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2022

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 2017 (see Education Article § 21-205, 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 2016 and are between the ages of 16 and 24 at the time of graduation<sup>1</sup>. 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, 2016, Distribution by Demographic and Economic Characteristics**

2016 High School Graduates			
<i>All High School Graduates</i>		<b>57,502</b>	
		#	%
Gender	Female	29,079	51%
	Male	28,423	49%
Ethnicity	Hispanic, Any Race	6,387	11%
Race	African-American/ Black Alone	20,291	35%
	Asian Alone	3,863	7%
	White Alone	27,860	48%
Economic Status <sup>2</sup>	FARMS	18,750	33%
	Non-FARMS	38,752	67%

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

Almost 60,000 students graduated from Maryland public high schools in 2016 under the high school graduate definition used for this report. See **Table A**.

High school graduates were disaggregated into educational attainment groups.<sup>2</sup> See **Table B**. Definitions used to determine assignment to each group can be found in the **Technical Documentation** in **Appendix 2** at the end of this report.

**Table B. Maryland Public High School Graduates, 2016, Distribution by Educational Attainment, Five Years after Graduation**

Educational Attainment Level	2016 High School Graduates	
<i>All High School Graduates</i>	<b>57,502</b>	
	#	%
<b>No College</b>	14,170	25%
<b>Some College</b>	20,766	36%
<b>Still in College</b>	10,662	18.5%
<b>Lower Division Degree</b>	1,743	3%
<b>Certificate</b>	205	<1%
<b>Associate’s</b>	1,538	3%
<b>Bachelor’s Degree or Higher</b>	10,161	18%
<b>Bachelor’s</b>	10,105	17.5%
<b>Other Degree</b>	56	<1%

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## RESULTS

### Question 1. Wages Earned Five Years after High School Graduation

#### Wage Visibility by Educational Attainment

There were 23,179 high school graduates, or 40% of all graduates, who had wages for three consecutive fiscal quarters (“full-quarter wages”<sup>3</sup>) five years after high school graduation (fiscal quarter 2 of 2021<sup>4</sup>) 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 MLDS<sup>5</sup>, or were unemployed.

Wage visibility, or the rate at which high school graduates meet the definition of full-quarter wages, was consistently around 45% in prior reports on the 2012 (2017 wages), 2013 (2018 wages), and 2014 (2019 wages) cohorts of high school graduates. Wage visibility for these cohorts ranged from the mid-30% for those who earned a Bachelor’s degree to the mid-60% for those who earned an Associate’s degree. Conversely, the overall wage visibility rate for the 2015 cohort (2020 wages) was only 17%, likely due to the economic shutdown in Maryland in 2020 during the onset of the COVID-19 pandemic.

The focus of this year’s report, the 2016 cohort (2021 wages) had a wage visibility that is close to that of the pre-COVID cohorts (2012 to 2014). The wage visibility patterns by

educational attainment were also similar to prior pre-COVID cohorts, those with *Lower Division Degrees* are most visible in the wage data, while those with *Bachelor’s Degrees or Higher* are the least visible. This pattern does not suggest that there are not jobs in the Maryland economy for those with *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 this group spent the majority 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.

**Table 1. Maryland Public High School Graduates, 2016, Wage Visibility, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**

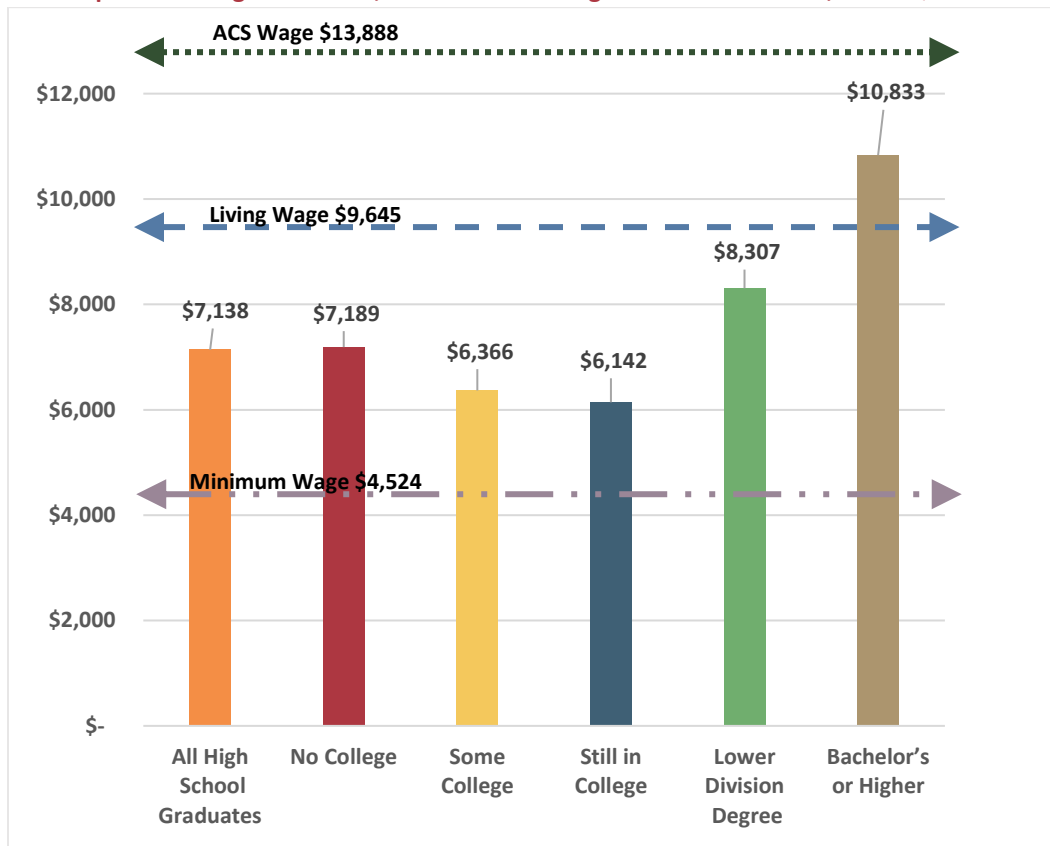
Educational Attainment	Total	Q2 2021 Full-Quarter Wages	
		#	%
<b>All High School Graduates</b>	57,502	23,179	40%
No College	14,170	5,522	39%
Some College	20,766	8,431	41%
Still in College	10,662	4,440	42%
Lower Division Degree	1,743	899	52%
Bachelor’s Degree or Higher	10,161	3,887	38%

## Median Quarterly Wages by Educational Attainment

Overall, the median quarterly wage for all high school graduates with full-quarter wages was \$7,138 in the 20<sup>th</sup> quarter – fiscal quarter 2 of 2021. This was approximately \$2,500 below the living wage<sup>6</sup> in Maryland and \$6,570 below the ACS median earnings for all workers in Maryland.<sup>7</sup> This result was not uniform across all educational attainment groups.

High school graduates who did not continue to college, those with some college, and those still in college had a median quarterly wage that fell approximately \$3,000 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, 2016, Median Quarterly Wages by Educational Attainment Compared to Wage Indicators, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**



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 due to the fact that 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 \$800 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 \$200 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 \$1,000 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 \$1,100 above high school graduates with *No College* but were still \$1,300 below the living wage. Notably, those with a *Lower Division Degree* had a median quarterly wage almost \$2,000 more than those with *Some College*, demonstrating the value of even short-term credentials like a postsecondary Certificate or Associate's Degree. 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.

