterly wage sufficient to meet the basic cost of living in Maryland. This pattern has been consistent across all years of this report.¹²

By comparison, 55% of those with *Bachelor's Degree or Higher* and 41% of those with a *Lower Division Degree* had wages above the living wage. While these patterns are similar to prior

reporting years, one notable pattern, relative to last year, is the share of *Lower Division Degree* high school graduates with quarterly wages above the living wage increased four percentage points, while the percentage of high school graduates with wages above the living wage in the *Bachelor's Degree or Higher* group decreased by two percentage points. See **Chart 4**.

Chart 4. Maryland Public High School Graduates, 2016 and 2017, Percentage with Quarterly Wages Above the Living Wage, Five Years after High School Graduation, Fiscal Quarter 2 of 2021 and 2022



Question 2. Hours Worked Per Week

The MLDS Center does not contain data on hours worked therefore this section of the reporting requirement cannot be fulfilled. This section is left intentionally blank.

Question 3. High School Graduates and Labor Sector

There were 16,086 high school graduates, or 28% of all high school graduates, who had wages with the same employer¹³ for three consecutive fiscal quarters five years after high school graduation that can be analyzed for wages by labor sector. See **Table 4**.

Or considered another way, this means that 71% of 22,797 high school graduates with full-quarter wages (wages for three fiscal quarters) remained with the same-employer for all three fiscal quarters; 29% of high school graduates with full-quarter wages changed employers at

least once during this period and are therefore removed from analysis in this section.

Table 4. Maryland Public High School Graduates, 2017, Full-Quarter and Same-Employer Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

2017 High School Graduates	Total	%
All High School Graduates	57,170	
High School Graduates with Full-Quarter Wages	22,797	40%
High School Graduates with Same-Employer Wages	16,086	28%

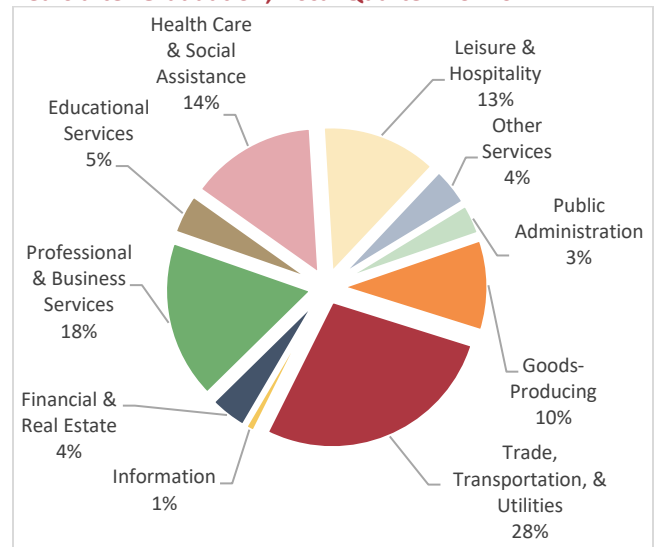
Labor Sector and Median Quarterly Wages by Educational Attainment

Five years after high school graduation, the labor sector¹⁴ with the largest share of high school graduates with same-employer wages was *Trade, Transportation, & Utilities* (28%). *Professional & Business Services* and *Health Care & Social Assistance* were the next two largest sectors with 18% and 14% respectively. See **Chart 5**.

In 2022, collectively, these three sectors employed over 1.3 million Marylanders (around half of all wage earners) through more than 94,000 businesses and paid \$22 billion in wages (half of all wages paid).¹⁵ These three sectors represented \$124 billion of the \$382 billion private sector gross domestic product in 2022¹⁶ and included industries important to Maryland's infrastructure, business administration, and health, including freight and air transportation, retail trades, power

distribution, accounting, law, nursing, and home health care.

Chart 5. Maryland Public High School Graduates, 2017, Same-Employer Wages, Sector of Wages, Five Years after Graduation, Fiscal Quarter 2 of 2022

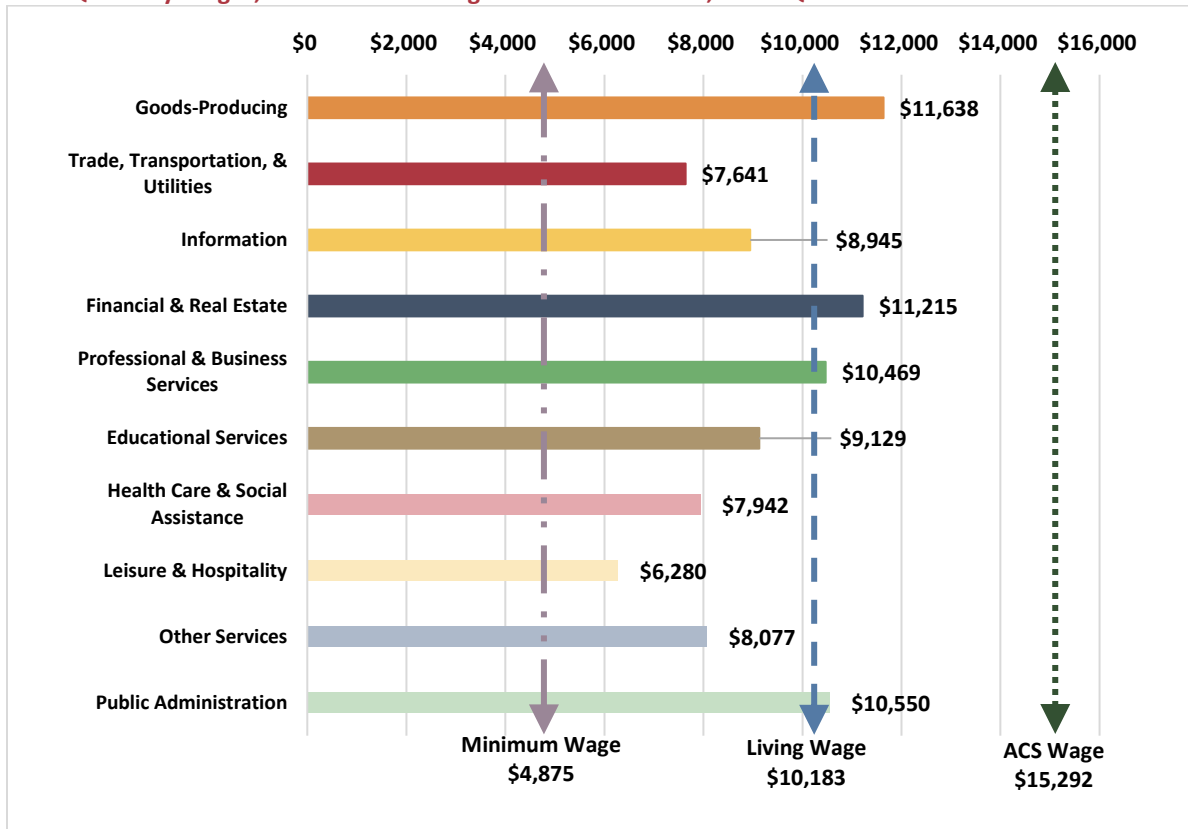


High school graduates with same-employer wages had median quarterly wages at or above the living wage in four of the ten labor sectors. Two additional labor sectors had median quarterly wage \$1,000 below the living wage. See **Chart 6** and **Table 4**. These six sectors account for 41% of all high school graduates with same-employer wages. The remaining 59% were in labor sectors with median

quarterly wages \$2,000 to \$4,000 below the living wage.

The largest labor sector, *Trade, Transportation, & Utilities*, with 28% of all high school graduates with same-employer wages, had a median quarterly wage \$2,500 below the living wage. Or considered another way, high school graduates in this sector have a \$10,000 annual shortfall between the living wage and earnings.

Chart 6. Maryland Public High School Graduates, 2017, with Same-Employer Wages, Sector of Employment and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2022



Equally important to the median wage, is the percentage of high school graduates within each sector with wages above the living wage. See **Table 5**.

Four of the ten sectors not only had median quarterly wages above the living wage, but the majority of the high school graduates with same-employer wages in those sectors had

wages above the living wage. This includes one sector, *Goods-Producing*, where 64% of graduates had wages above the living wage.

In the remaining six sectors, it is the minority of high school graduates who had wages above the living wage. This rate is as low as 17% in *Leisure & Hospitality*.

