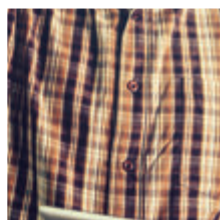
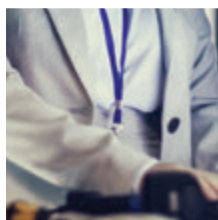
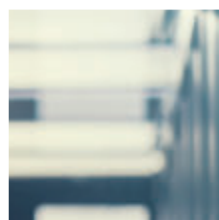
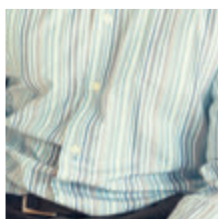
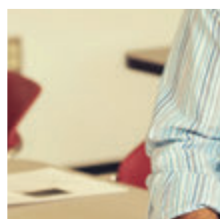
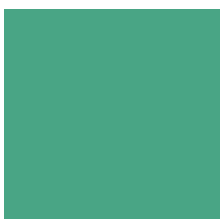




**BALTIMORE
METROPOLITAN
COUNCIL**



FAMILY-SUPPORTING JOBS REPORT



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About the Baltimore Metropolitan Council

The Baltimore Metropolitan Council (BMC) works collaboratively with the chief elected officials in the region to improve our quality of life and economic vitality. BMC hosts the Baltimore Regional Transportation Board, which is our federally designated metropolitan planning organization and supports local government by coordinating efforts in a range of policy areas including:

- Transportation
- Housing
- Cooperative purchasing
- Environmental planning
- Workforce development

BMC's Board of Directors includes the mayor of Baltimore City, Anne Arundel, Baltimore, Harford and Howard county executives, commissioners from Carroll and Queen Anne's counties, a member of the Maryland State Senate, a member of the Maryland House of Delegates and a gubernatorial appointee from the private sector. BMC is an invaluable link between federal funds and regulations, state and regional decision makers, transportation planning entities, project and initiative stakeholders and the people. The forum and resources BMC provides allow for thoughtful and progressive regional planning efforts of short- and long-term projects.

Acknowledgements

This report was developed by the Baltimore Metropolitan Council.

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Table of Contents

4	EXECUTIVE SUMMARY
6	GLOSSARY
11	ASSESSING THE BALTIMORE REGION'S LABOR MARKET
14	FAMILY-SUPPORTING JOBS
17	COMPARING THE BALTIMORE REGION TO OTHER SIMILAR REGIONS
25	EDUCATIONAL REQUIREMENTS FOR FAMILY-SUPPORTING JOBS
33	WORK EXPERIENCE REQUIRED FOR FAMILY-SUPPORTING JOBS
39	ON-THE-JOB TRAINING REQUIREMENTS FOR FAMILY-SUPPORTING JOBS
47	OPPORTUNITY TO MOVE ACROSS WORKFORCE SECTORS
51	ANALYSIS OF THE TOP 50 FAMILY-SUPPORTING OCCUPATIONS – 2016 TO 2026
59	FAMILY-SUPPORTING JOBS: ALL SECTORS
67	FAMILY-SUPPORTING JOBS: INDIVIDUAL SECTORS
68	Biosciences
72	Business Services
76	Construction
80	Education
84	Finance and Insurance
88	Healthcare
92	Hospitality and Tourism
96	Information Technology
100	Manufacturing
104	Retail Trade
108	Transportation and Warehousing
112	Utilities
116	Wholesale
121	WORKFORCE DEVELOPMENT IN THE MARYLAND CENTRAL REGION
123	REGIONAL FORECAST OF FAMILY-SUPPORTING JOB GROWTH
126	FAMILY-SUPPORTING JOBS BY LOCAL WORKFORCE AREA
128	Anne Arundel
132	Baltimore City
136	Baltimore County
140	Carroll
144	Howard
148	Cecil and Harford

Executive Summary

This report is a comprehensive assessment of the employment opportunities in family-supporting jobs in central Maryland. We define family-supporting jobs as occupations that pay an hourly wage that allows working adults with less than a bachelor's degree to provide for their family's needs. For our region, we are using the benchmark average hourly wage of \$22.28. The purpose of this report is to help job seekers, employers, workforce development professionals and educators make informed decisions about career choice and training opportunities.

We begin by comparing overall job growth and growth in family-supporting jobs in the Baltimore region to similar regions — the next 10 largest and next 10 smallest Metropolitan Statistical Areas (MSA). We then focus on family-supporting jobs in the Baltimore region, including the distribution of jobs by three categories: typical entry-level education, work experience and on-the-job training. Tables list the top occupations by total demand for every designation within each of these categories. For example, typical entry-level education includes designations such as no formal educational credential, high school diploma and associate's degree. The analysis also includes lists of the top 50 family-supporting jobs by total demand, median hourly earnings, and percent growth from 2016 to 2026. Finally, we present an analysis of family-supporting jobs within the Baltimore region by both sector (business services, construction, education, etc.) and local workforce area.

Family-supporting jobs represent 13.8 percent of our region's labor market demand over the next decade. This figure puts our region in the top half of our peers nationally. Our research indicates that family-supporting jobs will shift away from manufacturing and utilities towards sectors like information technology, bioscience and healthcare. Wholesale industries see the largest increase in their share of the labor market. Construction will remain the sector with the most opportunity to earn a family-supporting wage. While roughly three quarters of our family-supporting jobs have a typical entry-level of education of only a high school diploma, it is important to note that wages typically rise with educational attainment. Within the universe of family-supporting jobs, the attainment of an associate's degree is the greatest predictor of increased earnings.

The Baltimore Metropolitan Council intends for this report to inform the decisions of public officials, policy makers and others in the world of workforce development. We hope that the data will be carefully considered and used to help our workers meet the changing demands of employers over the next decade. The jobs identified in this report are presented as numbers — counting such things as new jobs, separations and wages. But these numbers also depict economic opportunity and ladders out of poverty, as long as we use this data to guide investment to support brighter economic futures for Baltimore-area workers.

Glossary

The text and tables in this report use several terms for basic education, training, work experience, and job demand. These terms have been collected and defined here.

TYPICAL ENTRY-LEVEL EDUCATION

As defined by the federal Bureau of Labor Statistics (BLS), this data point represents the typical education level most workers need to enter an occupation. The assignments for this category are the following, with this study focusing on education levels lower than a bachelor's degree:

- **DOCTORAL OR PROFESSIONAL DEGREE**
Completion of a doctoral degree (Ph.D.) usually requires at least three years of full-time academic work beyond a bachelor's degree. Completion of a professional degree usually requires at least three years of full-time academic study beyond a bachelor's degree.
- **MASTER'S DEGREE**
Completion of this degree usually requires one or two years of full-time academic study beyond a bachelor's degree.
- **BACHELOR'S DEGREE**
Completion of this degree generally requires at least four years, but not more than five years, of full-time academic study beyond high school.
- **ASSOCIATE'S DEGREE (AA)**
Completion of this degree usually requires at least two years but not more than four years of full-time academic study beyond high school.

- **POSTSECONDARY NON-DEGREE AWARD (HS+)**
These programs lead to a certificate or other award, but not a degree. The certificate is awarded by the educational institution and is the result of completing formal postsecondary schooling. Certification, issued by a professional organization or certifying body, is not included here. Some postsecondary non-degree award programs last only a few weeks, while others may last one to two years.
- **SOME COLLEGE, NO DEGREE (SC)**
This category signifies reception of a high school diploma or equivalent plus the completion of one or more postsecondary courses that did not result in a degree or award.
- **HIGH SCHOOL DIPLOMA OR EQUIVALENT (HS)**
This category indicates the completion of high school or an equivalent program resulting in the award of a high school diploma or an equivalent, such as the General Education Development (GED) credential.
- **NO FORMAL EDUCATIONAL CREDENTIAL (NoED)**
This category signifies that a formal credential issued by an educational institution, such as a high school diploma or postsecondary certificate, is not typically needed for entry into the occupation.

WORK EXPERIENCE REQUIRED IN A RELATED OCCUPATION

This data point indicates if work experience in a related occupation is commonly considered necessary by employers for entry into the occupation or is a commonly accepted substitute for formal types of training, as defined by the BLS. The assignments for this category are the following:

- **FIVE YEARS OR MORE**
This is assigned to occupations if five or more years of work experience in a related occupation is typically needed for entry.
- **LESS THAN FIVE YEARS**
To enter occupations in this category, workers typically need less than five years of work experience in a related occupation.
- **NONE**
No work experience in a related occupation is typically needed.

TYPICAL ON-THE-JOB TRAINING

This data point indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation, as defined by the BLS.

- **INTERNSHIP/RESIDENCY**

An internship or residency is a formal period of training during which individuals work under the supervision of experienced workers in a professional setting, such as a hospital. Internships and residencies occur after the completion of a formal postsecondary degree program and generally are required for state licensure or certification in fields including medicine, counseling and architecture. This category does not include internships that are suggested for advancement in one's career, such as those that take place as part of a formal degree program.

- **APPRENTICESHIP**

An apprenticeship is a formal relationship between a worker and sponsor that consists of a combination of on-the-job training and related occupation-specific technical instruction in which the worker learns the practical and theoretical aspects of an occupation. Apprenticeship programs are sponsored by individual employers, joint employer-and-labor groups and employer associations. The typical apprenticeship program provides at least 144 hours of occupation-specific technical instruction and 2,000 hours of on-the-job training per year, over a three- to five-year period.

- **LONG-TERM ON-THE-JOB TRAINING**

More than 12 months of on-the-job training or, alternatively, combined work experience and formal classroom instruction, is needed for workers to develop the skills to attain competency. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This on-the-job training category also includes employer-sponsored training programs. Such programs include those offered by fire academies and schools for air traffic controllers. In other occupations—nuclear power reactor operators, for example—trainees take formal courses, often provided at the jobsite, to prepare for the required licensing exams.

- **MODERATE-TERM ON-THE-JOB TRAINING**

More than one month and up to 12 months of combined on-the-job experience and informal training is needed for workers to develop the skills needed to attain competency. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This on-the-job training category also includes employer-sponsored training programs.

- **SHORT-TERM ON-THE-JOB TRAINING**
The skills needed for a worker to attain competency in an occupation can be acquired during one month or less of on-the-job experience and informal training. Training is occupation-specific rather than job-specific; therefore, skills learned can be transferred to another job in the same occupation. This on-the-job training category also includes employer-sponsored training programs.
- **NONE**
There is no additional occupation-specific training or preparation typically required to attain competency in the occupation.

DEFINITION OF TERMS USED IN OCCUPATION TABLES

- **2016 JOBS**
Number of jobs for a given occupation in 2016.
- **2026 JOBS**
Projected number of jobs for a given occupation in 2026.
- **NEW JOBS**
Net jobs added or lost in a given occupation between 2016 and 2026.
- **SEPARATIONS**
Job openings due to separation of an employee from an establishment (voluntary, involuntary or other) between 2016 and 2026. Separations are comprised of two components:
 - Transfers: people transferring to another occupation.
 - Labor force exits: People leaving the workforce for retirement or other reasons.
- **TOTAL DEMAND**
New jobs plus separations projected between 2016 and 2026.
- **MEDIAN HOURLY EARNINGS**
Occupational earnings including base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay such as commissions and bonuses, on-call pay, tips and any other direct income related to an occupation. This data does not include benefits of any kind, including paid leave, health insurance or retirement earnings.



Assessing the Baltimore Region's Labor Market

In 2013, BMC released the Baltimore Regional Talent Development Pipeline Study, as part of a program called the Opportunity Collaborative that developed regional plans in the areas of housing, transportation and workforce development — with funding from the U.S. Department of Housing and Urban Development. The Pipeline Study presented detailed data on workforce supply and demand conditions for 13 key employment sectors in the Baltimore region. Additionally, the study provided detailed analysis of the expected future hiring demand within each sector, coupled with summary statistics on the formal education and occupational training programs that serve each sector.

THE OPPORTUNITY COLLABORATIVE PIPELINE STUDY ANALYZED 13 SECTORS:

Bioscience — Business Services — Construction — Education — Finance & Insurance
— Healthcare — Hospitality & Tourism — Information Technology — Manufacturing —
Retail Trade — Transportation & Warehousing — Utilities — Wholesale

Overall, the study found our region's labor market is strong, with incomes and education levels well above the national average and a low unemployment rate. In a post-recession economy, the pipeline study forecasted solid and steady growth for our workforce over the next decade.

However, the pipeline study painted a challenging picture for workers on the lower end of the educational spectrum and it showed a wide disparity in employment outcomes and opportunities for high-skilled vs. low-skilled adult workers. Roughly one-third of our region's workforce has no more than a high school diploma, and, at the time the study was released, that population had unemployment levels five times higher than our college educated workforce.

(A LACK OF) MIDDLE-SKILL OPPORTUNITIES

The Talent Development Pipeline Study found that our region's job opportunities fell mainly into two categories: jobs requiring at least a bachelor's degree that pay high wages and jobs that require few technical skills and pay less than a living wage. Middle-skill opportunities, or opportunities for workers with more than a high school diploma and less than a bachelor's degree, were a small, but critical portion of our labor market.

The pipeline study found that healthcare was the only sector where middle-skill jobs were a plurality, let alone a majority. In other sectors, only 8 percent of occupations were middle-skill on average. Despite their relative scarcity, middle-skill jobs are important because these workers earn an average wage of just over \$20 per hour.

39 TARGETED MIDDLE-SKILL OCCUPATIONS

The Opportunity Collaborative identified 39 occupations across six sectors that represented the best opportunities for middle-skill workers. The process for selecting these occupations was a mix of quantitative and qualitative data. Some of the factors that went into the decision included projected hiring demand, hourly wages and alignment with industry growth and regional priorities. The goal of the process was to identify a set of attainable jobs that could quickly provide, or lead to, a family-supporting wage for a family near the poverty line.

The list was a tool to inform and focus regional workforce funding and training conversations. As the Collaborative's work continued, the list served as a building block in career pathway analysis, helped make an assessment of opportunities for opportunity youth (18-24-year-olds who are not yet in the labor force) and helped the Collaborative explore barriers to employment. At the local level, the Collaborative's partners used the list in their strategic planning and in the distribution of federal workforce funds. By any measure, the research has had a significant impact on our workforce development system, and it continues to inform our regional conversations about job training, economic growth and financial mobility.

About the Data

We define the Baltimore region as including Baltimore City and Anne Arundel, Baltimore, Carroll, Cecil, Harford and Howard Counties. While Cecil County is not a part of the Baltimore-Columbia-Towson Metropolitan Statistical Area, it is part of the Maryland Central Region, a workforce region designated by the governor that is detailed later in this report.

Economic Modeling Specialists International (EMSI) is the primary source for all data presented. Employment data covers the 10-year period from 2016 to 2026. EMSI also provides data on various occupational attributes including median hourly earnings, typical entry-level education, work experience required and typical on-the-job training. Each of these relies on federal sources.





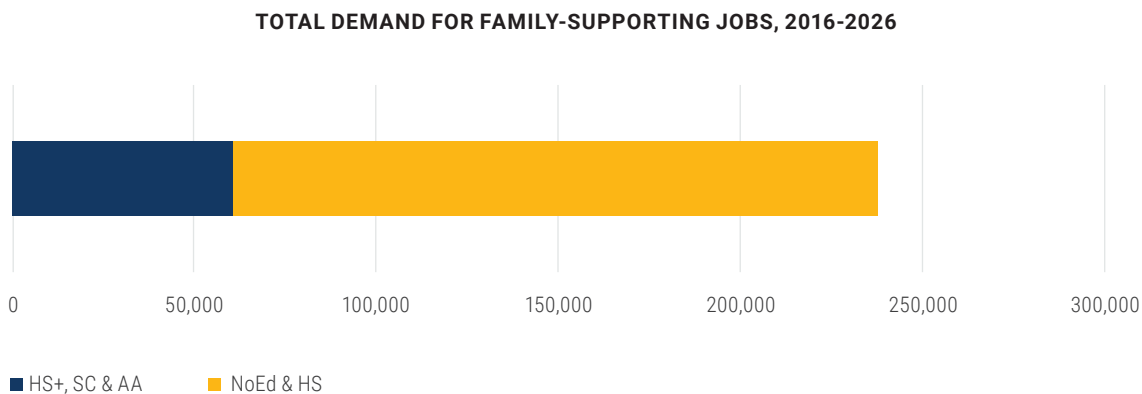
FAMILY-SUPPORTING JOBS

**OUR RESEARCH SHOWS THAT
THE TRADITIONAL DEFINITION
NEGLECTS MANY JOBS THAT PAY
A FAMILY-SUPPORTING WAGE.**

In the five years since the release of the Baltimore Regional Talent Development Pipeline Study, demand for this sort of targeted labor data has increased. To complement the work of the Pipeline Study, BMC has developed this report, focused broadly on family-supporting jobs. A family-supporting job is one that pays a worker with educational attainment below a bachelor's degree a wage high enough to provide for a family.

Traditionally, middle-skill jobs exclude jobs for which a high school diploma is the typical entry-level of education. Our research shows that the traditional definition neglects many jobs that pay a family-supporting wage. The data in this report supports this

premise. We project that the Baltimore regional economy will see a total demand of 238,871 family-supporting jobs from 2016 through 2026. Of these, 61,173 have a typical entry-level education beyond a high school diploma (the traditional middle-skill educational level) while 177,698 have a typical entry-level education of a high school diploma or no formal educational credential (our expanded educational level).



IDENTIFYING A FAMILY-SUPPORTING WAGE

While families have different financial needs, BMC has defined a family-supporting wage as \$22.28 an hour, based on information from the Massachusetts Institute of Technology Living Wage Calculator (LWC). The LWC uses geographic-based cost estimates of necessities such as food, housing and child care to “determine the minimum employment earnings necessary to meet a family’s basic needs while also maintaining self-sufficiency.” The tool calculates an hourly wage that is above the defined poverty level, but does not budget for “unnecessary” expenses like meals from restaurants or time off work in the form of unpaid vacations and holidays. The LWC assumes a worker will not take unpaid time off.

The LWC presents these wage standards for specific family compositions that are representative of typical households. To identify a family-supporting wage for this report, we averaged LWC’s median hourly earnings required for three family compositions in the Baltimore metropolitan region. The family structures and wages are:

1 Adult, 1 Child	\$26.22	FAMILY-SUPPORTING WAGE \$22.28
2 Adults (1 working), 1 Child	\$24.15	
2 Adults (both working), 2 Children	\$16.48 (for each working adult)	



Comparing the Baltimore Region to Other Similar Regions

Before drilling down into our local labor market, we will provide a bird's eye view of how our region's projected job growth compares to our peers across the country, both overall and specifically with family-supporting jobs. While the common perception is that the Rust Belt has been hardest hit by the shift from manufacturing to a service-based economy, the reality is that every metro area in the country has struggled with the loss of family-supporting jobs. Regional economies around the country have adapted with varying degrees of success.

Charts 1A and 1B depict new job growth and new family-supporting job growth in Baltimore and in peer metro areas (see glossary beginning on page 6 for definitions of terms used). We defined peer metros as the next 10 largest and next 10 smallest MSA's by population, using the same methodology BMC applied in the State of the Region Report, which was published by BMC and the Greater Baltimore Committee. Jobs in the Baltimore region are projected to grow by 15.4 percent from 2016 to 2026, or from approximately 1.328 million to 1.531 million. This projected growth rate ranks 7th nationally among similarly sized MSAs. Similarly, family-supporting job growth in the Baltimore region ranks 8th among peer MSAs. Family-supporting jobs in the Baltimore region are projected to grow by 13.4 percent from 2016 to 2026.

Charts 2A and 2B focus on the total demand for family-supporting jobs among peer MSAs, incorporating both new job growth and job openings due to separations. The Baltimore region ranks 10th among peer MSAs in the

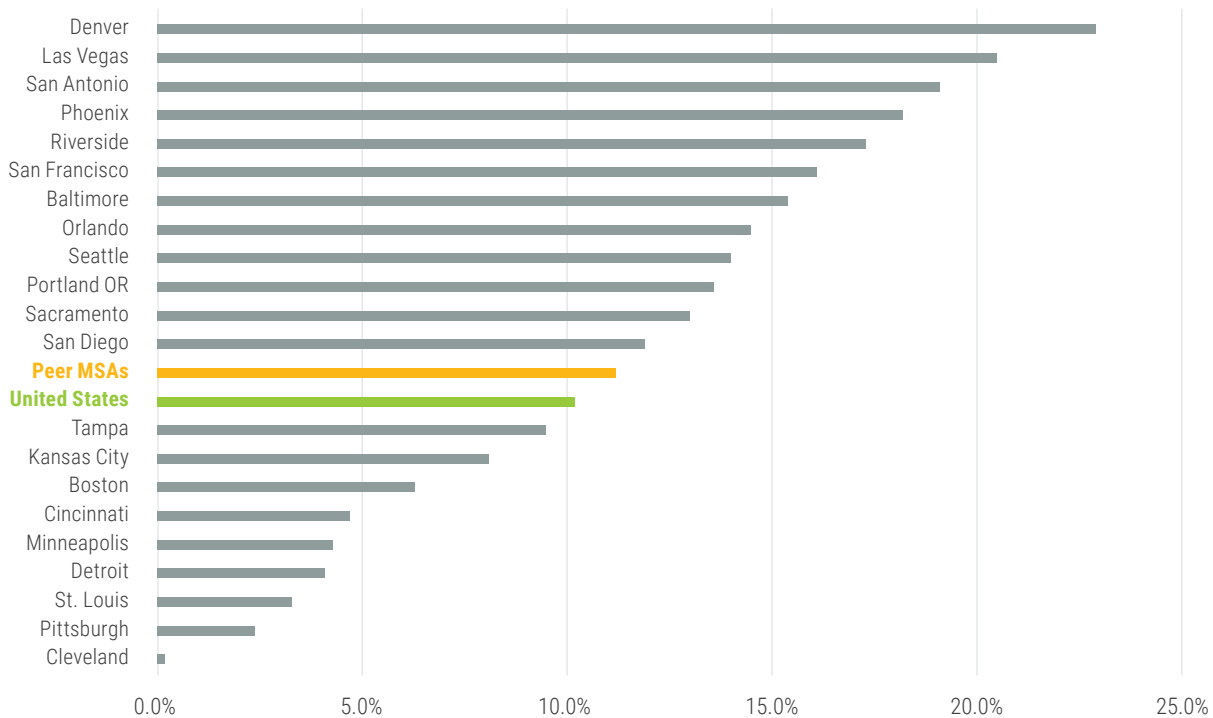
WHILE THE COMMON PERCEPTION IS THAT THE RUST BELT HAS BEEN HARDEST HIT BY THE SHIFT FROM MANUFACTURING TO A SERVICE-BASED ECONOMY, THE REALITY IS THAT EVERY METRO AREA IN THE COUNTRY HAS STRUGGLED WITH THE LOSS OF FAMILY-SUPPORTING JOBS.

share of total demand made up of family-supporting jobs. Total demand in the Baltimore region is projected to be 1,726,388 jobs from 2016 to 2026. Of these, 13.8 percent, or 238,871, qualify as family-supporting. We project that 64.3 percent will have a typical entry-level education of an associate's degree or less but do not have median hourly earnings of \$22.28 or higher. The remaining 21.9 percent have a typical entry-level education of a bachelor's degree or higher.

Note that the highest-growth MSAs are not necessarily the MSAs where family-supporting jobs comprise the largest share of total demand. For example, family-supporting jobs account for the largest share of total demand in Pittsburgh (18.5 percent). However, job growth in the Pittsburgh MSA is projected to be the second slowest among all MSAs considered.



NEW JOB GROWTH BY PEER MSA: 2016–2026

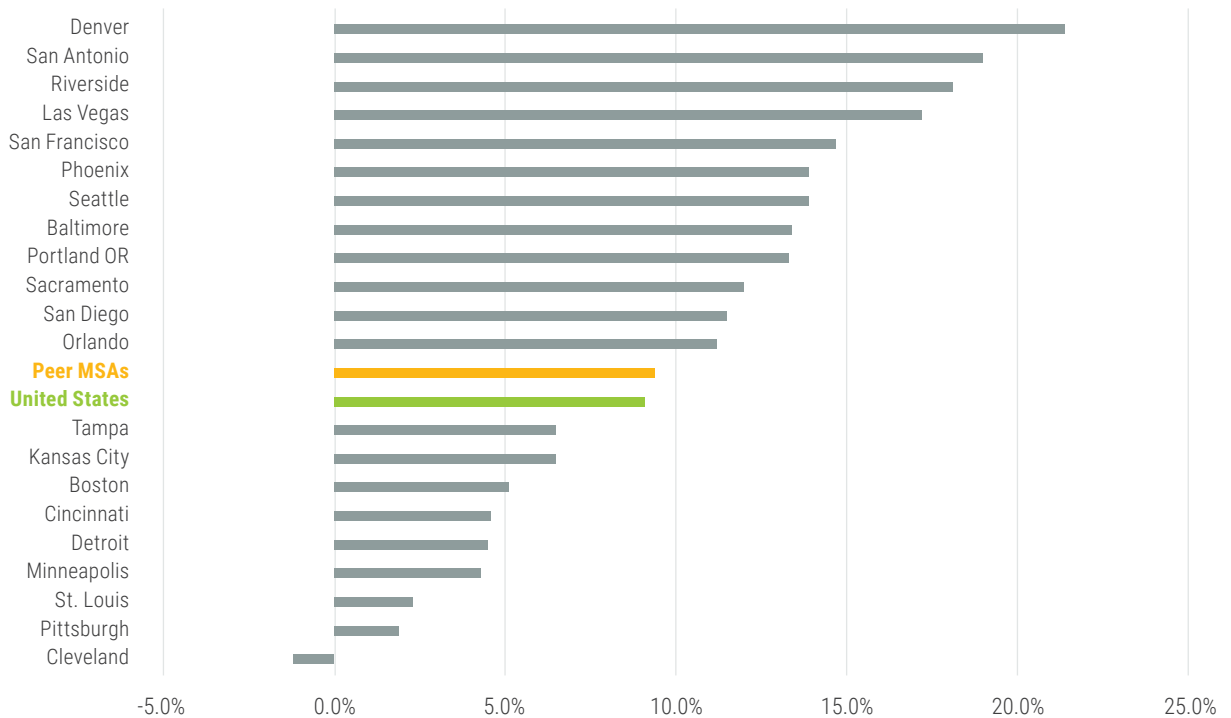


MSA	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	% New Job Growth (2016–2026)
Denver	1,415,655	1,739,897	324,242	1,706,544	2,030,786	22.9%
Las Vegas	936,293	1,128,181	191,889	1,239,820	1,431,708	20.5%
San Antonio	977,758	1,164,609	186,851	1,208,914	1,395,765	19.1%
Phoenix	1,932,801	2,284,498	351,697	2,309,521	2,661,218	18.2%
Riverside	1,395,044	1,636,823	241,780	1,742,421	1,984,201	17.3%
San Francisco	2,319,841	2,694,289	374,448	2,694,214	3,068,662	16.1%
Baltimore	1,327,610	1,531,470	203,860	1,522,528	1,726,388	15.4%
Orlando	1,157,151	1,324,510	167,359	1,461,379	1,628,738	14.5%
Seattle	1,894,420	2,159,491	265,072	2,171,262	2,436,334	14.0%
Portland OR	1,129,425	1,282,926	153,501	1,318,504	1,472,005	13.6%
Sacramento	948,657	1,072,406	123,750	1,105,909	1,229,659	13.0%
San Diego	1,405,626	1,573,434	167,808	1,649,550	1,817,359	11.9%
Peer MSAs	28,546,207	31,733,489	3,187,282	33,099,725	36,287,007	11.2%
United States	141,866,449	156,395,943	14,529,494	164,654,016	179,183,510	10.2%
Tampa	1,237,124	1,354,177	117,053	1,442,663	1,559,716	9.5%
Kansas City	1,017,619	1,100,027	82,408	1,150,374	1,232,782	8.1%
Boston	2,601,551	2,764,724	163,173	2,841,291	3,004,464	6.3%
Cincinnati	1,022,834	1,071,197	48,362	1,146,719	1,195,082	4.7%
Minneapolis	1,866,087	1,945,774	79,687	2,071,261	2,150,948	4.3%
Detroit	1,877,473	1,954,590	77,117	2,073,042	2,150,159	4.1%
St. Louis	1,306,971	1,349,706	42,735	1,467,061	1,509,797	3.3%
Pittsburgh	1,098,607	1,125,264	26,656	1,213,596	1,240,252	2.4%
Cleveland	1,005,270	1,006,966	1,696	1,085,678	1,087,374	0.2%

Source: Emsi 2017.3.



NEW FAMILY-SUPPORTING JOB GROWTH BY PEER MSA: 2016–2026



MSA	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	% New Family-Supporting Job Growth (2016–2026)
Denver	192,350	233,602	41,252	195,421	236,674	21.4%
San Antonio	158,389	188,550	30,161	161,761	191,922	19.0%
Riverside	198,607	234,568	35,961	200,391	236,352	18.1%
Las Vegas	146,958	172,196	25,238	151,762	177,000	17.2%
San Francisco	305,742	350,819	45,077	300,060	345,137	14.7%
Phoenix	282,789	322,211	39,422	273,606	313,028	13.9%
Seattle	358,693	408,479	49,785	360,857	410,643	13.9%
Baltimore	216,909	245,939	29,030	209,840	238,871	13.4%
Portland OR	136,802	154,953	18,151	130,808	148,959	13.3%
Sacramento	153,284	171,615	18,330	148,539	166,870	12.0%
San Diego	189,767	211,578	21,811	182,585	204,396	11.5%
Orlando	117,425	130,623	13,198	115,273	128,470	11.2%
Peer MSAs	4,587,578	5,017,820	430,242	4,446,807	4,877,049	9.4%
United States	18,827,617	20,531,798	1,704,181	18,087,751	19,791,932	9.1%
Tampa	151,582	161,387	9,805	139,750	149,555	6.5%
Kansas City	195,993	208,661	12,668	188,987	201,655	6.5%
Boston	430,828	452,964	22,136	407,021	429,157	5.1%
Cincinnati	202,952	212,271	9,319	195,812	205,132	4.6%
Detroit	345,640	361,308	15,668	328,726	344,394	4.5%
Minneapolis	327,096	341,169	14,072	313,374	327,446	4.3%
St. Louis	263,805	269,923	6,118	249,294	255,412	2.3%
Pittsburgh	235,794	240,216	4,422	224,785	229,207	1.9%
Cleveland	193,081	190,728	(2,353)	177,997	175,644	(1.2%)

Source: Emsi 2017.3.