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.<sup>8</sup> The results for both groups align to research<sup>9</sup> 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 2**.

**Table 2. Maryland Public High School Graduates, 2016, Wage Visibility and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**

Educational Attainment	2016 High School Graduates						
	Total	Full-Quarter Wages Q2 2021			Variation to Living Wage (\$9,645)	Above Living Wage	
		#	%	Median Quarterly Wage		#	%
<b>All High School Graduates</b>	57,502	23,179	40%	\$7,138	\$(2,507) ↓	6,869	30%
<b>No College</b>	14,170	5,522	39%	\$7,189	\$(2,456) ↓	1,510	27%
<b>Some College</b>	20,766	8,431	41%	\$6,366	\$(3,279) ↓	1,683	20%
<b>Still in College</b>	10,662	4,440	42%	\$6,142	\$(3,503) ↓	1,123	25%
<b>Lower Division Degree</b>	1,743	899	52%	\$8,307	\$(1,338) ↓	329	37%
<b>Bachelor's Degree or Higher</b>	10,161	3,887	38%	\$10,833	\$1,188 ↑	2,224	57%

↑value is above the living wage, ↓ value is below the living wage

From this perspective, overall, 30% of high school graduates with full-quarter wages had a quarterly wage above the living wage. The rate 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*, despite being available to engage in the labor market for the full five year period, had wages above

the living wage at only a slightly higher rate (27%) than those with *Some College* at 20%.

This point is particularly important when one considers that the *No College* and *Some College* graduates make up approximately 60% of high school graduates with full quarter wages, yet collectively only 22% of this combined group have a quarterly wage sufficient to meet the basic cost of living in Maryland. By comparison, 57% of those with *Bachelor's Degree or Higher* and 37% of those with a *Lower Division Degree* had wages above the living wage.



## Question 2. Hours Worked Per Week

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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 16,525 high school graduates, or 29% of all high school graduates, who had wages with the same employer<sup>10</sup> for three consecutive fiscal quarters five years after high school graduation that can be analyzed for wages by labor sector. See **Table 5**.

Or considered another way, this means that 71% of 23,179 high school graduates with full-quarter wages (wages for three 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 3. Maryland Public High School Graduates, 2016, Full-Quarter and Same-Employer Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**

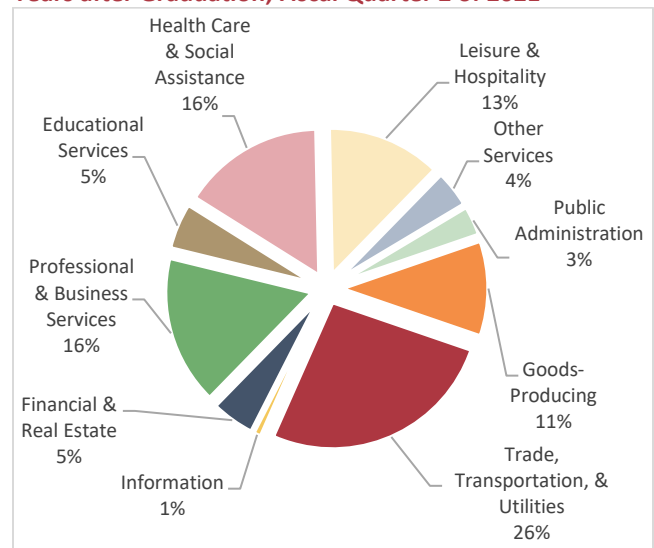
2016 High School Graduates	Total	%
<b>All High School Graduates</b>	<b>57,502</b>	
High School Graduates with Full-Quarter Wages	23,179	40%
High School Graduates with Same-Employer Wages	16,525	29%

### Labor Sector and Median Quarterly Wages by Educational Attainment

Five years after high school graduation, the labor sector<sup>11</sup> with the largest share of high school graduates with same-employer wages was *Trade, Transportation, & Utilities* (26%). *Health Care & Social Assistance* and *Professional & Business Services* were the next two largest sectors with 16% each. See **Chart 2**.

In 2021, collectively, these three sectors employed over 1.2 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).<sup>12</sup> These three sectors represented \$133 billion of the \$369 billion private sector gross domestic product in 2021<sup>13</sup> 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 2. Maryland Public High School Graduates, 2016, Same-Employer Wages, Sector of Wages, Five Years after Graduation, Fiscal Quarter 2 of 2021**

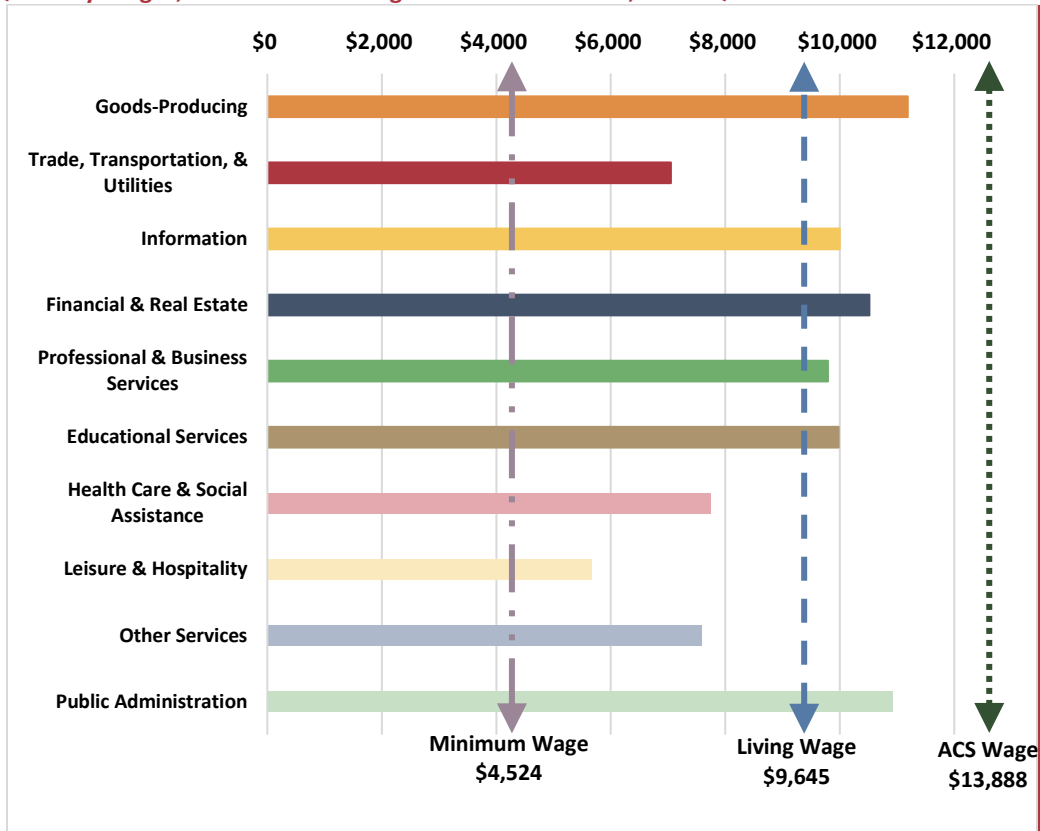


High school graduates with same-employer wages had median quarterly wages at or above the living wage in six of the ten labor sectors, including four sectors with median quarterly wages at or above \$10,000. See **Chart 3** and **Table 4**. These six sectors account for 41% of all high school graduates with same-employer wages. The remaining 59% were in labor

sectors with a median quarterly wage \$1,000 to \$4,000 below the living wage.