Table 5. Maryland Public High School Graduates, 2017, Same-Employer Wages and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

2017 High School Graduates					
Sector	Total	%	Median Quarterly Wage		% Above Living Wage
Goods-Producing	1,628	10%	\$11,638	↑	64%
Trade, Transportation, & Utilities	4,429	28%	\$7,641	↓	25%
Information	172	1%	\$8,945	↓	40%
Financial & Real Estate	675	4%	\$11,215	↑	61%
Professional & Business Services	2,848	18%	\$10,469	↑	52%
Educational Services	720	4%	\$9,129	↓	40%
Health Care & Social Assistance	2,288	14%	\$7,942	↓	25%
Leisure & Hospitality	2,089	13%	\$6,280	↓	17%
Other Services	687	4%	\$8,077	↓	31%
Public Administration	550	3%	\$10,550	↑	54%
Total	16,086		\$8,567	↓	37%

↑value is above living wage, ↓ value is below living wage (\$10,183).

The overall median quarterly wages patterns change when expanding the analysis to include subsequent educational attainment. See **Chart 7**. For example, *Health Care & Social Assistance*, the sector with the third largest share of same-employer high school graduates, had an overall median quarterly wage below the living wage. This pattern held for those with *No College*, *Some College* or *Still in College*; however, the median quarterly wage was at or above the living wage for those with a college degree.

This pattern was similar for the *Trade, Transportation, & Utilities* sector. This sector has the largest share of same-employer high school graduates and an overall median quarterly wage below the living wage. However, those with a *Bachelor's Degree or Higher* have a median quarterly wage that is only \$600 below the living wage, while those in other educational attainment groups have

median quarterly wages that are \$2,000 to \$3,000 below the living wage.

Professional & Business Services, the sector with the second largest share of same-employer high school graduates, had an overall median quarterly wage above the living wage; however, when analyzed by subsequent educational attainment, the results show the higher median quarterly wage only applies to those with a college degree.

Finally, *Leisure & Hospitality*, the sector with the third largest share of same-employer high school graduates, had little variation in median quarterly wages by educational attainment. The wage gap between those with *No College* and those with a *Bachelor's Degree or Higher* was only \$1,000. And the median quarterly wage for all educational attainment groups in this sector was \$3,000 to \$5,000 (or \$12,000 to \$20,000 annually) below the living wage.

Chart 7. Maryland Public High School Graduates, 2017, Sector of Employment and Median Quarterly Wages by Educational Attainment, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

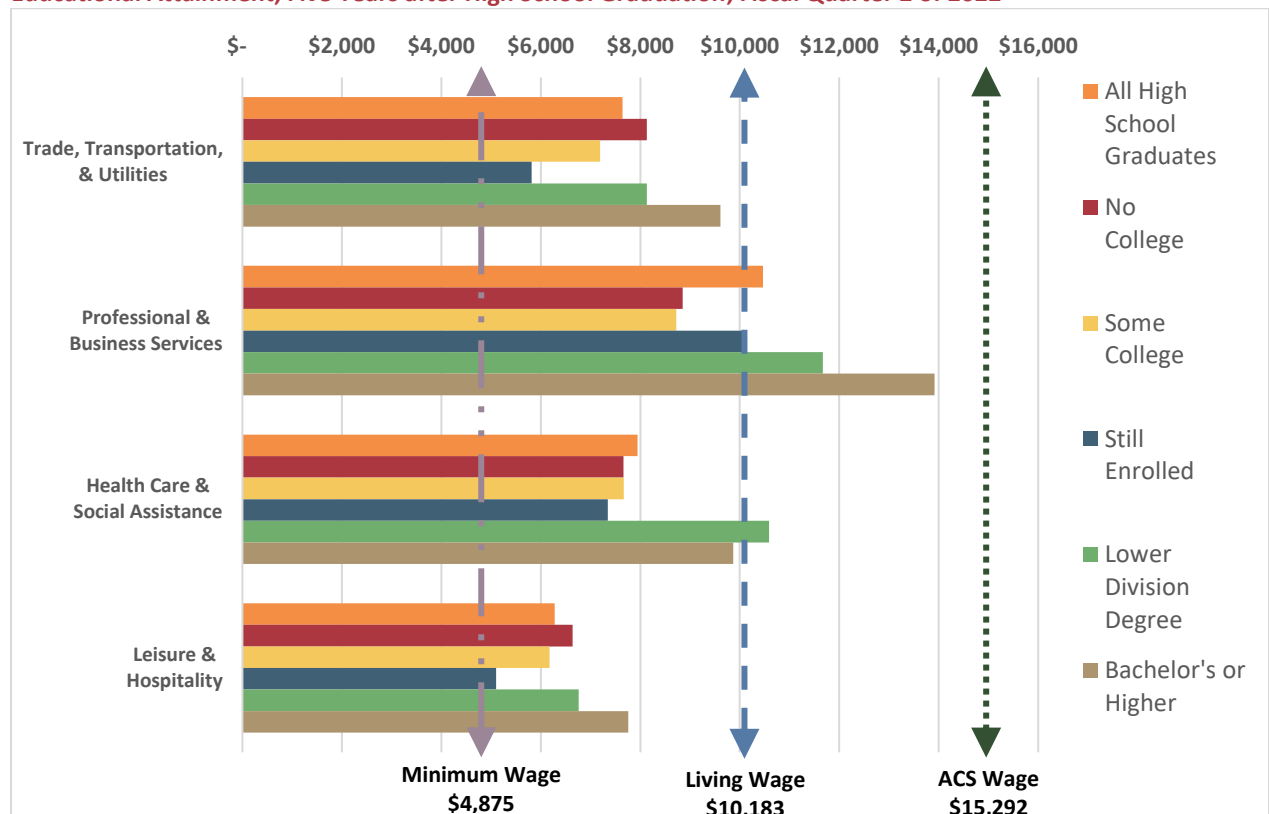


Table 6. Maryland Public High School Graduates, 2017, Same-Employer Wages and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2022

Sector	All High School Graduates	No College	Some College	Still in College	Lower Division Degree	Bachelor's Degree or Higher
Goods-Producing	↑\$11,638	↑\$11,626	↑ \$10,744	↑\$11,249	↑\$10,725	↑\$15,322
Trade, Transportation, & Utilities	\$7,641	\$8,132	\$7,193	\$5,815	\$8,133	\$9,608
Information	\$8,945	\$10,078	\$8,397	\$6,181	\$8,659	↑\$11,222
Financial & Real Estate	↑\$11,215	↑\$10,227	\$9,581	↑\$10,461	↑\$11,102	↑\$14,678
Professional & Business Services	↑ \$10,469	\$8,851	\$8,721	\$10,080	↑\$11,671	↑\$13,918
Educational Services	\$9,129	\$7,719	\$6,680	\$8,423	\$8,631	↑\$11,674
Health Care & Social Assistance	\$7,942	\$7,660	\$7,669	\$7,349	↑\$10,586	\$9,870
Leisure & Hospitality	\$6,280	\$6,641	\$6,173	\$5,101	\$6,760	\$7,756
Other Services	\$8,077	\$8,850	\$7,264	\$6,257	\$9,036	↑\$10,822
Public Administration	↑\$10,550	↑\$10,719	\$9,406	\$8,558	↑\$15,746	↑\$10,440
Total	\$8,567	\$8,627	\$7,794	\$7,380	\$9,761	↑ \$12,083

↑value is above living wage (\$10,183).

Overall, those with a college degree had higher wages in all sectors and had more sectors with wages at or above the living wage. See **Table 6**. For example, for the *Bachelor's Degree or Higher* group, seven of the ten sectors had median quarterly wages above the living wage and two were within \$600 of the living wage. Median quarterly wages fell well below the living wage for only one sector for this group: \$7,756 in *Leisure & Hospitality*.

Those with *No College* had three labor sectors with median quarterly wages above the living wage and another three sectors within a thousand dollars of the living wage.

One interesting pattern is for those *Still in College*. High school graduates in this group are still engaged in postsecondary education and would be presumed to be working at a reduced capacity to prioritize education and yet they fared better in several labor sectors than those

who would be expected to be engaged in the labor market full-time (*No College* and *Some College*). It is possible that this reflects high school graduates who have already attained a degree (either an Associate's or Bachelor's) and are continuing to pursue an additional credential while working.

When considered from the perspective of the labor sector, two sectors, *Trade, Transportation, & Utilities* with 28% of all same-employer high school graduates and *Leisure & Hospitality* with 13% of all same-employer high school graduates, did not have a median quarterly wage above the living wage overall or for any educational attainment group. These two sectors account for 41% of all same-employer high school graduates.

See **Appendix 1** for additional labor sector and educational attainment data tables by race, ethnicity, gender, and economic status.

CONCLUSIONS

The analysis in this report, like prior reports, demonstrates that outcomes, five years after high school graduation, vary greatly by educational attainment and labor sector. Wages are higher for high school graduates who finish college than those who 1) do not pursue postsecondary education, 2) are still in college, or 3) do pursue postsecondary education but disengage without earning a degree. These results are also consistent with national data available on earnings by level of educational attainment.¹⁷

Applied to this report, this means that as many as 30,000 high school graduates from the 2017 cohort or half of the graduating class (*No College + Some College*) included in this report may be more likely to experience lower wages for at least early periods of their career, something that can have long term implications for lifetime earnings and career growth.