FAMILY-SUPPORTING JOBS SHARE OF TOTAL DEMAND BY PEER MSA: 2016–2026

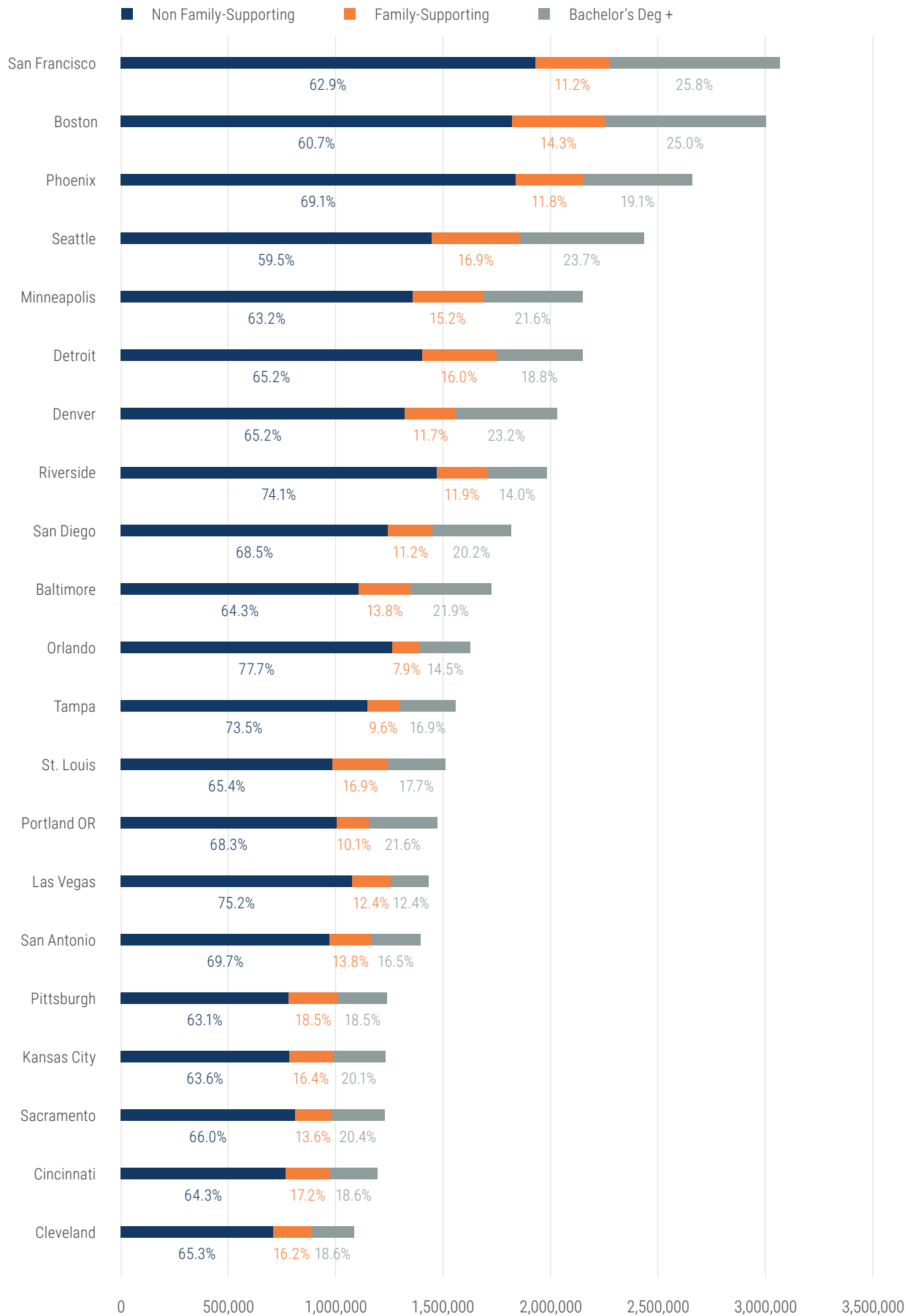


Source: Emsi 2017.3.





DISTRIBUTION OF TOTAL DEMAND FOR JOBS BY TYPE AND PEER MSA: 2016–2026



Source: Emsi 2017.3.

DISTRIBUTION OF TOTAL DEMAND FOR JOBS BY TYPE AND PEER MSA: 2016–2026

MSA	Non Family-Supporting	Family-Supporting	Bachelor's Deg +	Total
San Francisco	1,930,855	345,137	792,670	3,068,662
Boston	1,823,751	429,157	751,556	3,004,464
Phoenix	1,839,042	313,028	509,148	2,661,218
Seattle	1,448,947	410,643	576,744	2,436,334
Minneapolis	1,359,649	327,446	463,853	2,150,948
Detroit	1,402,296	344,394	403,469	2,150,159
Denver	1,323,192	236,674	470,921	2,030,786
Riverside	1,470,557	236,352	277,292	1,984,201
San Diego	1,245,553	204,396	367,410	1,817,359
Baltimore	1,109,269	238,871	378,248	1,726,388
Orlando	1,264,877	128,470	235,391	1,628,738
Tampa	1,147,149	149,555	263,011	1,559,716
St. Louis	987,343	255,412	267,042	1,509,797
Portland OR	1,005,578	148,959	317,468	1,472,005
Las Vegas	1,076,629	177,000	178,080	1,431,708
San Antonio	973,287	191,922	230,557	1,395,765
Pittsburgh	782,147	229,207	228,899	1,240,252
Kansas City	783,543	201,655	247,583	1,232,782
Sacramento	811,616	166,870	251,173	1,229,659
Cincinnati	768,063	205,132	221,887	1,195,082
Cleveland	709,849	175,644	201,881	1,087,374

Source: Emsi 2017.3.

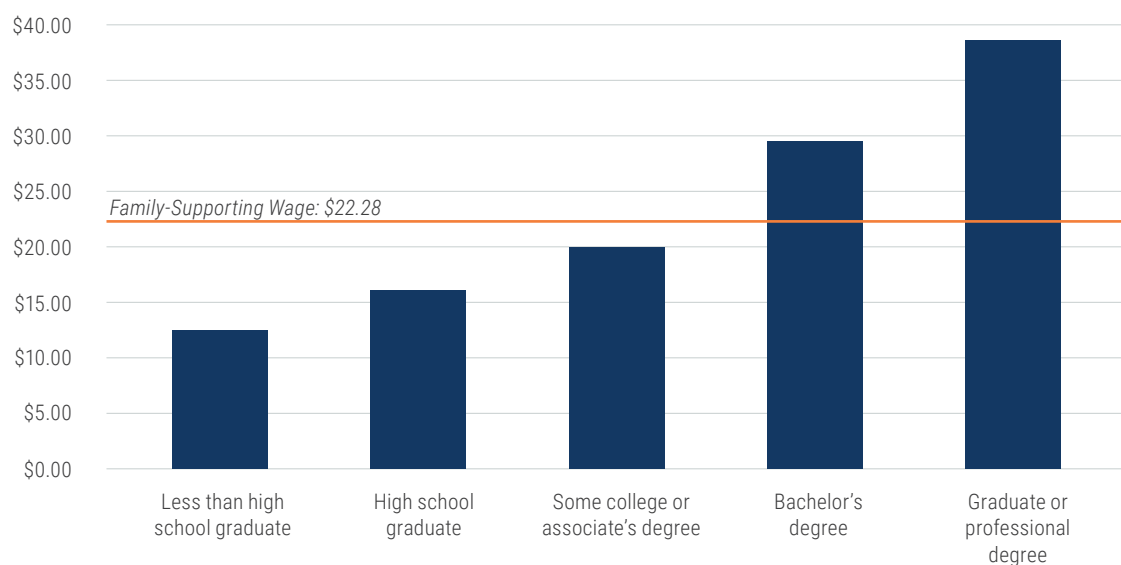


Educational Requirements for Family-Supporting Jobs

A worker's wages are generally tied directly to his or her level of educational attainment. Higher levels of education open increased job opportunities and increased pay. For secondary students and adult learners, the data contained in these charts details the monetary value of educational attainment.

The BLS assigns every occupation to one of eight educational categories: doctoral or professional degree; master's degree; bachelor's degree; associate's degree; postsecondary non-degree award; some college, no degree; high school diploma or equivalent; and no formal educational credential. Definitions of these categories are provided in the glossary.

MEDIAN HOURLY EARNINGS BY EDUCATIONAL ATTAINMENT, BALTIMORE REGION, 2016



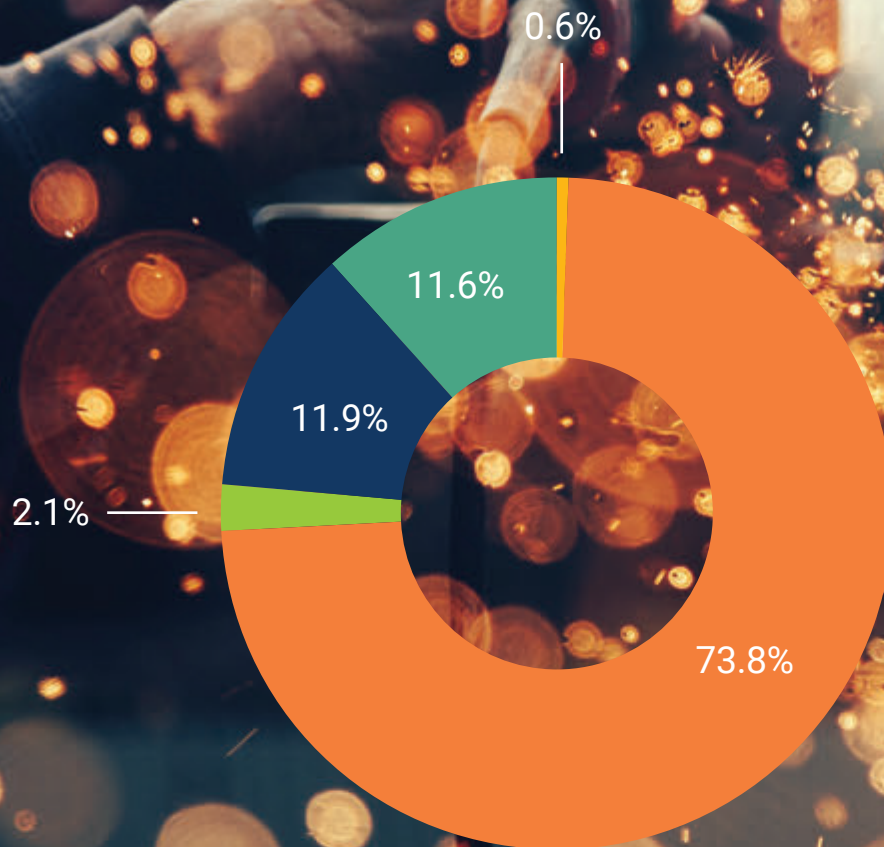
Source: U.S. Census Bureau, American Community Survey 1-Year Estimates, Table B20004.

Future hiring demand for family-supporting jobs in the Baltimore region is forecast to be 238,871 jobs from 2016 to 2026. New job growth accounts for 12.2 percent of total demand while separations account for the remaining 87.8 percent. Of these, jobs with a typical entry-level education of a high school diploma comprise the largest share by far — 73.8 percent. Jobs with a typical entry-level education of a postsecondary non-degree award and an associate's degree are the next largest designations at 11.9 percent and 11.6 percent, respectively.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations: Occupational Transfers	Hiring from Separations: Labor Force Exits	Total Hiring from Separations	Total Demand
No formal educational credential	929	1,198	268	773	451	1,224	1,492
High school diploma or equivalent	156,348	174,504	18,156	100,507	57,542	158,050	176,206
Some college, no degree	4,726	5,931	1,205	2,757	1,085	3,842	5,048
Postsecondary nondegree award	27,488	32,348	4,860	14,264	9,262	23,527	28,386
Associate's degree	27,418	31,959	4,541	14,452	8,746	23,197	27,738
Grand Total	216,909	245,939	29,030	132,754	77,086	209,840	238,871

Source: Emsi 2017.3.

While jobs where a high school diploma is the typical entry-level education dominate total demand for family-supporting jobs, the data shows that occupations with a typical entry-level education of an associate's degree are much more likely to have median hourly earnings of at least \$22.28. Total demand for all jobs with a typical entry-level education of a high school diploma is projected to be 594,725 jobs from 2016 to 2026. Of these, only 29.6 percent, or 176,206 jobs, qualify as family-supporting by having median hourly earnings of \$22.28. However, 67.0 percent of the 41,415 projected openings for jobs with a typical entry-level education of an associate's degree have this level of earnings. On the other extreme, only 0.3 percent of the projected total demand for jobs with no formal educational credential as their typical entry-level education have median hourly earnings of at least \$22.28. High school jobs predominate the total demand for family-supporting jobs primarily because of the large number of these jobs in the Baltimore region economy. For example, in 2016, there were more than 10 times as many jobs where the typical

**THE DATA SHOWS THAT
OCCUPATIONS WITH A TYPICAL
ENTRY-LEVEL EDUCATION OF AN
ASSOCIATE'S DEGREE ARE MUCH
MORE LIKELY TO HAVE MEDIAN
HOURLY EARNINGS OF AT LEAST
\$22.28.**

entry-level education was a high school diploma (462,641) as compared with an associate's degree (40,197).

Tables 4A through 4E list the top 20 family-supporting occupations ranked by total demand for each typical entry-level education designation. Fewer than 20 occupations are listed in the categories of no formal educational credential and some college, no degree; fewer than 20 occupations qualified as family-supporting for these levels of education.

Baltimore Region: Top Family-Supporting Occupations by Typical Entry-Level Education, Total Demand 2016–2026

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026
TYPICAL ENTRY-LEVEL EDUCATION: NO FORMAL EDUCATIONAL CREDENTIAL

Occupation	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sailors and Marine Oilers	461	663	201	667	868	\$23.13	0.4%
Material Moving Workers, All Other	272	317	45	349	393	\$22.60	0.2%
Artists and Related Workers, All Other	108	119	11	89	100	\$37.02	0.0%
Hoist and Winch Operators	63	66	2	86	88	\$23.07	0.0%
Continuous Mining Machine Operators	14	17	3	19	22	\$28.65	0.0%
Service Unit Operators, Oil, Gas, and Mining	11	17	5	16	22	\$26.34	0.0%

Source: Emsi 2017.3.





Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ENTRY-LEVEL EDUCATION: HIGH SCHOOL DIPLOMA OR EQUIVALENT

Occupation	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	19,694	22,216	2,522	20,302	22,823	\$28.30	9.6%
Sales Representatives, Services, All Other	13,804	15,248	1,444	17,127	18,571	\$27.31	7.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	9,103	10,521	1,418	9,797	11,215	\$27.52	4.7%
First-Line Supervisors of Construction Trades and Extraction Workers	7,384	8,441	1,057	7,493	8,550	\$31.33	3.6%
Carpenters	6,884	7,810	926	6,585	7,511	\$22.40	3.1%
Electricians	6,020	6,471	450	6,738	7,188	\$24.77	3.0%
Plumbers, Pipefitters, and Steamfitters	5,286	6,385	1,099	6,010	7,109	\$25.77	3.0%
Executive Secretaries and Executive Administrative Assistants	4,924	5,300	376	5,422	5,798	\$29.74	2.4%
Police and Sheriff's Patrol Officers	6,847	7,328	482	4,439	4,921	\$30.73	2.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	4,825	5,414	588	4,296	4,884	\$30.35	2.0%
Insurance Sales Agents	3,855	4,550	696	3,959	4,654	\$26.03	1.9%
Operating Engineers and Other Construction Equipment Operators	2,843	3,452	609	3,390	3,999	\$23.68	1.7%
Claims Adjusters, Examiners, and Investigators	4,289	4,507	218	3,560	3,778	\$34.63	1.6%
First-Line Supervisors of Production and Operating Workers	3,509	3,755	246	3,492	3,738	\$29.71	1.6%
Production, Planning, and Expediting Clerks	2,462	2,834	372	2,653	3,025	\$23.14	1.3%
First-Line Supervisors of Non-Retail Sales Workers	2,883	3,138	255	2,674	2,930	\$39.24	1.2%
Information and Record Clerks, All Other	2,114	2,369	255	2,492	2,747	\$22.69	1.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	2,238	2,496	258	2,399	2,656	\$27.65	1.1%
Industrial Machinery Mechanics	2,044	2,580	535	1,963	2,498	\$25.23	1.0%
Bus and Truck Mechanics and Diesel Engine Specialists	1,708	2,084	376	1,664	2,041	\$22.88	0.9%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ENTRY-LEVEL EDUCATION: POSTSECONDARY NONDEGREE AWARD

Occupation	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Licensed Practical and Licensed Vocational Nurses	6,637	8,466	1,829	5,263	7,092	\$24.88	3.0%
Automotive Service Technicians and Mechanics	5,788	6,591	803	5,681	6,484	\$22.30	2.7%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	2,631	3,365	734	2,844	3,577	\$26.29	1.5%
Medical Records and Health Information Technicians	2,732	3,316	584	1,782	2,366	\$22.69	1.0%
Firefighters	2,080	2,265	185	1,404	1,589	\$27.48	0.7%
Surgical Technologists	1,295	1,588	292	1,108	1,401	\$23.68	0.6%
Telecommunications Equipment Installers and Repairers, Except Line Installers	1,619	1,335	(285)	1,519	1,235	\$24.03	0.5%
Captains, Mates, and Pilots of Water Vessels	546	833	287	694	981	\$40.50	0.4%
First-Line Supervisors of Fire Fighting and Prevention Workers	1,077	1,139	61	717	779	\$39.06	0.3%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	714	764	50	636	686	\$31.20	0.3%
Aircraft Mechanics and Service Technicians	538	669	131	455	586	\$29.88	0.2%
Healthcare Practitioners and Technical Workers, All Other	749	873	124	406	529	\$34.44	0.2%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	311	307	(4)	268	264	\$34.41	0.1%
Sound Engineering Technicians	186	225	39	186	225	\$25.92	0.1%
Ship Engineers	75	124	49	118	167	\$35.43	0.1%
Fire Inspectors and Investigators	138	150	12	143	155	\$27.86	0.1%
Insurance Appraisers, Auto Damage	267	217	(50)	193	143	\$29.74	0.1%
Motorboat Operators	37	43	5	40	45	\$29.16	0.0%
Electrical and Electronics Installers and Repairers, Transportation Equipment	30	36	6	28	34	\$30.49	0.0%
Makeup Artists, Theatrical and Performance	24	26	2	28	30	\$27.44	0.0%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ENTRY-LEVEL EDUCATION: SOME COLLEGE, NO DEGREE

Occupation	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Computer User Support Specialists	4,712	5,893	1,181	3,819	5,000	\$24.07	2.1%
Wind Turbine Service Technicians	14	38	25	23	48	\$24.35	0.0%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ENTRY-LEVEL EDUCATION: ASSOCIATES DEGREE

Occupation	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Paralegals and Legal Assistants	3,802	4,149	347	3,956	4,303	\$25.60	1.8%
Computer Network Support Specialists	3,964	4,256	292	2,954	3,246	\$33.39	1.4%
Web Developers	2,038	2,605	566	1,602	2,169	\$26.26	0.9%
Electrical and Electronics Engineering Technicians	2,190	2,357	167	1,933	2,101	\$31.73	0.9%
Radiologic Technologists	2,243	2,627	383	1,240	1,624	\$30.86	0.7%
Dental Hygienists	1,733	2,161	428	1,144	1,572	\$41.84	0.7%
Physical Therapist Assistants	760	1,145	385	1,115	1,500	\$28.17	0.6%
Life, Physical, and Social Science Technicians, All Other	756	885	129	943	1,073	\$25.08	0.4%
Mechanical Drafters	873	929	56	758	814	\$26.79	0.3%
Engineering Technicians, Except Drafters, All Other	697	787	90	633	723	\$40.24	0.3%
Diagnostic Medical Sonographers	816	1,061	245	477	722	\$33.98	0.3%
Occupational Therapy Assistants	324	503	179	499	678	\$30.67	0.3%
Civil Engineering Technicians	545	683	138	519	656	\$25.18	0.3%
Respiratory Therapists	835	1,047	212	431	643	\$32.56	0.3%
Architectural and Civil Drafters	508	637	129	480	608	\$28.79	0.3%
Cardiovascular Technologists and Technicians	647	826	179	374	553	\$32.92	0.2%
Medical Equipment Repairers	459	525	66	418	483	\$25.47	0.2%
Mechanical Engineering Technicians	360	430	70	336	406	\$26.96	0.2%
Environmental Science and Protection Technicians, Including Health	249	307	58	319	377	\$28.49	0.2%
Industrial Engineering Technicians	379	414	35	338	373	\$27.68	0.2%

Source: Emsi 2017.3.



Work Experience Required for Family-Supporting Jobs

Professional experience is another useful way to categorize occupations. This data point indicates if work experience in a related occupation is commonly considered necessary by employers for entry into the occupation. The federal Bureau of Labor Statistics assigns occupations to one of three work experience categories: none, less than five years, and five years or more. For young or inexperienced workers, these classifications can help a job seeker focus a search for employment on attainable positions.

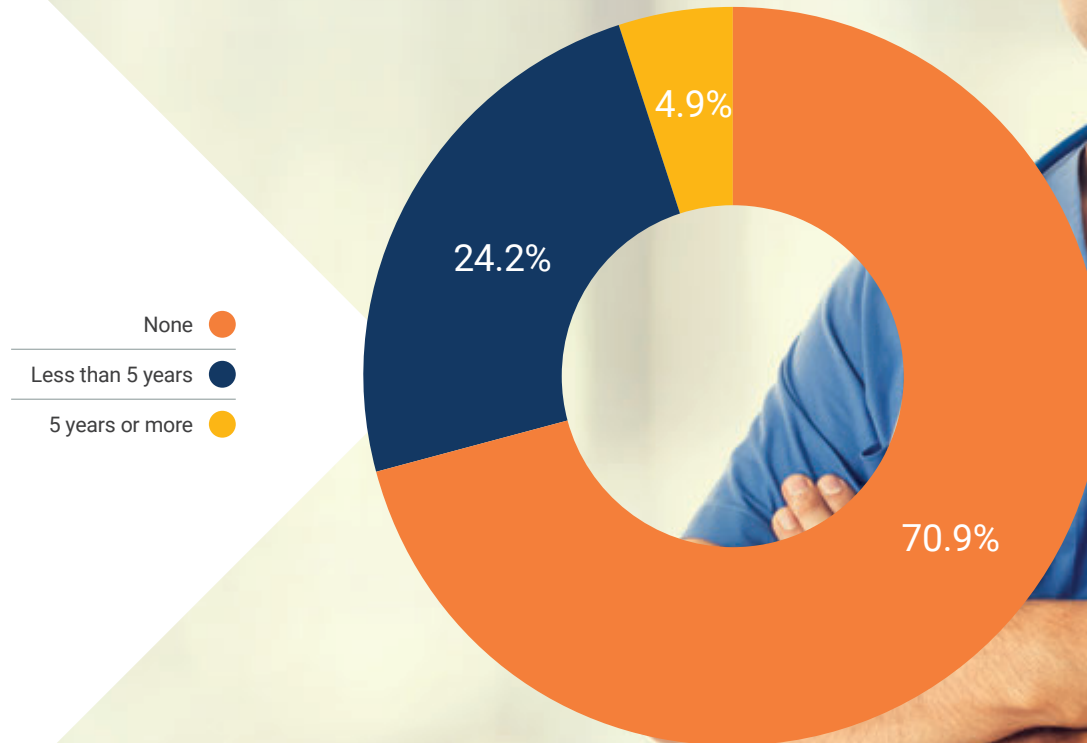
Jobs requiring no work experience account for the largest share of family-supporting job demand (70.9 percent), followed by less than five years (24.2 percent) and five years or more (4.9 percent). Three-quarters of projected openings for jobs requiring no work experience require some level of on-the-job training. Of those requiring no work experience and no on-the-job training (42,732 jobs), 60.1 percent have a typical entry-level education of an associate's degree, 28.1 percent a postsecondary non-degree award and 11.7 percent have some college, no degree. Only 0.1 percent have a typical entry-level education of a high school diploma or less. Thus, while a large percentage of projected openings for family-supporting jobs require no work experience, nearly all (99.9 percent) of these require on-the-job training and/or education beyond a high school diploma.

WHILE A LARGE PERCENTAGE OF PROJECTED OPENINGS FOR FAMILY-SUPPORTING JOBS REQUIRE NO WORK EXPERIENCE, NEARLY ALL (99.9 PERCENT) OF THESE REQUIRE ON-THE-JOB TRAINING AND/OR EDUCATION BEYOND A HIGH SCHOOL DIPLOMA.

Tables 6A through 6C list the top 20 family-supporting occupations ranked by total demand for each work experience designation. Fewer than 20 occupations are listed for the five-years or more designation because fewer than 20 occupations qualified as family-supporting for this level of work experience.



Share of Demand for Family-Supporting Jobs (2016–2026) BY WORK EXPERIENCE REQUIRED



Baltimore Region

FAMILY-SUPPORTING JOBS BY WORK EXPERIENCE REQUIRED

Work Experience Required	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations: Occupational Transfers	Hiring from Separations: Labor Force Exits	Total Hiring from Separations	Total Demand
None	154,769	175,781	21,012	95,660	52,605	148,265	169,277
Less than 5 years	51,977	58,533	6,555	30,550	20,733	51,284	57,839
5 years or more	10,162	11,626	1,463	6,544	3,748	10,292	11,755
Grand Total	216,909	245,939	29,030	132,754	77,086	209,840	238,871

Source: Emsi 2017.3.

Baltimore Region: Top Family-Supporting Occupations by Work Experience Required, Total Demand 2016–2026

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

WORK EXPERIENCE REQUIRED: NONE

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Services, All Other	HS	13,804	15,248	1,444	17,127	18,571	\$27.31	7.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	9,103	10,521	1,418	9,797	11,215	\$27.52	4.7%
Carpenters	HS	6,884	7,810	926	6,585	7,511	\$22.40	3.1%
Electricians	HS	6,020	6,471	450	6,738	7,188	\$24.77	3.0%
Plumbers, Pipefitters, and Steamfitters	HS	5,286	6,385	1,099	6,010	7,109	\$25.77	3.0%
Licensed Practical and Licensed Vocational Nurses	HS+	6,637	8,466	1,829	5,263	7,092	\$24.88	3.0%
Automotive Service Technicians and Mechanics	HS+	5,788	6,591	803	5,681	6,484	\$22.30	2.7%
Computer User Support Specialists	SC	4,712	5,893	1,181	3,819	5,000	\$24.07	2.1%
Police and Sheriff's Patrol Officers	HS	6,847	7,328	482	4,439	4,921	\$30.73	2.1%
Insurance Sales Agents	HS	3,855	4,550	696	3,959	4,654	\$26.03	1.9%
Paralegals and Legal Assistants	AA	3,802	4,149	347	3,956	4,303	\$25.60	1.8%
Operating Engineers and Other Construction Equipment Operators	HS	2,843	3,452	609	3,390	3,999	\$23.68	1.7%
Claims Adjusters, Examiners, and Investigators	HS	4,289	4,507	218	3,560	3,778	\$34.63	1.6%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	2,631	3,365	734	2,844	3,577	\$26.29	1.5%
Computer Network Support Specialists	AA	3,964	4,256	292	2,954	3,246	\$33.39	1.4%
Production, Planning, and Expediting Clerks	HS	2,462	2,834	372	2,653	3,025	\$23.14	1.3%
Information and Record Clerks, All Other	HS	2,114	2,369	255	2,492	2,747	\$22.69	1.1%
Industrial Machinery Mechanics	HS	2,044	2,580	535	1,963	2,498	\$25.23	1.0%
Medical Records and Health Information Technicians	HS+	2,732	3,316	584	1,782	2,366	\$22.69	1.0%
Web Developers	AA	2,038	2,605	566	1,602	2,169	\$26.26	0.9%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

WORK EXPERIENCE REQUIRED: LESS THAN 5 YEARS

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	19,694	22,216	2,522	20,302	22,823	\$28.30	9.6%
Executive Secretaries and Executive Administrative Assistants	HS	4,924	5,300	376	5,422	5,798	\$29.74	2.4%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	4,825	5,414	588	4,296	4,884	\$30.35	2.0%
First-Line Supervisors of Production and Operating Workers	HS	3,509	3,755	246	3,492	3,738	\$29.71	1.6%
First-Line Supervisors of Non-Retail Sales Workers	HS	2,883	3,138	255	2,674	2,930	\$39.24	1.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	2,238	2,496	258	2,399	2,656	\$27.65	1.1%
Food Service Managers	HS	1,408	1,684	276	1,630	1,906	\$29.35	0.8%
Property, Real Estate, and Community Association Managers	HS	1,795	2,192	397	1,495	1,892	\$31.17	0.8%
First-Line Supervisors of Police and Detectives	HS	2,156	2,284	129	1,305	1,434	\$42.55	0.6%
Flight Attendants	HS	891	1,156	265	1,084	1,349	\$28.13	0.6%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	1,159	1,337	179	1,164	1,343	\$24.72	0.6%
Excavating and Loading Machine and Dragline Operators	HS	795	898	103	914	1,018	\$23.58	0.4%
Captains, Mates, and Pilots of Water Vessels	HS+	546	833	287	694	981	\$40.50	0.4%
First-Line Supervisors of Correctional Officers	HS	1,245	1,310	66	826	892	\$27.21	0.4%
Gaming Supervisors	HS	320	483	163	628	791	\$22.78	0.3%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	1,077	1,139	61	717	779	\$39.06	0.3%
Crane and Tower Operators	HS	423	504	81	478	559	\$28.96	0.2%
Detectives and Criminal Investigators	HS	492	577	86	332	417	\$48.43	0.2%
Real Estate Brokers	HS	353	378	25	329	354	\$26.23	0.1%
Magnetic Resonance Imaging Technologists	AA	473	543	70	259	329	\$35.11	0.1%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

WORK EXPERIENCE REQUIRED: 5 YEARS OR MORE

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Construction Trades and Extraction Workers	HS	7,384	8,441	1,057	7,493	8,550	\$31.33	3.6%
Construction and Building Inspectors	HS	1,604	1,824	221	1,812	2,033	\$26.65	0.9%
Transportation, Storage, and Distribution Managers	HS	878	1,039	162	723	884	\$44.41	0.4%
Fire Inspectors and Investigators	HS+	138	150	12	143	155	\$27.86	0.1%
Farmers, Ranchers, and Other Agricultural Managers	HS	160	171	12	122	133	\$33.09	0.1%

Source: Emsi 2017.3.