The largest labor sector, *Trade, Transportation, & Utilities*, with 26% of all high school graduates with same-employer wages, had a median quarterly wage \$2,600 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 3. Maryland Public High School Graduates, 2016, with Same-Employer Wages, Sector of Employment and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**



Equally important to the median wage, is the percentage of high school graduates within each sector with wages above the living wage. See **Table 4**.

Six 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 four sectors, it is the minority of high school graduates who had wages above the living wage. This rate is as low as 14% in *Leisure & Hospitality*.

**Table 4. Maryland Public High School Graduates, 2016, Same-Employer Wages and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**

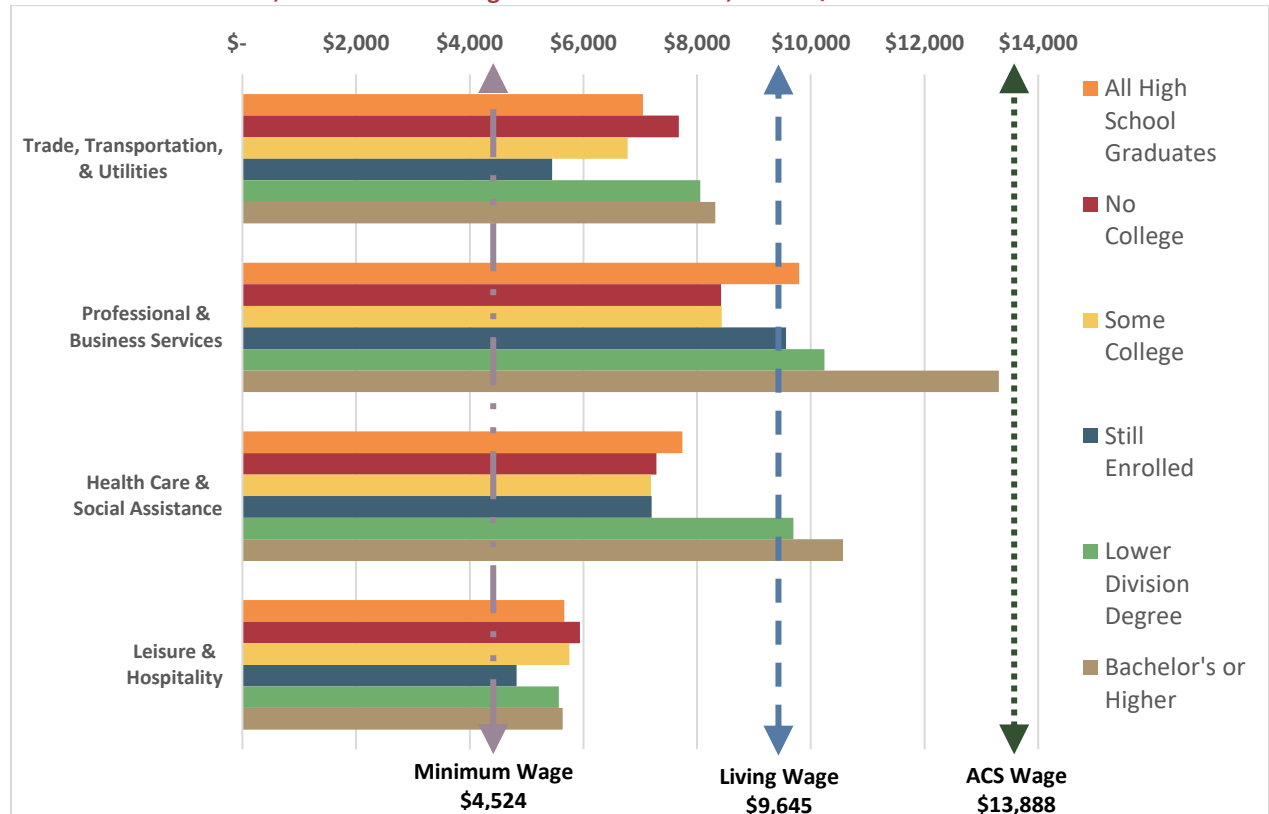
2016 High School Graduates					
Sector	Total	%	Median Quarterly Wage		% Above Living Wage
<b>Goods-Producing</b>	1,741	11%	\$11,188	↑	64%
<b>Trade, Transportation, &amp; Utilities</b>	4,358	26%	\$7,050	↓	25%
<b>Information</b>	143	1%	\$10,000	↑	52%
<b>Financial &amp; Real Estate</b>	795	5%	\$10,518	↑	59%
<b>Professional &amp; Business Services</b>	2,727	16%	\$9,794	↑	52%
<b>Educational Services</b>	844	5%	\$9,981	↑	52%
<b>Health Care &amp; Social Assistance</b>	2,603	16%	\$7,742	↓	29%
<b>Leisure &amp; Hospitality</b>	2,090	13%	\$5,665	↓	14%
<b>Other Services</b>	680	4%	\$7,589	↓	31%
<b>Public Administration</b>	544	3%	\$10,928	↑	60%
<b>Total</b>	<b>16,525</b>		<b>\$8,181</b>	<b>↓</b>	<b>37%</b>

↑value is above living wage, ↓ value is below living wage (\$9,645)

Median quarterly wages within each sector can also be considered by educational attainment. Some sectors, such as *Leisure & Hospitality*, had little variation in median quarterly wages by educational attainment. See **Chart 4**.

While other, such as *Professional & Business Services* and *Health Care & Social Assistance* had distinct differences in median quarterly wages between those with and without college degrees.

**Chart 4. Maryland Public High School Graduates, 2016, Sector of Employment and Median Quarterly Wages by Educational Attainment, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**



**Table 5. Maryland Public High School Graduates, 2016, Same-Employer Wages and Median Quarterly Wages, Five Years after High School Graduation, Fiscal Quarter 2 of 2021**

Sector	All High School Graduates	No College	Some College	Still in College	Lower Division Degree	Bachelor's Degree or Higher
<b>Goods-Producing</b>	↑ \$11,188	↑ \$11,288	↑ \$9,833	↑ \$11,554	↑ \$9,797	↑ \$15,887
<b>Trade, Transportation, &amp; Utilities</b>	\$7,050	\$7,678	\$6,779	\$5,449	\$8,053	\$8,317
<b>Information</b>	↑ \$10,000	↑ \$9,782	\$9,038	\$9,347	\$8,111	↑ \$17,308
<b>Financial &amp; Real Estate</b>	↑ \$10,518	\$9,211	\$9,000	\$9,041	\$8,832	↑ \$13,870
<b>Professional &amp; Business Services</b>	↑ \$9,794	\$8,420	\$8,433	\$9,566	↑ \$10,238	↑ \$13,306
<b>Educational Services</b>	↑ \$9,981	\$6,690	\$6,604	↑ \$11,198	\$6,987	↑ \$13,588
<b>Health Care &amp; Social Assistance</b>	\$7,742	\$7,283	\$7,189	\$7,200	↑ \$9,695	↑ \$10,566
<b>Leisure &amp; Hospitality</b>	\$5,665	\$5,936	\$5,755	\$4,823	\$5,565	\$5,632
<b>Other Services</b>	\$7,589	\$8,418	\$7,103	\$5,808	\$9,443	↑ \$10,000
<b>Public Administration</b>	↑ \$10,928	↑ \$9,974	↑ \$10,946	↑ \$9,689	↑ \$14,226	↑ \$11,188
<b>Total</b>	\$8,181	\$8,143	\$7,305	\$7,232	\$9,045	↑ \$12,273

↑value is above living wage, \$9,645

Two labor sectors had a median quarterly wage above the living wage for every educational attainment group. The first sector, *Goods-Producing*, had median quarterly wages above the living wage for all educational attainment groups, although wages varied from a low of \$9,797 (*Lower Division Degree*) to a high of \$15,887 (*Bachelor's Degree or Higher*). The second sector was *Public Administration* which had a similar range of median quarterly wages, with a low of \$9,689 (*Still in College*) to a high of \$14,226 (*Lower Division Degree*).