The *No College* group, the only group with five full years to pursue career track employment and experience wage progressions, had a median quarterly wage that was \$1,300 lower than those with a *Lower Division Degree*. It is possible that some high school graduates with *No College* may be exploring career options and training programs, including completing licensure requirements or apprenticeships, which may depress wages during the first two or three years of employment after high school. While that gap between *No College* and *Lower Division Degree* may seem minor, when annualized, the \$5,200 gap is the difference between the annual cost of food (\$3,926) or medical expenses (\$3,157) in Maryland.¹⁸

Determining the percentage of each educational attainment group with wages above the living wage also identified patterns that were not apparent when comparing

median quarterly wages alone. When considered from this perspective, 41% of those with a *Lower Division Degree* had wages above the living wage, which is fourteen percentage points higher than those with *No College*. Further, other research completed by the MLDS Center on wage outcomes for Maryland community college Associate's degree graduates suggests this group will not have wages below the living wage for long, noting that the median quarterly wages for Associate's degree graduates, *five years after college graduation* are \$10,967 or close to \$40,000 per year.¹⁹

High school graduates with *Some College* had a lower median quarterly wage than those without any exposure to college, suggesting that trying college and not finishing may be a worse career decision than not going to college at all. And, only 20% of this group had wages above the living wage. Comparatively, larger shares of those with *No College* and those *Still in College* had wages above the living wage (27% and 23% respectively). Finding opportunities for those with *Some College* but no degree to complete a short-term credential like a Certificate or Associate's degree may help increase the lifelong earning potential for those with *Some College*.

What is also clear from this analysis is that some labor sectors, no matter the level of education, do not provide sufficient early-career wages to meet the cost of living in Maryland. The *Leisure & Hospitality* labor sector had median quarterly wages between \$5,101 and \$7,756 for all educational attainment groups, even those with college degrees. This pattern for this labor sector exists in all prior cohorts analyzed in this reporting series. This is concerning as this labor sector continues to have one of the largest shares of

high school graduates (13% of all with same-employer wages) while only 17% of those in this sector, regardless of educational attainment, have wages above the living wage.

Comparatively, four of the ten sectors had between 52% and 64% of high school graduates with wages above the living wage.

Finally, it is important to note that the analysis presented here was conducted at the early

stages in this population's career and represents entry level wages. Many individuals in this population have only been in the workforce for a short period of time. The wage outcomes reported here may increase rapidly. It is difficult to predict if the wage gaps present in early-career, entry-level wages between educational, demographic, or economic groups will widen or narrow as this cohort progresses through their careers.

APPENDICES

Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				No College			
			Female		Male		Female		Male	
	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	276	\$10,112	1,352	\$11,920	67	\$8,995	669	\$11,878
Trade, Transportation and Utilities	4,429	\$7,641	1,944	\$6,659	2,485	\$8,251	528	\$7,200	903	\$8,740
Information Technology	172	\$8,945	77	\$8,974	95	\$8,915	8	\$9,590	15	\$10,177
Financial and Real Estate	675	\$11,215	334	\$10,426	341	\$12,454	62	\$9,623	61	\$10,798
Professional and Business Services	2,848	\$10,469	1,384	\$9,698	1,464	\$11,377	210	\$7,954	356	\$9,598
Education	720	\$9,129	502	\$9,291	218	\$8,551	31	\$7,607	26	\$8,128
Health Services	2,288	\$7,942	1,902	\$7,966	386	\$7,804	325	\$7,654	78	\$7,765
Leisure and Hospitality	2,089	\$6,280	1,104	\$6,296	985	\$6,248	241	\$6,737	261	\$6,569
Other Services/Unclassified	687	\$8,077	394	\$7,180	293	\$9,280	88	\$7,587	114	\$10,114
Public Administration	550	\$10,550	199	\$9,063	351	\$11,399	16	\$9,182	89	\$10,867
Total	16,086	\$8,567	8,116	\$7,959	7,970	\$9,397	1,576	\$7,584	2,572	\$9,619

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Some College			
			Female		Male		Female		Male	
	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	276	\$10,112	1,352	\$11,920	85	\$10,382	369	\$10,780
Trade, Transportation and Utilities	4,429	\$7,641	1,944	\$6,659	2,485	\$8,251	832	\$6,506	1,020	\$7,844
Information Technology	172	\$8,945	77	\$8,974	95	\$8,915	29	\$8,910	33	\$8,028
Financial and Real Estate	675	\$11,215	334	\$10,426	341	\$12,454	116	\$9,544	81	\$9,886
Professional and Business Services	2,848	\$10,469	1,384	\$9,698	1,464	\$11,377	382	\$8,347	364	\$9,142
Education	720	\$9,129	502	\$9,291	218	\$8,551	84	\$6,048	52	\$7,001
Health Services	2,288	\$7,942	1,902	\$7,966	386	\$7,804	649	\$7,658	128	\$7,836
Leisure and Hospitality	2,089	\$6,280	1,104	\$6,296	985	\$6,248	439	\$6,068	452	\$6,304
Other Services/Unclassified	687	\$8,077	394	\$7,180	293	\$9,280	152	\$6,892	103	\$7,728
Public Administration	550	\$10,550	199	\$9,063	351	\$11,399	51	\$8,948	101	\$9,820
Total	16,086	\$8,567	8,116	\$7,959	7,970	\$9,397	2,819	\$7,380	2,703	\$8,274

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Still Enrolled			
	n	\$	Female		Male		Female		Male	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	276	\$10,112	1,352	\$11,920	44	\$7,970	147	\$12,243
Trade, Transportation and Utilities	4,429	\$7,641	1,944	\$6,659	2,485	\$8,251	326	\$5,242	300	\$6,444
Information Technology	172	\$8,945	77	\$8,974	95	\$8,915	13	\$6,181	18	\$5,477
Financial and Real Estate	675	\$11,215	334	\$10,426	341	\$12,454	41	\$9,744	62	\$10,959
Professional and Business Services	2,848	\$10,469	1,384	\$9,698	1,464	\$11,377	266	\$9,564	263	\$10,623
Education	720	\$9,129	502	\$9,291	218	\$8,551	146	\$8,434	58	\$8,423
Health Services	2,288	\$7,942	1,902	\$7,966	386	\$7,804	478	\$7,403	89	\$6,534
Leisure and Hospitality	2,089	\$6,280	1,104	\$6,296	985	\$6,248	245	\$5,051	160	\$5,167
Other Services/Unclassified	687	\$8,077	394	\$7,180	293	\$9,280	75	\$5,811	43	\$7,510
Public Administration	550	\$10,550	199	\$9,063	351	\$11,399	52	\$7,074	55	\$9,505
Total	16,086	\$8,567	8,116	\$7,959	7,970	\$9,397	1,686	\$6,866	1,195	\$8,321

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Lower Division Degree			
			Female		Male		Female		Male	
	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	276	\$10,112	1,352	\$11,920	16	\$9,135	37	\$10,809
Trade, Transportation and Utilities	4,429	\$7,641	1,944	\$6,659	2,485	\$8,251	68	\$7,251	100	\$8,661
Information Technology	172	\$8,945	77	\$8,974	95	\$8,915	6	**	4	**
Financial and Real Estate	675	\$11,215	334	\$10,426	341	\$12,454	14	\$10,865	7	**
Professional and Business Services	2,848	\$10,469	1,384	\$9,698	1,464	\$11,377	45	\$9,419	50	\$13,131
Education	720	\$9,129	502	\$9,291	218	\$8,551	23	\$8,862	13	\$8,400
Health Services	2,288	\$7,942	1,902	\$7,966	386	\$7,804	94	\$10,445	18	\$10,961
Leisure and Hospitality	2,089	\$6,280	1,104	\$6,296	985	\$6,248	47	\$7,200	39	\$6,425
Other Services/Unclassified	687	\$8,077	394	\$7,180	293	\$9,280	20	\$6,902	12	\$10,151
Public Administration	550	\$10,550	199	\$9,063	351	\$11,399	22	\$10,609	53	\$16,957
Total	16,086	\$8,567	8,116	\$7,959	7,970	\$9,397	355	\$8,890	333	\$10,630