On-the-Job Training Requirements for Family-Supporting Jobs

This data point indicates the on-the-job-training (OJT) typically needed to attain competency in the skills required for each occupation. Occupations are assigned to one of six OJT categories by the Bureau of Labor Statistics: none, short-term OJT (one month or less), moderate-term OJT (more than one month up to 12 months), long-term OJT (more than 12 months), apprenticeship and internship/residency. OJT opportunities can be attractive and beneficial to workers who don't learn well in a classroom setting or to workers seeking to avoid costly education programs.

Occupations requiring no OJT account for the largest share of family-supporting job demand (43.3 percent), followed by moderate-term OJT (29.4 percent), long-term OJT (10.7 percent), apprenticeships (10.4 percent), and short-term OJT (6.1 percent). There are no family-supporting occupations requiring an internship/residency as these occupations have a typical entry-level education of a bachelor's degree or greater. Occupations with no typical OJT fall into two broad categories. The first is occupations that require some level of work experience and have a typical entry-level education of a high school diploma (57.1 percent of all jobs with no OJT). These occupations tend to be first-line supervisory and managerial positions. The second is occupations that don't require work experience and have a typical entry-level education that

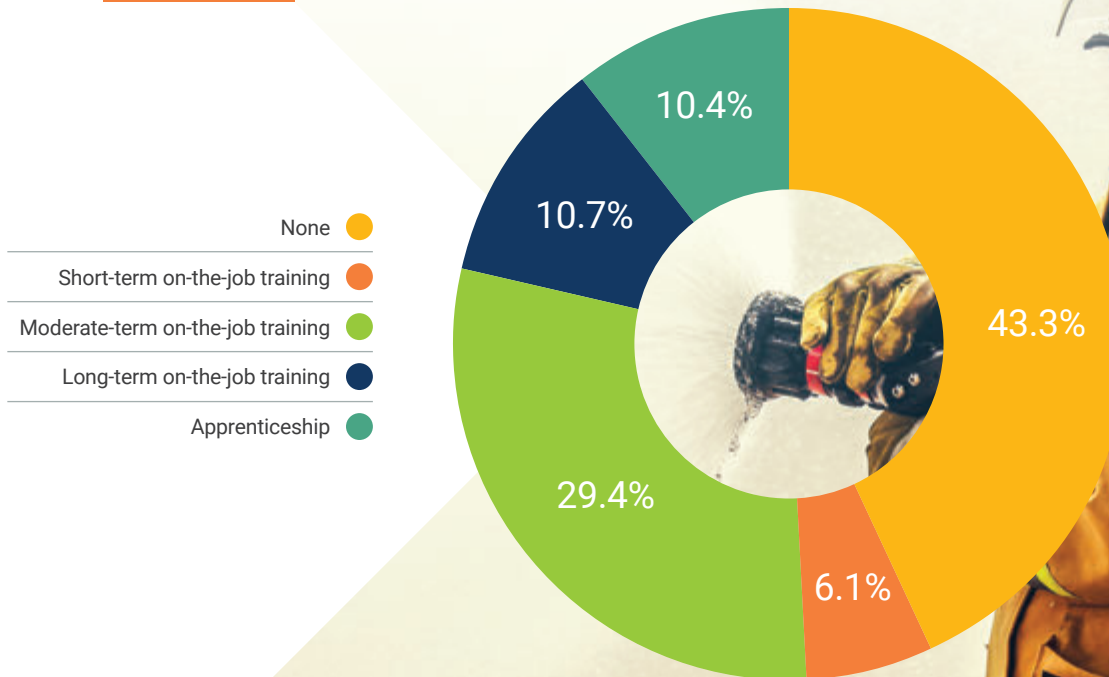
OJT OPPORTUNITIES CAN BE ATTRACTIVE AND BENEFICIAL TO WORKERS WHO DON'T LEARN WELL IN A CLASSROOM SETTING OR TO WORKERS SEEKING TO AVOID COSTLY EDUCATION PROGRAMS.

is higher than a high school diploma (41.3 percent of jobs with no OJT). Of these, 60.1 percent have a typical entry-level education of an associate's degree. While these occupations fall into a variety of sectors, they tend to be technical positions related to information technology (web developers, computer network support specialists, etc.), business services/biosciences (paralegals and legal assistants, drafters, and engineering technicians, etc.), and healthcare (licensed practical nurses, physical therapy assistants, radiologic technologists, dental hygienists, etc.). Family-supporting apprenticeship occupations are comprised entirely of construction trades with a typical entry-level education of a high school diploma and requiring no prior work experience.

Tables 8A through 8E list the top 20 family-supporting occupations ranked by total demand for each OJT designation. Fewer than 20 occupations are listed for the short-term OJT and apprenticeship designations because fewer than 20 occupations qualified as family-supporting for these levels of OJT.



Share of Demand for Family-Supporting Jobs (2016–2026) BY TYPICAL ON-THE-JOB TRAINING



Baltimore Region

FAMILY-SUPPORTING JOBS BY TYPICAL ON-THE-JOB TRAINING

On-the-Job Training	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations: Occupational Transfers	Hiring from Separations: Labor Force Exits	Total Hiring from Separations	Total Demand
None	95,220	110,666	15,446	53,558	34,448	88,006	103,452
Short-term on-the-job training	15,712	16,277	565	8,078	6,003	14,081	14,646
Moderate-term on-the-job training	61,272	68,337	7,065	41,580	21,514	63,094	70,159
Long-term on-the-job training	24,139	27,202	3,063	15,098	7,516	22,614	25,676
Apprenticeship	20,566	23,458	2,892	14,440	7,605	22,045	24,938
Grand Total	216,909	245,939	29,030	132,754	77,086	209,840	238,871

Source: Emsi 2017.3.

Baltimore Region: Top Family-Supporting Occupations by Typical On-the-Job Training, Total Demand 2016–2026

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ON-THE-JOB TRAINING: NONE

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	19,694	22,216	2,522	20,302	22,823	\$28.30	9.6%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	7,384	8,441	1,057	7,493	8,550	\$31.33	3.6%
Licensed Practical and Licensed Vocational Nurses	HS+	6,637	8,466	1,829	5,263	7,092	\$24.88	3.0%
Executive Secretaries and Executive Administrative Assistants	HS	4,924	5,300	376	5,422	5,798	\$29.74	2.4%
Computer User Support Specialists	SC	4,712	5,893	1,181	3,819	5,000	\$24.07	2.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	4,825	5,414	588	4,296	4,884	\$30.35	2.0%
Paralegals and Legal Assistants	AA	3,802	4,149	347	3,956	4,303	\$25.60	1.8%
First-Line Supervisors of Production and Operating Workers	HS	3,509	3,755	246	3,492	3,738	\$29.71	1.6%
Computer Network Support Specialists	AA	3,964	4,256	292	2,954	3,246	\$33.39	1.4%
First-Line Supervisors of Non-Retail Sales Workers	HS	2,883	3,138	255	2,674	2,930	\$39.24	1.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	2,238	2,496	258	2,399	2,656	\$27.65	1.1%
Medical Records and Health Information Technicians	HS+	2,732	3,316	584	1,782	2,366	\$22.69	1.0%
Web Developers	AA	2,038	2,605	566	1,602	2,169	\$26.26	0.9%
Electrical and Electronics Engineering Technicians	AA	2,190	2,357	167	1,933	2,101	\$31.73	0.9%
Food Service Managers	HS	1,408	1,684	276	1,630	1,906	\$29.35	0.8%
Property, Real Estate, and Community Association Managers	HS	1,795	2,192	397	1,495	1,892	\$31.17	0.8%
Radiologic Technologists	AA	2,243	2,627	383	1,240	1,624	\$30.86	0.7%
Dental Hygienists	AA	1,733	2,161	428	1,144	1,572	\$41.84	0.7%
Physical Therapist Assistants	AA	760	1,145	385	1,115	1,500	\$28.17	0.6%
Surgical Technologists	HS+	1,295	1,588	292	1,108	1,401	\$23.68	0.6%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



TYPICAL ON-THE-JOB TRAINING: SHORT-TERM

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Automotive Service Technicians and Mechanics	HS+	5,788	6,591	803	5,681	6,484	\$22.30	2.7%
Information and Record Clerks, All Other	HS	2,114	2,369	255	2,492	2,747	\$22.69	1.1%
Postal Service Mail Carriers	HS	3,052	2,652	(400)	1,904	1,504	\$27.51	0.6%
Legal Support Workers, All Other	HS	1,116	1,187	71	933	1,005	\$24.05	0.4%
Postal Service Mail Sorters, Processors, and Processing Machine Operators	HS	1,314	1,036	(278)	832	555	\$26.42	0.2%
Material Moving Workers, All Other	NoED	272	317	45	349	393	\$22.60	0.2%
Postal Service Clerks	HS	567	506	(61)	417	356	\$26.62	0.1%
Media and Communication Equipment Workers, All Other	HS	315	338	23	295	318	\$48.56	0.1%
Sound Engineering Technicians	HS+	186	225	39	186	225	\$25.92	0.1%
Broadcast Technicians	AA	222	238	16	207	224	\$27.00	0.1%
Media and Communication Workers, All Other	HS	199	226	27	189	216	\$22.59	0.1%
Riggers	HS	125	156	31	138	169	\$26.85	0.1%
Desktop Publishers	AA	148	143	(5)	155	150	\$23.62	0.1%
Meter Readers, Utilities	HS	165	153	(12)	116	104	\$23.83	0.0%
Animal Breeders	HS	50	57	7	81	89	\$23.06	0.0%
Hoist and Winch Operators	NoED	63	66	2	86	88	\$23.07	0.0%
Bridge and Lock Tenders	HS	15	17	2	18	20	\$27.62	0.0%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ON-THE-JOB-TRAINING: MODERATE-TERM

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Services, All Other	HS	13,804	15,248	1,444	17,127	18,571	\$27.31	7.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	9,103	10,521	1,418	9,797	11,215	\$27.52	4.7%
Police and Sheriff's Patrol Officers	HS	6,847	7,328	482	4,439	4,921	\$30.73	2.1%
Insurance Sales Agents	HS	3,855	4,550	696	3,959	4,654	\$26.03	1.9%
Operating Engineers and Other Construction Equipment Operators	HS	2,843	3,452	609	3,390	3,999	\$23.68	1.7%
Production, Planning, and Expediting Clerks	HS	2,462	2,834	372	2,653	3,025	\$23.14	1.3%
Construction and Building Inspectors	HS	1,604	1,824	221	1,812	2,033	\$26.65	0.9%
Welders, Cutters, Solderers, and Brazers	HS	1,241	1,508	267	1,446	1,712	\$22.41	0.7%
First-Line Supervisors of Police and Detectives	HS	2,156	2,284	129	1,305	1,434	\$42.55	0.6%
Eligibility Interviewers, Government Programs	HS	1,341	1,479	138	1,223	1,360	\$25.44	0.6%
Flight Attendants	HS	891	1,156	265	1,084	1,349	\$28.13	0.6%
Telecommunications Equipment Installers and Repairers, Except Line Installers	HS+	1,619	1,335	(285)	1,519	1,235	\$24.03	0.5%
Security and Fire Alarm Systems Installers	HS	958	1,065	107	1,091	1,198	\$25.40	0.5%
Procurement Clerks	HS	955	1,002	47	1,050	1,097	\$22.83	0.5%
Pest Control Workers	HS	647	751	104	947	1,051	\$22.71	0.4%
Excavating and Loading Machine and Dragline Operators	HS	795	898	103	914	1,018	\$23.58	0.4%
Advertising Sales Agents	HS	668	773	105	892	997	\$22.97	0.4%
First-Line Supervisors of Correctional Officers	HS	1,245	1,310	66	826	892	\$27.21	0.4%
Sailors and Marine Oilers	NoED	461	663	201	667	868	\$23.13	0.4%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	1,077	1,139	61	717	779	\$39.06	0.3%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ON-THE-JOB-TRAINING: LONG-TERM

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Claims Adjusters, Examiners, and Investigators	HS	4,289	4,507	218	3,560	3,778	\$34.63	1.6%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	2,631	3,365	734	2,844	3,577	\$26.29	1.5%
Industrial Machinery Mechanics	HS	2,044	2,580	535	1,963	2,498	\$25.23	1.0%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	1,708	2,084	376	1,664	2,041	\$22.88	0.9%
Machinists	HS	1,578	1,799	221	1,686	1,906	\$24.45	0.8%
Mobile Heavy Equipment Mechanics, Except Engines	HS	1,572	1,774	202	1,574	1,776	\$24.22	0.7%
Automotive Body and Related Repairers	HS	1,431	1,663	233	1,452	1,685	\$25.33	0.7%
Firefighters	HS+	2,080	2,265	185	1,404	1,589	\$27.48	0.7%
Telecommunications Line Installers and Repairers	HS	1,672	1,583	(89)	1,571	1,482	\$30.54	0.6%
Electrical Power-Line Installers and Repairers	HS	1,194	1,358	164	995	1,159	\$27.22	0.5%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	714	764	50	636	686	\$31.20	0.3%
Stationary Engineers and Boiler Operators	HS	392	437	45	427	472	\$27.58	0.2%
Motorboat Mechanics and Service Technicians	HS	369	350	(19)	365	347	\$23.15	0.1%
Morticians, Undertakers, and Funeral Directors	AA	212	254	42	283	325	\$28.62	0.1%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	311	307	(4)	268	264	\$34.41	0.1%
Power Plant Operators	HS	172	214	43	170	212	\$37.09	0.1%
Chemical Plant and System Operators	HS	252	227	(25)	234	209	\$26.11	0.1%
Locksmiths and Safe Repairers	HS	265	242	(23)	232	209	\$22.87	0.1%
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	HS	161	189	28	171	199	\$23.73	0.1%
Jewelers and Precious Stone and Metal Workers	HS	179	188	9	190	199	\$22.47	0.1%

Source: Emsi 2017.3.



Baltimore Region: Top Family-Supporting Occupations, Total Demand 2016–2026

TYPICAL ON-THE-JOB TRAINING: APPRENTICESHIP

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Carpenters	HS	6,884	7,810	926	6,585	7,511	\$22.40	3.1%
Electricians	HS	6,020	6,471	450	6,738	7,188	\$24.77	3.0%
Plumbers, Pipefitters, and Steamfitters	HS	5,286	6,385	1,099	6,010	7,109	\$25.77	3.0%
Sheet Metal Workers	HS	985	1,183	198	1,117	1,315	\$24.37	0.6%
Elevator Installers and Repairers	HS	425	480	55	515	570	\$39.87	0.2%
Structural Iron and Steel Workers	HS	376	437	60	421	481	\$27.76	0.2%
Glaziers	HS	332	348	16	382	398	\$22.33	0.2%
Millwrights	HS	159	222	63	167	229	\$29.53	0.1%
Boilermakers	HS	59	80	21	67	88	\$33.72	0.0%
Terrazzo Workers and Finishers	HS	40	44	4	44	48	\$23.63	0.0%

Source: Emsi 2017.3.





Opportunity to Move Across Workforce Sectors

Gone are the days when a typical worker would spend decades or even an entire career with one employer. The changing nature of work, including advancements in technology, increases in outsourcing and contract work, changes in worker attitudes and values and shifts in the population's demographic composition, has led to workers changing jobs more frequently. Many of these changes will be across sectors, and jobs with sector mobility are becoming more and more attractive to people entering the workforce. The following table shows the 25 jobs with the most sector mobility in our region.

These 25 jobs were determined by first eliminating all jobs where more than 50 percent of projected total demand was concentrated in any one sector. The top 25 jobs by total demand were then selected. A color gradient depicts sector concentration, with lighter colors indicating a lower percentage of total demand in that sector and darker colors indicating a higher percentage of total demand in that sector.

Of the 25 jobs with the most sector mobility, several of the top positions by total demand are either first-line supervisory or administrative positions. There are also jobs requiring

THE CHANGING NATURE OF WORK, INCLUDING ADVANCEMENTS IN TECHNOLOGY, INCREASES IN OUTSOURCING AND CONTRACT WORK, CHANGES IN WORKER ATTITUDES AND VALUES AND SHIFTS IN THE POPULATION'S DEMOGRAPHIC COMPOSITION, HAS LED TO WORKERS CHANGING JOBS MORE FREQUENTLY.

computer and technical skills. These positions have elevated concentrations in the IT sector but are broad-based enough to be relevant to many other sectors and include computer user-support specialists, computer network support specialists and web developers. There are also several engineering and science technician positions. Most of the occupations have at least 10 percent of total demand in the business services sector even if the occupation is more concentrated in another sector. This is indicative of the large and broad-based nature of the business services sector in the Baltimore region.

SECTOR TRANSFERABILITY: DISTRIBUTION OF TOTAL DEMAND FOR FAMILY-SUPPORTING JOBS BY SECTOR

Occupation	Typical Entry-Level Education	Bio- sciences	Business Services	Construction	Education	Finance & Insurance	Health- care	
First-Line Supervisors of Office and Administrative Support Workers	HS	4.4%	18.6%	3.2%	5.6%	14.9%	21.4%	
Sales Representatives, Services, All Other	HS	9.3%	36.8%	9.7%	1.7%	5.3%	4.7%	
Executive Secretaries and Executive Administrative Assistants	HS	11.3%	27.7%	3.5%	17.0%	14.6%	11.7%	
Computer User Support Specialists	SC	5.5%	40.0%	0.5%	9.1%	3.3%	4.2%	
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	3.2%	11.5%	17.6%	4.7%	11.2%	5.5%	
Computer Network Support Specialists	AA	5.6%	38.0%	0.9%	7.3%	5.6%	4.3%	
Production, Planning, and Expediting Clerks	HS	14.5%	27.0%	4.8%	1.9%	2.4%	8.1%	
First-Line Supervisors of Non-Retail Sales Workers	HS	3.9%	16.7%	1.5%	0.5%	16.7%	1.1%	
Information and Record Clerks, All Other	HS	4.3%	17.4%	0.0%	33.0%	11.4%	24.5%	
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	1.2%	8.9%	3.6%	3.7%	1.5%	3.1%	
Industrial Machinery Mechanics	HS	7.0%	24.5%	4.9%	0.0%	1.8%	0.0%	
Web Developers	AA	8.4%	43.3%	0.0%	7.0%	4.1%	1.5%	
Electrical and Electronics Engineering Technicians	AA	35.0%	34.0%	1.4%	0.8%	0.0%	0.0%	
Bus and Truck Mechanics and Diesel Engine Specialists	HS	0.0%	10.6%	6.8%	6.1%	10.5%	0.0%	
Mobile Heavy Equipment Mechanics, Except Engines	HS	3.4%	11.7%	36.9%	0.0%	15.4%	0.0%	
Welders, Cutters, Solderers, and Brazers	HS	5.8%	18.4%	27.5%	0.0%	0.0%	0.0%	
Eligibility Interviewers, Government Programs	HS	0.0%	38.4%	0.0%	14.3%	0.0%	47.3%	
Telecommunications Equipment Installers and Repairers, Except Line Installers	HS+	4.7%	25.6%	47.9%	1.6%	0.0%	0.0%	
Procurement Clerks	HS	8.9%	22.5%	3.2%	8.0%	3.4%	13.1%	
Life, Physical, and Social Science Technicians, All Other	AA	24.2%	40.0%	0.0%	26.3%	0.0%	6.0%	
Transportation, Storage, and Distribution Managers	HS	7.1%	17.6%	0.0%	1.4%	2.6%	0.0%	
Mechanical Drafters	AA	38.4%	41.8%	4.8%	0.0%	0.0%	0.0%	
Engineering Technicians, Except Drafters, All Other	AA	35.6%	43.2%	0.0%	2.9%	0.0%	0.0%	
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	18.3%	21.4%	9.9%	0.0%	0.0%	0.0%	
Control and Valve Installers and Repairers, Except Mechanical Door	HS	5.7%	19.6%	24.2%	0.0%	0.0%	0.0%	

Source: Emsi 2017.3.

The color gradient is categorized as follows (from light to dark):

0%	>0%-5%	>5%-10%	>10%-25%	>25%-50%
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	Hospitality & Tourism	Information Technology	Manu- facturing	Retail Trade	Transportation & Warehousing	Utilities	Whole- sale	Median Hourly Wages	Total Demand in Baltimore Region
	3.3%	3.4%	2.2%	13.1%	4.6%	0.4%	5.0%	\$28.30	22,823
	6.1%	12.0%	0.5%	8.5%	3.1%	0.2%	2.1%	\$27.31	18,571
	1.7%	4.4%	2.4%	1.2%	1.4%	0.5%	2.5%	\$29.74	5,798
	0.5%	30.4%	1.4%	1.1%	0.6%	0.2%	3.3%	\$24.07	5,000
	4.3%	3.2%	5.8%	16.9%	6.1%	3.9%	6.3%	\$30.35	4,884
	0.6%	29.8%	1.6%	0.8%	0.8%	0.3%	4.4%	\$33.39	3,246
	1.3%	4.8%	15.8%	2.5%	9.1%	0.9%	6.9%	\$23.14	3,025
	2.6%	14.2%	3.2%	7.2%	0.9%	0.0%	31.4%	\$39.24	2,930
	0.0%	1.6%	0.0%	5.5%	2.3%	0.0%	0.0%	\$22.69	2,747
	2.3%	1.6%	5.8%	5.8%	45.6%	0.0%	16.9%	\$27.65	2,656
	0.0%	2.3%	39.5%	0.0%	2.3%	4.2%	13.6%	\$25.23	2,498
	0.8%	29.2%	0.8%	2.8%	0.0%	0.0%	2.1%	\$26.26	2,169
	0.0%	8.5%	14.4%	0.0%	0.0%	2.6%	3.4%	\$31.73	2,101
	0.0%	1.2%	3.6%	7.2%	34.6%	1.0%	18.6%	\$22.88	2,041
	0.0%	0.0%	1.3%	0.0%	7.2%	0.0%	24.1%	\$24.22	1,776
	0.0%	0.0%	40.5%	0.0%	2.4%	0.0%	5.4%	\$22.41	1,712
	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$25.44	1,360
	0.0%	14.6%	0.0%	0.0%	0.0%	0.0%	5.6%	\$24.03	1,235
	4.2%	4.6%	7.7%	11.4%	3.6%	0.0%	9.5%	\$22.83	1,097
	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	0.0%	\$25.08	1,073
	0.0%	4.1%	7.4%	2.7%	42.7%	0.0%	14.4%	\$44.41	884
	0.0%	1.4%	12.1%	0.0%	0.0%	0.0%	1.5%	\$26.79	814
	0.0%	4.8%	11.7%	0.0%	0.0%	0.0%	1.6%	\$40.24	723
	0.0%	17.8%	19.0%	0.0%	0.0%	1.7%	11.9%	\$31.20	686
	0.0%	4.0%	4.1%	2.8%	0.0%	27.8%	11.8%	\$24.79	661

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Analysis of the Top 50 Family-Supporting Occupations – 2016 to 2026

Tables 9A, 10A and 11A list the top 50 family-supporting occupations in the Baltimore region from 2016 to 2026 sorted by total demand, median hourly earnings and percent job growth, respectively. There is little overlap between the total demand table and those sorted by median hourly earnings and job growth. Only 12 out of the top 50 occupations by median hourly earnings and 15 of the top 50 occupations by job growth also qualify as one of the top 50 occupations by total demand.

The top 50 family-supporting occupations by total demand are listed in table 9A. These include two first-line supervisory positions, two categories of sales representatives, three construction sector trades, licensed practical nurses, automotive service technicians and executive secretaries. The top 10 occupations by total demand include eight with a typical entry-level education of a high school diploma. This is unsurprising given that this educational category accounts for 73.8 percent of all projected family-supporting job openings. Those top 10 occupations comprise 42.8 percent of the total demand for family-supporting jobs from 2016 to 2026. In total, the top 50 occupations by total demand account for 83.6 percent of all projected openings for family-supporting jobs.

Table 10A lists the top 50 family-supporting occupations by median hourly earnings, with hourly earnings ranging from a median of \$56.65 for air traffic controllers to \$29.96 for radio, cellular and tower equipment installers and repairers. The top 10 occupations are distributed across a wide variety of sectors,

but several are related to transportation and warehousing, including air traffic controllers, commercial pilots, transportation, storage and distribution managers, and captains, mates and pilots of water vessels. Four of the top 10 occupations by median hourly earnings are projected to have a total demand of greater than 500 openings. These include transportation, storage and distribution managers, captains, mates and pilots of water vessels, first-line supervisors of police and detectives, and dental hygienists. In total, the top 50 occupations by median hourly earnings account for 20.9 percent of all projected openings for family-supporting jobs.

The top 50 family-supporting occupations by new job growth are listed in table 11A, with growth from 2016 to 2026 ranging from nearly 200 percent for gaming managers to 20.4 percent for commercial pilots. Many of the highest-growth occupations from 2016 to 2026 are relatively specialized occupations with few projected openings. These include gaming managers, wind turbine service technicians, ship engineers and hearing aid specialists. Each of these positions has a projected total demand of fewer than 200 openings. However, four of the 10 highest growth occupations are projected to have a total demand of more than 500 positions. These include two healthcare sector occupations (occupational and physical therapy assistants), captains, mates and pilots of water vessels, and gaming supervisors. In total, the top 50 occupations by job growth account for 23.6 percent of all projected openings for family-supporting jobs.



Baltimore Region: Top 50 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	19,694	22,216	2,522	20,302	22,823	\$28.30	9.6%
Sales Representatives, Services, All Other	HS	13,804	15,248	1,444	17,127	18,571	\$27.31	7.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	9,103	10,521	1,418	9,797	11,215	\$27.52	4.7%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	7,384	8,441	1,057	7,493	8,550	\$31.33	3.6%
Carpenters	HS	6,884	7,810	926	6,585	7,511	\$22.40	3.1%
Electricians	HS	6,020	6,471	450	6,738	7,188	\$24.77	3.0%
Plumbers, Pipefitters, and Steamfitters	HS	5,286	6,385	1,099	6,010	7,109	\$25.77	3.0%
Licensed Practical and Licensed Vocational Nurses	HS+	6,637	8,466	1,829	5,263	7,092	\$24.88	3.0%
Automotive Service Technicians and Mechanics	HS+	5,788	6,591	803	5,681	6,484	\$22.30	2.7%
Executive Secretaries and Executive Administrative Assistants	HS	4,924	5,300	376	5,422	5,798	\$29.74	2.4%
Computer User Support Specialists	SC	4,712	5,893	1,181	3,819	5,000	\$24.07	2.1%
Police and Sheriff's Patrol Officers	HS	6,847	7,328	482	4,439	4,921	\$30.73	2.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	4,825	5,414	588	4,296	4,884	\$30.35	2.0%
Insurance Sales Agents	HS	3,855	4,550	696	3,959	4,654	\$26.03	1.9%
Paralegals and Legal Assistants	AA	3,802	4,149	347	3,956	4,303	\$25.60	1.8%
Operating Engineers and Other Construction Equipment Operators	HS	2,843	3,452	609	3,390	3,999	\$23.68	1.7%
Claims Adjusters, Examiners, and Investigators	HS	4,289	4,507	218	3,560	3,778	\$34.63	1.6%
First-Line Supervisors of Production and Operating Workers	HS	3,509	3,755	246	3,492	3,738	\$29.71	1.6%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	2,631	3,365	734	2,844	3,577	\$26.29	1.5%
Computer Network Support Specialists	AA	3,964	4,256	292	2,954	3,246	\$33.39	1.4%
Production, Planning, and Expediting Clerks	HS	2,462	2,834	372	2,653	3,025	\$23.14	1.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	2,883	3,138	255	2,674	2,930	\$39.24	1.2%
Information and Record Clerks, All Other	HS	2,114	2,369	255	2,492	2,747	\$22.69	1.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	2,238	2,496	258	2,399	2,656	\$27.65	1.1%
Industrial Machinery Mechanics	HS	2,044	2,580	535	1,963	2,498	\$25.23	1.0%

Continued on the next page.

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Medical Records and Health Information Technicians	HS+	2,732	3,316	584	1,782	2,366	\$22.69	1.0%
Web Developers	AA	2,038	2,605	566	1,602	2,169	\$26.26	0.9%
Electrical and Electronics Engineering Technicians	AA	2,190	2,357	167	1,933	2,101	\$31.73	0.9%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	1,708	2,084	376	1,664	2,041	\$22.88	0.9%
Construction and Building Inspectors	HS	1,604	1,824	221	1,812	2,033	\$26.65	0.9%
Food Service Managers	HS	1,408	1,684	276	1,630	1,906	\$29.35	0.8%
Machinists	HS	1,578	1,799	221	1,686	1,906	\$24.45	0.8%
Property, Real Estate, and Community Association Managers	HS	1,795	2,192	397	1,495	1,892	\$31.17	0.8%
Mobile Heavy Equipment Mechanics, Except Engines	HS	1,572	1,774	202	1,574	1,776	\$24.22	0.7%
Welders, Cutters, Solderers, and Brazers	HS	1,241	1,508	267	1,446	1,712	\$22.41	0.7%
Automotive Body and Related Repairers	HS	1,431	1,663	233	1,452	1,685	\$25.33	0.7%
Radiologic Technologists	AA	2,243	2,627	383	1,240	1,624	\$30.86	0.7%
Firefighters	HS+	2,080	2,265	185	1,404	1,589	\$27.48	0.7%
Dental Hygienists	AA	1,733	2,161	428	1,144	1,572	\$41.84	0.7%
Postal Service Mail Carriers	HS	3,052	2,652	(400)	1,904	1,504	\$27.51	0.6%
Physical Therapist Assistants	AA	760	1,145	385	1,115	1,500	\$28.17	0.6%
Telecommunications Line Installers and Repairers	HS	1,672	1,583	(89)	1,571	1,482	\$30.54	0.6%
First-Line Supervisors of Police and Detectives	HS	2,156	2,284	129	1,305	1,434	\$42.55	0.6%
Surgical Technologists	HS+	1,295	1,588	292	1,108	1,401	\$23.68	0.6%
Eligibility Interviewers, Government Programs	HS	1,341	1,479	138	1,223	1,360	\$25.44	0.6%
Flight Attendants	HS	891	1,156	265	1,084	1,349	\$28.13	0.6%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	1,159	1,337	179	1,164	1,343	\$24.72	0.6%
Sheet Metal Workers	HS	985	1,183	198	1,117	1,315	\$24.37	0.6%
Telecommunications Equipment Installers and Repairers, Except Line Installers	HS+	1,619	1,335	(285)	1,519	1,235	\$24.03	0.5%
Security and Fire Alarm Systems Installers	HS	958	1,065	107	1,091	1,198	\$25.40	0.5%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Baltimore Region: Top 50 Family-Supporting Occupations, Sorted by Median Hourly Wage

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Air Traffic Controllers	AA	81	100	19	83	102	\$56.65	0.0%
Media and Communication Equipment Workers, All Other	HS	315	338	23	295	318	\$48.56	0.1%
Detectives and Criminal Investigators	HS	492	577	86	332	417	\$48.43	0.2%
Commercial Pilots	HS	266	320	54	270	324	\$46.66	0.1%
Transportation, Storage, and Distribution Managers	HS	878	1,039	162	723	884	\$44.41	0.4%
First-Line Supervisors of Police and Detectives	HS	2,156	2,284	129	1,305	1,434	\$42.55	0.6%
Dental Hygienists	AA	1,733	2,161	428	1,144	1,572	\$41.84	0.7%
Nuclear Power Reactor Operators	HS	22	27	5	21	26	\$41.44	0.0%
Captains, Mates, and Pilots of Water Vessels	HS+	546	833	287	694	981	\$40.50	0.4%
Funeral Service Managers	AA	158	172	14	114	128	\$40.47	0.1%
Engineering Technicians, Except Drafters, All Other	AA	697	787	90	633	723	\$40.24	0.3%
Radiation Therapists	AA	166	204	39	85	123	\$40.02	0.1%
Elevator Installers and Repairers	HS	425	480	55	515	570	\$39.87	0.2%
First-Line Supervisors of Non-Retail Sales Workers	HS	2,883	3,138	255	2,674	2,930	\$39.24	1.2%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	1,077	1,139	61	717	779	\$39.06	0.3%
Nuclear Medicine Technologists	AA	217	237	20	116	136	\$38.49	0.1%
Power Plant Operators	HS	172	214	43	170	212	\$37.09	0.1%
Aerospace Engineering and Operations Technicians	AA	159	176	16	142	158	\$37.06	0.1%
Artists and Related Workers, All Other	NoED	108	119	11	89	100	\$37.02	0.0%
Lodging Managers	HS	124	144	19	132	151	\$37.00	0.1%
Nuclear Technicians	AA	103	111	8	124	132	\$36.83	0.1%
Gaming Managers	HS	13	39	26	28	54	\$35.76	0.0%
Ship Engineers	HS+	75	124	49	118	167	\$35.43	0.1%
Magnetic Resonance Imaging Technologists	AA	473	543	70	259	329	\$35.11	0.1%
Power Distributors and Dispatchers	HS	92	93	1	80	81	\$35.09	0.0%
Postmasters and Mail Superintendents	HS	89	81	(8)	59	51	\$35.02	0.0%
Claims Adjusters, Examiners, and Investigators	HS	4,289	4,507	218	3,560	3,778	\$34.63	1.6%

Continued on the next page.