Overall, those with a college degree had higher wages in all sectors and had more sectors with wages at or above the living wage. For example, eight of the ten sectors had median quarterly wages above the living wage for *Bachelor's Degree or Higher* where medians ranged from a low of \$5,632 (*Leisure & Hospitality*) to a high of \$17,308 (*Information*).

Those with *Some College* and *No College*, each had two or three labor sectors with median quarterly wages above the living wage and another three sectors within a few hundred 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 26% 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 39% 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

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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.<sup>14</sup>

Applied to this report, this means that as many as 30,000 high school graduates from the 2016 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 \$1,100 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 \$4,400 gap is the difference between the annual cost of food (\$3,351) or medical expenses (\$2,658) in Maryland.<sup>15</sup>

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, 37% of those with a *Lower Division Degree* had wages above the living wage, which is ten 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.<sup>16</sup>

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 25% 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 wages to meet the cost of living in Maryland. The *Leisure & Hospitality* labor sector had median quarterly wages between \$4,823 and \$5,936 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 14% of those

in this sector, regardless of educational attainment, have wages above the living wage. Comparatively, six of the ten sectors had between 52% and 65% 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, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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		Overall	Female		Male		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	334	\$10,037	1,407	\$11,506	\$11,188	67	\$8,714	640	\$11,562	\$11,288
Trade, Transportation and Utilities	4,358	\$7,050	1,877	\$6,320	2,481	\$7,596	\$7,050	416	\$6,774	833	\$8,103	\$7,678
Information Technology	143	\$10,000	64	\$8,793	79	\$12,202	\$10,000	*	*	*	*	*
Financial and Real Estate	795	\$10,518	440	\$9,498	355	\$12,295	\$10,518	49	\$8,120	67	\$10,448	\$9,211
Professional and Business Services	2,727	\$9,794	1,331	\$9,157	1,396	\$10,628	\$9,794	200	\$7,498	321	\$8,974	\$8,420
Education	844	\$9,981	630	\$11,495	214	\$7,932	\$9,981	*	*	*	*	*
Health Services	2,603	\$7,742	2,157	\$7,792	446	\$7,567	\$7,742	328	\$7,267	95	\$7,321	\$7,283
Leisure and Hospitality	2,090	\$5,665	1,110	\$5,654	980	\$5,674	\$5,665	212	\$6,248	255	\$5,785	\$5,936
Other Services/Unclassified	680	\$7,589	402	\$6,950	278	\$8,498	\$7,589	98	\$7,708	106	\$9,000	\$8,418
Public Administration	544	\$10,928	218	\$10,014	326	\$11,596	\$10,928	21	\$11,038	100	\$9,837	\$9,974
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>8,563</b>	<b>\$7,662</b>	<b>7,962</b>	<b>\$8,873</b>	<b>\$8,181</b>	<b>1,436</b>	<b>\$7,225</b>	<b>2,482</b>	<b>\$8,943</b>	<b>\$8,143</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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		Overall	Female		Male		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	334	\$10,037	1,407	\$11,506	\$11,188	91	\$9,019	402	\$10,036	\$9,833
Trade, Transportation and Utilities	4,358	\$7,050	1,877	\$6,320	2,481	\$7,596	\$7,050	796	\$6,320	1,009	\$7,154	\$6,779
Information Technology	143	\$10,000	64	\$8,793	79	\$12,202	\$10,000	12	\$8,626	22	\$9,441	\$9,038
Financial and Real Estate	795	\$10,518	440	\$9,498	355	\$12,295	\$10,518	140	\$8,799	82	\$9,192	\$9,000
Professional and Business Services	2,727	\$9,794	1,331	\$9,157	1,396	\$10,628	\$9,794	381	\$8,126	406	\$8,863	\$8,433
Education	844	\$9,981	630	\$11,495	214	\$7,932	\$9,981	93	\$6,645	45	\$6,413	\$6,604
Health Services	2,603	\$7,742	2,157	\$7,792	446	\$7,567	\$7,742	800	\$7,192	141	\$7,071	\$7,189
Leisure and Hospitality	2,090	\$5,665	1,110	\$5,654	980	\$5,674	\$5,665	499	\$5,784	440	\$5,748	\$5,755
Other Services/Unclassified	680	\$7,589	402	\$6,950	278	\$8,498	\$7,589	144	\$6,621	89	\$7,726	\$7,103
Public Administration	544	\$10,928	218	\$10,014	326	\$11,596	\$10,928	64	\$10,214	93	\$11,862	\$10,946
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>8,563</b>	<b>\$7,662</b>	<b>7,962</b>	<b>\$8,873</b>	<b>\$8,181</b>	<b>3,020</b>	<b>\$7,020</b>	<b>2,729</b>	<b>\$7,822</b>	<b>\$7,305</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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		Overall	Female		Male		Overall
			n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	334	\$10,037	1,407	\$11,506	\$11,188	63	\$10,053	163	\$11,900	\$11,554
Trade, Transportation and Utilities	4,358	\$7,050	1,877	\$6,320	2,481	\$7,596	\$7,050	384	\$5,024	340	\$5,924	\$5,449
Information Technology	143	\$10,000	64	\$8,793	79	\$12,202	\$10,000	10	\$8,522	15	\$9,589	\$9,347
Financial and Real Estate	795	\$10,518	440	\$9,498	355	\$12,295	\$10,518	85	\$8,318	47	\$12,384	\$9,041
Professional and Business Services	2,727	\$9,794	1,331	\$9,157	1,396	\$10,628	\$9,794	279	\$9,173	236	\$10,738	\$9,566
Education	844	\$9,981	630	\$11,495	214	\$7,932	\$9,981	174	\$11,793	42	\$9,289	\$11,198
Health Services	2,603	\$7,742	2,157	\$7,792	446	\$7,567	\$7,742	495	\$7,329	103	\$6,381	\$7,200
Leisure and Hospitality	2,090	\$5,665	1,110	\$5,654	980	\$5,674	\$5,665	240	\$4,904	185	\$4,654	\$4,823
Other Services/Unclassified	680	\$7,589	402	\$6,950	278	\$8,498	\$7,589	86	\$5,489	46	\$6,920	\$5,808
Public Administration	544	\$10,928	218	\$10,014	326	\$11,596	\$10,928	65	\$7,759	49	\$11,800	\$9,689
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>8,563</b>	<b>\$7,662</b>	<b>7,962</b>	<b>\$8,873</b>	<b>\$8,181</b>	<b>1,881</b>	<b>\$6,893</b>	<b>1,226</b>	<b>\$7,753</b>	<b>\$7,232</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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		Overall	Female		Male		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	334	\$10,037	1,407	\$11,506	\$11,188	16	\$8,842	34	\$10,333	\$9,797
Trade, Transportation and Utilities	4,358	\$7,050	1,877	\$6,320	2,481	\$7,596	\$7,050	70	\$7,113	117	\$8,622	\$8,053
Information Technology	143	\$10,000	64	\$8,793	79	\$12,202	\$10,000	*	*	*	*	*
Financial and Real Estate	795	\$10,518	440	\$9,498	355	\$12,295	\$10,518	24	\$8,460	11	\$10,537	\$8,832
Professional and Business Services	2,727	\$9,794	1,331	\$9,157	1,396	\$10,628	\$9,794	56	\$9,791	46	\$11,887	\$10,238
Education	844	\$9,981	630	\$11,495	214	\$7,932	\$9,981	*	*	*	*	*
Health Services	2,603	\$7,742	2,157	\$7,792	446	\$7,567	\$7,742	114	\$9,856	22	\$8,894	\$9,695
Leisure and Hospitality	2,090	\$5,665	1,110	\$5,654	980	\$5,674	\$5,665	39	\$5,608	22	\$5,410	\$5,565
Other Services/Unclassified	680	\$7,589	402	\$6,950	278	\$8,498	\$7,589	10	\$5,893	10	\$10,838	*9,443
Public Administration	544	\$10,928	218	\$10,014	326	\$11,596	\$10,928	19	\$12,455	44	\$15,337	\$14,226
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>8,563</b>	<b>\$7,662</b>	<b>7,962</b>	<b>\$8,873</b>	<b>\$8,181</b>	<b>368</b>	<b>\$8,546</b>	<b>320</b>	<b>\$9,444</b>	<b>\$9,045</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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		Overall	Female		Male		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	334	\$10,037	1,407	\$11,506	\$11,188	97	\$13,170	168	\$17,252	\$15,887