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Bachelor's Degree or Higher			
			Female		Male		Female		Male	
	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	276	\$10,112	1,352	\$11,920	64	\$12,881	130	\$16,237
Trade, Transportation and Utilities	4,429	\$7,641	1,944	\$6,659	2,485	\$8,251	190	\$8,207	162	\$11,204
Information Technology	172	\$8,945	77	\$8,974	95	\$8,915	21	\$9,486	25	\$13,230
Financial and Real Estate	675	\$11,215	334	\$10,426	341	\$12,454	101	\$13,867	130	\$15,000
Professional and Business Services	2,848	\$10,469	1,384	\$9,698	1,464	\$11,377	481	\$12,793	431	\$15,499
Education	720	\$9,129	502	\$9,291	218	\$8,551	218	\$11,778	69	\$10,671
Health Services	2,288	\$7,942	1,902	\$7,966	386	\$7,804	356	\$10,118	73	\$8,517
Leisure and Hospitality	2,089	\$6,280	1,104	\$6,296	985	\$6,248	132	\$8,397	73	\$6,814
Other Services/Unclassified	687	\$8,077	394	\$7,180	293	\$9,280	59	\$10,770	21	\$11,430
Public Administration	550	\$10,550	199	\$9,063	351	\$11,399	58	\$10,287	53	\$10,551
Total	16,086	\$8,567	8,116	\$7,959	7,970	\$9,397	1,680	\$11,177	1,167	\$13,671

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall		No College		Some College		Still in College		Lower Division Degree		Bachelor's Degree or Higher	
			Hispanic, Any Race		Hispanic, Any Race		Hispanic, Any Race		Hispanic, Any Race		Hispanic, Any Race		Hispanic, Any Race	
	n	\$	n	\$	n	\$	\$	n	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	245	\$12,249	118	\$11,918	85	\$12,480	23	\$13,137	11	\$11,662	8	**
Trade, Transportation and Utilities	4,429	\$7,641	585	\$8,392	210	\$8,770	262	\$8,286	61	\$5,200	27	\$8,955	25	\$9,522
Information Technology	172	\$8,945	24	\$8,885	5	**	11	\$8,716	4	**	*	*	*	*
Financial and Real Estate	675	\$11,215	94	\$10,797	25	\$11,660	39	\$10,470	12	\$8,338	4	**	14	\$14,159
Professional and Business Services	2,848	\$10,469	343	\$9,499	95	\$9,848	123	\$8,705	57	\$8,055	5	**	63	\$12,291
Education	720	\$9,129	60	\$6,975	8	**	21	\$5,635	15	\$6,765	*	*	*	*
Health Services	2,288	\$7,942	338	\$8,307	91	\$8,254	133	\$8,502	71	\$6,911	17	\$9,089	26	\$9,222
Leisure and Hospitality	2,089	\$6,280	268	\$6,501	90	\$7,302	107	\$6,395	51	\$4,312	*	*	*	*
Other Services/Unclassified	687	\$8,077	91	\$8,132	32	\$9,804	32	\$7,726	16	\$4,524	5	**	6	\$10,033
Public Administration	550	\$10,550	38	\$9,478	6	**	9	**	7	**	10	\$12,284	6	\$8,769
Total	16,086	\$8,567	2,086	\$8,795	680	\$9,225	822	\$8,524	317	\$6,765	85	\$9,570	182	\$10,680

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall						No College					
			African-American / Black Alone		Asian Alone		White Alone		African-American / Black Alone		Asian Alone		White Alone	
	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	257	\$10,420	42	\$15,493	1,180	\$11,877	115	\$10,479	*	*	545	\$11,821
Trade, Transportation and Utilities	4,429	\$7,641	1,782	\$7,036	194	\$6,154	1,977	\$8,030	590	\$7,653	24	\$7,464	661	\$8,714
Information Technology	172	\$8,945	58	\$9,096	13	\$11,322	86	\$8,754	8	**	^	^	12	\$10,517
Financial and Real Estate	675	\$11,215	209	\$10,243	50	\$13,748	342	\$12,152	41	\$10,059	*	*	65	\$10,719
Professional and Business Services	2,848	\$10,469	798	\$8,823	234	\$14,031	1,528	\$11,426	208	\$7,893	6	**	277	\$9,464
Education	720	\$9,129	174	\$8,134	52	\$7,780	441	\$9,969	26	\$8,303	4	**	20	\$6,683
Health Services	2,288	\$7,942	806	\$7,648	161	\$8,191	1,046	\$8,055	171	\$7,399	4	**	162	\$7,768
Leisure and Hospitality	2,089	\$6,280	593	\$6,058	125	\$5,376	1,170	\$6,366	182	\$6,098	12	\$7,988	252	\$6,881
Other Services/Unclassified	687	\$8,077	173	\$7,338	31	\$8,092	405	\$8,222	41	\$7,255	*	*	139	\$9,475
Public Administration	550	\$10,550	131	\$7,728	13	\$10,933	365	\$11,614	20	\$9,182	^	^	77	\$10,978
Total	16,086	\$8,567	4,981	\$7,732	915	\$8,745	8,540	\$9,288	1,402	\$7,704	54	\$8,079	2,210	\$9,495

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall						Some College					
			African-American / Black Alone		Asian Alone		White Alone		African-American / Black Alone		Asian Alone		White Alone	
	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	257	\$10,420	42	\$15,493	1,180	\$11,877	92	\$10,406	12	\$10,619	297	\$10,788
Trade, Transportation and Utilities	4,429	\$7,641	1,782	\$7,036	194	\$6,154	1,977	\$8,030	831	\$6,801	86	\$6,176	732	\$7,713
Information Technology	172	\$8,945	58	\$9,096	13	\$11,322	86	\$8,754	29	\$9,090	*	*	24	\$7,088
Financial and Real Estate	675	\$11,215	209	\$10,243	50	\$13,748	342	\$12,152	89	\$9,288	11	\$10,074	69	\$9,424
Professional and Business Services	2,848	\$10,469	798	\$8,823	234	\$14,031	1,528	\$11,426	293	\$7,985	22	\$10,116	322	\$9,493
Education	720	\$9,129	174	\$8,134	52	\$7,780	441	\$9,969	48	\$7,270	7	\$4,418	61	\$6,665
Health Services	2,288	\$7,942	806	\$7,648	161	\$8,191	1,046	\$8,055	336	\$7,656	33	\$5,500	308	\$7,607
Leisure and Hospitality	2,089	\$6,280	593	\$6,058	125	\$5,376	1,170	\$6,366	293	\$5,992	62	\$5,767	449	\$6,289
Other Services/ Unclassified	687	\$8,077	173	\$7,338	31	\$8,092	405	\$8,222	78	\$6,818	14	\$7,618	133	\$7,295
Public Administration	550	\$10,550	131	\$7,728	13	\$10,933	365	\$11,614	49	\$6,129	*	*	89	\$11,414
Total	16,086	\$8,567	4,981	\$7,732	915	\$8,745	8,540	\$9,288	2,138	\$7,367	253	\$6,806	2,484	\$8,115

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall						Still in College					
			African-American / Black Alone		Asian Alone		White Alone		African-American / Black Alone		Asian Alone		White Alone	
	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	257	\$10,420	42	\$15,493	1,180	\$11,877	36	\$10,224	8	**	135	\$11,840
Trade, Transportation and Utilities	4,429	\$7,641	1,782	\$7,036	194	\$6,154	1,977	\$8,030	235	\$6,203	45	\$3,948	284	\$5,834
Information Technology	172	\$8,945	58	\$9,096	13	\$11,322	86	\$8,754	9	**	*	*	17	\$5,134
Financial and Real Estate	675	\$11,215	209	\$10,243	50	\$13,748	342	\$12,152	25	\$10,255	8	**	58	\$10,959
Professional and Business Services	2,848	\$10,469	798	\$8,823	234	\$14,031	1,528	\$11,426	122	\$9,862	65	\$11,919	298	\$10,116
Education	720	\$9,129	174	\$8,134	52	\$7,780	441	\$9,969	51	\$7,668	16	\$5,830	128	\$9,384
Health Services	2,288	\$7,942	806	\$7,648	161	\$8,191	1,046	\$8,055	172	\$7,380	62	\$5,308	270	\$7,388
Leisure and Hospitality	2,089	\$6,280	593	\$6,058	125	\$5,376	1,170	\$6,366	79	\$5,495	36	\$3,231	252	\$4,933
Other Services/ Unclassified	687	\$8,077	173	\$7,338	31	\$8,092	405	\$8,222	29	\$7,510	*	*	73	\$5,892
Public Administration	550	\$10,550	131	\$7,728	13	\$10,933	365	\$11,614	32	\$4,864	*	*	64	\$9,820
Total	16,086	\$8,567	4,981	\$7,732	915	\$8,745	8,540	\$9,288	790	\$7,371	252	\$6,264	1,579	\$7,507