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Healthcare Practitioners and Technical Workers, All Other	HS+	749	873	124	406	529	\$34.44	0.2%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	311	307	(4)	268	264	\$34.41	0.1%
Diagnostic Medical Sonographers	AA	816	1,061	245	477	722	\$33.98	0.3%
Boilermakers	HS	59	80	21	67	88	\$33.72	0.0%
Computer Network Support Specialists	AA	3,964	4,256	292	2,954	3,246	\$33.39	1.4%
Farmers, Ranchers, and Other Agricultural Managers	HS	160	171	12	122	133	\$33.09	0.1%
Cardiovascular Technologists and Technicians	AA	647	826	179	374	553	\$32.92	0.2%
Respiratory Therapists	AA	835	1,047	212	431	643	\$32.56	0.3%
Electrical and Electronics Engineering Technicians	AA	2,190	2,357	167	1,933	2,101	\$31.73	0.9%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	7,384	8,441	1,057	7,493	8,550	\$31.33	3.6%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	714	764	50	636	686	\$31.20	0.3%
Property, Real Estate, and Community Association Managers	HS	1,795	2,192	397	1,495	1,892	\$31.17	0.8%
Signal and Track Switch Repairers	HS	17	19	1	17	18	\$31.04	0.0%
Radiologic Technologists	AA	2,243	2,627	383	1,240	1,624	\$30.86	0.7%
Police and Sheriff's Patrol Officers	HS	6,847	7,328	482	4,439	4,921	\$30.73	2.1%
Occupational Therapy Assistants	AA	324	503	179	499	678	\$30.67	0.3%
Telecommunications Line Installers and Repairers	HS	1,672	1,583	(89)	1,571	1,482	\$30.54	0.6%
Electrical and Electronics Installers and Repairers, Transportation Equipment	HS+	30	36	6	28	34	\$30.49	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	4,825	5,414	588	4,296	4,884	\$30.35	2.0%
Gas Plant Operators	HS	37	42	6	39	45	\$30.32	0.0%
Railroad Conductors and Yardmasters	HS	28	31	2	27	29	\$30.29	0.0%
Avionics Technicians	AA	69	83	13	59	72	\$30.10	0.0%
Radio, Cellular, and Tower Equipment Installers and Repairs	AA	115	124	9	123	132	\$29.96	0.1%

Source: Emsi 2017.3.

Note: For Typical Entry Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Baltimore Region: Top 50 Family-Supporting Occupations, Sorted by New Job Growth 2016–2026

168 TOTAL FAMILY-SUPPORTING OCCUPATIONS

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Gaming Managers	HS	13	39	26	197.5%	28	54	\$35.76	0.0%
Wind Turbine Service Technicians	SC	14	38	25	182.4%	23	48	\$24.35	0.0%
Ship Engineers	HS+	75	124	49	65.4%	118	167	\$35.43	0.1%
Hearing Aid Specialists	HS	34	54	20	58.7%	27	47	\$23.26	0.0%
Occupational Therapy Assistants	AA	324	503	179	55.3%	499	678	\$30.67	0.3%
Captains, Mates, and Pilots of Water Vessels	HS+	546	833	287	52.5%	694	981	\$40.50	0.4%
Gaming Supervisors	HS	320	483	163	51.0%	628	791	\$22.78	0.3%
Physical Therapist Assistants	AA	760	1,145	385	50.7%	1,115	1,500	\$28.17	0.6%
Service Unit Operators, Oil, Gas, and Mining	NoED	11	17	5	49.1%	16	22	\$26.34	0.0%
Commercial Divers	HS+	12	17	5	44.5%	14	19	\$23.11	0.0%
Sailors and Marine Oilers	NoED	461	663	201	43.6%	667	868	\$23.13	0.4%
Millwrights	HS	159	222	63	39.4%	167	229	\$29.53	0.1%
Logging Equipment Operators	HS	27	37	10	36.4%	41	51	\$22.60	0.0%
Geological and Petroleum Technicians	AA	33	45	12	36.0%	39	51	\$27.72	0.0%
Boilermakers	HS	59	80	21	35.6%	67	88	\$33.72	0.0%
Diagnostic Medical Sonographers	AA	816	1,061	245	30.0%	477	722	\$33.98	0.3%
Flight Attendants	HS	891	1,156	265	29.7%	1,084	1,349	\$28.13	0.6%
Brokerage Clerks	HS	496	641	145	29.3%	571	717	\$25.33	0.3%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	2,631	3,365	734	27.9%	2,844	3,577	\$26.29	1.5%
Web Developers	AA	2,038	2,605	566	27.8%	1,602	2,169	\$26.26	0.9%
Cardiovascular Technologists and Technicians	AA	647	826	179	27.7%	374	553	\$32.92	0.2%
Licensed Practical and Licensed Vocational Nurses	HS+	6,637	8,466	1,829	27.6%	5,263	7,092	\$24.88	3.0%
Industrial Machinery Mechanics	HS	2,044	2,580	535	26.2%	1,963	2,498	\$25.23	1.0%
Rail Car Repairers	HS	127	160	32	25.5%	136	169	\$26.21	0.1%
Respiratory Therapists	AA	835	1,047	212	25.4%	431	643	\$32.56	0.3%
Architectural and Civil Drafters	AA	508	637	129	25.3%	480	608	\$28.79	0.3%

Continued on the next page.

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Civil Engineering Technicians	AA	545	683	138	25.2%	519	656	\$25.18	0.3%
Computer User Support Specialists	SC	4,712	5,893	1,181	25.1%	3,819	5,000	\$24.07	2.1%
Power Plant Operators	HS	172	214	43	24.9%	170	212	\$37.09	0.1%
Dental Hygienists	AA	1,733	2,161	428	24.7%	1,144	1,572	\$41.84	0.7%
Riggers	HS	125	156	31	24.7%	138	169	\$26.85	0.1%
Aircraft Mechanics and Service Technicians	HS+	538	669	131	24.3%	455	586	\$29.88	0.2%
Air Traffic Controllers	AA	81	100	19	23.5%	83	102	\$56.65	0.0%
Environmental Science and Protection Technicians, Including Health	AA	249	307	58	23.4%	319	377	\$28.49	0.2%
Radiation Therapists	AA	166	204	39	23.3%	85	123	\$40.02	0.1%
Painters, Transportation Equipment	HS	249	306	57	22.8%	286	342	\$24.86	0.1%
Continuous Mining Machine Operators	NoED	14	17	3	22.7%	19	22	\$28.65	0.0%
Nuclear Power Reactor Operators	HS	22	27	5	22.6%	21	26	\$41.44	0.0%
Surgical Technologists	HS+	1,295	1,588	292	22.6%	1,108	1,401	\$23.68	0.6%
Property, Real Estate, and Community Association Managers	HS	1,795	2,192	397	22.1%	1,495	1,892	\$31.17	0.8%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	1,708	2,084	376	22.0%	1,664	2,041	\$22.88	0.9%
Electrical and Electronics Drafters	AA	231	280	50	21.5%	214	264	\$27.38	0.1%
Welders, Cutters, Solderers, and Brazers	HS	1,241	1,508	267	21.5%	1,446	1,712	\$22.41	0.7%
Operating Engineers and Other Construction Equipment Operators	HS	2,843	3,452	609	21.4%	3,390	3,999	\$23.68	1.7%
Medical Records and Health Information Technicians	HS+	2,732	3,316	584	21.4%	1,782	2,366	\$22.69	1.0%
Electrical and Electronics Installers and Repairers, Transportation Equipment	HS+	30	36	6	21.0%	28	34	\$30.49	0.0%
Sound Engineering Technicians	HS+	186	225	39	21.0%	186	225	\$25.92	0.1%
Airfield Operations Specialists	HS	32	39	7	20.9%	32	39	\$28.74	0.0%
Plumbers, Pipefitters, and Steamfitters	HS	5,286	6,385	1,099	20.8%	6,010	7,109	\$25.77	3.0%
Commercial Pilots	HS	266	320	54	20.4%	270	324	\$46.66	0.1%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Family-Supporting Jobs: All Sectors

The following charts and tables summarize family-supporting job demand in 13 Baltimore region sectors. Sector definitions align with those in the Opportunity Collaborative's Baltimore Regional Talent Development Pipeline Study, published in October 2013.

Table 12A presents summary employment information for all jobs (not just family-supporting) in each of the 13 sectors. Business services and healthcare are the largest sectors, with 216,144 and 189,587 jobs in 2016, respectively. These sectors are also among the fastest growing sectors from 2016 to 2026, as depicted in chart 12B. Healthcare jobs are projected to increase by 27.4 percent over that period, followed by IT at 22.1 percent, transportation and warehousing at 22.0 percent and business services at 21.6 percent.

Table 12C presents summary family-supporting employment information for each sector. Business services and healthcare remain two of the largest sectors for family-supporting jobs, with 32,888 and 23,442 jobs in 2016, respectively. However, construction surpasses both of these sectors at 36,124 jobs in 2016 due to the high percentage of construction sector jobs that qualify as family-supporting.

Chart 12D depicts family-supporting job growth from 2016 to 2026. The four fastest-growing

**THE FOUR FASTEST-GROWING
SECTORS FROM 2016 TO 2026 FOR
FAMILY-SUPPORTING JOBS ARE
IDENTICAL TO THOSE FOR ALL JOBS:
HEALTHCARE, TRANSPORTATION AND
WAREHOUSING, IT AND BUSINESS
SERVICES.**

sectors from 2016 to 2026 for family-supporting jobs are identical to those for all jobs: healthcare (26.3 percent), transportation and warehousing (25.8 percent), IT (22.2 percent) and business services (20.8 percent). On the other hand, the slowest growing sectors for family-supporting jobs are utilities, manufacturing and retail trade. The utilities sector (with a projected reduction of 7.3 percent) is the only sector projected to have negative family-supporting job growth from 2016 to 2026, with growth of less than 10 percent for manufacturing (2.1 percent) and retail trade (8.4 percent). As a result, hiring due to separations accounts for more than 90 percent of total demand in these sectors from 2016 to 2026. In healthcare, the fastest growing sector, separations account for 76.1 percent of total demand.

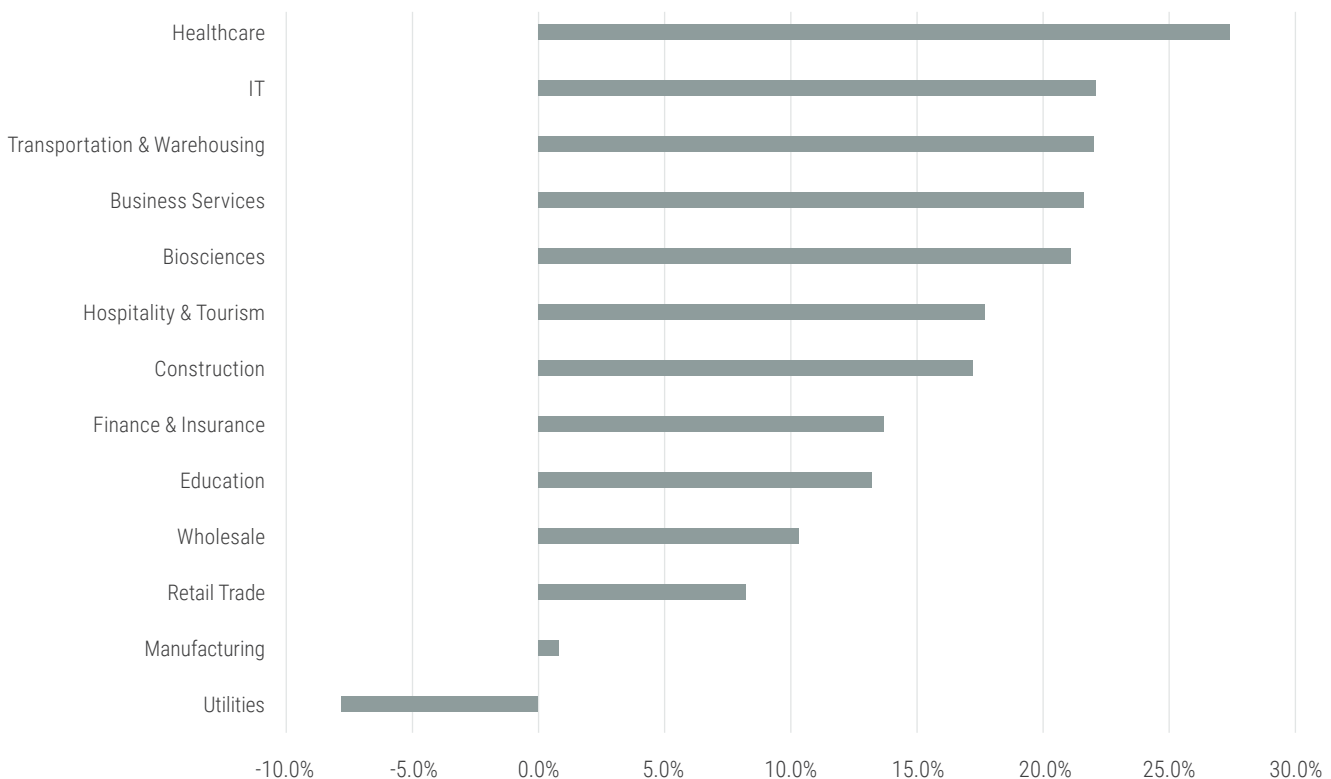


Summary of Jobs and Total Demand in the Baltimore Region by Sector: All Jobs

Sector	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand
Healthcare	189,587	241,541	51,954	27.4%	193,772	245,726
IT	49,533	60,482	10,949	22.1%	45,593	56,542
Transportation & Warehousing	40,316	49,177	8,862	22.0%	50,441	59,303
Business Services	216,144	262,775	46,631	21.6%	232,751	279,382
Biosciences	64,081	77,595	13,513	21.1%	60,845	74,359
Hospitality & Tourism	137,535	161,914	24,379	17.7%	240,623	265,002
Construction	75,189	88,110	12,921	17.2%	81,166	94,087
Finance & Insurance	72,348	82,253	9,906	13.7%	74,054	83,960
Education	128,527	145,493	16,966	13.2%	123,411	140,377
Wholesale	46,048	50,810	4,761	10.3%	50,191	54,952
Retail Trade	139,230	150,643	11,413	8.2%	194,727	206,140
Manufacturing	53,229	53,653	424	0.8%	54,532	54,956
Utilities	5,032	4,640	(393)	(7.8%)	4,240	3,847



New Job Growth (2016–2026) by Sector: All Jobs





Summary of Jobs and Total Demand in the Baltimore Region by Sector: Family-Supporting Jobs

Sector	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand
Healthcare	23,442	29,611	6,169	26.3%	19,604	25,774
Transportation & Warehousing	6,339	7,976	1,637	25.8%	7,125	8,763
IT	10,644	13,003	2,359	22.2%	10,696	13,055
Business Services	32,888	39,716	6,828	20.8%	34,751	41,579
Biosciences	11,143	13,387	2,244	20.1%	11,613	13,857
Hospitality & Tourism	4,040	4,805	765	18.9%	4,772	5,537
Construction	36,124	42,291	6,167	17.1%	38,869	45,036
Wholesale	12,480	14,135	1,655	13.3%	12,779	14,434
Finance & Insurance	15,246	17,195	1,950	12.8%	14,830	16,779
Education	5,846	6,553	707	12.1%	5,622	6,329
Retail Trade	9,888	10,720	831	8.4%	10,011	10,842
Manufacturing	10,822	11,046	224	2.1%	10,413	10,636
Utilities	2,568	2,381	(187)	(7.3%)	2,136	1,948



New Job Growth (2016–2026) by Sector: Family-Supporting Jobs

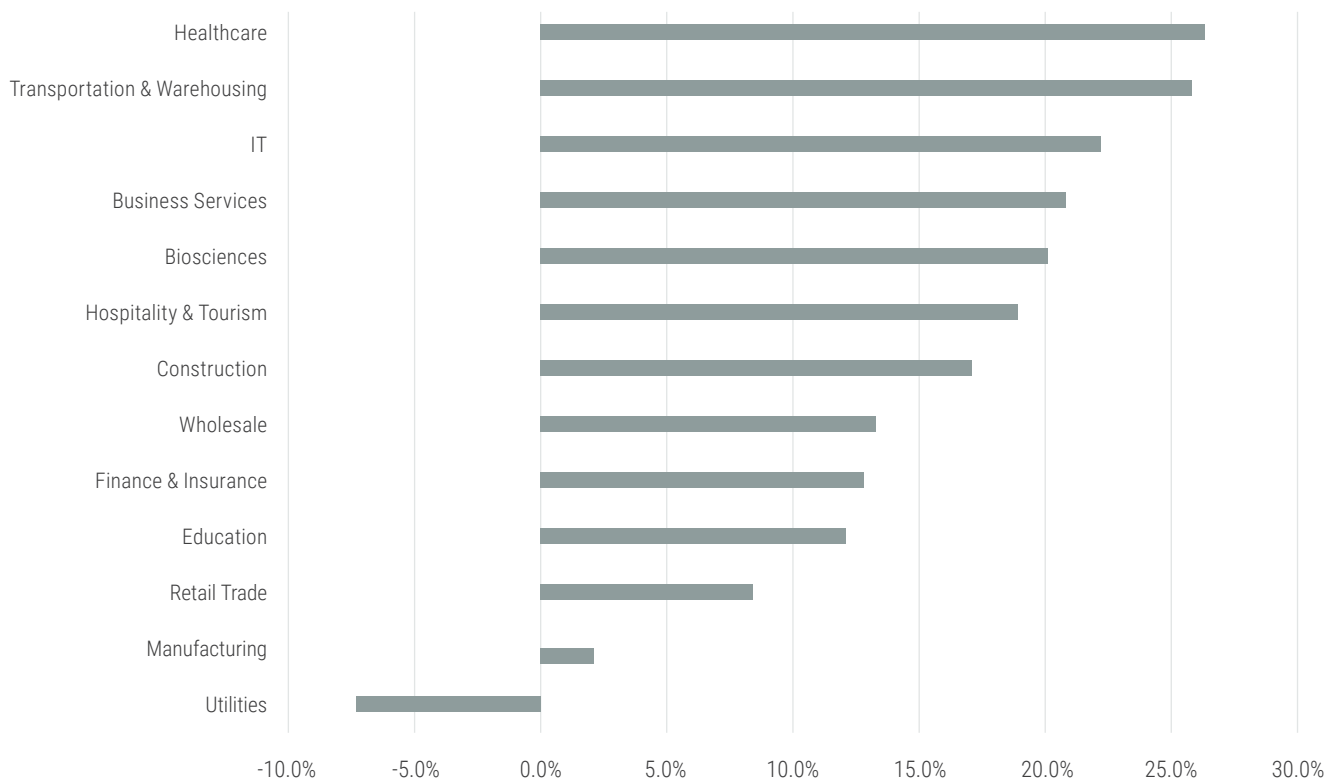


Chart 13A depicts the share of total demand for jobs by job type and sector. Total demand includes both new job growth and hiring due to separations. Family-supporting jobs form the largest share of total demand in the utilities (50.6 percent), construction (47.9 percent) and wholesale (26.3 percent) sectors. However, as chart 13B makes clear, it is vital to take into account the absolute size of total demand rather than just the share. For example, while family-supporting jobs form the largest share of total demand in the utilities sector, that share amounts to just 1,948 family-supporting job openings from 2016 to 2026 due to the small size and growth of the sector. The sectors with the highest total demand for family-supporting jobs are construction (45,036), business services (41,579), healthcare (25,774) and finance and insurance (16,779).

Table 13C provides further insight into the total demand for family-supporting jobs in each sector by depicting the distribution of total demand by typical entry-level education. Occupations where a high school diploma is the typical entry-level education comprise the majority of total demand for family-supporting jobs in nearly every sector. This is particularly the case for the construction, finance and insurance, hospitality and tourism, and wholesale sectors, where jobs with this educational level account for more than 90 percent of all family-supporting job demand in the sector. The healthcare sector deviates from this trend, with the share of total family-supporting job demand nearly evenly split between jobs with a typical entry-level education of a high school diploma (30.4 percent), postsecondary non-degree award (36.8 percent) and associate's degree (31.7 percent).

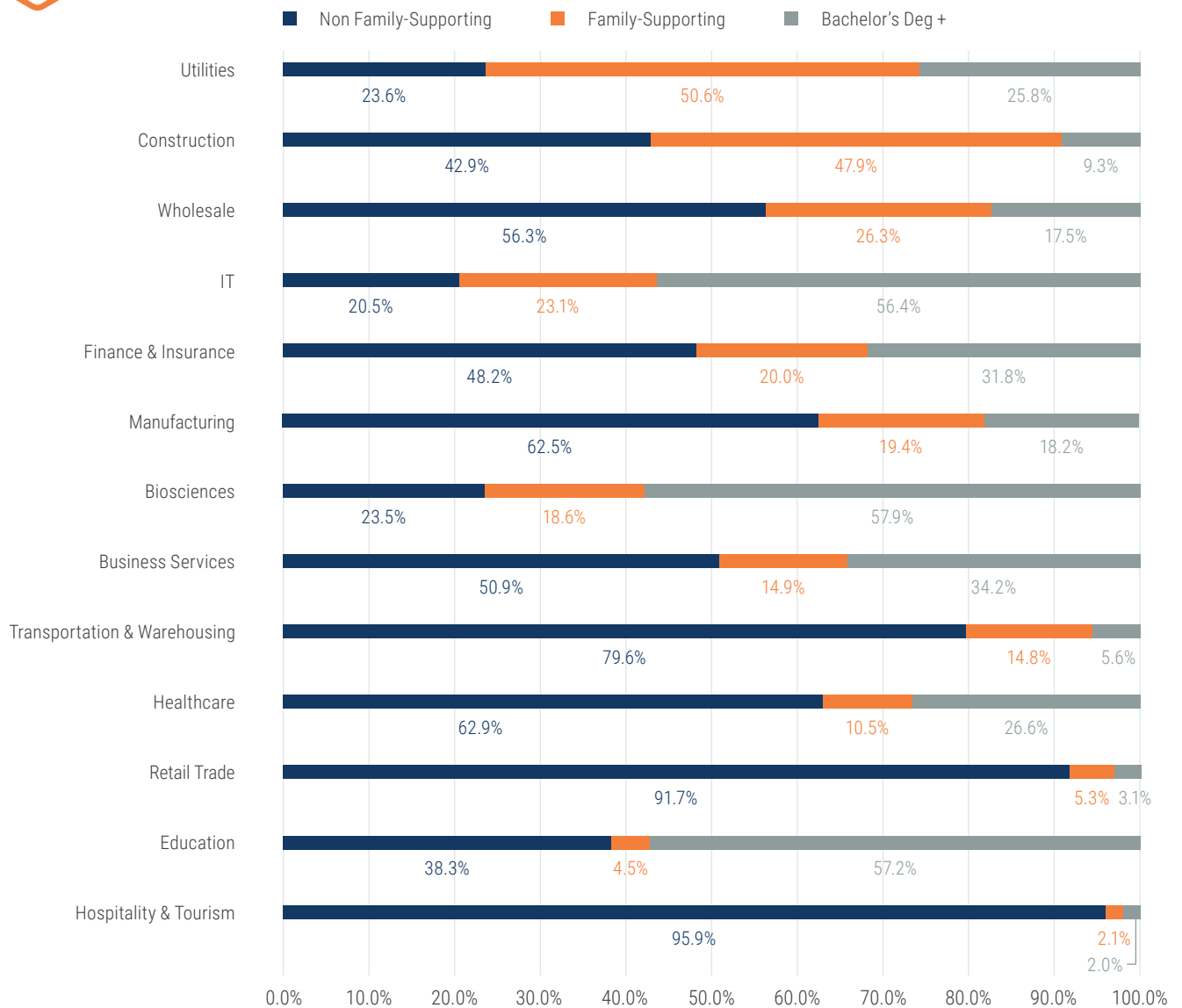
Completion of an associate's degree generally requires at least two but not more than four years of full-time academic study beyond high school. In addition to healthcare, the biosciences, business services and IT sectors

**OCCUPATIONS WITH NO FORMAL
EDUCATIONAL CREDENTIAL AS THEIR
TYPICAL ENTRY-LEVEL EDUCATION
COMPRISE LESS THAN 1 PERCENT
OF THE TOTAL DEMAND FOR FAMILY-
SUPPORTING JOBS IN NEARLY EVERY
SECTOR.**

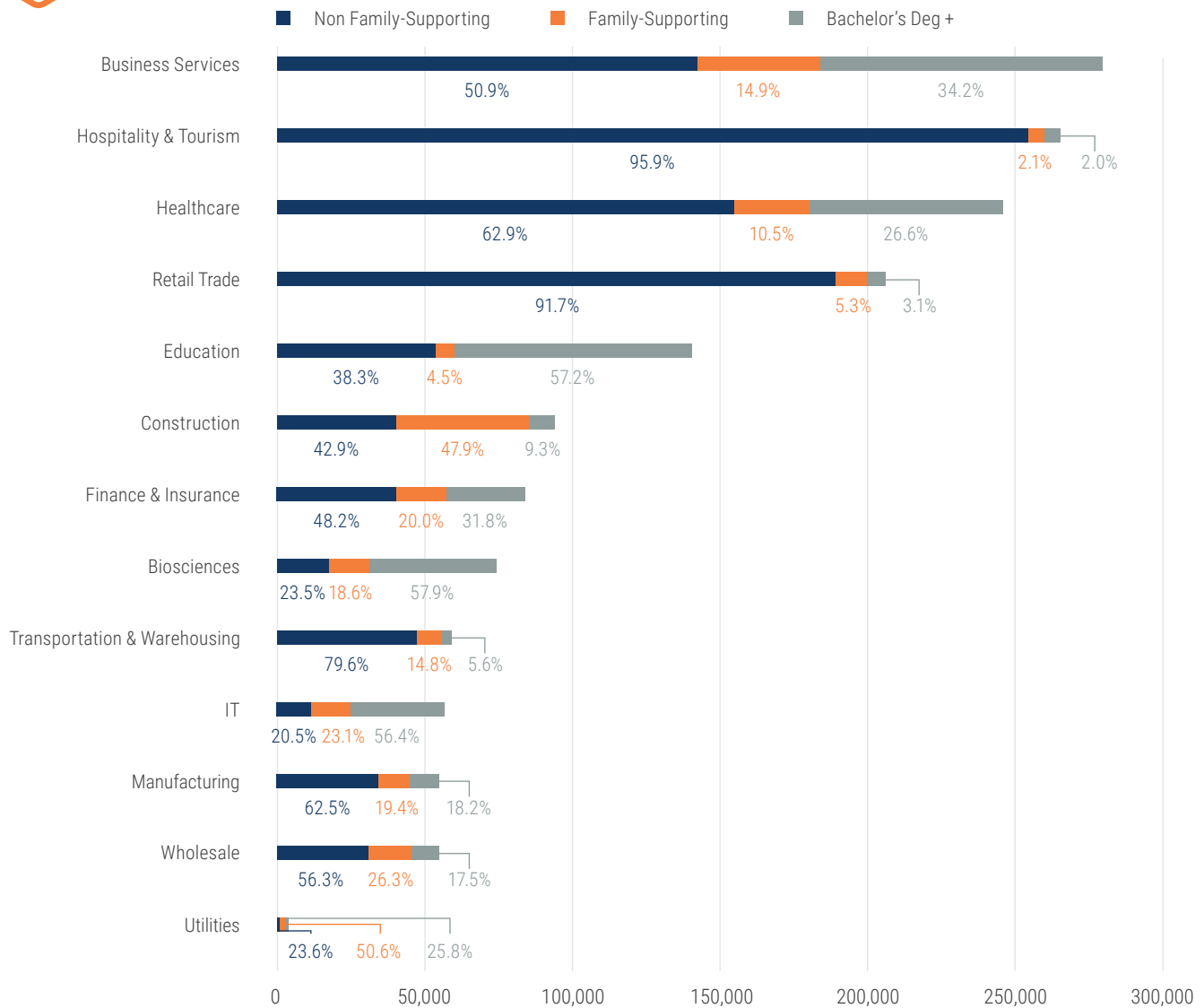
stand out as sectors where associate's degrees comprise larger shares of total family-supporting job demand. A postsecondary non-degree award requires formal postsecondary school and leads to a certificate, but not a degree. The share of total family-supporting job demand at this educational level is highest in the healthcare, retail trade and transportation and warehousing sectors.