Trade, Transportation and Utilities	4,358	\$7,050	1,877	\$6,320	2,481	\$7,596	\$7,050	211	\$7,533	182	\$9,774	\$8,317
Information Technology	143	\$10,000	64	\$8,793	79	\$12,202	\$10,000	28	\$10,783	29	\$23,168	\$17,308
Financial and Real Estate	795	\$10,518	440	\$9,498	355	\$12,295	\$10,518	142	\$13,595	148	\$13,984	\$13,870
Professional and Business Services	2,727	\$9,794	1,331	\$9,157	1,396	\$10,628	\$9,794	415	\$12,071	387	\$15,000	\$13,306
Education	844	\$9,981	630	\$11,495	214	\$7,932	\$9,981	313	\$13,715	61	\$12,510	\$13,588
Health Services	2,603	\$7,742	2,157	\$7,792	446	\$7,567	\$7,742	420	\$11,559	85	\$8,858	\$10,566
Leisure and Hospitality	2,090	\$5,665	1,110	\$5,654	980	\$5,674	\$5,665	120	\$5,458	78	\$5,982	\$5,632
Other Services/Unclassified	680	\$7,589	402	\$6,950	278	\$8,498	\$7,589	64	\$9,828	27	\$11,714	\$10,000
Public Administration	544	\$10,928	218	\$10,014	326	\$11,596	\$10,928	49	\$10,393	40	\$11,928	\$11,188
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>8,563</b>	<b>\$7,662</b>	<b>7,962</b>	<b>\$8,873</b>	<b>\$8,181</b>	<b>1,859</b>	<b>\$11,511</b>	<b>1,205</b>	<b>\$13,432</b>	<b>\$12,273</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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	1,741	\$11,188	229	\$10,811	106	\$10,759	76	\$10,567	*	*	*	*	16	\$19,943
Trade, Transportation and Utilities	4,358	\$7,050	608	\$7,295	175	\$7,848	291	\$7,503	92	\$5,401	21	\$7,221	29	\$7,102
Information Technology	143	\$10,000	22	\$10,525	*	*	*	*	*	*	^	^	*	*
Financial and Real Estate	795	\$10,518	98	\$9,810	26	\$9,326	34	\$9,304	14	\$9,342	10	\$11,081	14	\$15,484
Professional and Business Services	2,727	\$9,794	298	\$9,105	79	\$9,249	119	\$8,587	39	\$8,264	11	\$8,124	50	\$11,477
Education	844	\$9,981	73	\$7,890	*	*	24	\$7,067	15	\$7,693	*	*	21	\$13,607
Health Services	2,603	\$7,742	354	\$7,909	89	\$7,848	135	\$7,242	70	\$7,948	10	\$10,147	50	\$10,497
Leisure and Hospitality	2,090	\$5,665	228	\$6,004	66	\$6,394	103	\$5,846	39	\$5,642	*	*	*	*
Other Services/Unclassified	680	\$7,589	90	\$8,649	28	\$8,799	36	\$7,135	15	\$9,279	^	^	11	\$12,153
Public Administration	544	\$10,928	39	\$9,765	*	*	*	*	*	*	*	*	*	*
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>2,039</b>	<b>\$8,142</b>	<b>590</b>	<b>\$8,528</b>	<b>841</b>	<b>\$7,732</b>	<b>327</b>	<b>\$7,200</b>	<b>63</b>	<b>\$8,065</b>	<b>218</b>	<b>\$11,301</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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	1,741	\$11,188	256	\$10,173	77	\$14,659	1,230	\$11,363	97	\$10,167	*	*	537	\$11,679
Trade, Transportation and Utilities	4,358	\$7,050	1,549	\$6,489	215	\$6,183	2,083	\$7,552	459	\$6,931	*	*	643	\$8,416
Information Technology	143	\$10,000	33	\$9,589	18	\$37,996	80	\$9,126	^	^	^	^	12	\$8,392
Financial and Real Estate	795	\$10,518	197	\$9,242	64	\$13,758	452	\$11,112	39	\$8,316	^	^	58	\$10,012
Professional and Business Services	2,727	\$9,794	733	\$7,826	215	\$14,177	1,512	\$10,663	192	\$7,173	*	*	256	\$9,039
Education	844	\$9,981	190	\$8,628	51	\$8,404	535	\$11,501	41	\$7,189	*	*	39	\$5,292
Health Services	2,603	\$7,742	892	\$7,156	193	\$8,170	1,201	\$8,157	185	\$6,876	*	*	163	\$7,342
Leisure and Hospitality	2,090	\$5,665	648	\$5,380	130	\$5,070	1,091	\$5,817	181	\$5,441	*	*	218	\$6,279
Other Services/Unclassified	680	\$7,589	154	\$6,902	36	\$8,407	421	\$7,792	43	\$6,981	*	*	146	\$8,959
Public Administration	544	\$10,928	157	\$9,685	17	\$10,442	337	\$11,156	33	\$8,553	^	^	82	\$10,500
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>4,809</b>	<b>\$7,129</b>	<b>1,016</b>	<b>\$9,130</b>	<b>8,942</b>	<b>\$8,858</b>	<b>1,270</b>	<b>\$7,097</b>	<b>52</b>	<b>\$8,087</b>	<b>2,154</b>	<b>\$8,892</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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	1,741	\$11,188	256	\$10,173	77	\$14,659	1,230	\$11,363	102	\$9,513	19	\$10,152	310	\$9,763
Trade, Transportation and Utilities	4,358	\$7,050	1,549	\$6,489	215	\$6,183	2,083	\$7,552	737	\$6,451	91	\$5,516	729	\$7,075
Information Technology	143	\$10,000	33	\$9,589	18	\$37,996	80	\$9,126	10	\$8,792	*	*	19	\$9,297
Financial and Real Estate	795	\$10,518	197	\$9,242	64	\$13,758	452	\$11,112	75	\$8,777	*	*	107	\$8,984
Professional and Business Services	2,727	\$9,794	733	\$7,826	215	\$14,177	1,512	\$10,663	294	\$7,579	*	*	369	\$9,118
Education	844	\$9,981	190	\$8,628	51	\$8,404	535	\$11,501	50	\$6,675	*	*	68	\$6,604
Health Services	2,603	\$7,742	892	\$7,156	193	\$8,170	1,201	\$8,157	440	\$6,964	*	*	345	\$7,428
Leisure and Hospitality	2,090	\$5,665	648	\$5,380	130	\$5,070	1,091	\$5,817	323	\$5,428	66	\$5,139	444	\$5,953
Other Services/ Unclassified	680	\$7,589	154	\$6,902	36	\$8,407	421	\$7,792	70	\$6,529	14	\$8,526	123	\$7,595
Public Administration	544	\$10,928	157	\$9,685	17	\$10,442	337	\$11,156	60	\$9,340	*	*	80	\$11,256
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>4,809</b>	<b>\$7,129</b>	<b>1,016</b>	<b>\$9,130</b>	<b>8,942</b>	<b>\$8,858</b>	<b>2,161</b>	<b>\$6,832</b>	<b>277</b>	<b>\$6,593</b>	<b>2,594</b>	<b>\$7,724</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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	1,741	\$11,188	256	\$10,173	77	\$14,659	1,230	\$11,363	*	*	18	\$18,132	149	\$11,545
Trade, Transportation and Utilities	4,358	\$7,050	1,549	\$6,489	215	\$6,183	2,083	\$7,552	236	\$5,657	62	\$4,586	341	\$5,319
Information Technology	143	\$10,000	33	\$9,589	18	\$37,996	80	\$9,126	*	*	*	*	12	\$7,317
Financial and Real Estate	795	\$10,518	197	\$9,242	64	\$13,758	452	\$11,112	*	*	16	\$7,496	68	\$9,858
Professional and Business Services	2,727	\$9,794	733	\$7,826	215	\$14,177	1,512	\$10,663	132	\$7,871	60	\$10,681	285	\$10,591
Education	844	\$9,981	190	\$8,628	51	\$8,404	535	\$11,501	46	\$11,564	*	*	133	\$12,000
Health Services	2,603	\$7,742	892	\$7,156	193	\$8,170	1,201	\$8,157	163	\$7,121	72	\$7,245	303	\$7,281
Leisure and Hospitality	2,090	\$5,665	648	\$5,380	130	\$5,070	1,091	\$5,817	102	\$4,574	35	\$3,600	242	\$5,054
Other Services/ Unclassified	680	\$7,589	154	\$6,902	36	\$8,407	421	\$7,792	27	\$5,512	*	*	83	\$5,628
Public Administration	544	\$10,928	157	\$9,685	17	\$10,442	337	\$11,156	43	\$9,685	*	*	58	\$9,919
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>4,809</b>	<b>\$7,129</b>	<b>1,016</b>	<b>\$9,130</b>	<b>8,942</b>	<b>\$8,858</b>	<b>826</b>	<b>\$7,042</b>	<b>296</b>	<b>\$7,151</b>	<b>1,674</b>	<b>\$7,467</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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	1,741	\$11,188	256	\$10,173	77	\$14,659	1,230	\$11,363	*	*	*	*	43	\$10,485
Trade, Transportation and Utilities	4,358	\$7,050	1,549	\$6,489	215	\$6,183	2,083	\$7,552	31	\$7,971	*	*	133	\$8,434
Information Technology	143	\$10,000	33	\$9,589	18	\$37,996	80	\$9,126	^	^	^	^	10	\$8,111
Financial and Real Estate	795	\$10,518	197	\$9,242	64	\$13,758	452	\$11,112	*	\$7,854	*	*	25	\$8,832
Professional and Business Services	2,727	\$9,794	733	\$7,826	215	\$14,177	1,512	\$10,663	17	\$10,600	*	*	66	\$10,511
Education	844	\$9,981	190	\$8,628	51	\$8,404	535	\$11,501	^	^	*	*	17	\$6,923
Health Services	2,603	\$7,742	892	\$7,156	193	\$8,170	1,201	\$8,157	12	\$7,726	*	*	110	\$9,659
Leisure and Hospitality	2,090	\$5,665	648	\$5,380	130	\$5,070	1,091	\$5,817	12	\$4,472	*	*	42	\$5,924
Other Services/ Unclassified	680	\$7,589	154	\$6,902	36	\$8,407	421	\$7,792	^	^	*	*	16	\$8,846
Public Administration	544	\$10,928	157	\$9,685	17	\$10,442	337	\$11,156	*	*	^	^	53	\$14,226
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>4,809</b>	<b>\$7,129</b>	<b>1,016</b>	<b>\$9,130</b>	<b>8,942</b>	<b>\$8,858</b>	<b>89</b>	<b>\$8,277</b>	<b>25</b>	<b>\$8,277</b>	<b>515</b>	<b>\$9,267</b>