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall						Lower Division Degree					
			African-American / Black Alone		Asian Alone		White Alone		African-American / Black Alone		Asian Alone		White Alone	
	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	257	\$10,420	42	\$15,493	1,180	\$11,877	*	*	*	*	41	\$10,383
Trade, Transportation and Utilities	4,429	\$7,641	1,782	\$7,036	194	\$6,154	1,977	\$8,030	30	\$6,768	13	\$8,034	101	\$8,562
Information Technology	172	\$8,945	58	\$9,096	13	\$11,322	86	\$8,754	*	*	^	^	8	**
Financial and Real Estate	675	\$11,215	209	\$10,243	50	\$13,748	342	\$12,152	5	**	^	^	13	\$11,102
Professional and Business Services	2,848	\$10,469	798	\$8,823	234	\$14,031	1,528	\$11,426	14	\$10,086	10	\$7,617	67	\$13,109
Education	720	\$9,129	174	\$8,134	52	\$7,780	441	\$9,969	4	**	*	*	26	\$8,912
Health Services	2,288	\$7,942	806	\$7,648	161	\$8,191	1,046	\$8,055	17	\$8,629	7	**	73	\$10,778
Leisure and Hospitality	2,089	\$6,280	593	\$6,058	125	\$5,376	1,170	\$6,366	9	**	5	**	65	\$6,595
Other Services/ Unclassified	687	\$8,077	173	\$7,338	31	\$8,092	405	\$8,222	*	*	*	*	22	\$9,036
Public Administration	550	\$10,550	131	\$7,728	13	\$10,933	365	\$11,614	8	**	*	*	57	\$16,417
Total	16,086	\$8,567	4,981	\$7,732	915	\$8,745	8,540	\$9,288	94	\$8,303	43	\$9,582	473	\$10,237

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall						Bachelor's Degree or Higher					
			African-American / Black Alone		Asian Alone		White Alone		African-American / Black Alone		Asian Alone		White Alone	
	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	257	\$10,420	42	\$15,493	1,180	\$11,877	11	\$10,897	17	\$20,909	162	\$15,115
Trade, Transportation and Utilities	4,429	\$7,641	1,782	\$7,036	194	\$6,154	1,977	\$8,030	96	\$8,019	26	\$9,281	199	\$10,024
Information Technology	172	\$8,945	58	\$9,096	13	\$11,322	86	\$8,754	11	\$10,230	8	**	25	\$9,486
Financial and Real Estate	675	\$11,215	209	\$10,243	50	\$13,748	342	\$12,152	49	\$14,058	30	\$17,250	137	\$14,653
Professional and Business Services	2,848	\$10,469	798	\$8,823	234	\$14,031	1,528	\$11,426	161	\$13,000	131	\$16,012	564	\$13,961
Education	720	\$9,129	174	\$8,134	52	\$7,780	441	\$9,969	45	\$10,847	22	\$9,111	206	\$12,424
Health Services	2,288	\$7,942	806	\$7,648	161	\$8,191	1,046	\$8,055	110	\$9,232	55	\$9,120	233	\$10,325
Leisure and Hospitality	2,089	\$6,280	593	\$6,058	125	\$5,376	1,170	\$6,366	30	\$6,802	10	\$5,966	152	\$8,001
Other Services/ Unclassified	687	\$8,077	173	\$7,338	31	\$8,092	405	\$8,222	22	\$10,039	8	**	38	\$11,146
Public Administration	550	\$10,550	131	\$7,728	13	\$10,933	365	\$11,614	22	\$9,098	6	**	78	\$10,504
Total	16,086	\$8,567	4,981	\$7,732	915	\$8,745	8,540	\$9,288	557	\$10,675	313	\$13,964	1,794	\$12,601

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Appendix 1: High School Graduates, State of Maryland, 2017, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2022

The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				No College			
	n	\$	FARMS		Non-FARMS		FARMS		Non-FARMS	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	476	\$11,107	1,152	\$11,805	270	\$11,105	466	\$11,852
Trade, Transportation and Utilities	4,429	\$7,641	1,663	\$7,497	2,766	\$7,716	670	\$7,857	761	\$8,415
Information Technology	172	\$8,945	47	\$9,090	125	\$8,915	8	**	15	\$10,078
Financial and Real Estate	675	\$11,215	181	\$10,259	494	\$11,680	52	\$10,420	71	\$10,213
Professional and Business Services	2,848	\$10,469	719	\$8,826	2,129	\$11,235	265	\$8,225	301	\$9,244
Education	720	\$9,129	146	\$7,813	574	\$9,420	28	\$7,769	29	\$7,572
Health Services	2,288	\$7,942	787	\$7,676	1,501	\$8,077	211	\$7,424	192	\$7,956
Leisure and Hospitality	2,089	\$6,280	716	\$6,493	1,373	\$6,173	280	\$6,730	222	\$6,482
Other Services/Unclassified	687	\$8,077	189	\$8,312	498	\$7,908	64	\$9,649	138	\$8,355
Public Administration	550	\$10,550	105	\$9,986	445	\$10,691	33	\$9,848	72	\$11,562
Total	16,086	\$8,567	5,029	\$8,087	11,057	\$8,889	1,881	\$8,169	2,267	\$9,097

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The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Some College			
	n	\$	FARMS		Non-FARMS		FARMS		Non-FARMS	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	476	\$11,107	1,152	\$11,805	140	\$11,251	314	\$10,559
Trade, Transportation and Utilities	4,429	\$7,641	1,663	\$7,497	2,766	\$7,716	687	\$7,247	1,165	\$7,166
Information Technology	172	\$8,945	47	\$9,090	125	\$8,915	22	\$9,383	40	\$7,358
Financial and Real Estate	675	\$11,215	181	\$10,259	494	\$11,680	76	\$9,968	121	\$9,343
Professional and Business Services	2,848	\$10,469	719	\$8,826	2,129	\$11,235	245	\$8,189	501	\$8,964
Education	720	\$9,129	146	\$7,813	574	\$9,420	45	\$7,000	91	\$6,075
Health Services	2,288	\$7,942	787	\$7,676	1,501	\$8,077	320	\$7,596	457	\$7,818
Leisure and Hospitality	2,089	\$6,280	716	\$6,493	1,373	\$6,173	300	\$6,261	591	\$6,147
Other Services/Unclassified	687	\$8,077	189	\$8,312	498	\$7,908	79	\$7,635	176	\$7,010
Public Administration	550	\$10,550	105	\$9,986	445	\$10,691	27	\$9,386	125	\$9,425
Total	16,086	\$8,567	5,029	\$8,087	11,057	\$8,889	1,941	\$7,751	3,581	\$7,827

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The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Still in College			
	n	\$	FARMS		Non-FARMS		FARMS		Non-FARMS	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	476	\$11,107	1,152	\$11,805	41	\$10,314	150	\$11,396
Trade, Transportation and Utilities	4,429	\$7,641	1,663	\$7,497	2,766	\$7,716	193	\$5,881	433	\$5,805
Information Technology	172	\$8,945	47	\$9,090	125	\$8,915	8	**	23	\$6,005
Financial and Real Estate	675	\$11,215	181	\$10,259	494	\$11,680	18	\$9,083	85	\$10,507
Professional and Business Services	2,848	\$10,469	719	\$8,826	2,129	\$11,235	105	\$9,687	424	\$10,194
Education	720	\$9,129	146	\$7,813	574	\$9,420	36	\$7,425	168	\$8,919
Health Services	2,288	\$7,942	787	\$7,676	1,501	\$8,077	154	\$7,603	413	\$7,059
Leisure and Hospitality	2,089	\$6,280	716	\$6,493	1,373	\$6,173	92	\$6,054	313	\$4,933
Other Services/Unclassified	687	\$8,077	189	\$8,312	498	\$7,908	25	\$6,388	93	\$6,113
Public Administration	550	\$10,550	105	\$9,986	445	\$10,691	19	\$8,932	88	\$7,878
Total	16,086	\$8,567	5,029	\$8,087	11,057	\$8,889	691	\$7,395	2,190	\$7,369

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The table below provides the distributions of high school graduates by select characteristics and the median quarterly wage for those graduates with same-employer wages. See the **Technical Documentation** in **Appendix 2** for information on group assignment and same-employer wages.