The remaining educational levels comprise small shares of total family-supporting job demand in nearly all sectors, with a few sectors standing out as exceptions. For example, occupations with no formal educational credential as their typical entry-level education comprise less than 1 percent of the total demand for family-supporting jobs in nearly every sector. The exception is transportation and warehousing, where 9.2 percent of jobs have no formal educational credential as their typical entry-level education. The data reveals that this is due almost entirely to one occupation that is heavily concentrated in this sector – sailors and marine oilers. Similarly, occupations with some college, no degree as their typical entry-level education also comprise a minor share of total family-supporting job demand in nearly every sector. The education and IT sectors are exceptions. This is explained by the preponderance of one occupation with this typical entry-level of education in these sectors – computer user-support specialists.

Distribution of Share of Total Demand for Jobs by Type and Sector: 2016–2026



Distribution of Total Demand for Jobs by Type and Sector: 2016–2026





Share of Total Demand for Family-Supporting Jobs by Typical Entry-Level Education and Sector: 2016–2026

Sector	No Formal Educational Credential	High School Diploma or Equivalent	Some College, No Degree	Postsecondary Nondegree Award	Associate's Degree
Biosciences	0.1%	57.3%	2.8%	2.9%	36.9%
Business Services	0.2%	63.0%	6.7%	3.7%	26.4%
Construction	0.0%	91.4%	0.1%	7.8%	0.7%
Education	0.0%	69.3%	10.1%	5.4%	15.2%
Finance & Insurance	0.2%	93.8%	1.4%	1.5%	3.1%
Healthcare	0.0%	30.4%	1.1%	36.8%	31.7%
Hospitality & Tourism	0.7%	94.4%	0.6%	3.3%	0.9%
IT	0.1%	60.7%	16.2%	2.3%	20.7%
Manufacturing	0.1%	85.6%	0.9%	1.6%	11.8%
Retail Trade	0.8%	70.3%	0.7%	26.8%	1.3%
Transportation & Warehousing	9.2%	72.8%	0.5%	16.8%	0.6%
Utilities	0.0%	82.4%	0.6%	10.8%	6.2%
Wholesale	0.2%	92.3%	1.6%	2.4%	3.5%







Family-Supporting Jobs: Individual Sectors

The following pages provide data on family-supporting jobs in each of the 13 sectors. Sector specific tables list the top 25 occupations in each sector ranked by two criteria: total demand and median hourly earnings. Job totals listed are for that sector alone. For example, while multiple sectors employ web developers (business services, education, healthcare, information technology, etc.), the information technology tables list jobs for web developers within the information technology sector alone.

Biosciences

Businesses involved in research, design and manufacturing of medicines and medical equipment as well as research and development organizations at both private and educational institutions.

TOTAL HIRING DEMAND 2016–2026

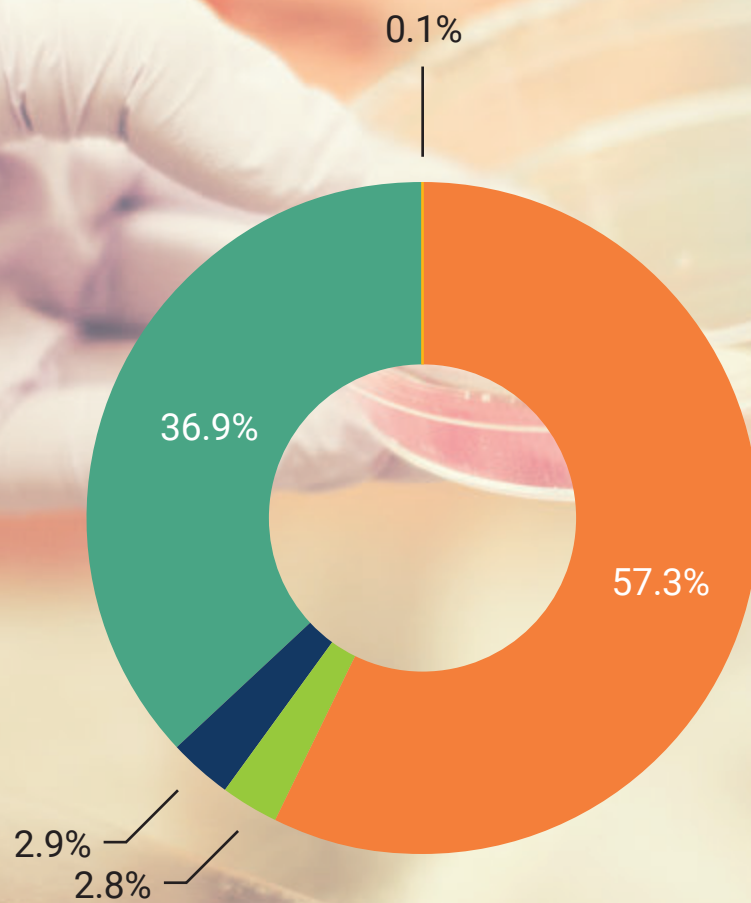
	Total Demand	=	New Jobs	+	Separations
All Openings	74,359		13,513		60,845
Family-Supporting Openings	13,857		2,244		11,613

Family-supporting jobs constitute 18.6 percent of total demand in the biosciences sector, or 13,857 jobs. Of these, occupations with a typical entry-level education of a high school diploma (57.3 percent) and associate’s degree (36.9 percent) predominate.

Tables 14B and 14C list the top 25 family-supporting bioscience occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include sales representatives for services, technical positions including engineering technicians, building inspectors and drafters, and administrative positions such as first-line supervisors of office and administrative workers and executive secretaries.



Share of Demand for Family-Supporting Jobs (2016–2026)
BY TYPICAL ENTRY-LEVEL EDUCATION: BIOSCIENCES



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Biosciences: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

73 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Services, All Other	HS	1,240	1,561	321	1,659	1,980	\$27.31	0.8%
Electrical and Electronics Engineering Technicians	AA	997	1,124	126	902	1,028	\$31.73	0.4%
Construction and Building Inspectors	HS	737	893	156	863	1,020	\$26.65	0.4%
First-Line Supervisors of Office and Administrative Support Workers	HS	745	895	150	797	947	\$28.30	0.4%
Executive Secretaries and Executive Administrative Assistants	HS	476	548	72	545	617	\$29.74	0.3%
Mechanical Drafters	AA	530	574	44	465	509	\$26.79	0.2%
Architectural and Civil Drafters	AA	417	529	112	397	509	\$28.79	0.2%
Production, Planning, and Expediting Clerks	HS	373	439	66	406	472	\$23.14	0.2%
Civil Engineering Technicians	AA	302	413	111	303	414	\$25.18	0.2%
First-Line Supervisors of Production and Operating Workers	HS	374	411	37	377	414	\$29.71	0.2%
Computer User Support Specialists	SC	350	446	96	287	383	\$24.07	0.2%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	231	279	48	256	304	\$27.52	0.1%
Mechanical Engineering Technicians	AA	254	308	54	239	292	\$26.96	0.1%
Machinists	HS	232	271	39	251	290	\$24.45	0.1%
Life, Physical, and Social Science Technicians, All Other	AA	183	214	31	229	259	\$25.08	0.1%
Environmental Engineering Technicians	AA	219	270	51	208	259	\$27.55	0.1%
Web Developers	AA	213	291	77	174	252	\$26.26	0.1%
Engineering Technicians, Except Drafters, All Other	AA	215	260	45	202	247	\$40.24	0.1%
Environmental Science and Protection Technicians, Including Health	AA	143	193	50	194	244	\$28.49	0.1%
Computer Network Support Specialists	AA	263	302	39	204	243	\$33.39	0.1%
Chemical Equipment Operators and Tenders	HS	184	200	16	203	220	\$23.07	0.1%
Electrical and Electronics Drafters	AA	139	179	40	133	173	\$27.38	0.1%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	130	161	31	138	169	\$31.33	0.1%
Industrial Machinery Mechanics	HS	123	162	40	121	161	\$25.23	0.1%
Industrial Engineering Technicians	AA	160	174	15	142	157	\$27.68	0.1%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Biosciences: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

73 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Commercial Pilots	HS	19	22	3	19	22	\$46.66	0.0%
Transportation, Storage, and Distribution Managers	HS	48	61	12	41	53	\$44.41	0.0%
Engineering Technicians, Except Drafters, All Other	AA	215	260	45	202	247	\$40.24	0.1%
First-Line Supervisors of Non-Retail Sales Workers	HS	109	132	23	108	131	\$39.24	0.1%
Aerospace Engineering and Operations Technicians	AA	122	145	23	113	137	\$37.06	0.1%
Nuclear Technicians	AA	51	56	5	61	66	\$36.83	0.0%
Claims Adjusters, Examiners, and Investigators	HS	17	22	5	16	21	\$34.63	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	16	21	5	9	14	\$34.44	0.0%
Computer Network Support Specialists	AA	263	302	39	204	243	\$33.39	0.1%
Electrical and Electronics Engineering Technicians	AA	997	1,124	126	902	1,028	\$31.73	0.4%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	130	161	31	138	169	\$31.33	0.1%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	122	128	6	108	113	\$31.20	0.0%
Property, Real Estate, and Community Association Managers	HS	23	28	6	19	25	\$31.17	0.0%
Telecommunications Line Installers and Repairers	HS	45	53	9	48	57	\$30.54	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	110	128	18	100	118	\$30.35	0.0%
Avionics Technicians	AA	17	18	2	13	15	\$30.10	0.0%
Aircraft Mechanics and Service Technicians	HS+	21	26	5	17	23	\$29.88	0.0%
Explosives Workers, Ordnance Handling Experts, and Blasters	HS	24	29	4	31	36	\$29.74	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	476	548	72	545	617	\$29.74	0.3%
First-Line Supervisors of Production and Operating Workers	HS	374	411	37	377	414	\$29.71	0.2%
Precision Instrument and Equipment Repairers, All Other	HS	13	15	2	12	14	\$29.67	0.0%
Architectural and Civil Drafters	AA	417	529	112	397	509	\$28.79	0.2%
Environmental Science and Protection Technicians, Including Health	AA	143	193	50	194	244	\$28.49	0.1%
First-Line Supervisors of Office and Administrative Support Workers	HS	745	895	150	797	947	\$28.30	0.4%
Electro-Mechanical Technicians	AA	58	66	8	53	61	\$28.30	0.0%

Source: Emsi 2017.3.

Business Services

Legal, accounting, engineering, consulting and related services; computer systems design; scientific research and technical services; business support services such as employment agencies, facilities support, security services and management services; waste management, treatment and remediation; and repair and maintenance services.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	279,382		46,631		232,751
Family-Supporting Openings	41,579		6,828		34,751

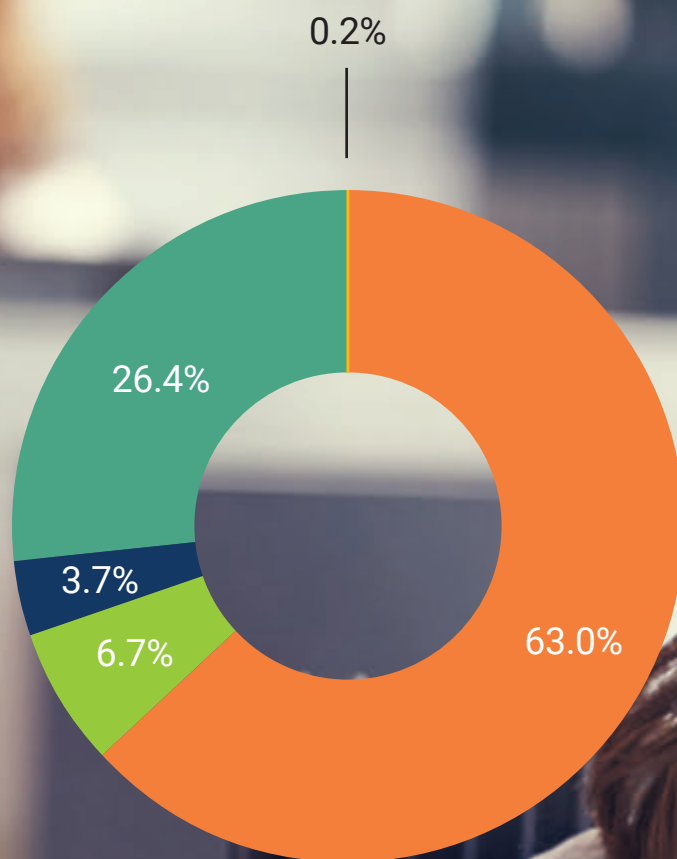
Family-supporting jobs constitute 14.9 percent of total demand in the business services sector, or 41,579 jobs. Of these, occupations with a typical entry-level education of a high school diploma (63.0 percent) and associate’s degree (26.4 percent) predominate.

Tables 15B and 15C list the top 25 family-supporting business services occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include sales representatives for services, paralegals, technical positions such as computer user and network support specialists and web developers, and administrative positions such as first-line supervisors of office workers and executive secretaries. The highest-demand occupation, sales representatives for services, accounts for nearly one-fifth of family-supporting job demand in the business services sector at 18.9 percent and 3.3 percent of total demand for all family-supporting jobs regardless of sector. The top three family-supporting occupations account for more than a third of total family-supporting job demand in the sector.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: BUSINESS SERVICES



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Business Services: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

104 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Services, All Other	HS	5,338	6,309	971	6,895	7,866	\$27.31	3.3%
First-Line Supervisors of Office and Administrative Support Workers	HS	3,183	3,781	598	3,389	3,987	\$28.30	1.7%
Paralegals and Legal Assistants	AA	2,766	3,029	263	2,878	3,141	\$25.60	1.3%
Computer User Support Specialists	SC	2,265	3,112	847	1,943	2,790	\$24.07	1.2%
Computer Network Support Specialists	AA	1,708	2,004	297	1,342	1,639	\$33.39	0.7%
Executive Secretaries and Executive Administrative Assistants	HS	1,137	1,327	190	1,316	1,506	\$29.74	0.6%
Web Developers	AA	1,124	1,506	382	910	1,292	\$26.26	0.5%
Construction and Building Inspectors	HS	780	940	159	910	1,070	\$26.65	0.4%
Pest Control Workers	HS	626	727	101	917	1,018	\$22.71	0.4%
Electrical and Electronics Engineering Technicians	AA	887	1,058	171	827	998	\$31.73	0.4%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	836	977	141	847	988	\$24.72	0.4%
Production, Planning, and Expediting Clerks	HS	627	794	167	713	880	\$23.14	0.4%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	581	754	173	670	843	\$27.52	0.4%
Security and Fire Alarm Systems Installers	HS	543	622	80	632	712	\$25.40	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	479	571	92	469	562	\$39.24	0.2%
Industrial Machinery Mechanics	HS	439	572	132	429	561	\$25.23	0.2%
Mechanical Drafters	AA	558	618	59	495	554	\$26.79	0.2%
Advertising Sales Agents	HS	338	407	69	464	533	\$22.97	0.2%
Architectural and Civil Drafters	AA	430	547	117	410	526	\$28.79	0.2%
Life, Physical, and Social Science Technicians, All Other	AA	290	351	61	369	430	\$25.08	0.2%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	387	458	71	356	427	\$30.35	0.2%
Civil Engineering Technicians	AA	310	423	113	310	423	\$25.18	0.2%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	353	408	56	362	418	\$31.33	0.2%
Machinists	HS	259	347	88	303	391	\$24.45	0.2%
Medical Records and Health Information Technicians	HS+	412	516	104	275	379	\$22.69	0.2%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Business Services: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

104 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Media and Communication Equipment Workers, All Other	HS	19	22	3	18	21	\$48.56	0.0%
Commercial Pilots	HS	38	47	9	39	48	\$46.66	0.0%
Transportation, Storage, and Distribution Managers	HS	103	142	39	93	131	\$44.41	0.1%
Dental Hygienists	AA	18	22	4	12	16	\$41.84	0.0%
Engineering Technicians, Except Drafters, All Other	AA	239	306	68	232	300	\$40.24	0.1%
First-Line Supervisors of Non-Retail Sales Workers	HS	479	571	92	469	562	\$39.24	0.2%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	20	22	2	14	16	\$39.06	0.0%
Aerospace Engineering and Operations Technicians	AA	86	111	25	84	108	\$37.06	0.0%
Artists and Related Workers, All Other	NoED	14	16	2	12	14	\$37.02	0.0%
Nuclear Technicians	AA	68	73	4	81	86	\$36.83	0.0%
Claims Adjusters, Examiners, and Investigators	HS	172	216	44	157	202	\$34.63	0.1%
Healthcare Practitioners and Technical Workers, All Other	HS+	29	37	7	17	24	\$34.44	0.0%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	17	19	3	15	18	\$34.41	0.0%
Boilermakers	HS	10	12	1	11	12	\$33.72	0.0%
Computer Network Support Specialists	AA	1,708	2,004	297	1,342	1,639	\$33.39	0.7%
Electrical and Electronics Engineering Technicians	AA	887	1,058	171	827	998	\$31.73	0.4%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	353	408	56	362	418	\$31.33	0.2%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	120	140	20	112	132	\$31.20	0.1%
Property, Real Estate, and Community Association Managers	HS	76	100	25	66	91	\$31.17	0.0%
Radiologic Technologists	AA	20	23	3	11	14	\$30.86	0.0%
Telecommunications Line Installers and Repairers	HS	114	135	21	122	143	\$30.54	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	387	458	71	356	427	\$30.35	0.2%
Avionics Technicians	AA	12	18	5	12	17	\$30.10	0.0%
Radio, Cellular, and Tower Equipment Installers and Repairs	AA	17	18	2	18	20	\$29.96	0.0%
Aircraft Mechanics and Service Technicians	HS+	30	47	17	29	46	\$29.88	0.0%

Source: Emsi 2017.3.

Construction

A wide range of construction industries including residential and nonresidential buildings; utility systems; transportation infrastructure; land subdivision; and contractors.

TOTAL HIRING DEMAND 2016–2026

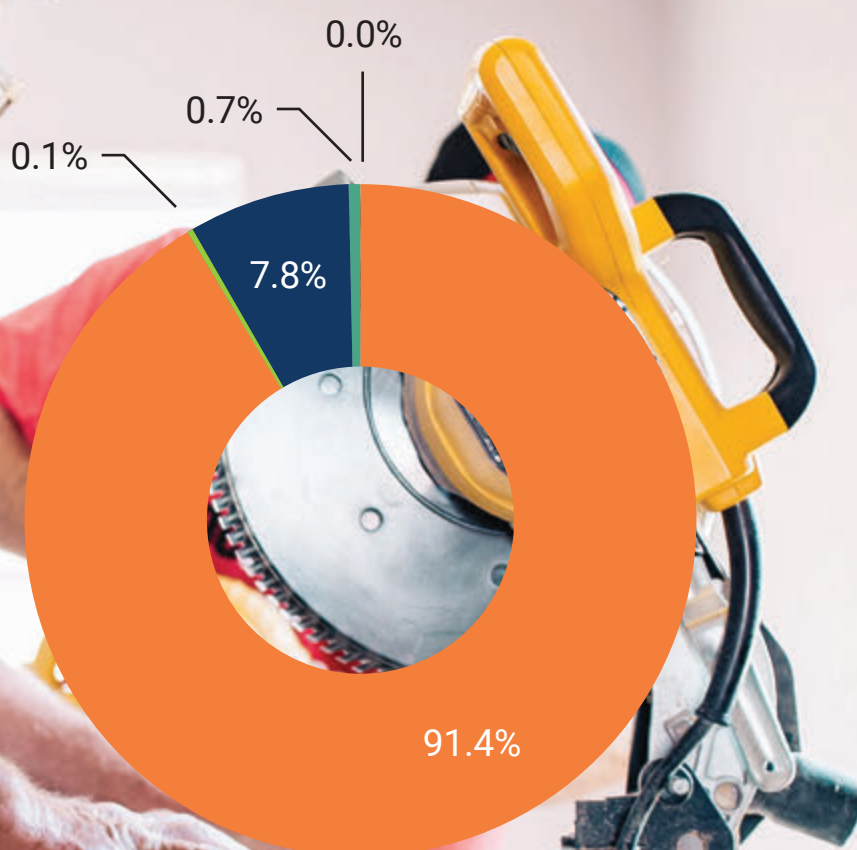
	Total Demand	=	New Jobs	+	Separations
All Openings	94,087		12,921		81,166
Family-Supporting Openings	45,036		6,167		38,869






Among Baltimore region sectors, the construction sector has the largest absolute total demand for family-supporting jobs and the second highest share of total demand. Family-supporting jobs constitute nearly half of total demand in the sector at 47.9 percent, or 45,036 jobs. Occupations with a typical entry-level education of a high school diploma dwarf all other education categories, accounting for 91.4 percent of total demand for family-supporting jobs. Family-supporting jobs with a typical entry-level education of a postsecondary non-degree award are the second largest category at 7.8 percent. This is due almost entirely to the high demand for HVAC installers and mechanics.

Tables 16B and 16C list the top 25 family-supporting construction occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of construction workers, carpenters, plumbers/pipefitters/steamfitters and electricians. These occupations account for nearly 60 percent of family-supporting job demand in the construction sector and 11.1 percent of total demand for all family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)
BY TYPICAL ENTRY-LEVEL EDUCATION: CONSTRUCTION



- No formal educational credential 
- High school diploma or equivalent 
- Some college, no degree 
- Postsecondary nondegree award 
- Associate's degree 



Construction: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

54 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Construction Trades and Extraction Workers	HS	6,143	7,077	934	6,257	7,191	\$31.33	3.0%
Carpenters	HS	6,199	7,034	835	5,928	6,763	\$22.40	2.8%
Plumbers, Pipefitters, and Steamfitters	HS	4,705	5,742	1,036	5,381	6,417	\$25.77	2.7%
Electricians	HS	5,218	5,556	338	5,802	6,140	\$24.77	2.6%
Operating Engineers and Other Construction Equipment Operators	HS	1,995	2,522	527	2,433	2,960	\$23.68	1.2%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	2,069	2,721	652	2,272	2,923	\$26.29	1.2%
Sales Representatives, Services, All Other	HS	1,519	1,699	181	1,892	2,073	\$27.31	0.9%
Telecommunications Line Installers and Repairers	HS	936	1,150	213	1,017	1,230	\$30.54	0.5%
Sheet Metal Workers	HS	742	901	159	845	1,005	\$24.37	0.4%
First-Line Supervisors of Office and Administrative Support Workers	HS	589	670	81	609	690	\$28.30	0.3%
Excavating and Loading Machine and Dragline Operators	HS	513	599	85	600	686	\$23.58	0.3%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	555	688	133	520	653	\$30.35	0.3%
Electrical Power-Line Installers and Repairers	HS	303	558	254	332	586	\$27.22	0.2%
Elevator Installers and Repairers	HS	384	435	52	466	517	\$39.87	0.2%
Mobile Heavy Equipment Mechanics, Except Engines	HS	413	485	73	421	494	\$24.22	0.2%
Telecommunications Equipment Installers and Repairers, Except Line Installers	HS+	431	457	26	457	483	\$24.03	0.2%
Structural Iron and Steel Workers	HS	347	402	55	388	442	\$27.76	0.2%
Welders, Cutters, Solderers, and Brazers	HS	292	376	84	349	433	\$22.41	0.2%
Security and Fire Alarm Systems Installers	HS	354	375	21	390	411	\$25.40	0.2%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	319	371	52	344	396	\$27.52	0.2%
Glaziers	HS	278	290	12	319	331	\$22.33	0.1%
Crane and Tower Operators	HS	195	239	43	223	267	\$28.96	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	164	176	12	179	191	\$29.74	0.1%
Production, Planning, and Expediting Clerks	HS	122	146	24	134	158	\$23.14	0.1%
Millwrights	HS	103	148	45	110	155	\$29.53	0.1%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award;

SC = Some college, no degree; AA = Associate's degree.



Construction: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

54 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Elevator Installers and Repairers	HS	384	435	52	466	517	\$39.87	0.2%
First-Line Supervisors of Non-Retail Sales Workers	HS	48	54	6	45	51	\$39.24	0.0%
Boilermakers	HS	31	47	16	37	54	\$33.72	0.0%
Computer Network Support Specialists	AA	45	49	4	34	38	\$33.39	0.0%
Electrical and Electronics Engineering Technicians	AA	40	45	5	36	40	\$31.73	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	6,143	7,077	934	6,257	7,191	\$31.33	3.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	69	71	2	59	61	\$31.20	0.0%
Property, Real Estate, and Community Association Managers	HS	41	42	1	30	32	\$31.17	0.0%
Telecommunications Line Installers and Repairers	HS	936	1,150	213	1,017	1,230	\$30.54	0.5%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	555	688	133	520	653	\$30.35	0.3%
Radio, Cellular, and Tower Equipment Installers and Repairs	AA	22	34	13	29	41	\$29.96	0.0%
Explosives Workers, Ordnance Handling Experts, and Blasters	HS	12	13	1	15	16	\$29.74	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	164	176	12	179	191	\$29.74	0.1%
First-Line Supervisors of Production and Operating Workers	HS	68	80	12	71	83	\$29.71	0.0%
Millwrights	HS	103	148	45	110	155	\$29.53	0.1%
Rail-Track Laying and Maintenance Equipment Operators	HS	22	22	0	21	21	\$29.50	0.0%
Crane and Tower Operators	HS	195	239	43	223	267	\$28.96	0.1%
Architectural and Civil Drafters	AA	41	51	10	39	48	\$28.79	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	589	670	81	609	690	\$28.30	0.3%
Structural Iron and Steel Workers	HS	347	402	55	388	442	\$27.76	0.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	58	69	12	64	76	\$27.65	0.0%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	319	371	52	344	396	\$27.52	0.2%
Electrical and Electronics Drafters	AA	41	46	6	36	42	\$27.38	0.0%
Sales Representatives, Services, All Other	HS	1,519	1,699	181	1,892	2,073	\$27.31	0.9%
Electrical Power-Line Installers and Repairers	HS	303	558	254	332	586	\$27.22	0.2%

Source: Emsi 2017.3.

Education

Public and private employment in elementary and secondary schools; colleges, universities and professional schools; computer, business, and management training programs; technical and trade schools; and educational support services.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	140,377		16,966		123,411
Family-Supporting Openings	6,329		707		5,622

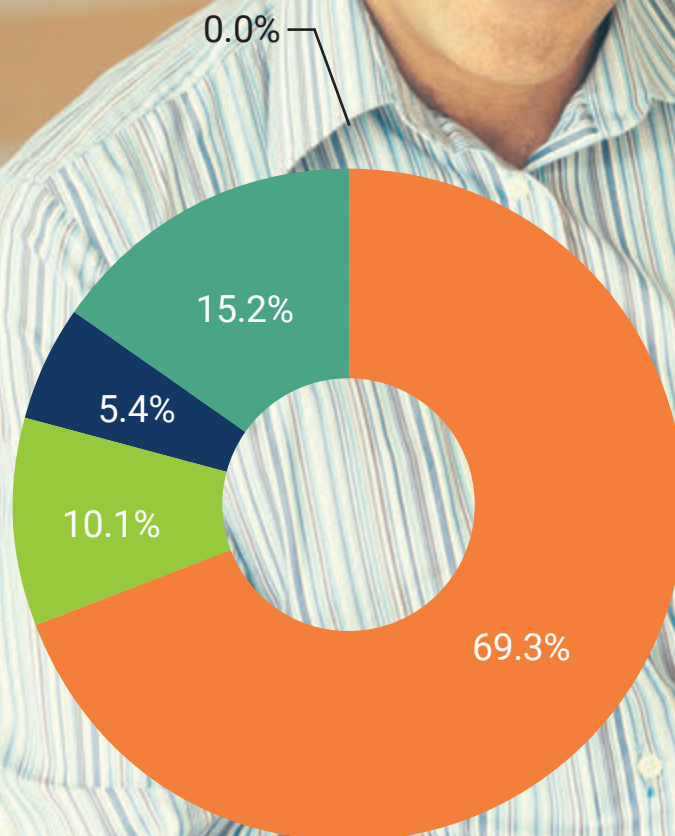
Family-supporting jobs in the education sector constitute just 4.5 percent of total demand within that sector, or 6,329 jobs. This is due at least in part to the high percentage of jobs in the education sector with a typical entry-level education of a bachelor’s degree or higher. In all, 57.2 percent of the total demand for jobs in the education sector fit this educational criteria compared to 21.9 percent in the Baltimore region economy. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (69.3 percent) and associate’s degree (15.2 percent) predominate.

Tables 17B and 17C list the top 25 family-supporting education sector occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative workers, executive secretaries, computer user support specialists and sales representatives. The top two occupations, first-line supervisors of office and administrative workers and executive secretaries, account for more than one-third of family-supporting job demand in the education sector at 33.5 percent.



Share of Demand for Family-Supporting Jobs (2016–2026) BY TYPICAL ENTRY-LEVEL EDUCATION: EDUCATION

- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●





Education: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

47 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	1,043	1,168	125	1,070	1,195	\$28.30	0.5%
Executive Secretaries and Executive Administrative Assistants	HS	810	855	44	881	925	\$29.74	0.4%
Computer User Support Specialists	SC	691	795	104	533	636	\$24.07	0.3%
Sales Representatives, Services, All Other	HS	303	309	7	363	369	\$27.31	0.2%
Information and Record Clerks, All Other	HS	257	296	40	306	345	\$22.69	0.1%
Computer Network Support Specialists	AA	362	403	41	275	316	\$33.39	0.1%
Life, Physical, and Social Science Technicians, All Other	AA	197	233	36	247	283	\$25.08	0.1%
Police and Sheriff's Patrol Officers	HS	275	318	43	186	229	\$30.73	0.1%
Web Developers	AA	203	253	51	157	208	\$26.26	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	172	193	21	152	173	\$30.35	0.1%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	90	106	15	93	108	\$26.29	0.0%
Licensed Practical and Licensed Vocational Nurses	HS+	117	132	15	87	102	\$24.88	0.0%
Electricians	HS	76	88	12	89	101	\$24.77	0.0%
Plumbers, Pipefitters, and Steamfitters	HS	81	93	11	89	100	\$25.77	0.0%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	81	92	11	76	87	\$22.88	0.0%
Stationary Engineers and Boiler Operators	HS	70	80	10	77	86	\$27.58	0.0%
Carpenters	HS	76	87	11	73	84	\$22.40	0.0%
Media and Communication Workers, All Other	HS	75	83	8	70	78	\$22.59	0.0%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	67	74	7	71	78	\$27.65	0.0%
Production, Planning, and Expediting Clerks	HS	51	59	8	55	63	\$23.14	0.0%
Procurement Clerks	HS	55	57	2	60	62	\$22.83	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	50	58	8	51	59	\$31.33	0.0%
First-Line Supervisors of Police and Detectives	HS	66	82	16	43	59	\$42.55	0.0%
Food Service Managers	HS	45	51	6	50	56	\$29.35	0.0%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	45	52	7	45	52	\$24.72	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award;

SC = Some college, no degree; AA = Associate's degree.