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The table below provide 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	1,741	\$11,188	256	\$10,173	77	\$14,659	1,230	\$11,363	22	\$17,316	30	\$17,072	191	\$15,174
Trade, Transportation and Utilities	4,358	\$7,050	1,549	\$6,489	215	\$6,183	2,083	\$7,552	86	\$6,519	40	\$14,521	237	\$8,680
Information Technology	143	\$10,000	33	\$9,589	18	\$37,996	80	\$9,126	13	\$18,283	*	*	29	\$11,583
Financial and Real Estate	795	\$10,518	197	\$9,242	64	\$13,758	452	\$11,112	41	\$13,727	31	\$16,692	194	\$13,659
Professional and Business Services	2,727	\$9,794	733	\$7,826	215	\$14,177	1,512	\$10,663	98	\$10,613	123	\$15,755	536	\$13,350
Education	844	\$9,981	190	\$8,628	51	\$8,404	535	\$11,501	53	\$13,318	22	\$12,489	278	\$13,814
Health Services	2,603	\$7,742	892	\$7,156	193	\$8,170	1,201	\$8,157	92	\$8,547	79	\$10,000	280	\$14,031
Leisure and Hospitality	2,090	\$5,665	648	\$5,380	130	\$5,070	1,091	\$5,817	29	\$5,578	13	\$5,636	145	\$5,940
Other Services/ Unclassified	680	\$7,589	154	\$6,902	36	\$8,407	421	\$7,792	*	*	*	*	53	\$9,750
Public Administration	544	\$10,928	157	\$9,685	17	\$10,442	337	\$11,156	*	*	*	*	62	\$11,091
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>4,809</b>	<b>\$7,129</b>	<b>1,016</b>	<b>\$9,130</b>	<b>8,942</b>	<b>\$8,858</b>	<b>463</b>	<b>\$9,562</b>	<b>366</b>	<b>\$14,674</b>	<b>2,005</b>	<b>\$12,365</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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				
			FARMS		Non-FARMS		Overall	FARMS		Non-FARMS		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	465	\$9,988	1,276	\$11,723	\$11,188	240	\$10,218	467	\$12,022	\$11,288
Trade, Transportation and Utilities	4,358	\$7,050	1,550	\$7,181	2,808	\$6,996	\$7,050	601	\$7,610	648	\$7,811	\$7,678
Information Technology	143	\$10,000	21	\$8,792	122	\$10,313	\$10,000	*	*	11	\$10,000	\$9,782
Financial and Real Estate	795	\$10,518	231	\$9,654	564	\$11,379	\$10,518	50	\$9,260	66	\$9,178	\$9,211
Professional and Business Services	2,727	\$9,794	753	\$8,137	1,974	\$10,668	\$9,794	250	\$7,530	271	\$9,172	\$8,420
Education	844	\$9,981	185	\$7,620	659	\$11,501	\$9,981	42	\$5,511	47	\$7,421	\$6,690
Health Services	2,603	\$7,742	923	\$7,459	1,680	\$7,874	\$7,742	257	\$7,260	166	\$7,314	\$7,283
Leisure and Hospitality	2,090	\$5,665	713	\$5,761	1,377	\$5,574	\$5,665	268	\$6,028	199	\$5,909	\$5,936
Other Services/Unclassified	680	\$7,589	171	\$7,878	509	\$7,569	\$7,589	65	\$8,337	142	\$8,591	\$8,418
Public Administration	544	\$10,928	127	\$10,904	417	\$10,946	\$10,928	*	*	87	\$9,974	\$9,974
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>5,139</b>	<b>\$7,667</b>	<b>11,386</b>	<b>\$8,495</b>	<b>\$8,181</b>	<b>1,814</b>	<b>\$7,696</b>	<b>2,104</b>	<b>\$8,627</b>	<b>\$8,143</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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				
			FARMS		Non-FARMS		Overall	FARMS		Non-FARMS		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	465	\$9,988	1,276	\$11,723	\$11,188	154	\$9,575	339	\$9,961	\$9,833
Trade, Transportation and Utilities	4,358	\$7,050	1,550	\$7,181	2,808	\$6,996	\$7,050	647	\$6,931	1,158	\$6,681	\$6,779
Information Technology	143	\$10,000	21	\$8,792	122	\$10,313	\$10,000	*	*	25	\$9,600	\$9,038
Financial and Real Estate	795	\$10,518	231	\$9,654	564	\$11,379	\$10,518	96	\$9,208	126	\$8,897	\$9,000
Professional and Business Services	2,727	\$9,794	753	\$8,137	1,974	\$10,668	\$9,794	283	\$8,072	504	\$8,820	\$8,433
Education	844	\$9,981	185	\$7,620	659	\$11,501	\$9,981	52	\$7,076	86	\$6,254	\$6,604
Health Services	2,603	\$7,742	923	\$7,459	1,680	\$7,874	\$7,742	396	\$7,156	545	\$7,208	\$7,189
Leisure and Hospitality	2,090	\$5,665	713	\$5,761	1,377	\$5,574	\$5,665	290	\$5,953	649	\$5,685	\$5,755
Other Services/Unclassified	680	\$7,589	171	\$7,878	509	\$7,569	\$7,589	63	\$7,147	170	\$6,971	\$7,103
Public Administration	544	\$10,928	127	\$10,904	417	\$10,946	\$10,928	*	*	105	\$10,946	\$10,946
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>5,139</b>	<b>\$7,667</b>	<b>11,386</b>	<b>\$8,495</b>	<b>\$8,181</b>	<b>2,042</b>	<b>\$7,312</b>	<b>3,707</b>	<b>\$7,299</b>	<b>\$7,305</b>