Sector	All Same-Employer High School Graduates		Overall				Lower Division Degree			
	n	\$	FARMS		Non-FARMS		FARMS		Non-FARMS	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	476	\$11,107	1,152	\$11,805	11	\$10,321	42	\$11,236
Trade, Transportation and Utilities	4,429	\$7,641	1,663	\$7,497	2,766	\$7,716	46	\$7,691	122	\$8,298
Information Technology	172	\$8,945	47	\$9,090	125	\$8,915	*	*	8	**
Financial and Real Estate	675	\$11,215	181	\$10,259	494	\$11,680	8	**	13	\$10,795
Professional and Business Services	2,848	\$10,469	719	\$8,826	2,129	\$11,235	13	\$9,333	82	\$12,593
Education	720	\$9,129	146	\$7,813	574	\$9,420	7	**	29	\$8,862
Health Services	2,288	\$7,942	787	\$7,676	1,501	\$8,077	31	\$10,452	81	\$10,599
Leisure and Hospitality	2,089	\$6,280	716	\$6,493	1,373	\$6,173	18	\$5,838	68	\$6,810
Other Services/Unclassified	687	\$8,077	189	\$8,312	498	\$7,908	*	*	24	\$8,657
Public Administration	550	\$10,550	105	\$9,986	445	\$10,691	14	\$16,982	61	\$15,541
Total	16,086	\$8,567	5,029	\$8,087	11,057	\$8,889	158	\$9,306	530	\$9,969

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Sector	All Same-Employer High School Graduates		Overall				Bachelor's Degree or Higher			
	n	\$	FARMS		Non-FARMS		FARMS		Non-FARMS	
			n	\$	n	\$	n	\$	n	\$
Goods Production	1,628	\$11,638	476	\$11,107	1,152	\$11,805	14	\$17,292	180	\$15,225
Trade, Transportation and Utilities	4,429	\$7,641	1,663	\$7,497	2,766	\$7,716	67	\$8,115	285	\$9,939
Information Technology	172	\$8,945	47	\$9,090	125	\$8,915	7	**	39	\$12,162
Financial and Real Estate	675	\$11,215	181	\$10,259	494	\$11,680	27	\$13,916	204	\$14,759
Professional and Business Services	2,848	\$10,469	719	\$8,826	2,129	\$11,235	91	\$12,241	821	\$14,018
Education	720	\$9,129	146	\$7,813	574	\$9,420	30	\$11,563	257	\$11,674
Health Services	2,288	\$7,942	787	\$7,676	1,501	\$8,077	71	\$9,520	358	\$9,920
Leisure and Hospitality	2,089	\$6,280	716	\$6,493	1,373	\$6,173	26	\$7,378	179	\$7,805
Other Services/Unclassified	687	\$8,077	189	\$8,312	498	\$7,908	13	\$10,142	67	\$10,995
Public Administration	550	\$10,550	105	\$9,986	445	\$10,691	12	\$9,895	99	\$10,457
Total	16,086	\$8,567	5,029	\$8,087	11,057	\$8,889	358	\$10,760	2,489	\$12,399

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Appendix 2: Technical Documentation

Introduction

This technical documentation contains information on the primary data and methods used to prepare *The Career Preparation Expansion Act* (CPEA) report as well as overviews of the two state agencies who produce the report.

The annual CPEA report is submitted in fulfillment of the requirement in *The Career Preparation Expansion Act* (CPEA), Chapter 695 of 2017 (see Education Article § 21-205, Annotated Code of Maryland).

Report Requirements:

The Maryland Longitudinal Data System (MLDS) Center and the Governor’s Workforce Development Board (GWDB) are required to produce a report on high school graduates for the five-year period after graduation on:

1. Wages earned;
2. Hours worked per week; and
3. The industry in which the individuals are employed.

State Agencies

The **Maryland Longitudinal Data System Center** (MLDS Center) is the State of Maryland’s central repository for student and workforce data. The MLDS Center develops and maintains the MLDS to provide analyses, produce relevant information, and inform choices to improve student and workforce outcomes in the State of Maryland.

The **Governor's Workforce Development Board** (GWDB) helps plan, coordinate, and monitor the State of Maryland’s programs and services for workforce development, and advises the Governor on the development, implementation, and modification of the four-year State Plan, as required by federal law.

MLDS Data

The MLDS connects data from across Maryland’s education and workforce agencies. These data are subject to strict data management, security, and privacy requirements. The MLDS may only report aggregated, de-identified data. All research conducted by the MLDS Center focuses on what happens to students before and after critical transitions between education and workforce pathways. All research and analysis using the MLDS is cross-sector.

The analysis in the CPEA report focuses on the employment of individuals as they transition into the workforce after receiving their high school diploma, including whether any of the graduates enrolled in college or earned a college degree after high school graduation. Below is an overview of the available data within the System to support this analysis:

Education Data

The MLDS contains education data on all students from Maryland public high schools, students attending Maryland public, state-aided independent and private institutions of higher education, and adults completing GED® Testing or the National External Diploma Program® (NEDP®). Education data begin with the 2007-2008 academic year. The MLDS does not contain education data on students in private high schools or private institutions of higher education. Nor does the MLDS contain data on postsecondary students in continuing education or non-credit programs. Further, data on unsuccessful attempts at fulfilling the GED® or NEDP® requirements are not included in the System. The MLDS contains limited information on out-of-state college enrollment and graduation for Maryland public high school graduates.

Wage Data

The MLDS System contains workforce data from quarterly Unemployment Insurance (UI) filings beginning with the first fiscal quarter of 2008 for individuals with a Maryland educational record (see the [MLDS Data Inventory](#) for a definition of *educational record*). UI filings are only available for Maryland employees who work for an in-state employer required to file UI and have a Maryland education record. Examples of employers that are not required to file UI include the federal government (including the military), certain non-profits, and self-employed and independent contractors. Individuals working in temporary employment, including federal postsecondary work-study programs, are also not subject to UI filings. These omissions mean it is incorrect to assume that individuals not counted as “employed” are unemployed.

The UI wages reported reflect the compensation paid during a fiscal quarter, rather than when the compensation was earned. UI wages reflect the sum of all compensation, including bonuses, commissions, tips, and other forms of compensation. The UI wage data do not distinguish between part-time and full-time employment, hourly and salaried wages, regular wages and commissions, bonuses, and other incentive pay. The UI wage data provided do not indicate the number of days or the number of hours a person worked in a fiscal quarter.

UI filings for a fiscal quarter may be incomplete. Employers may have filed UI wages after the data have been transmitted to the MLDS Center or have omitted individuals from their file.

Missing wage data and/or corrections to previously reported wages may be provided in subsequent fiscal quarters. While there is no time limit on correcting UI filings, most changes (additions and/or corrections) are completed within one fiscal quarter. The CPEA report includes three fiscal quarters of UI wage data. Two of the fiscal quarters have had at least one fiscal quarter of subsequent UI data reported, including the fiscal quarter used to derive median quarterly wages; therefore, errors in wage amounts due to corrections and late filings have been minimized. One of the fiscal quarters has not yet had a subsequent quarter of UI wage data filed. This fiscal quarter is used as part of the wage full-quarter wage methodology (see below); therefore, the reported wage visibility may be either overstated or understated.

Wage data in the MLDS include North American Industry Classification System (NAICS) codes for employers. This system classifies employers by sector rather than identifies the specific jobs performed by employees. For example, NAICS 62 is Health Care and Social Assistance, and NAICS 6221 is General Medical and Surgical Hospitals. Individuals who are doctors, hospital administrators, dietitians, and janitorial staff at a hospital would all have this same NAICS code. Employers select the sector and may change their sector designation at any time.

Contextual Data

Three sources of data were selected to provide context for the results and guide the analysis. Collectively, these sources provide comparisons to the outcomes reported.

MIT Living Wage Calculator

The [Living Wage Calculator](#) developed by the Massachusetts Institute of Technology (MIT) provides data on the cost of living in various geographic areas across the United States. The living wage calculator considers the cost of food, housing, health insurance, transportation, taxes, clothing, and other personal items to derive the minimum annual income required for basic self-sufficiency. It is more comprehensive than traditional poverty measures, which do not incorporate these broader costs of living. The measure selected from the Living Wage Calculator is *required annual income before taxes for one adult with no dependent children* (“Living Wage”). This annual income is converted to a quarterly income to align to the MLDS quarterly wage data. The Living Wage Calculator is reviewed each year in preparation for producing the CPEA report and the income reported is inflation adjusted (if necessary) using the CPI Inflation Calculator provided by the U. S. Department of Labor, Bureau of Labor Statistics to align to the wage period of the CPEA report. In 2020, the Living Wage Calculator was modified to include new categories of living expenses which, in turn, increase the living wage in Maryland by approximately \$1,000 per quarter over the prior formula.

American Community Survey 5 Year Estimates

The second source of contextual data was [American Community Survey \(ACS\) 1-Year Estimates, 2022](#). This survey provides extensive data on demographic characteristics, housing, and wages for states and counties throughout the United States. The measure selected from the ACS is *median earnings for workers* (“ACS Wage”). This annual income measure is converted to quarterly earnings to align to the MLDS quarterly wage data. This value is adjusted each year using the CPI inflation calculator provided by the U. S. Department of Labor, Bureau of Labor Statistics to align to the wage period of the CPEA report.

Minimum Wage in Maryland

The minimum wage in Maryland from July 2018 to December 2019 was \$10.10 per hour. Maryland raised the minimum wage to \$15.00 per hour with an annual phased-in increase of \$0.60 to \$0.75 per hour between January 1, 2020 and January 1, 2026 contingent upon the number of employees. The quarterly minimum wage is calculated based upon employment for 30 hours per week for 52 weeks per year. The 30 hours per week threshold was selected to calculate earnings as employment at 30 hours is the minimum to be classified as full-time.