Education: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

47 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Media and Communication Equipment Workers, All Other	HS	23	24	1	21	22	\$48.56	0.0%
Commercial Pilots	HS	60	58	(2)	54	51	\$46.66	0.0%
Transportation, Storage, and Distribution Managers	HS	11	13	2	9	11	\$44.41	0.0%
First-Line Supervisors of Police and Detectives	HS	66	82	16	43	59	\$42.55	0.0%
Engineering Technicians, Except Drafters, All Other	AA	17	21	4	16	20	\$40.24	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	19	18	(1)	16	15	\$39.24	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	50	55	5	26	32	\$34.44	0.0%
Computer Network Support Specialists	AA	362	403	41	275	316	\$33.39	0.1%
Electrical and Electronics Engineering Technicians	AA	24	26	2	21	23	\$31.73	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	50	58	8	51	59	\$31.33	0.0%
Radiologic Technologists	AA	15	17	2	8	11	\$30.86	0.0%
Police and Sheriff's Patrol Officers	HS	275	318	43	186	229	\$30.73	0.1%
Occupational Therapy Assistants	AA	16	19	3	21	24	\$30.67	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	172	193	21	152	173	\$30.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	810	855	44	881	925	\$29.74	0.4%
First-Line Supervisors of Production and Operating Workers	HS	13	14	2	13	15	\$29.71	0.0%
Food Service Managers	HS	45	51	6	50	56	\$29.35	0.0%
Environmental Science and Protection Technicians, Including Health	AA	10	13	3	13	16	\$28.49	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	1,043	1,168	125	1,070	1,195	\$28.30	0.5%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	67	74	7	71	78	\$27.65	0.0%
Stationary Engineers and Boiler Operators	HS	70	80	10	77	86	\$27.58	0.0%
Sales Representatives, Services, All Other	HS	303	309	7	363	369	\$27.31	0.2%
Broadcast Technicians	AA	17	19	2	16	19	\$27.00	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	90	106	15	93	108	\$26.29	0.0%
Web Developers	AA	203	253	51	157	208	\$26.26	0.1%

Source: Emsi 2017.3.

Finance and Insurance

A broad set of financial and insurance industries including banking activities; credit intermediation; financial investment activities; insurance carriers, agencies and brokerages; real estate; and the rental or leasing of consumer goods.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	83,960		9,906		74,054
Family-Supporting Openings	16,779		1,950		14,830

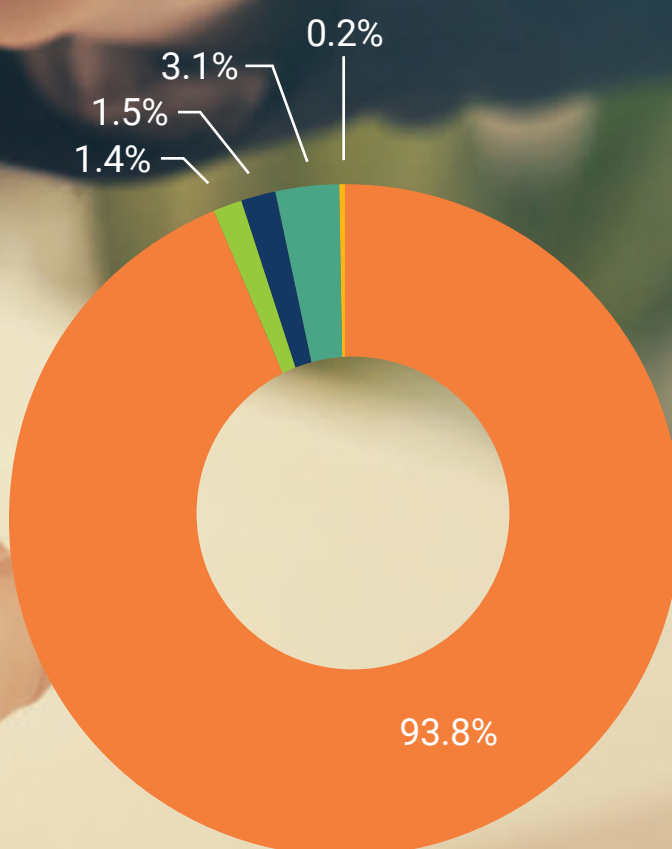
Family-supporting jobs constitute 20.0 percent of total demand in the finance and insurance sector, or 16,779 jobs. Occupations with an entry-level education of a high school diploma account for the vast majority of these jobs at 93.8 percent.

Tables 18B and 18C list the top 25 family-supporting finance and insurance sector occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include insurance sales agents; first-line supervisors of office and administrative workers; property, real estate and community association managers; and claims adjusters, examiners and investigators. The top two occupations account for 46.1 percent of family-supporting job demand in the finance and insurance sector and 3.2 percent of total demand for all family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: FINANCE AND INSURANCE



No formal educational credential

High school diploma or equivalent

Some college, no degree

Postsecondary nondegree award

Associate's degree



Finance and Insurance: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

36 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Insurance Sales Agents	HS	3,767	4,443	676	3,867	4,543	\$26.03	1.9%
First-Line Supervisors of Office and Administrative Support Workers	HS	2,981	3,197	215	2,980	3,196	\$28.30	1.3%
Property, Real Estate, and Community Association Managers	HS	1,480	1,832	352	1,242	1,594	\$31.17	0.7%
Claims Adjusters, Examiners, and Investigators	HS	1,792	1,803	11	1,447	1,459	\$34.63	0.6%
Sales Representatives, Services, All Other	HS	828	921	93	1,030	1,122	\$27.31	0.5%
Executive Secretaries and Executive Administrative Assistants	HS	614	708	94	700	794	\$29.74	0.3%
Brokerage Clerks	HS	476	614	137	547	684	\$25.33	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	548	601	53	510	563	\$39.24	0.2%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	373	446	73	344	417	\$30.35	0.2%
Real Estate Brokers	HS	332	353	22	308	330	\$26.23	0.1%
Computer Network Support Specialists	AA	293	316	23	218	241	\$33.39	0.1%
Computer User Support Specialists	SC	245	286	41	190	231	\$24.07	0.1%
Mobile Heavy Equipment Mechanics, Except Engines	HS	153	194	41	165	206	\$24.22	0.1%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	159	165	6	143	149	\$22.88	0.1%
Paralegals and Legal Assistants	AA	112	130	18	120	139	\$25.60	0.1%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	101	124	23	113	136	\$27.52	0.1%
Insurance Appraisers, Auto Damage	HS+	253	201	(52)	181	129	\$29.74	0.1%
Web Developers	AA	128	153	26	97	122	\$26.26	0.1%
Information and Record Clerks, All Other	HS	80	100	20	100	120	\$22.69	0.1%
Production, Planning, and Expediting Clerks	HS	69	75	6	72	78	\$23.14	0.0%
Automotive Service Technicians and Mechanics	HS+	74	74	0	68	68	\$22.30	0.0%
Carpenters	HS	56	67	11	55	66	\$22.40	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	38	46	8	40	48	\$31.33	0.0%
Industrial Machinery Mechanics	HS	25	38	13	27	40	\$25.23	0.0%
Material Moving Workers, All Other	NoED	23	27	4	30	34	\$22.60	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Finance and Insurance: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings
36 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	22	24	2	17	19	\$44.41	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	548	601	53	510	563	\$39.24	0.2%
Claims Adjusters, Examiners, and Investigators	HS	1,792	1,803	11	1,447	1,459	\$34.63	0.6%
Computer Network Support Specialists	AA	293	316	23	218	241	\$33.39	0.1%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	38	46	8	40	48	\$31.33	0.0%
Property, Real Estate, and Community Association Managers	HS	1,480	1,832	352	1,242	1,594	\$31.17	0.7%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	373	446	73	344	417	\$30.35	0.2%
Insurance Appraisers, Auto Damage	HS+	253	201	(52)	181	129	\$29.74	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	614	708	94	700	794	\$29.74	0.3%
First-Line Supervisors of Office and Administrative Support Workers	HS	2,981	3,197	215	2,980	3,196	\$28.30	1.3%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	29	31	2	30	32	\$27.65	0.0%
Stationary Engineers and Boiler Operators	HS	22	29	7	27	33	\$27.58	0.0%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	101	124	23	113	136	\$27.52	0.1%
Sales Representatives, Services, All Other	HS	828	921	93	1,030	1,122	\$27.31	0.5%
Construction and Building Inspectors	HS	25	29	5	29	33	\$26.65	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	18	23	4	19	24	\$26.29	0.0%
Web Developers	AA	128	153	26	97	122	\$26.26	0.1%
Real Estate Brokers	HS	332	353	22	308	330	\$26.23	0.1%
Insurance Sales Agents	HS	3,767	4,443	676	3,867	4,543	\$26.03	1.9%
Paralegals and Legal Assistants	AA	112	130	18	120	139	\$25.60	0.1%
Medical Equipment Repairers	AA	31	29	(2)	26	24	\$25.47	0.0%
Brokerage Clerks	HS	476	614	137	547	684	\$25.33	0.3%
Industrial Machinery Mechanics	HS	25	38	13	27	40	\$25.23	0.0%
Licensed Practical and Licensed Vocational Nurses	HS+	11	14	3	9	11	\$24.88	0.0%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	19	24	5	20	25	\$24.72	0.0%

Source: Emsi 2017.3.

Healthcare

Businesses such as dentist’s and physician’s offices; outpatient and home healthcare; hospitals, nursing and residential care facilities; individual and family services; and vocational rehabilitation services.

TOTAL HIRING DEMAND 2016–2026

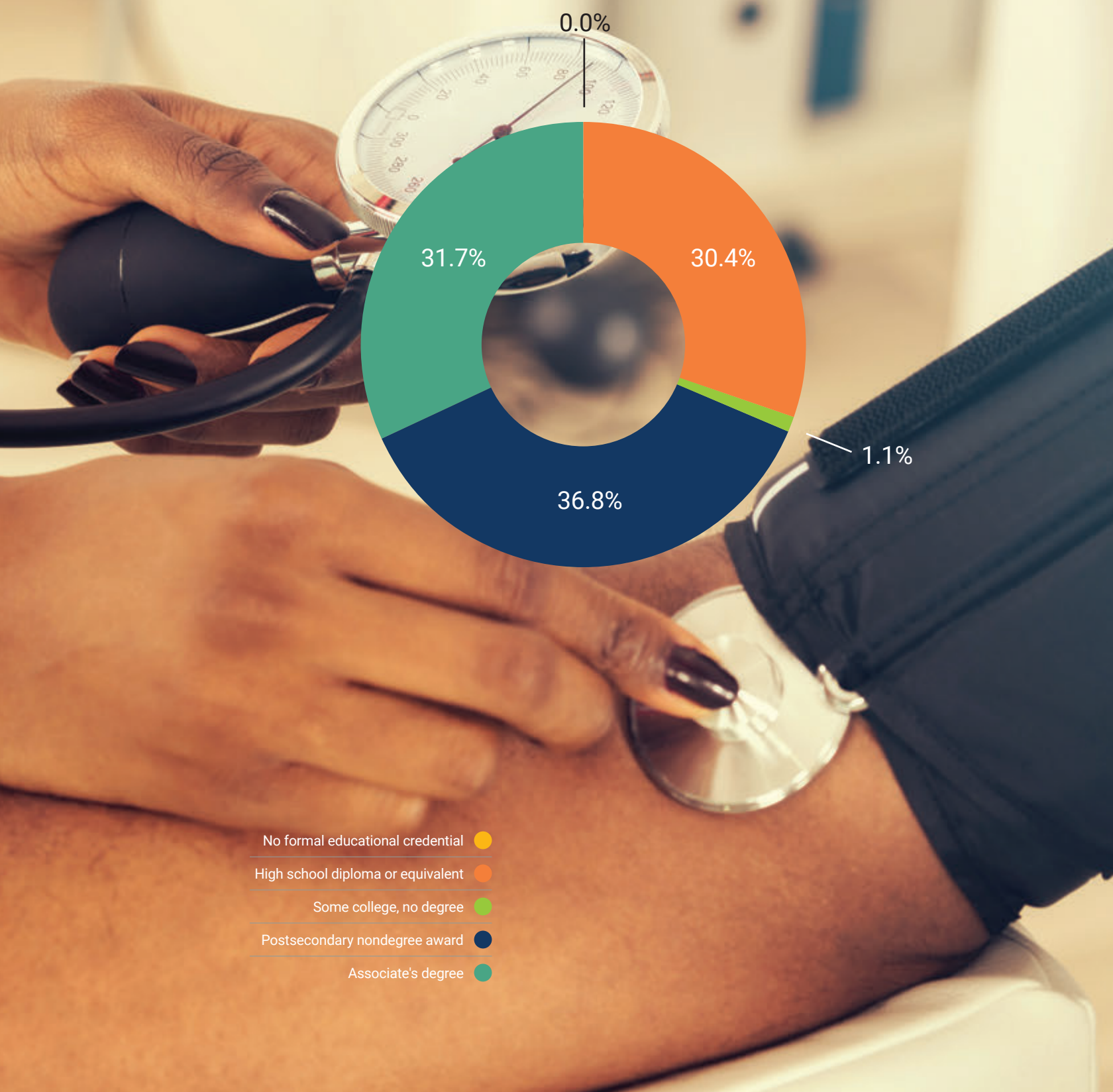
	Total Demand	=	New Jobs	+	Separations
All Openings	245,726		51,954		193,772
Family-Supporting Openings	25,774		6,169		19,604

Family-supporting jobs constitute 10.5 percent of total demand in the healthcare sector, or 25,774 jobs. Contrary to every other sector where a typical entry-level education of a high school diploma predominates, total demand for family-supporting jobs is nearly evenly split between jobs with a typical entry-level education of a high school diploma, associate’s degree, and postsecondary non-degree award at 30.4 percent, 31.7 percent and 36.8 percent respectively. The percentage of total demand with a typical entry-level education of a postsecondary non-degree award is higher than in any other Baltimore region sector. The high demand for licensed practical nurses (LPN) accounts for nearly two-thirds of total demand for jobs at this educational level.

Tables 19B and 19C list the top 25 family-supporting healthcare sector occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include LPNs, first-line supervisors of office and administrative workers, medical records and health information technicians and several associate’s level careers including dental hygienists, radiologic technologists and physical therapy assistants. The top two family-supporting occupations account for 41.2 percent of family-supporting job demand in the healthcare sector and 4.4 percent of total demand for all family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)
BY TYPICAL ENTRY-LEVEL EDUCATION: HEALTHCARE



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Healthcare: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

47 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Licensed Practical and Licensed Vocational Nurses	HS+	5,357	7,056	1,699	4,324	6,024	\$24.88	2.5%
First-Line Supervisors of Office and Administrative Support Workers	HS	3,503	4,315	812	3,786	4,597	\$28.30	1.9%
Medical Records and Health Information Technicians	HS+	1,909	2,363	454	1,258	1,712	\$22.69	0.7%
Dental Hygienists	AA	1,678	2,100	422	1,110	1,531	\$41.84	0.6%
Radiologic Technologists	AA	2,041	2,417	376	1,135	1,511	\$30.86	0.6%
Physical Therapist Assistants	AA	710	1,090	380	1,053	1,433	\$28.17	0.6%
Surgical Technologists	HS+	1,249	1,537	288	1,071	1,359	\$23.68	0.6%
Sales Representatives, Services, All Other	HS	587	777	191	804	995	\$27.31	0.4%
Diagnostic Medical Sonographers	AA	789	1,029	240	462	702	\$33.98	0.3%
Executive Secretaries and Executive Administrative Assistants	HS	491	566	75	560	635	\$29.74	0.3%
Occupational Therapy Assistants	AA	282	456	174	445	619	\$30.67	0.3%
Respiratory Therapists	AA	723	922	200	376	576	\$32.56	0.2%
Cardiovascular Technologists and Technicians	AA	617	791	174	358	532	\$32.92	0.2%
Healthcare Practitioners and Technical Workers, All Other	HS+	435	531	96	241	338	\$34.44	0.1%
Magnetic Resonance Imaging Technologists	AA	455	525	70	250	320	\$35.11	0.1%
Computer User Support Specialists	SC	264	339	74	217	291	\$24.07	0.1%
Production, Planning, and Expediting Clerks	HS	189	239	50	214	264	\$23.14	0.1%
Information and Record Clerks, All Other	HS	168	213	45	211	256	\$22.69	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	179	217	38	166	204	\$30.35	0.1%
Medical Equipment Repairers	AA	157	204	47	153	200	\$25.47	0.1%
Respiratory Therapy Technicians	AA	276	257	(19)	206	187	\$28.67	0.1%
Computer Network Support Specialists	AA	203	233	29	157	186	\$33.39	0.1%
Nuclear Medicine Technologists	AA	208	228	20	111	131	\$38.49	0.1%
Radiation Therapists	AA	153	191	38	79	117	\$40.02	0.0%
Procurement Clerks	HS	79	90	11	91	101	\$22.83	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Healthcare: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

47 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Commercial Pilots	HS	29	45	16	34	50	\$46.66	0.0%
Dental Hygienists	AA	1,678	2,100	422	1,110	1,531	\$41.84	0.6%
Radiation Therapists	AA	153	191	38	79	117	\$40.02	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	23	34	11	26	36	\$39.24	0.0%
Nuclear Medicine Technologists	AA	208	228	20	111	131	\$38.49	0.1%
Magnetic Resonance Imaging Technologists	AA	455	525	70	250	320	\$35.11	0.1%
Claims Adjusters, Examiners, and Investigators	HS	21	30	8	21	29	\$34.63	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	435	531	96	241	338	\$34.44	0.1%
Diagnostic Medical Sonographers	AA	789	1,029	240	462	702	\$33.98	0.3%
Computer Network Support Specialists	AA	203	233	29	157	186	\$33.39	0.1%
Cardiovascular Technologists and Technicians	AA	617	791	174	358	532	\$32.92	0.2%
Respiratory Therapists	AA	723	922	200	376	576	\$32.56	0.2%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	28	31	3	28	31	\$31.33	0.0%
Property, Real Estate, and Community Association Managers	HS	28	32	4	22	27	\$31.17	0.0%
Radiologic Technologists	AA	2,041	2,417	376	1,135	1,511	\$30.86	0.6%
Police and Sheriff's Patrol Officers	HS	16	19	3	11	14	\$30.73	0.0%
Occupational Therapy Assistants	AA	282	456	174	445	619	\$30.67	0.3%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	179	217	38	166	204	\$30.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	491	566	75	560	635	\$29.74	0.3%
First-Line Supervisors of Production and Operating Workers	HS	53	62	9	55	65	\$29.71	0.0%
Food Service Managers	HS	54	73	19	66	86	\$29.35	0.0%
Respiratory Therapy Technicians	AA	276	257	(19)	206	187	\$28.67	0.1%
First-Line Supervisors of Office and Administrative Support Workers	HS	3,503	4,315	812	3,786	4,597	\$28.30	1.9%
Physical Therapist Assistants	AA	710	1,090	380	1,053	1,433	\$28.17	0.6%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	52	61	9	57	66	\$27.65	0.0%

Source: Emsi 2017.3.

Hospitality and Tourism

Businesses in industries such as full-service restaurants; other amusement and recreation industries (bowling, golf, marinas, fitness centers, etc.); traveler accommodation; food services; drinking establishments; performing arts; and spectator sports.

TOTAL HIRING DEMAND 2016–2026

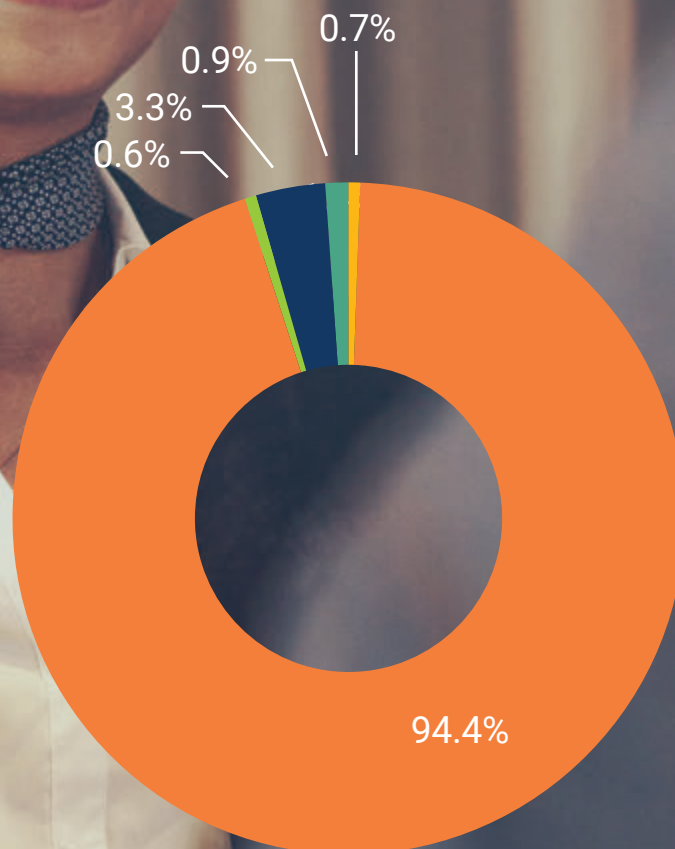
	Total Demand	=	New Jobs	+	Separations
All Openings	265,002		24,379		240,623
Family-Supporting Openings	5,537		765		4,772

While the hospitality and tourism sector is one of the largest in the Baltimore region and is projected to grow by 17.7 percent from 2016 to 2026, family-supporting job opportunities are relatively limited. This is because few jobs with a typical entry-level education of less than a bachelor’s degree pay a family-supporting wage. Family-supporting jobs constitute just 2.1 percent of total demand in the sector, or 5,537 jobs. Of these, occupations with a typical entry-level education of a high school diploma compose the vast majority (94.4 percent).

Tables 20B and 20C list the top 25 family-supporting hospitality and tourism occupations by total hiring demand and median hourly earnings, respectively. Demand for family-supporting occupations is highly concentrated in this sector, with the top four occupations accounting for more than three quarters of total hospitality and tourism family-supporting job demand. High-demand occupations include sales representatives for services along with several managerial and supervisory positions such as food service managers; first-line supervisors of office and administrative workers; first-line supervisors of mechanics, installers and repairers; and gaming supervisors.



Share of Demand for Family-Supporting Jobs (2016–2026) BY TYPICAL ENTRY-LEVEL EDUCATION: HOSPITALITY AND TOURISM



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Hospitality and Tourism: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

29 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Food Service Managers	HS	1,218	1,438	221	1,401	1,622	\$29.35	0.7%
Sales Representatives, Services, All Other	HS	940	1,060	120	1,184	1,304	\$27.31	0.5%
First-Line Supervisors of Office and Administrative Support Workers	HS	583	678	95	614	709	\$28.30	0.3%
Gaming Supervisors	HS	227	377	150	475	625	\$22.78	0.3%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	134	166	32	126	158	\$30.35	0.1%
Lodging Managers	HS	110	124	14	116	129	\$37.00	0.1%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	115	127	13	113	125	\$24.72	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	80	83	4	87	91	\$29.74	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	74	90	15	73	89	\$39.24	0.0%
Motorboat Mechanics and Service Technicians	HS	64	71	7	69	76	\$23.15	0.0%
Captains, Mates, and Pilots of Water Vessels	HS+	43	49	6	46	52	\$40.50	0.0%
Sound Engineering Technicians	HS+	47	53	6	45	51	\$25.92	0.0%
Automotive Service Technicians and Mechanics	HS+	40	49	8	41	50	\$22.30	0.0%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	35	44	9	40	49	\$27.65	0.0%
Production, Planning, and Expediting Clerks	HS	30	37	7	34	41	\$23.14	0.0%
Sailors and Marine Oilers	NoED	25	31	6	33	39	\$23.13	0.0%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	27	31	5	29	34	\$27.52	0.0%
Computer User Support Specialists	SC	30	39	8	25	34	\$24.07	0.0%
First-Line Supervisors of Production and Operating Workers	HS	27	31	4	28	32	\$29.71	0.0%
Procurement Clerks	HS	22	28	5	27	32	\$22.83	0.0%
Carpenters	HS	29	32	3	27	31	\$22.40	0.0%
Computer Network Support Specialists	AA	28	32	4	22	26	\$33.39	0.0%
Web Developers	AA	28	32	4	21	24	\$26.26	0.0%
Electricians	HS	16	19	3	19	22	\$24.77	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	11	18	8	14	22	\$26.29	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Hospitality and Tourism: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

29 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Media and Communication Equipment Workers, All Other	HS	18	20	3	17	20	\$48.56	0.0%
Captains, Mates, and Pilots of Water Vessels	HS+	43	49	6	46	52	\$40.50	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	74	90	15	73	89	\$39.24	0.0%
Lodging Managers	HS	110	124	14	116	129	\$37.00	0.1%
Computer Network Support Specialists	AA	28	32	4	22	26	\$33.39	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	134	166	32	126	158	\$30.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	80	83	4	87	91	\$29.74	0.0%
First-Line Supervisors of Production and Operating Workers	HS	27	31	4	28	32	\$29.71	0.0%
Food Service Managers	HS	1,218	1,438	221	1,401	1,622	\$29.35	0.7%
Motorboat Operators	HS+	10	10	0	10	11	\$29.16	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	583	678	95	614	709	\$28.30	0.3%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	35	44	9	40	49	\$27.65	0.0%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	27	31	5	29	34	\$27.52	0.0%
Sales Representatives, Services, All Other	HS	940	1,060	120	1,184	1,304	\$27.31	0.5%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	11	18	8	14	22	\$26.29	0.0%
Web Developers	AA	28	32	4	21	24	\$26.26	0.0%
Sound Engineering Technicians	HS+	47	53	6	45	51	\$25.92	0.0%
Electricians	HS	16	19	3	19	22	\$24.77	0.0%
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	HS	115	127	13	113	125	\$24.72	0.1%
Computer User Support Specialists	SC	30	39	8	25	34	\$24.07	0.0%
Motorboat Mechanics and Service Technicians	HS	64	71	7	69	76	\$23.15	0.0%
Production, Planning, and Expediting Clerks	HS	30	37	7	34	41	\$23.14	0.0%
Sailors and Marine Oilers	NoED	25	31	6	33	39	\$23.13	0.0%
Advertising Sales Agents	HS	12	15	4	17	20	\$22.97	0.0%
Procurement Clerks	HS	22	28	5	27	32	\$22.83	0.0%

Source: Emsi 2017.3.

Information Technology

Businesses involved in industries such as computer systems design and related services; professional and commercial equipment and supplies; electrical and electronic goods wholesalers; and wholesale electronic agents and brokers.

TOTAL HIRING DEMAND 2016–2026

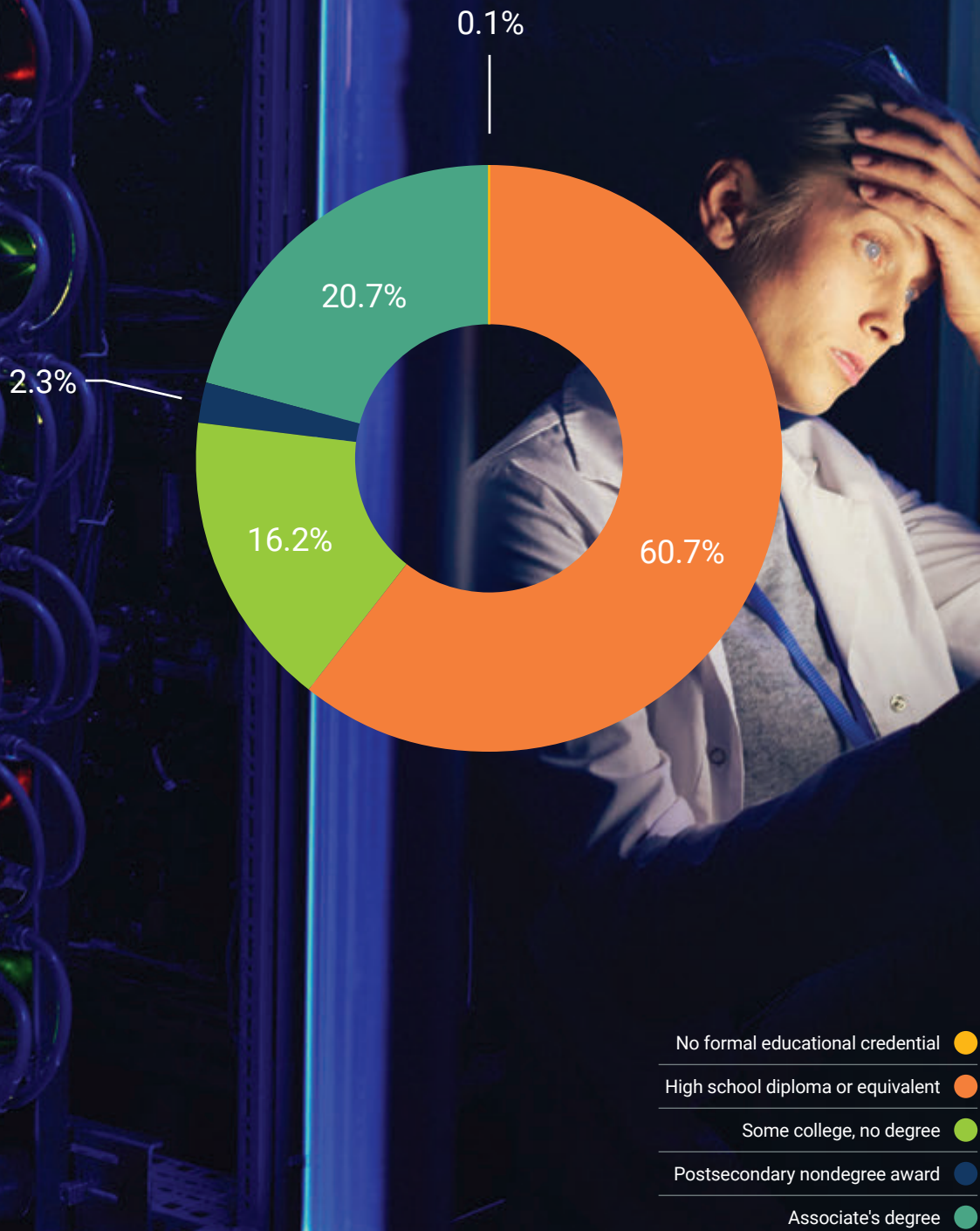
	Total Demand	=	New Jobs	+	Separations
All Openings	56,542		10,949		45,593
Family-Supporting Openings	13,055		2,359		10,696

Family-supporting jobs constitute 23.1 percent of total demand in the IT sector, or 13,055 jobs. Of these, occupations with a typical entry-level education of a high school diploma, associate’s degree, and some college, no degree account for the vast majority of total demand for family-supporting jobs at 60.7 percent, 20.7 percent, and 16.2 percent, respectively. Computer user-support specialist is the only occupation in the category of some college, no degree.