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## Appendix 1: High School Graduates, State of Maryland, 2016, Median Quarterly Wages Five Years after High School Graduation, Fiscal Quarter 2 of 2021

The table below provide 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				
			FARMS		Non-FARMS		Overall	FARMS		Non-FARMS		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	465	\$9,988	1,276	\$11,723	\$11,188	45	\$10,053	181	\$11,723	\$11,554
Trade, Transportation and Utilities	4,358	\$7,050	1,550	\$7,181	2,808	\$6,996	\$7,050	211	\$6,256	513	\$5,142	\$5,449
Information Technology	143	\$10,000	21	\$8,792	122	\$10,313	\$10,000	*	*	20	\$9,347	\$9,347
Financial and Real Estate	795	\$10,518	231	\$9,654	564	\$11,379	\$10,518	42	\$9,219	90	\$8,915	\$9,041
Professional and Business Services	2,727	\$9,794	753	\$8,137	1,974	\$10,668	\$9,794	115	\$7,988	400	\$10,239	\$9,566
Education	844	\$9,981	185	\$7,620	659	\$11,501	\$9,981	40	\$9,784	176	\$11,565	\$11,198
Health Services	2,603	\$7,742	923	\$7,459	1,680	\$7,874	\$7,742	160	\$7,907	438	\$7,112	\$7,200
Leisure and Hospitality	2,090	\$5,665	713	\$5,761	1,377	\$5,574	\$5,665	109	\$4,635	316	\$4,883	\$4,823
Other Services/Unclassified	680	\$7,589	171	\$7,878	509	\$7,569	\$7,589	29	\$6,691	103	\$5,606	\$5,808
Public Administration	544	\$10,928	127	\$10,904	417	\$10,946	\$10,928	*	*	88	\$9,533	\$9,689
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>5,139</b>	<b>\$7,667</b>	<b>11,386</b>	<b>\$8,495</b>	<b>\$8,181</b>	<b>781</b>	<b>\$7,289</b>	<b>2,325</b>	<b>\$7,210</b>	<b>\$7,232</b>

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The table below provide 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				
			FARMS		Non-FARMS		Overall	FARMS		Non-FARMS		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	465	\$9,988	1,276	\$11,723	\$11,188	*	*	45	\$9,900	\$9,797
Trade, Transportation and Utilities	4,358	\$7,050	1,550	\$7,181	2,808	\$6,996	\$7,050	43	\$8,307	144	\$8,041	\$8,053
Information Technology	143	\$10,000	21	\$8,792	122	\$10,313	\$10,000	^	^	10	\$8,111	\$8,111
Financial and Real Estate	795	\$10,518	231	\$9,654	564	\$11,379	\$10,518	*	*	29	\$8,832	\$8,832
Professional and Business Services	2,727	\$9,794	753	\$8,137	1,974	\$10,668	\$9,794	22	\$10,915	80	\$10,182	\$10,238
Education	844	\$9,981	185	\$7,620	659	\$11,501	\$9,981	*	*	19	\$6,923	\$6,987
Health Services	2,603	\$7,742	923	\$7,459	1,680	\$7,874	\$7,742	25	\$10,301	111	\$9,576	\$9,695
Leisure and Hospitality	2,090	\$5,665	713	\$5,761	1,377	\$5,574	\$5,665	19	\$4,844	42	\$6,626	\$5,565
Other Services/Unclassified	680	\$7,589	171	\$7,878	509	\$7,569	\$7,589	*	*	16	\$8,846	\$9,443
Public Administration	544	\$10,928	127	\$10,904	417	\$10,946	\$10,928	*	*	56	\$14,182	\$14,226
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>5,139</b>	<b>\$7,667</b>	<b>11,386</b>	<b>\$8,495</b>	<b>\$8,181</b>	<b>136</b>	<b>\$8,497</b>	<b>552</b>	<b>\$9,152</b>	<b>\$9,045</b>