Full-Quarter Wage Methodology

The high school graduates included in the wage analysis are selected by using the U. S. Census Bureau Stable or Full-Quarter Employment Methodology (referenced as Full-Quarter throughout the report)²⁰. This methodology excludes individuals from the median calculation who do not have wage data in either the fiscal quarter before or after the period of interest. The period of interest for CPEA is five years or

the 20th fiscal quarter after high school graduation; accordingly, individuals were included in the median wage calculation if, in addition to having wages in quarter 20, they also had wages in quarters 19 and 21. For each high school cohort, the 20th quarter after graduation is fiscal quarter 2 in a calendar year. For the 2023 report on the 2017 cohort of high school graduates, the 20th quarter was fiscal quarter 2 of 2022. Accordingly, individuals were included in the median wage calculation²¹ if, in addition to having wages in quarter 2 of 2022, they also had wages in fiscal quarter 1 of 2022 and fiscal quarter 3 of 2022.

The Full-Quarter Methodology provides a standardized method of determining whose wages to include in the analysis. Restricting analysis to “stable wage earners” provides a clearer picture of wage outcomes for workers fully engaged in the workforce and eliminates the potential to deflate median wage calculations by including the wages, or lack of wages, of workers who are absent, transient, or not fully engaged in the workforce. This method also reduces the impact of UI wage data limitations by excluding wages that may be incorrect due to incomplete or late filings.

Same-Employer Wage Methodology

The U.S. Census Bureau Stable or Full-Quarter Employment Methodology²² was used as a basis for selecting high school graduates to include in the industry-level wage analysis with the added requirement that the high school graduate must have been employed by the same employer for the nine-month period (Q19, Q20, and Q21) before deriving median wage calculations using Q20 wages.²³

Wage Bands

Wage bands were constructed to align to the contextual indicators selected for this report. The wages earned in the 20th quarter for those with full-quarter employment were used to assign each high school graduate to one of four wage groups. The wage band values are updated each year to align to that year's wages.

Income Band	20 th Fiscal Quarter Wage
Less than Minimum Wage	\$1 to <Minimum Wage
Between Minimum Wage and Living Wage	>=Minimum Wage to Living Wage
Between the Living Wage and ACS Wage	>=Living Wage to ACS Wage
Greater than or equal to the ACS Wage	>= ACS Wage

NAICS Groupings

The industry of employment was determined by evaluating the North American Industry Classification System (NAICS) code reported with each wage record. NAICS codes were grouped according to standard reporting categories.²⁴

Sector Category	Sector Sub-Category	NAICS
Goods Producing	Natural Resources & Mining	Agriculture (11)
Goods Producing	Natural Resources & Mining	Mining (21)
Goods Producing	Goods Production	Construction (23)
Goods Producing	Goods Production	Manufacturing (31-33)
Service Providing	Trade, Transportation, & Utilities	Utilities (22)
Service Providing	Trade, Transportation, & Utilities	Wholesale & Retail (42-45)
Service Providing	Trade, Transportation, & Utilities	Transportation & Warehousing (48-49)
Service Providing	Information	Information Technology (51)
Service Providing	Financial & Real Estate	Finance & Insurance (52)
Service Providing	Financial & Real Estate	Real Estate (53)
Service Providing	Professional & Business Services	Professional, Scientific, Technical Services (54)
Service Providing	Professional & Business Services	Management (55)
Service Providing	Professional & Business Services	Administrative, Support & Waste Management (56)
Service Providing	Education & Health Services	Educational Services (61)
Service Providing	Education & Health Services	Health Care & Social Assistance (62)
Service Providing	Leisure & Hospitality	Arts, Entertainment & Recreation (71)
Service Providing	Leisure & Hospitality	Accommodation & Food Services (72)
Service Providing	Other Services	Other Services (81)
Service Providing	Public Administration	Public Administration (92)

Educational Attainment Methodology

Educational attainment has important implications for workforce outcomes:

- First, research suggests that employment outcomes and wages may vary by level of educational attainment.²⁵
- Second, high school graduates enrolled in college may be employed in part-time entry-level minimum-wage positions so they can prioritize college; comparatively high school graduates that did not enroll in college may have been available to enter the workforce in full-time career-track employment.
- Finally, the time to degree widely varies based upon the type of postsecondary degree. Certificate, Associate's, and Bachelor's degree programs are designed to require one, two, or four years of full-time study respectively. The length of each program impacts the amount of time graduates may have been in the workforce after earning their college degree. For example, Certificate graduates may enter the workforce three years earlier than Bachelor's degree graduates, while Associate's graduates may enter the workforce two years earlier than Bachelor's degree graduates.

Accordingly, separating the population of interest into groups by educational attainment helps identify wage differences that may occur when using a common point in time (five years after high school graduation) as a measure for a population who has had different amounts of time in the workforce.

Educational attainment was frozen 6 months prior to the end of the five-year period to allow students in each category time to transition from college to workforce and thus provide a more accurate picture of wages and industry of employment after college. The 20th quarter after high school graduation aligns with the postsecondary Spring term which would end in May or June of a given year; however, assignment to an educational attainment category is made as of each student's status in Fall (for example, December 2020 or Quarter 18 post-high school graduation for the 2016 cohort).

Seven educational attainment groups were created using the definitions below. The dates referenced below are for the 2017 cohort of high school graduates.

1. **No College:** High school graduates without an in-state or out-of-state college enrollment record by the end of Spring term 2022.
2. **Some College:** High school graduates enrolled for at least one term between Fall 2017 and Fall 2021 but who are not actively enrolled in college in the Spring 2022 or Fall 2022 terms and did not earn any level of postsecondary degree.
3. **Still in College:** High school graduates enrolled in college in-state or out-of-state in the Spring 2022 and/or Fall 2022 terms. These graduates may have earned a postsecondary degree by the end of the Fall 2021 term; however, they are still actively pursuing additional postsecondary education.
4. **Certificate Graduates:** High school graduates who earned a postsecondary Certificate by the end of the Fall term 2020 and are not enrolled in college in the Spring 2022 or Fall 2022 terms. These graduates may have continued their postsecondary education beyond the Certificate; however, they had disengaged from postsecondary education without earning an additional degree by Fall term 2021.

5. **Associate's Graduates:** High school graduates who earned an Associate's degree by the end of the Fall term 2021 and are not enrolled in college in the Spring 2022 and/or Fall 2022 terms. These graduates may have continued their postsecondary education beyond the Associate's; however, they had disengaged from postsecondary education without earning an additional degree by Fall term 2021.
6. **Bachelor's Graduates:** High school graduates who earned a Bachelor's degree by the end of the Fall term 2021 and are not enrolled in college in the Spring 2022 and/or Fall 2022 terms. These graduates may have continued their postsecondary education beyond the Bachelor's; however, they had disengaged from postsecondary education without earning an additional degree by Fall term 2021.
7. **Other Degree Attainment:** High school graduates who earned a post-baccalaureate degree or a graduate degree by the end of Fall 2021 term and are not enrolled in college in the Spring 2022 or Fall 2022 terms. These graduates may have continued their postsecondary education; however, they had disengaged from postsecondary education without earning an additional degree by Fall term 2021.

Educational attainment should not be interpreted as college graduation rates as the CPEA report does not provide the starting number of students entering each educational attainment category, only the number of students who obtained each degree, are still enrolled in college, or stop attending college without graduating. Reporting on time to degree and college completion rates is outside the scope of this report.

Note, some high school graduates received more than one degree during the five-year period. Each graduate is counted only once, based upon highest degree attained. For example, if a high school graduate earned an Associate's degree and then earned a Bachelor's degree, the high school graduate is counted in the Bachelor's category. Other high school graduates earned a degree but were still progressing toward an additional degree, therefore some high school graduates in the *Still in College* category have already earned a degree. No high school graduates in the *Some College* category earned any level of postsecondary degree.

Demographic and Economic Groups

All high school graduates were assigned to one racial category, one ethnic category, one gender category, and one economic category.²⁶

Assignment to racial and ethnic categories were made based upon the methodology used by the U. S. Census for its Current Population Survey (CPS) which reports race independent of ethnicity. The racial and ethnic categories included in CPEA align to standard reporting practices employed by the U.S. Bureau of Labor Statistics (BLS). BLS reports labor data for three racial categories: White alone, Black or African-American alone, and Asian alone. Each racial category consists of individuals that identify with a single race but may be of any ethnicity. All other racial categories, including individuals identifying with two or more races, are omitted from BLS reports due to the small population size.²⁷ Small populations limit the conclusions that can be drawn from the data and may compromise the quality of any research.