Tables 21B and 21C list the top 25 family-supporting information technology occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include sales representatives for wholesale and manufacturing and sales representatives for services, along with technical positions such as computer user and network support specialists. The highest-demand occupation, sales representatives for wholesale and manufacturing, accounts for nearly one quarter of family-supporting job demand in the IT sector while the top three account for 60.1 percent.



Share of Demand for Family-Supporting Jobs (2016–2026)
**BY TYPICAL ENTRY-LEVEL EDUCATION:
INFORMATION TECHNOLOGY**





Information Technology: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

39 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	2,254	2,877	623	2,552	3,175	\$27.52	1.3%
Sales Representatives, Services, All Other	HS	1,720	2,046	326	2,232	2,557	\$27.31	1.1%
Computer User Support Specialists	SC	1,726	2,367	642	1,477	2,119	\$24.07	0.9%
Computer Network Support Specialists	AA	1,425	1,614	189	1,098	1,286	\$33.39	0.5%
Web Developers	AA	769	1,021	252	620	871	\$26.26	0.4%
First-Line Supervisors of Office and Administrative Support Workers	HS	637	719	82	657	739	\$28.30	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	439	500	60	417	477	\$39.24	0.2%
Electrical and Electronics Engineering Technicians	AA	258	280	22	228	251	\$31.73	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	184	214	30	212	242	\$29.74	0.1%
Medical Equipment Repairers	AA	189	200	11	165	176	\$25.47	0.1%
Production, Planning, and Expediting Clerks	HS	124	146	23	135	157	\$23.14	0.1%
Telecommunications Equipment Installers and Repairers, Except Line Installers	HS+	146	143	(3)	150	147	\$24.03	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	126	135	9	109	118	\$30.35	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	114	123	9	101	110	\$31.20	0.0%
Industrial Machinery Mechanics	HS	40	54	14	40	53	\$25.23	0.0%
First-Line Supervisors of Production and Operating Workers	HS	47	53	6	48	53	\$29.71	0.0%
Advertising Sales Agents	HS	24	32	7	35	43	\$22.97	0.0%
Procurement Clerks	HS	31	32	1	34	35	\$22.83	0.0%
Engineering Technicians, Except Drafters, All Other	AA	26	34	8	26	34	\$40.24	0.0%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	27	31	4	29	33	\$27.65	0.0%
Paralegals and Legal Assistants	AA	23	29	6	26	32	\$25.60	0.0%
Telecommunications Line Installers and Repairers	HS	25	29	4	27	31	\$30.54	0.0%
Transportation, Storage, and Distribution Managers	HS	34	37	4	27	30	\$44.41	0.0%
Machinists	HS	22	25	3	24	27	\$24.45	0.0%
Electricians	HS	22	23	1	24	25	\$24.77	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Information Technology: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

39 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	34	37	4	27	30	\$44.41	0.0%
Engineering Technicians, Except Drafters, All Other	AA	26	34	8	26	34	\$40.24	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	439	500	60	417	477	\$39.24	0.2%
Claims Adjusters, Examiners, and Investigators	HS	12	19	7	12	19	\$34.63	0.0%
Computer Network Support Specialists	AA	1,425	1,614	189	1,098	1,286	\$33.39	0.5%
Electrical and Electronics Engineering Technicians	AA	258	280	22	228	251	\$31.73	0.1%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	114	123	9	101	110	\$31.20	0.0%
Telecommunications Line Installers and Repairers	HS	25	29	4	27	31	\$30.54	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	126	135	9	109	118	\$30.35	0.0%
Radio, Cellular, and Tower Equipment Installers and Repairs	AA	17	16	(1)	17	16	\$29.96	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	184	214	30	212	242	\$29.74	0.1%
First-Line Supervisors of Production and Operating Workers	HS	47	53	6	48	53	\$29.71	0.0%
Precision Instrument and Equipment Repairers, All Other	HS	24	26	2	21	23	\$29.67	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	637	719	82	657	739	\$28.30	0.3%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	27	31	4	29	33	\$27.65	0.0%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	2,254	2,877	623	2,552	3,175	\$27.52	1.3%
Sales Representatives, Services, All Other	HS	1,720	2,046	326	2,232	2,557	\$27.31	1.1%
Mechanical Drafters	AA	16	20	4	15	19	\$26.79	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	15	18	3	15	18	\$26.29	0.0%
Web Developers	AA	769	1,021	252	620	871	\$26.26	0.4%
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	HS	15	10	(5)	13	8	\$26.07	0.0%
Paralegals and Legal Assistants	AA	23	29	6	26	32	\$25.60	0.0%
Medical Equipment Repairers	AA	189	200	11	165	176	\$25.47	0.1%
Security and Fire Alarm Systems Installers	HS	18	16	(2)	18	16	\$25.40	0.0%
Industrial Machinery Mechanics	HS	40	54	14	40	53	\$25.23	0.0%

Source: Emsi 2017.3.

Manufacturing

A diverse sector including large employers in food production and baking; printing and related activities; pharmaceutical manufacturing; machine shops; instrument manufacturers; shipbuilding; and plastics, chemicals and cement products.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	54,956		424		54,532
Family-Supporting Openings	10,636		224		10,413

Growth in the sector is projected to be essentially flat from 2016 to 2026, with new job growth accounting for just 0.8 percent of total demand. This makes manufacturing the second slowest growing sector in the Baltimore region from 2016 to 2026.

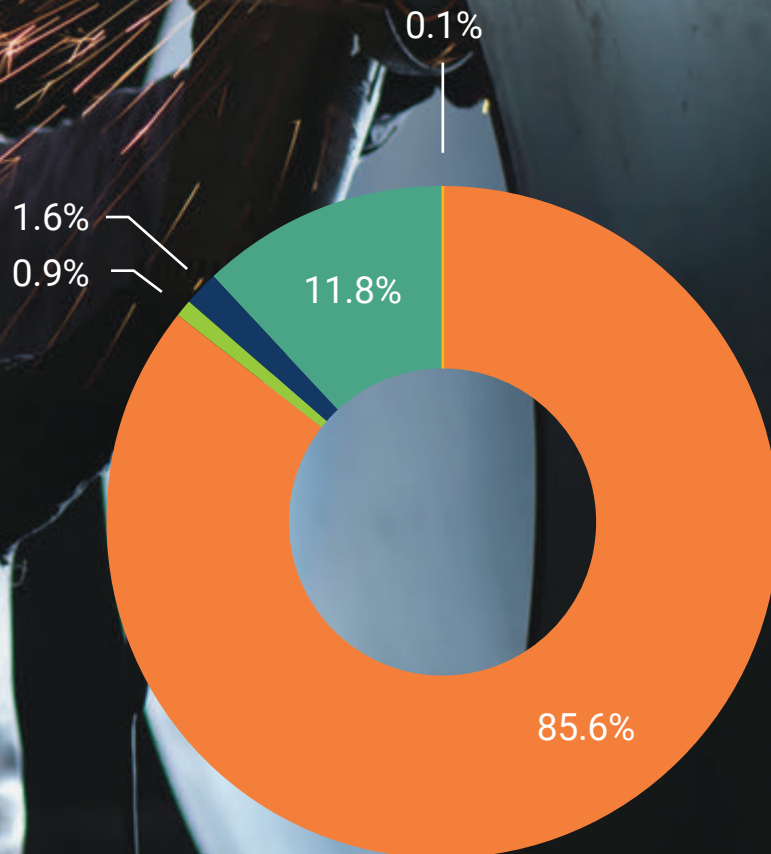
Family-supporting jobs constitute 19.4 percent of total demand in the manufacturing sector, or 10,636 jobs. Of these, occupations with a typical entry-level education of a high school diploma predominate (85.6 percent) with an entry-level education of an associate’s degree ranking second (11.8 percent).

Tables 22B and 22C list the top 25 family-supporting manufacturing occupations by total hiring demand and median hourly earnings, respectively. Nine of the top 25 occupations by total demand are projected to lose jobs from 2016 to 2026. High-demand occupations include first-line supervisors of production and operating workers, machinists, sales representatives for wholesale and manufacturing, industrial machinery mechanics and welders. These occupations have a typical entry-level education of a high school diploma. The highest demand occupation, first-line supervisors of production and operating workers, accounts for nearly one-fifth of family-supporting job demand in the manufacturing sector at 18.7 percent. The top five family-supporting occupations account for more than half of total family-supporting job demand in the sector. However, they constitute a small portion of total demand for family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: MANUFACTURING



- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●



Manufacturing: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

60 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Production and Operating Workers	HS	2,016	2,047	31	1,954	1,985	\$29.71	0.8%
Machinists	HS	1,044	1,122	79	1,081	1,159	\$24.45	0.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	1,001	996	(5)	999	994	\$27.52	0.4%
Industrial Machinery Mechanics	HS	805	959	154	749	903	\$25.23	0.4%
Welders, Cutters, Solderers, and Brazers	HS	506	575	68	569	638	\$22.41	0.3%
Production, Planning, and Expediting Clerks	HS	515	516	1	515	516	\$23.14	0.2%
First-Line Supervisors of Office and Administrative Support Workers	HS	511	495	(16)	487	471	\$28.30	0.2%
Electrical and Electronics Engineering Technicians	AA	500	498	(1)	424	423	\$31.73	0.2%
Chemical Equipment Operators and Tenders	HS	453	385	(67)	441	373	\$23.07	0.2%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	243	250	7	207	215	\$30.35	0.1%
Industrial Engineering Technicians	AA	234	243	8	203	212	\$27.68	0.1%
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	HS	143	164	21	150	171	\$23.73	0.1%
Chemical Plant and System Operators	HS	218	189	(29)	198	169	\$26.11	0.1%
Mechanical Drafters	AA	209	198	(11)	171	161	\$26.79	0.1%
Electricians	HS	125	132	7	140	147	\$24.77	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	140	129	(12)	143	131	\$29.74	0.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	111	118	6	116	123	\$27.65	0.1%
Sheet Metal Workers	HS	85	105	20	98	118	\$24.37	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	143	139	(4)	121	118	\$31.20	0.0%
Sales Representatives, Services, All Other	HS	124	106	(18)	134	116	\$27.31	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	122	121	0	108	108	\$39.24	0.0%
Computer User Support Specialists	SC	137	138	1	99	99	\$24.07	0.0%
Carpenters	HS	83	93	10	79	90	\$22.40	0.0%
Mechanical Engineering Technicians	AA	92	95	3	79	82	\$26.96	0.0%
Engineering Technicians, Except Drafters, All Other	AA	90	94	3	78	81	\$40.24	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Manufacturing: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

60 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	66	70	4	51	55	\$44.41	0.0%
Engineering Technicians, Except Drafters, All Other	AA	90	94	3	78	81	\$40.24	0.0%
Elevator Installers and Repairers	HS	15	16	1	18	19	\$39.87	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	122	121	0	108	108	\$39.24	0.0%
Aerospace Engineering and Operations Technicians	AA	65	56	(9)	51	42	\$37.06	0.0%
Computer Network Support Specialists	AA	103	99	(4)	72	68	\$33.39	0.0%
Electrical and Electronics Engineering Technicians	AA	500	498	(1)	424	423	\$31.73	0.2%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	46	50	5	46	51	\$31.33	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	143	139	(4)	121	118	\$31.20	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	243	250	7	207	215	\$30.35	0.1%
Avionics Technicians	AA	16	15	0	12	11	\$30.10	0.0%
Aircraft Mechanics and Service Technicians	HS+	41	35	(5)	28	23	\$29.88	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	140	129	(12)	143	131	\$29.74	0.1%
First-Line Supervisors of Production and Operating Workers	HS	2,016	2,047	31	1,954	1,985	\$29.71	0.8%
Millwrights	HS	21	24	3	20	23	\$29.53	0.0%
Crane and Tower Operators	HS	25	28	3	28	31	\$28.96	0.0%
Architectural and Civil Drafters	AA	10	12	2	10	11	\$28.79	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	511	495	(16)	487	471	\$28.30	0.2%
Electro-Mechanical Technicians	AA	38	38	0	32	32	\$28.30	0.0%
Furnace, Kiln, Oven, Drier, and Kettle Operators and Tenders	HS	48	49	1	47	48	\$28.28	0.0%
Plant and System Operators, All Other	HS	15	15	0	15	15	\$27.84	0.0%
Structural Iron and Steel Workers	HS	10	13	3	12	15	\$27.76	0.0%
Industrial Engineering Technicians	AA	234	243	8	203	212	\$27.68	0.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	111	118	6	116	123	\$27.65	0.1%
Stationary Engineers and Boiler Operators	HS	20	20	0	21	21	\$27.58	0.0%

Source: Emsi 2017.3.

Retail Trade

A wide array of industries including automobile dealers; furniture, electronics, and other home furnishings stores; grocery and food stores; clothing and accessories retailers; gas stations; department stores; general merchandisers; and various other retailers.

TOTAL HIRING DEMAND 2016–2026

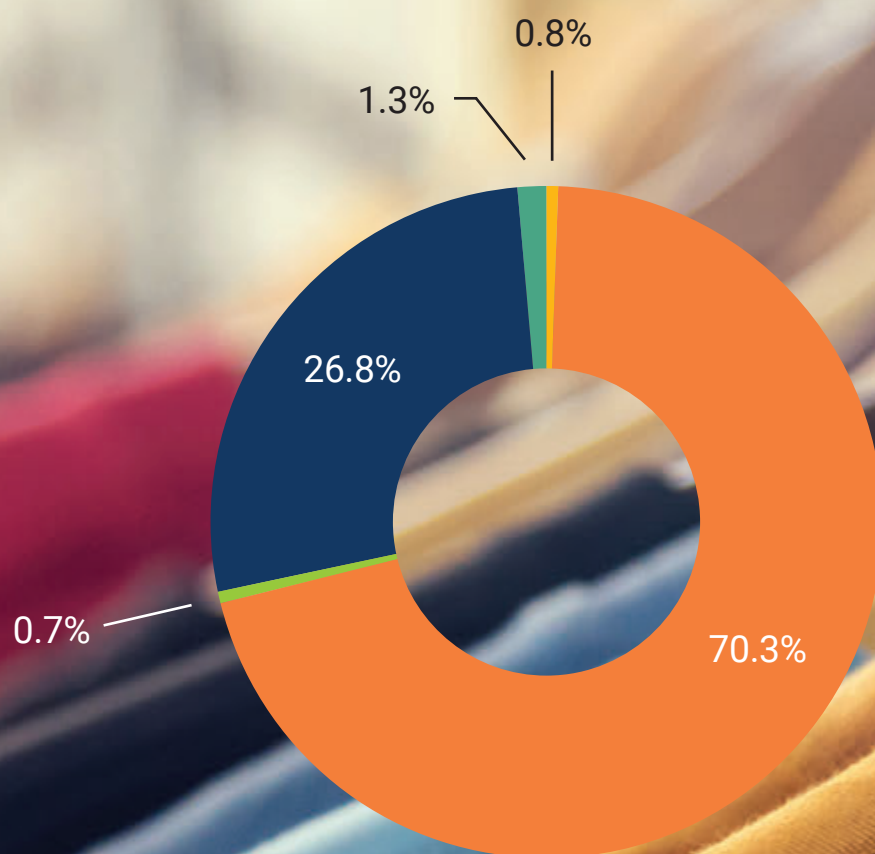
	Total Demand	=	New Jobs	+	Separations
All Openings	206,140		11,413		194,727
Family-Supporting Openings	10,842		831		10,011

Family-supporting jobs constitute 5.3 percent of total demand, or 10,842 jobs. Of these, occupations with a typical entry-level education of a high school diploma (70.3 percent) and postsecondary non-degree award (26.8 percent) predominate. While jobs with a typical entry-level education of a postsecondary non-degree award account for more than a quarter of total demand for family-supporting jobs, this does not indicate a preponderance of occupations in this educational category. The high demand for automotive service technicians and mechanics accounts for 97.4 percent of the demand for family-supporting jobs at this educational level.

Tables 23B and 23C list the top 25 family-supporting retail trade occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include automotive service technicians and mechanics; first-line supervisors of office and administrative workers; sales representatives for services; first-line supervisors of mechanics, installers and repairers; sales representatives for wholesale and manufacturing; and automotive body repairers. The highest-demand occupation, automotive service technicians and mechanics, accounts for over one quarter of total family-supporting job demand in the retail trade sector. The top three family-supporting occupations account for 68.9 percent of family-supporting job demand in the sector and 3.1 percent of total demand for all family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)
BY TYPICAL ENTRY-LEVEL EDUCATION: RETAIL TRADE



- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●



Retail Trade: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

31 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Automotive Service Technicians and Mechanics	HS+	2,614	2,910	296	2,537	2,833	\$22.30	1.2%
First-Line Supervisors of Office and Administrative Support Workers	HS	2,407	2,734	327	2,492	2,818	\$28.30	1.2%
Sales Representatives, Services, All Other	HS	1,604	1,565	(39)	1,860	1,821	\$27.31	0.8%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	650	710	60	570	630	\$30.35	0.3%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	429	451	22	438	460	\$27.52	0.2%
Automotive Body and Related Repairers	HS	332	381	49	335	383	\$25.33	0.2%
First-Line Supervisors of Production and Operating Workers	HS	222	247	25	224	249	\$29.71	0.1%
First-Line Supervisors of Non-Retail Sales Workers	HS	297	283	(14)	257	242	\$39.24	0.1%
Jewelers and Precious Stone and Metal Workers	HS	117	124	7	124	131	\$22.47	0.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	112	118	5	116	121	\$27.65	0.1%
Motorboat Mechanics and Service Technicians	HS	124	111	(13)	119	106	\$23.15	0.0%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	70	99	29	74	102	\$22.88	0.0%
Material Moving Workers, All Other	NoED	66	75	9	83	92	\$22.60	0.0%
Procurement Clerks	HS	73	80	7	81	88	\$22.83	0.0%
Web Developers	AA	90	106	16	67	84	\$26.26	0.0%
Production, Planning, and Expediting Clerks	HS	74	80	6	76	83	\$23.14	0.0%
Computer User Support Specialists	SC	103	104	2	74	76	\$24.07	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	77	74	(3)	72	69	\$26.29	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	65	64	(1)	68	68	\$29.74	0.0%
Carpenters	HS	67	71	4	62	65	\$22.40	0.0%
Information and Record Clerks, All Other	HS	37	48	10	47	58	\$22.69	0.0%
Glaziers	HS	38	40	2	43	45	\$22.33	0.0%
Painters, Transportation Equipment	HS	26	31	5	29	34	\$24.86	0.0%
Computer Network Support Specialists	AA	37	42	6	28	34	\$33.39	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	30	31	2	29	31	\$31.33	0.0%

Source: Emsi 2017.3.

Note: For Typical-Entry Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Retail Trade: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

31 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	22	25	3	18	20	\$44.41	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	297	283	(14)	257	242	\$39.24	0.1%
Computer Network Support Specialists	AA	37	42	6	28	34	\$33.39	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	30	31	2	29	31	\$31.33	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	650	710	60	570	630	\$30.35	0.3%
Executive Secretaries and Executive Administrative Assistants	HS	65	64	(1)	68	68	\$29.74	0.0%
First-Line Supervisors of Production and Operating Workers	HS	222	247	25	224	249	\$29.71	0.1%
Food Service Managers	HS	19	22	2	22	24	\$29.35	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	2,407	2,734	327	2,492	2,818	\$28.30	1.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	112	118	5	116	121	\$27.65	0.1%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	429	451	22	438	460	\$27.52	0.2%
Sales Representatives, Services, All Other	HS	1,604	1,565	(39)	1,860	1,821	\$27.31	0.8%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	77	74	(3)	72	69	\$26.29	0.0%
Web Developers	AA	90	106	16	67	84	\$26.26	0.0%
Medical Equipment Repairers	AA	26	30	5	24	28	\$25.47	0.0%
Automotive Body and Related Repairers	HS	332	381	49	335	383	\$25.33	0.2%
Painters, Transportation Equipment	HS	26	31	5	29	34	\$24.86	0.0%
Control and Valve Installers and Repairers, Except Mechanical Door	HS	29	24	(4)	19	15	\$24.79	0.0%
Computer User Support Specialists	SC	103	104	2	74	76	\$24.07	0.0%
Hearing Aid Specialists	HS	19	30	10	15	25	\$23.26	0.0%
Motorboat Mechanics and Service Technicians	HS	124	111	(13)	119	106	\$23.15	0.0%
Production, Planning, and Expediting Clerks	HS	74	80	6	76	83	\$23.14	0.0%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	70	99	29	74	102	\$22.88	0.0%
Procurement Clerks	HS	73	80	7	81	88	\$22.83	0.0%
Information and Record Clerks, All Other	HS	37	48	10	47	58	\$22.69	0.0%

Source: Emsi 2017.3.

Transportation and Warehousing

Businesses providing air, rail and water transportation services; trucking and bus services (including urban transit); taxi and limousine services; warehousing and storage; and other business that provide supporting services to these industries.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	59,303		8,862		50,441
Family-Supporting Openings	8,763		1,637		7,125

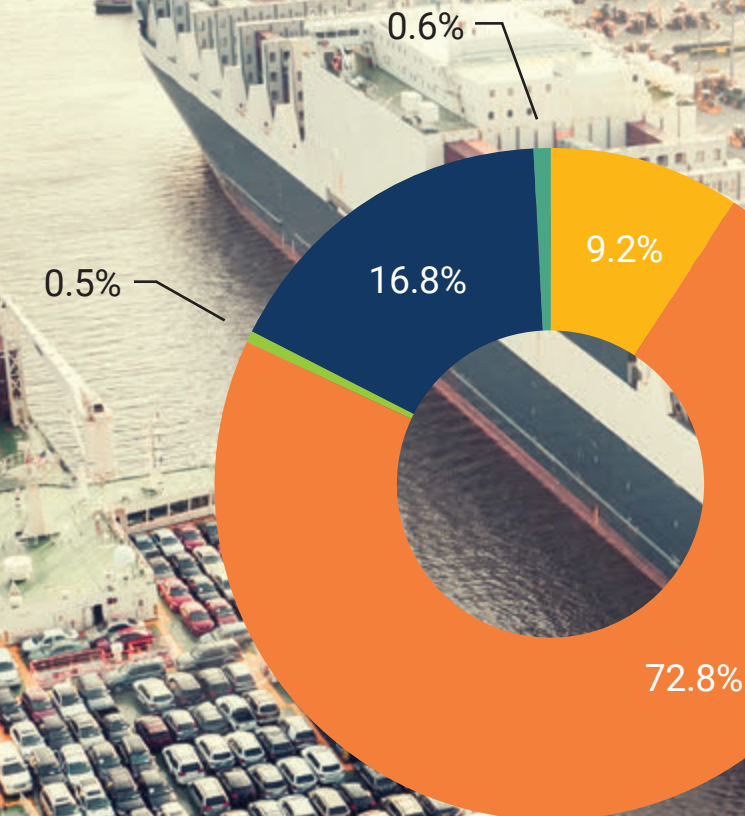
Family-supporting jobs constitute 14.8 percent of total demand in the transportation and warehousing sector, or 8,763 jobs. Of these, occupations with a typical entry-level education of a high school diploma (72.8 percent), postsecondary non-degree award (16.8 percent) and no formal educational credential (9.2 percent) predominate. This is one of only four sectors in which the postsecondary non-degree award segment accounts for more than 10 percent of family-supporting jobs. Two occupations account for 83.2 percent of family-supporting job demand in the postsecondary non-degree award category: captains, mates and pilots of water vessels and aircraft mechanics. The transportation and warehousing sector is the only sector where the no formal educational credential category accounts for more than 1 percent of family-supporting job demand. Demand for sailors and marine oilers accounts for 83.7 percent of family-supporting job demand in this educational category.

Tables 24B and 24C list the top 25 family-supporting transportation and warehousing sector occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include flight attendants, first-line supervisors of office and administrative workers, first-line supervisors of transportation and material-moving machine and vehicle operators, and various workers on water vessels. The top three family-supporting occupations account for more than a third of family-supporting job demand in the sector, though they account for a small percentage of total demand for all family-supporting jobs regardless of sector.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: TRANSPORTATION AND WAREHOUSING



- No formal educational credential
- High school diploma or equivalent
- Some college, no degree
- Postsecondary nondegree award
- Associate's degree



Transportation and Warehousing: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

42 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Flight Attendants	HS	883	1,144	261	1,074	1,335	\$28.13	0.6%
First-Line Supervisors of Office and Administrative Support Workers	HS	798	933	135	847	982	\$28.30	0.4%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	789	892	103	855	959	\$27.65	0.4%
Captains, Mates, and Pilots of Water Vessels	HS+	415	687	272	556	827	\$40.50	0.3%
Sailors and Marine Oilers	NoED	319	506	187	491	678	\$23.13	0.3%
Sales Representatives, Services, All Other	HS	496	545	49	617	666	\$27.31	0.3%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	438	511	73	419	492	\$22.88	0.2%
Aircraft Mechanics and Service Technicians	HS+	367	457	90	310	400	\$29.88	0.2%
Transportation, Storage, and Distribution Managers	HS	276	355	79	240	319	\$44.41	0.1%
Production, Planning, and Expediting Clerks	HS	195	260	65	231	296	\$23.14	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	207	245	38	191	229	\$30.35	0.1%
Crane and Tower Operators	HS	121	142	21	137	157	\$28.96	0.1%
Ship Engineers	HS+	61	105	44	99	143	\$35.43	0.1%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	83	111	28	99	127	\$27.52	0.1%
Commercial Pilots	HS	91	114	23	95	118	\$46.66	0.0%
Material Moving Workers, All Other	NoED	72	86	14	94	108	\$22.60	0.0%
Mobile Heavy Equipment Mechanics, Except Engines	HS	76	93	17	80	97	\$24.22	0.0%
First-Line Supervisors of Production and Operating Workers	HS	55	72	17	62	79	\$29.71	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	58	68	10	68	78	\$29.74	0.0%
Automotive Service Technicians and Mechanics	HS+	65	64	(1)	59	58	\$22.30	0.0%
Riggers	HS	35	48	13	41	53	\$26.85	0.0%
Industrial Machinery Mechanics	HS	33	50	17	35	52	\$25.23	0.0%
Transportation Inspectors	HS	34	41	6	36	42	\$24.62	0.0%
Computer User Support Specialists	SC	39	49	9	32	41	\$24.07	0.0%
Welders, Cutters, Solderers, and Brazers	HS	26	33	7	31	38	\$22.41	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Transportation and Warehousing: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings
42 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Commercial Pilots	HS	91	114	23	95	118	\$46.66	0.0%
Transportation, Storage, and Distribution Managers	HS	276	355	79	240	319	\$44.41	0.1%
Captains, Mates, and Pilots of Water Vessels	HS+	415	687	272	556	827	\$40.50	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	28	32	3	27	30	\$39.24	0.0%
Ship Engineers	HS+	61	105	44	99	143	\$35.43	0.1%
Computer Network Support Specialists	AA	36	41	5	28	33	\$33.39	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	207	245	38	191	229	\$30.35	0.1%
Avionics Technicians	AA	18	25	6	17	23	\$30.10	0.0%
Aircraft Mechanics and Service Technicians	HS+	367	457	90	310	400	\$29.88	0.2%
Executive Secretaries and Executive Administrative Assistants	HS	58	68	10	68	78	\$29.74	0.0%
First-Line Supervisors of Production and Operating Workers	HS	55	72	17	62	79	\$29.71	0.0%
Motorboat Operators	HS+	18	24	6	21	27	\$29.16	0.0%
Crane and Tower Operators	HS	121	142	21	137	157	\$28.96	0.1%
Airfield Operations Specialists	HS	10	14	4	11	15	\$28.74	0.0%
Subway and Streetcar Operators	HS	19	22	3	19	22	\$28.49	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	798	933	135	847	982	\$28.30	0.4%
Flight Attendants	HS	883	1,144	261	1,074	1,335	\$28.13	0.6%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	789	892	103	855	959	\$27.65	0.4%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	83	111	28	99	127	\$27.52	0.1%
Sales Representatives, Services, All Other	HS	496	545	49	617	666	\$27.31	0.3%
Riggers	HS	35	48	13	41	53	\$26.85	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	12	17	5	14	19	\$26.29	0.0%
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	HS	16	19	2	18	21	\$26.07	0.0%
Automotive Body and Related Repairers	HS	11	11	1	11	11	\$25.33	0.0%
Industrial Machinery Mechanics	HS	33	50	17	35	52	\$25.23	0.0%

Source: Emsi 2017.3.

Utilities

Establishments involved in delivering electric power, natural gas, water supply and sewage removal services. The service provided varies by subsector, but generally includes the generation, transmission and distribution of power; water treatment and distribution; and sewage treatment and disposal.