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The table below provide 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				
			FARMS		Non-FARMS		Overall	FARMS		Non-FARMS		Overall
	n	\$	n	\$	n	\$	\$	n	\$	n	\$	\$
Goods Production	1,741	\$11,188	465	\$9,988	1,276	\$11,723	\$11,188	*	*	244	\$15,956	\$15,887
Trade, Transportation and Utilities	4,358	\$7,050	1,550	\$7,181	2,808	\$6,996	\$7,050	48	\$6,280	345	\$8,836	\$8,317
Information Technology	143	\$10,000	21	\$8,792	122	\$10,313	\$10,000	^	^	56	\$17,195	\$17,308
Financial and Real Estate	795	\$10,518	231	\$9,654	564	\$11,379	\$10,518	*	*	253	\$13,876	\$13,870
Professional and Business Services	2,727	\$9,794	753	\$8,137	1,974	\$10,668	\$9,794	83	\$11,122	719	\$13,541	\$13,306
Education	844	\$9,981	185	\$7,620	659	\$11,501	\$9,981	43	\$13,062	331	\$13,715	\$13,588
Health Services	2,603	\$7,742	923	\$7,459	1,680	\$7,874	\$7,742	85	\$10,423	420	\$10,622	\$10,566
Leisure and Hospitality	2,090	\$5,665	713	\$5,761	1,377	\$5,574	\$5,665	27	\$5,614	171	\$5,674	\$5,632
Other Services/Unclassified	680	\$7,589	171	\$7,878	509	\$7,569	\$7,589	*	*	78	\$9,871	\$10,000
Public Administration	544	\$10,928	127	\$10,904	417	\$10,946	\$10,928	*	*	81	\$11,101	\$11,188
<b>Total</b>	<b>16,525</b>	<b>\$8,181</b>	<b>5,139</b>	<b>\$7,667</b>	<b>11,386</b>	<b>\$8,495</b>	<b>\$8,181</b>	<b>366</b>	<b>\$10,593</b>	<b>2,698</b>	<b>\$12,509</b>	<b>\$12,273</b>

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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 subsequent to 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 and state-aided independent 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 \(ACS\) 5-Year Estimates, 2020](#). 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)<sup>17</sup>. 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 20<sup>th</sup> 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 20<sup>th</sup> quarter after graduation is fiscal quarter 2 in a calendar year. For the 2022 report on the 2016 cohort of high school graduates, the 20<sup>th</sup> quarter was fiscal quarter 2 of 2021. Accordingly, individuals were included in the median wage calculation<sup>18</sup> if, in addition to having wages in quarter 2 of 2021, they also had wages in fiscal quarter 1 of 2021 and fiscal quarter 3 of 2021.

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 Methodology<sup>19</sup> 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.<sup>20</sup>

## Wage Bands

Wage bands were constructed to align to the contextual indicators selected for this report. The wages earned in the 20<sup>th</sup> 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 <sup>th</sup> Fiscal Quarter Wage
<b>Less than Minimum Wage</b>	\$1 to <Minimum Wage
<b>Between Minimum Wage and Living Wage</b>	>=Minimum Wage to Living Wage
<b>Between the Living Wage and ACS Wage</b>	>=Living Wage to ACS Wage
<b>Greater than or equal to the ACS Wage</b>	>= 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.<sup>21</sup>

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.<sup>22</sup>
- 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 20<sup>th</sup> 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 2016 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 2021.
2. **Some College:** High school graduates enrolled for at least one term between Fall 2016 and Fall 2020 but who are not actively enrolled in college in the Spring 2020 or Fall 2020 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 2021 and/or Fall 2021 terms. These graduates may have earned a postsecondary degree by the end of the Fall 2020 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 2021 or Fall 2021 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 2020.

5. **Associate's Graduates:** High school graduates who earned an Associate's degree by the end of the Fall term 2020 and are not enrolled in college in the Spring 2021 and/or Fall 2021 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 2020.
6. **Bachelor's Graduates:** High school graduates who earned a Bachelor's degree by the end of the Fall term 2020 and are not enrolled in college in the Spring 2021 and/or Fall 2021 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 2020.
7. **Other Degree Attainment:** High school graduates who earned a post-baccalaureate degree or a graduate degree by the end of Fall 2020 term and are not enrolled in college in the Spring 2021 or Fall 2021 terms. These graduates may have continued their postsecondary education; however, they had disengaged from postsecondary education without earning an additional degree by Fall term 2020.

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.<sup>23</sup>

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.<sup>24</sup> 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 12<sup>th</sup> grade. As such, it likely underrepresents the number of students experiencing poverty in a given 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.

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## End Notes

- <sup>1</sup>This 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).
- <sup>2</sup>See 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.
- <sup>3</sup>See Technical Appendix. *Wage Data*.
- <sup>4</sup>Wages are actual for Q2 2021 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.
- <sup>5</sup>See Technical Appendix. *Wage Data*.
- <sup>6</sup>Glasmeier, A. (2021). *Living Wage Calculator*. Massachusetts Institute of Technology.  
<https://livingwage.mit.edu/states/24/locations>
- <sup>7</sup>United States Census Bureau. (2020). *U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates*.  
<https://data.census.gov/cedsci/table?g=0400000US24&y=2020&tid=ACSST5Y2020.S2001>.
- <sup>8</sup>Projected lifetime earnings are based on the sum of median quarterly wages for individuals through the age of 65 for each education level.
- <sup>9</sup>For example, Baum, S, Ma, J. & Payea, K. (2013). *Education Pays 2013: The benefits of higher education for individuals and society*. College Board.
- <sup>10</sup>See Technical Appendix. *Wage Data*.
- <sup>11</sup>See Technical Appendix. *NAICS Groupings*.
- <sup>12</sup>Maryland Department of Labor. (2022). *Maryland - Second Quarter 2021 - Industry Series - Maryland's Quarterly Census of Employment and Wages (QCEW) – OWIP*.  
<https://www.dlir.state.md.us/lmi/emppay/tab1md22021.shtml>
- <sup>13</sup>U.S. Bureau of Economic Analysis. (2022). *Annual Gross Domestic Product (GDP) by State*. <https://apps.bea.gov>
- <sup>14</sup>Baum, S., Pender, M. & Welch, M. (2019). *Education Pays 2019: The benefits of higher education for individuals and society*. College Board.
- <sup>15</sup>Glasmeier, A. (2021). *Living Wage Calculator*. Massachusetts Institute of Technology.  
<https://livingwage.mit.edu/states/24/locations>
- <sup>16</sup>MLDS 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](https://mldscenter.maryland.gov/egov/publications/CenterReports/AssociatesDegreeGraduates/AssociatesDegreeReport_April2020.pdf)
- <sup>17</sup>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 any employer. The methodology is applied here to derive quarterly, rather than monthly median earnings.  
[https://lehd.ces.census.gov/doc/QWI\\_101.pdf](https://lehd.ces.census.gov/doc/QWI_101.pdf).
- <sup>18</sup>Some 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.
- <sup>19</sup>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](https://lehd.ces.census.gov/doc/QWI_101.pdf).
- <sup>20</sup>For 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.
- <sup>21</sup>The 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.

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<sup>22</sup>For 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.

<sup>23</sup>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.

<sup>24</sup>U.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>