This report uses student-level data on free or reduced-price meals (FARMS) eligibility for assignment to an economic category. FARMS is part of the National School Lunch Program (NSLP), administered by the United States Department of Agriculture (USDA). Students may be eligible for free or reduced-price meals through participation in certain need-based Federal Assistance Programs or if their family's income falls below a specified poverty threshold. Eligibility status may be determined through annual household applications or through direct certification. Students living in households with incomes at or below 130% of the federal poverty level are eligible for free meals, while students living in households with incomes between 130% and 185% of the federal poverty level are eligible for reduced-priced meals. Some students are directly certified based on participation in certain programs rather than exclusively on financial need (e.g., migrant education program, education of homeless children and youth, foster care).

FARMS does not measure socioeconomic status. Socioeconomic status is a complex measure that includes social status or prestige, occupation, educational attainment, income, and other factors. Many researchers use FARMS eligibility as a proxy for poverty. Using FARMS participation as a proxy for poverty may not correctly identify students experiencing poverty and treats all students as experiencing the same level of poverty. Using FARMS participation as a proxy for student poverty has limitations:

- The USDA has determined the number of children applying for FARMS declines in middle and high school due to the stigma associated with FARMS.
- Individual schools with 40% or more FARMS eligible students can elect to participate in the FARMS community eligibility provision. This election may report all students as FARMS even though some do not meet the poverty threshold.
- Student eligibility for FARMS can also change over time. Identifying FARMS participation in a single year may omit students who participated in FARMS in previous years.
- Not all students that participate in FARMS have identical levels of poverty. FARMS eligibility ranges from 130% to 185% of the federal poverty level.

A student's FARMS participation may be evaluated in a single year or based upon duration of time a student participates in FARMS. The method selected for determining FARMS participation can produce quite different results. The CPEA report evaluates FARMS status during 12th grade. As such, it likely underrepresents the number of students experiencing poverty in each cohort, students living in poverty for longer durations, and does not include student cycling in and out of poverty throughout their elementary and secondary education.

Sources on FARMS:

- U.S. Department of Agriculture. Food and Nutrition Service. *Child nutrition programs: Income eligibility guidelines (July 1, 2019 - June 30, 2020)* <https://www.fns.usda.gov/cnp/fr-032019>
- Nation Center for Education Statistics. *Free or reduced price lunch: A proxy for poverty?* <https://nces.ed.gov/blogs/nces/post/free-or-reduced-price-lunch-a-proxy-for-poverty>
- Harwell, M., & LeBeau, B., *Student eligibility for a free lunch as an SES measure in education research*. *Educational Researcher*, 39(2), 120-131.

End Notes

- ¹This definition of high school graduate was selected to align to reporting definitions used by the National Center for Education Statistics (NCES) and the U. S. Bureau of Labor Statistics (BLS).
- ²See Technical Appendix. *Demographic and Economic Groups* section. Economic status was determined through a student's Free or Reduced Price Meals (FARMS) eligibility in their final year of high school. FARMS indicates that a student is eligible to receive low-cost or no-cost meals each school day. Students may be eligible for free or reduced-price meals through participation in certain Federal Assistance Programs or based on their family's income falling below a specified poverty threshold. The education community and this report rely on FARMS eligibility to identify economically disadvantaged students. See Appendix 8 for a discussion on FARMS.
- ³See Technical Appendix. *Educational Attainment Methodology* section. Educational attainment should not be interpreted as college graduation rates as this report does not provide data on the number of students starting each degree, only the number of students who obtained each degree, are still enrolled in college or stop attending college without graduating. Reporting on college completion is outside the scope of this report.
- ⁴See Technical Appendix. *Wage Data*. The Full-Quarter Employment (Stable) methodology is utilized by the U.S. Census Bureau to calculate average monthly earnings for individuals engaged in stable employment with the same employer. The methodology applied here derives quarterly, rather than monthly, median earnings. https://lehd.ces.census.gov/doc/QWI_101.pdf.
- ⁵Wages are actual for Q2 2022 and not inflation adjusted to current day values. If an individual had more than one source of wages for the period those sources were summed to a personal quarterly wage and that value was used in determining the median.
- ⁶See Technical Appendix. *Wage Data*.
- ⁷The full reporting series can be found at <https://mldscenter.maryland.gov/CenterReports.html> under the section: *Annual Report on the Workforce Outcomes of Maryland Public High School Graduates*.
- ⁸Glasmeier, A. (2023). *Living Wage Calculator*. Massachusetts Institute of Technology. <https://livingwage.mit.edu/states/24/locations>
- ⁹United States Census Bureau. (2022). *U.S. Census Bureau, 2016-2020 American Community Survey 1-Year Estimates Subject Tables*. https://data.census.gov/table/ACSST1Y2022.S2001?g=040XX00US24_040xx00us24.
- ¹⁰Projected lifetime earnings are based on the sum of median quarterly wages for individuals through the age of 65 for each education level.
- ¹¹For example, Baum, S, Ma, J. & Payea, K. (2013). *Education Pays 2013: The benefits of higher education for individuals and society*. College Board.
- ¹²The full reporting series can be found at <https://mldscenter.maryland.gov/CenterReports.html> under the section: *Annual Report on the Workforce Outcomes of Maryland Public High School Graduates*.
- ¹³See Technical Appendix. *Wage Data*.
- ¹⁴See Technical Appendix. *NAICS Groupings*.
- ¹⁵Maryland Department of Labor. (2022). *Maryland - Second Quarter 2022 - Industry Series - Maryland's Quarterly Census of Employment and Wages (QCEW) – OWIP*. <https://www.dlir.state.md.us/lmi/emppay/tab1md22022.shtml>
- ¹⁶U.S. Bureau of Economic Analysis. (n.d.). *SAGDP2N Gross Domestic Product (GDP) by State*. <https://apps.bea.gov>
- ¹⁷Baum, S., Pender, M. & Welch, M. (2019). *Education Pays 2019: The benefits of higher education for individuals and society*. College Board.
- ¹⁸Glasmeier, A. (2021). *Living Wage Calculator*. Massachusetts Institute of Technology. <https://livingwage.mit.edu/states/24/locations>
- ¹⁹MLDS Center. (2020). *Educational and Workforce Outcomes for Associate's Degree Graduates from Maryland's Community Colleges*. Baltimore, MD: Maryland Longitudinal Data System Center. https://mldscenter.maryland.gov/egov/publications/CenterReports/AssociatesDegreeGraduates/AssociatesDegreeReport_April2020.pdf

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- ²⁰The Full-Quarter Employment (Stable) methodology is utilized by the U. S. Census Bureau to calculate average monthly earnings for individuals engaged in stable employment with any employer. The methodology is applied here to derive quarterly, rather than monthly median earnings.
https://lehd.ces.census.gov/doc/QWI_101.pdf.
- ²¹Some individuals have wages in a quarter from more than one employer. Those wages were summed and then the sum was used in the median quarterly wage calculation.
- ²²The Full-Quarter Employment (Stable) methodology is utilized by the U.S. Census Bureau to calculate average monthly earnings for individuals engaged in stable employment with the same employer. The methodology applied here derives quarterly, rather than monthly, median earnings.
https://lehd.ces.census.gov/doc/QWI_101.pdf.
- ²³For the NAICS quarterly median wage calculation, some individuals had wages in the quarter from more than one employer and more than one NAICS. Only wages from the employer that covered all three quarters were used in median wage calculations.
- ²⁴The 20 NAICS codes were grouped based upon industry sector as aligned to U. S. Bureau of Labor Statistics and U.S. Statistical Agencies Office of Management and Budget (Federal), Economic Classification Policy Committee.
- ²⁵For example, see:
Baum, S., Ma, J. & Payea, K. (2013). *Education Pays 2013: The benefits of higher education for individuals and society*. College Board.
Hout, M. (2012). *Social and economic returns to college education in the United States*. *Annual Review of Sociology*. 38: 379-400.
Kane, T.J. & Rouse, C. E. (1995). *Labor market returns to two-year and four-year college*. *The American Economic Review*, 85(3): 600-614
Thomas, S. & Zhang, L. (2005). *Post-baccalaureate wage growth within 4 years of graduation: The effects of college quality and college major*. *Research in Higher Education*. 46(4): 437-459.
- ²⁶Economic status was determined through a student's Free or Reduced Price Meals (FARMS) eligibility in their final year of high school. FARMS indicates that a student is eligible to receive low-cost or no-cost meals each school day. Students may be eligible for free or reduced-price meals through participation in certain Federal Assistance Programs or based on their family's income falling below a specified poverty threshold. The education community and this report rely on FARMS eligibility to identify economically disadvantaged students. See Appendix 2 for a discussion on FARMS.
- ²⁷U.S. Bureau of Labor Statistics. (2020). *Labor Force Statistics from the Current Population Survey: Concepts and Definitions*. <https://www.bls.gov/cps/definitions.htm#race>