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	3,847		(393)		4,240
Family-Supporting Openings	1,948		(187)		2,136

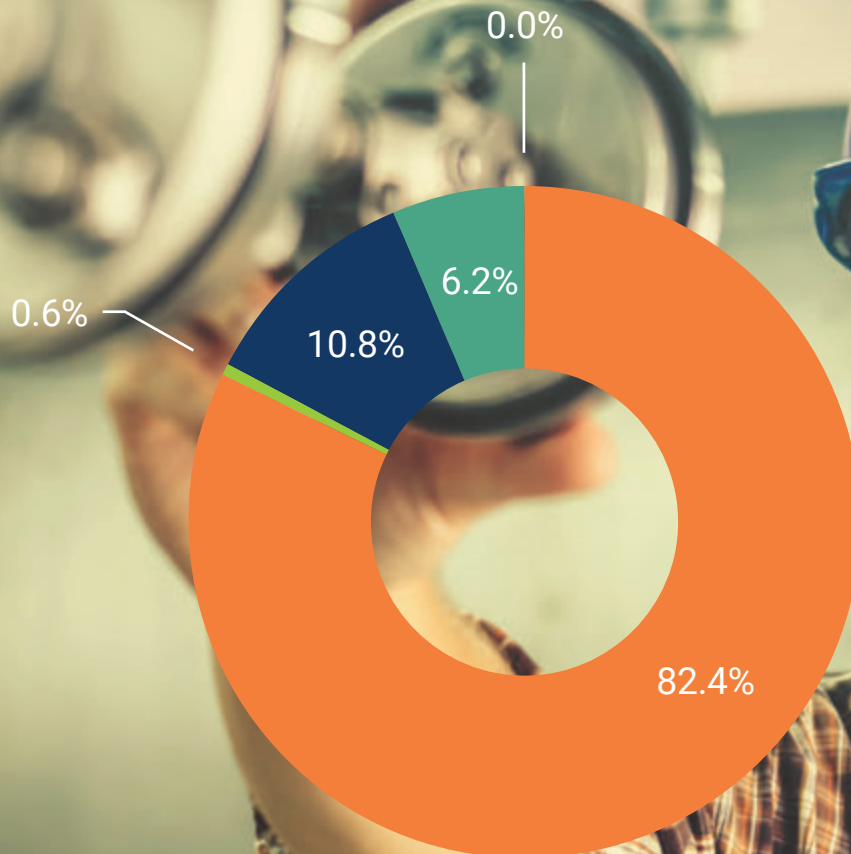
In the utilities sector, new job creation is projected to experience negative growth (-7.8 percent) from 2016 to 2026. Demand created by separations accounts for all future hiring demand.

The utilities sector is by far the smallest in this analysis, accounting for only 0.4 percent of total jobs in the region in 2016 and 0.3 percent in 2026. While the sector is small and declining, its share of family-supporting jobs is disproportionately high. The utilities sector has the highest proportion of total demand for jobs that are family-supporting at 50.6 percent. Of the 1,948 family-supporting jobs, occupations with a typical entry-level education of a high school diploma (82.4 percent), postsecondary non-degree award (10.8 percent), and associate's degree (6.2 percent) comprise the largest share.

Tables 25B and 25C list the top 25 family-supporting utilities occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include electrical power-line installers and repairers; electrical and electronics repairers (powerhouse, substation and relay); power plant operators; and control and valve installers and repairers. The highest-demand occupation, electrical power-line installers and repairers, accounts for over one-fifth of family-supporting job demand in the utilities sector at 22.4 percent. The top four family-supporting occupations account for nearly half of total family-supporting job demand in the sector (48.5 percent).



Share of Demand for Family-Supporting Jobs (2016–2026)
BY TYPICAL ENTRY-LEVEL EDUCATION: UTILITIES



- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●



Utilities: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

28 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Electrical Power-Line Installers and Repairers	HS	739	635	(104)	539	436	\$27.22	0.2%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	235	223	(11)	199	188	\$34.41	0.1%
Power Plant Operators	HS	136	172	36	136	172	\$37.09	0.1%
Control and Valve Installers and Repairers, Except Mechanical Door	HS	270	232	(38)	187	149	\$24.79	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	211	187	(24)	169	145	\$30.35	0.1%
First-Line Supervisors of Production and Operating Workers	HS	95	102	7	96	103	\$29.71	0.0%
Industrial Machinery Mechanics	HS	82	99	18	78	95	\$25.23	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	117	98	(19)	105	85	\$28.30	0.0%
Electrical and Electronics Engineering Technicians	AA	111	97	(14)	89	75	\$31.73	0.0%
Electricians	HS	61	61	0	68	68	\$24.77	0.0%
Power Distributors and Dispatchers	HS	69	66	(3)	59	56	\$35.09	0.0%
Sales Representatives, Services, All Other	HS	50	46	(4)	57	53	\$27.31	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	43	43	0	42	42	\$31.33	0.0%
Production, Planning, and Expediting Clerks	HS	31	30	(1)	31	30	\$23.14	0.0%
Telecommunications Line Installers and Repairers	HS	38	32	(5)	35	29	\$30.54	0.0%
Executive Secretaries and Executive Administrative Assistants	HS	36	30	(6)	35	29	\$29.74	0.0%
Operating Engineers and Other Construction Equipment Operators	HS	22	23	1	25	26	\$23.68	0.0%
Meter Readers, Utilities	HS	53	43	(10)	35	25	\$23.83	0.0%
Stationary Engineers and Boiler Operators	HS	19	21	1	21	22	\$27.58	0.0%
Nuclear Technicians	AA	13	15	2	16	18	\$36.83	0.0%
Plumbers, Pipefitters, and Steamfitters	HS	15	15	0	16	16	\$25.77	0.0%
Computer Network Support Specialists	AA	27	23	(3)	18	15	\$33.39	0.0%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	18	17	(1)	16	15	\$22.88	0.0%
Electrical and Electronics Drafters	AA	15	15	(1)	13	12	\$27.38	0.0%
Automotive Service Technicians and Mechanics	HS+	18	15	(3)	15	12	\$22.30	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Utilities: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

28 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Power Plant Operators	HS	136	172	36	136	172	\$37.09	0.1%
Nuclear Technicians	AA	13	15	2	16	18	\$36.83	0.0%
Power Distributors and Dispatchers	HS	69	66	(3)	59	56	\$35.09	0.0%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	235	223	(11)	199	188	\$34.41	0.1%
Computer Network Support Specialists	AA	27	23	(3)	18	15	\$33.39	0.0%
Electrical and Electronics Engineering Technicians	AA	111	97	(14)	89	75	\$31.73	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	43	43	0	42	42	\$31.33	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	12	12	0	10	10	\$31.20	0.0%
Telecommunications Line Installers and Repairers	HS	38	32	(5)	35	29	\$30.54	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	211	187	(24)	169	145	\$30.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	36	30	(6)	35	29	\$29.74	0.0%
First-Line Supervisors of Production and Operating Workers	HS	95	102	7	96	103	\$29.71	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	117	98	(19)	105	85	\$28.30	0.0%
Stationary Engineers and Boiler Operators	HS	19	21	1	21	22	\$27.58	0.0%
Electrical and Electronics Drafters	AA	15	15	(1)	13	12	\$27.38	0.0%
Sales Representatives, Services, All Other	HS	50	46	(4)	57	53	\$27.31	0.0%
Electrical Power-Line Installers and Repairers	HS	739	635	(104)	539	436	\$27.22	0.2%
Construction and Building Inspectors	HS	14	11	(3)	13	10	\$26.65	0.0%
Plumbers, Pipefitters, and Steamfitters	HS	15	15	0	16	16	\$25.77	0.0%
Industrial Machinery Mechanics	HS	82	99	18	78	95	\$25.23	0.0%
Control and Valve Installers and Repairers, Except Mechanical Door	HS	270	232	(38)	187	149	\$24.79	0.1%
Electricians	HS	61	61	0	68	68	\$24.77	0.0%
Computer User Support Specialists	SC	19	17	(2)	13	11	\$24.07	0.0%
Meter Readers, Utilities	HS	53	43	(10)	35	25	\$23.83	0.0%
Operating Engineers and Other Construction Equipment Operators	HS	22	23	1	25	26	\$23.68	0.0%

Source: Emsi 2017.3.

Wholesale

Businesses in sub-industries such as vehicle parts suppliers and wholesalers; grocery wholesalers; electrical and electronics suppliers; machinery and equipment wholesalers; and other wholesalers of a diverse range of goods or products.

TOTAL HIRING DEMAND 2016–2026

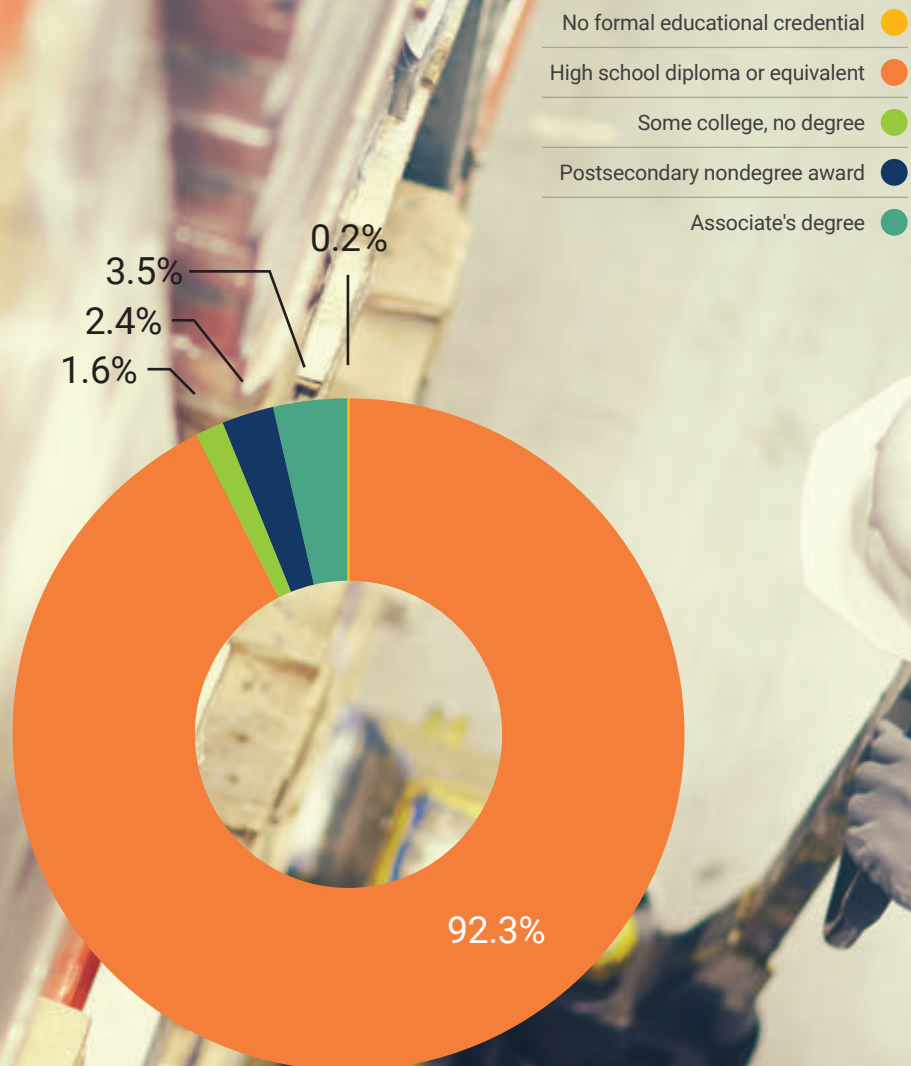
	Total Demand	=	New Jobs	+	Separations
All Openings	54,952		4,761		50,191
Family-Supporting Openings	14,434		1,655		12,779

Family-supporting jobs constitute 26.3 percent of total demand, or 14,434 jobs. This share of total demand trails only the utilities and construction sectors. As a result, the wholesale sector has a disproportionately high number of family-supporting jobs. The wholesale sector ranks second lowest (above only utilities) in total demand for all jobs from 2016 to 2026, but it ranks fifth in total demand for family-supporting jobs. Of the projected demand for family-supporting jobs in the wholesale sector, occupations with a typical entry-level education of a high school diploma (92.3 percent) comprise the vast majority.

Tables 26B and 26C list the top 25 family-supporting wholesale occupations by total hiring demand and median hourly earnings, respectively. High-demand occupations include sales representatives for wholesale and manufacturing, first-line supervisors of office and administrative support workers and first-line supervisors of non-retail sales workers. The occupation in highest demand, sales representatives for wholesale and manufacturing, accounts for over half (55.0 percent) of total family-supporting job demand in the wholesale sector and 3.3 percent of total demand for all family-supporting jobs regardless of sector. The top three family-supporting occupations account for nearly 70 percent of family-supporting job demand in the sector.



Share of Demand for Family-Supporting Jobs (2016–2026) BY TYPICAL ENTRY-LEVEL EDUCATION: WHOLESALE





Wholesale: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

42 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	6,358	7,427	1,069	6,873	7,942	\$27.52	3.3%
First-Line Supervisors of Office and Administrative Support Workers	HS	995	1,065	70	996	1,066	\$28.30	0.4%
First-Line Supervisors of Non-Retail Sales Workers	HS	1,015	1,121	106	949	1,055	\$39.24	0.4%
Sales Representatives, Services, All Other	HS	309	357	48	392	440	\$27.31	0.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	309	338	29	326	355	\$27.65	0.1%
Mobile Heavy Equipment Mechanics, Except Engines	HS	311	332	20	301	322	\$24.22	0.1%
Industrial Machinery Mechanics	HS	258	324	66	246	312	\$25.23	0.1%
Bus and Truck Mechanics and Diesel Engine Specialists	HS	223	271	49	216	264	\$22.88	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	246	265	19	214	233	\$30.35	0.1%
Computer User Support Specialists	SC	270	298	27	203	231	\$24.07	0.1%
Production, Planning, and Expediting Clerks	HS	198	218	20	207	227	\$23.14	0.1%
First-Line Supervisors of Production and Operating Workers	HS	191	204	13	189	202	\$29.71	0.1%
Computer Network Support Specialists	AA	254	259	5	184	188	\$33.39	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	125	126	1	133	134	\$29.74	0.1%
Medical Equipment Repairers	AA	128	137	9	112	121	\$25.47	0.1%
Machinists	HS	94	106	12	99	111	\$24.45	0.0%
Automotive Service Technicians and Mechanics	HS+	107	115	8	101	109	\$22.30	0.0%
Transportation, Storage, and Distribution Managers	HS	119	133	13	94	108	\$44.41	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	80	99	19	85	104	\$26.29	0.0%
Electrical and Electronics Engineering Technicians	AA	117	117	0	99	99	\$31.73	0.0%
Welders, Cutters, Solderers, and Brazers	HS	68	77	9	76	85	\$22.41	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	77	82	6	68	73	\$31.20	0.0%
Procurement Clerks	HS	71	69	(2)	75	73	\$22.83	0.0%
Control and Valve Installers and Repairers, Except Mechanical Door	HS	74	80	7	57	63	\$24.79	0.0%
Web Developers	AA	68	80	13	51	63	\$26.26	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Wholesale: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

42 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE SECTOR

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	119	133	13	94	108	\$44.41	0.0%
Engineering Technicians, Except Drafters, All Other	AA	11	12	1	10	11	\$40.24	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	1,015	1,121	106	949	1,055	\$39.24	0.4%
Computer Network Support Specialists	AA	254	259	5	184	188	\$33.39	0.1%
Electrical and Electronics Engineering Technicians	AA	117	117	0	99	99	\$31.73	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	18	19	1	18	19	\$31.33	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	77	82	6	68	73	\$31.20	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	246	265	19	214	233	\$30.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	125	126	1	133	134	\$29.74	0.1%
First-Line Supervisors of Production and Operating Workers	HS	191	204	13	189	202	\$29.71	0.1%
Precision Instrument and Equipment Repairers, All Other	HS	16	18	2	15	17	\$29.67	0.0%
Crane and Tower Operators	HS	27	31	4	30	34	\$28.96	0.0%
First-Line Supervisors of Office and Administrative Support Workers	HS	995	1,065	70	996	1,066	\$28.30	0.4%
First-Line Supervisors of Farming, Fishing, and Forestry Workers	HS	12	12	0	16	16	\$28.23	0.0%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	309	338	29	326	355	\$27.65	0.1%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	6,358	7,427	1,069	6,873	7,942	\$27.52	3.3%
Sales Representatives, Services, All Other	HS	309	357	48	392	440	\$27.31	0.2%
Mechanical Drafters	AA	23	23	0	19	20	\$26.79	0.0%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	80	99	19	85	104	\$26.29	0.0%
Web Developers	AA	68	80	13	51	63	\$26.26	0.0%
Plumbers, Pipefitters, and Steamfitters	HS	17	20	3	19	22	\$25.77	0.0%
Medical Equipment Repairers	AA	128	137	9	112	121	\$25.47	0.1%
Security and Fire Alarm Systems Installers	HS	43	48	5	49	54	\$25.40	0.0%
Automotive Body and Related Repairers	HS	25	28	3	25	28	\$25.33	0.0%
Industrial Machinery Mechanics	HS	258	324	66	246	312	\$25.23	0.1%

Source: Emsi 2017.3.



Workforce Development in the Maryland Central Region

In the public sector, workforce development policy and funding flows from the federal government to the states and then to local workforce development agencies. The guidance and enacting legislation for this policy and funding is the Workforce Innovation and Opportunity Act (WIOA). WIOA is designed to help job seekers access employment, education, training and support services to succeed in the labor market and to match employers with the skilled workers they need to compete in the global economy.

In Maryland, the governor appoints the Governor's Workforce Development Board and is charged with certifying WIOA-compliant Local Workforce Development Boards (Local Boards). Local Boards are comprised of a wide variety of individuals, businesses and organizations throughout the Local Workforce Development Area (Local Area). Each Local Board serves as a strategic convener to promote and broker effective relationships between the Chief Local Elected Officials (CLEOs), the business community, and economic, education and workforce partners throughout the Local Area.

The Local Board is responsible for developing a strategy to continuously improve and strengthen the workforce development

**THE LOCAL BOARD IS RESPONSIBLE
FOR DEVELOPING A STRATEGY TO
CONTINUOUSLY IMPROVE AND
STRENGTHEN THE WORKFORCE
DEVELOPMENT SYSTEM.**

system. The Local Board's role is to develop a comprehensive high-quality workforce system through collaboration with its workforce and education partners that supports continuous improvement in employment, training and education programs and promotes economic growth that is aligned with achieving the goals of the State Strategic Plan.

A significant change brought about by WIOA was the new requirement for the state to establish WIOA regions, comprised of the designated local areas. WIOA regions are not meant to replace the local areas or boards, but rather to encourage collaboration and cooperation among similarly situated and contiguous local areas.

The local Workforce Development Areas served by BMC on the western shore of the Chesapeake Bay have been designated the Maryland Central Region by Governor Hogan. These boards include:

- Anne Arundel County Workforce Development Corporation (Anne Arundel County)
- Mayor's Office of Employment Development (Baltimore City)
- Baltimore County Department of Economic and Workforce Development (Baltimore County)
- Mid-Maryland Workforce Development Board (Carroll and Howard Counties).
Data for these counties is presented individually.
- Susquehanna Workforce Network (Cecil and Harford Counties)

Queen Anne's County, a BMC member located on the eastern shore of Maryland, is part of the Upper Shore Workforce Investment Board and not included in this report.



Regional Forecast of Family-Supporting Job Growth

The following charts and tables summarize family-supporting job demand at the county level in the Baltimore region.

Table 27A presents summary employment information for all jobs in each county covered by the previously mentioned Local Boards. Baltimore County and Baltimore City have the most jobs in 2016, with 372,835 and 337,192 jobs, respectively. However, these jurisdictions are also projected to have the slowest job growth from 2016 to 2026, at 12.5 percent and 8.8 percent, respectively. Anne Arundel County (22.3 percent) and Howard County (21.1 percent) are projected to have the fastest growth over this period.

Turning to family-supporting jobs, table 27C presents summary family-supporting employment information. Baltimore County and Baltimore City remain the two largest jurisdictions for family-supporting jobs, with 57,170 and 57,987 jobs in 2016, respectively. Family-supporting jobs are projected to grow in all jurisdictions from 2016 to 2026, with growth rates of 20.7 percent in Anne Arundel County, 19.3 percent in Howard County, 18.2 percent in Cecil and Harford Counties, 14.6 percent in Carroll County, 10.5 percent in Baltimore County and 5.4 percent in Baltimore City.

Charts 28 A and B depict the distribution of total demand for jobs by job type and Local Board area. Total demand includes both new job growth and hiring due to separations. The share of total demand accounted for by family-supporting jobs ranges from 10.2 percent in Carroll County to 18.6 percent in Howard County, while the absolute number of family-supporting jobs demanded ranges from 7,933 in Carroll County to 61,050 in Baltimore County.

The distribution of total demand for family-supporting jobs by typical entry-level education is relatively consistent across jurisdictions. Jobs where a high school diploma is the typical entry-level education account for more than 60 percent of total demand for family-supporting jobs in every jurisdiction. Postsecondary non-degree awards and associate's degree account for the second and third largest shares of total demand for family-supporting jobs, or vice versa. Collectively, these three categories of typical entry-level education account for more than 90 percent of total demand for family-supporting jobs across all jurisdictions.

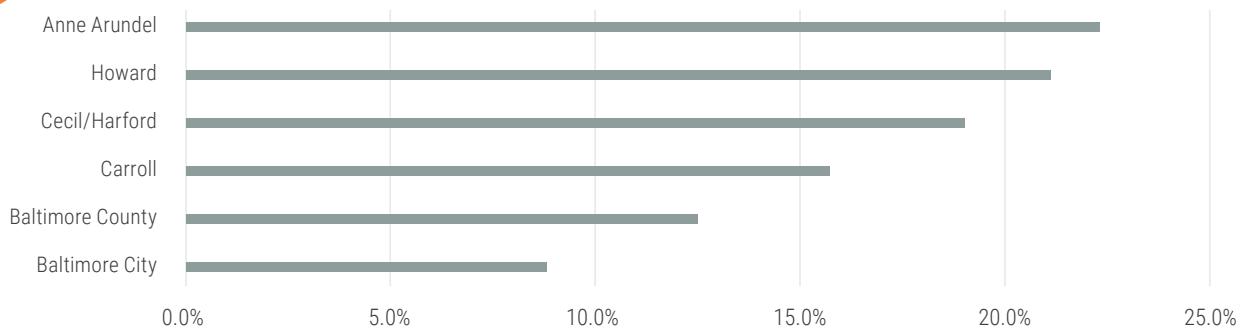


Summary of Jobs and Total Demand in the Baltimore Region by Local Area: All Jobs

Local Area	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand
Anne Arundel	267,036	326,605	59,569	22.3%	325,419	384,988
Baltimore City	337,192	366,755	29,564	8.8%	355,207	384,771
Baltimore County	372,835	419,482	46,647	12.5%	426,019	472,665
Cecil/Harford	122,230	145,415	23,185	19.0%	147,230	170,415
Carroll	56,808	65,716	8,908	15.7%	69,101	78,010
Howard	167,369	202,740	35,371	21.1%	195,126	230,497



New Job Growth (2016–2026) by Local Area: All Jobs

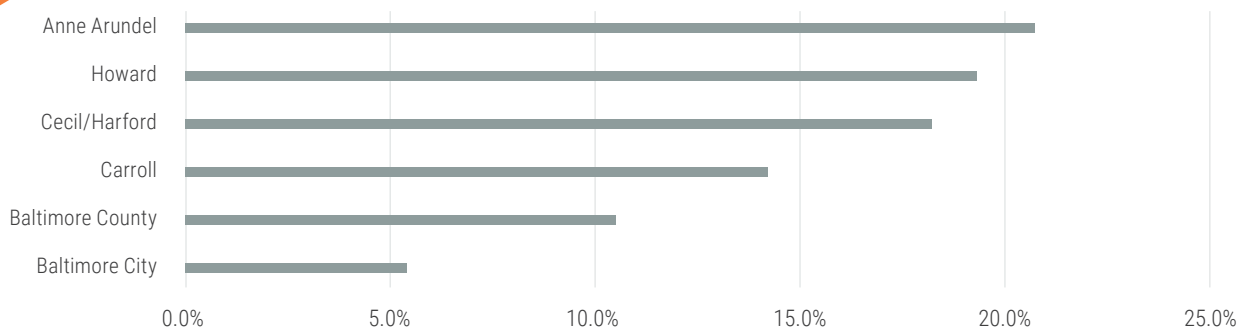


Summary of Jobs and Total Demand in the Baltimore Region by Local Area: Family-Supporting Jobs

Local Area	2016 Jobs	2026 Jobs	New Jobs	% New Job Growth (2016–2026)	Hiring from Separations	Total Demand
Anne Arundel	44,478	53,700	9,222	20.7%	44,962	54,184
Baltimore City	57,987	61,096	3,109	5.4%	52,448	55,557
Baltimore County	57,170	63,186	6,016	10.5%	55,034	61,050
Cecil/Harford	17,386	20,556	3,169	18.2%	17,341	20,510
Carroll	7,035	8,065	1,030	14.6%	6,903	7,933
Howard	34,580	41,241	6,661	19.3%	36,153	42,814

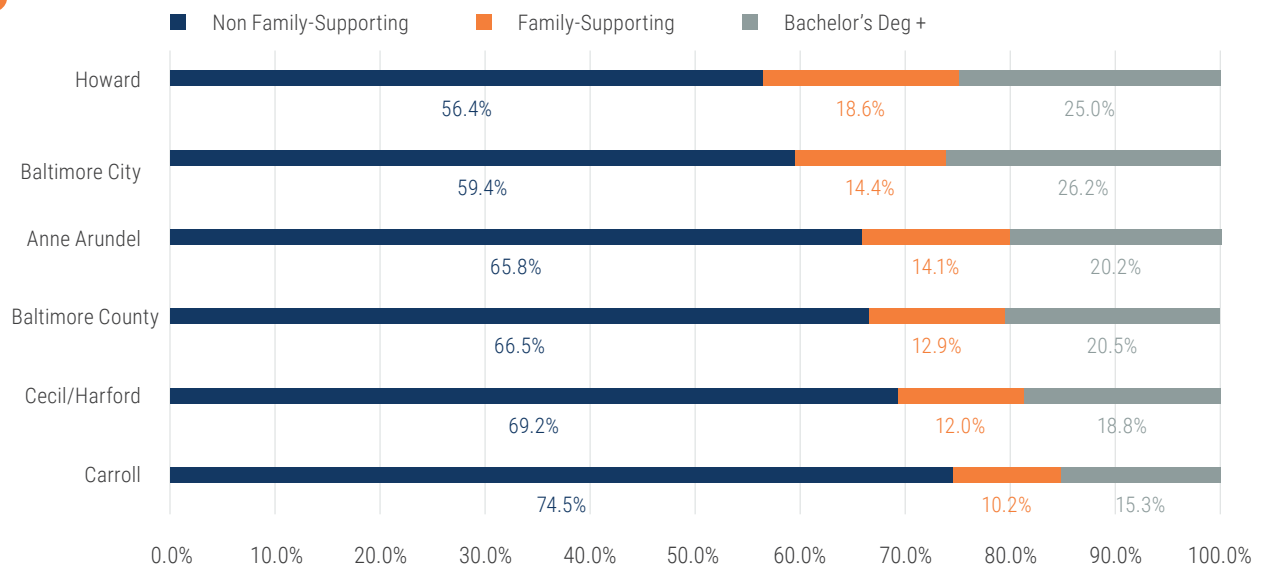


New Job Growth (2016–2026) by Local Area: Family-Supporting Jobs



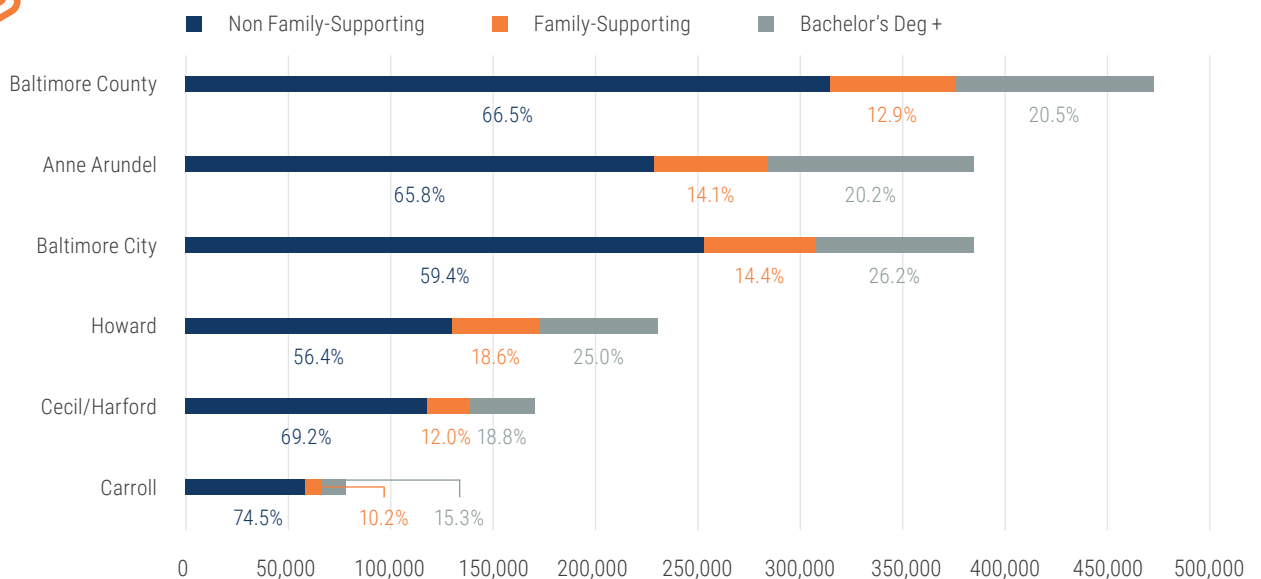
28A

Distribution of Share of Total Demand for Jobs by Type and Local Area: 2016–2026



28B

Distribution of Total Demand for Jobs by Type and Local Area: 2016–2026



28C

Share of Total Demand for Family-Supporting Jobs by Typical Entry-Level Education and Local Area: 2016–2026

Local Area	No Formal Educational Credential	High School Diploma or Equivalent	Some College, No Degree	Postsecondary Nondegree Award	Associate's Degree
Anne Arundel	1.2%	75.5%	2.1%	11.0%	10.2%
Baltimore City	1.4%	65.5%	1.6%	17.1%	14.4%
Baltimore County	1.4%	73.2%	0.0%	14.4%	11.0%
Carroll	0.0%	79.6%	2.2%	8.6%	9.7%
Cecil/Harford	0.1%	79.1%	1.9%	8.0%	11.0%
Howard	1.8%	64.6%	8.1%	15.1%	10.5%

Family-Supporting Jobs by Local Workforce Area



Anne Arundel County Workforce Development Corporation

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	384,988		59,569		325,419
Family-Supporting Openings	54,184		9,222		44,962

Representing both private and public sector organizations, the Anne Arundel County Local Workforce Development Board provides leadership, direction and policy oversight for the workforce delivery system in Anne Arundel County. The Anne Arundel County Workforce Development Board is made up of strategic partners from business, labor, economic development, government, education and the community that lead the workforce development system in Anne Arundel County.

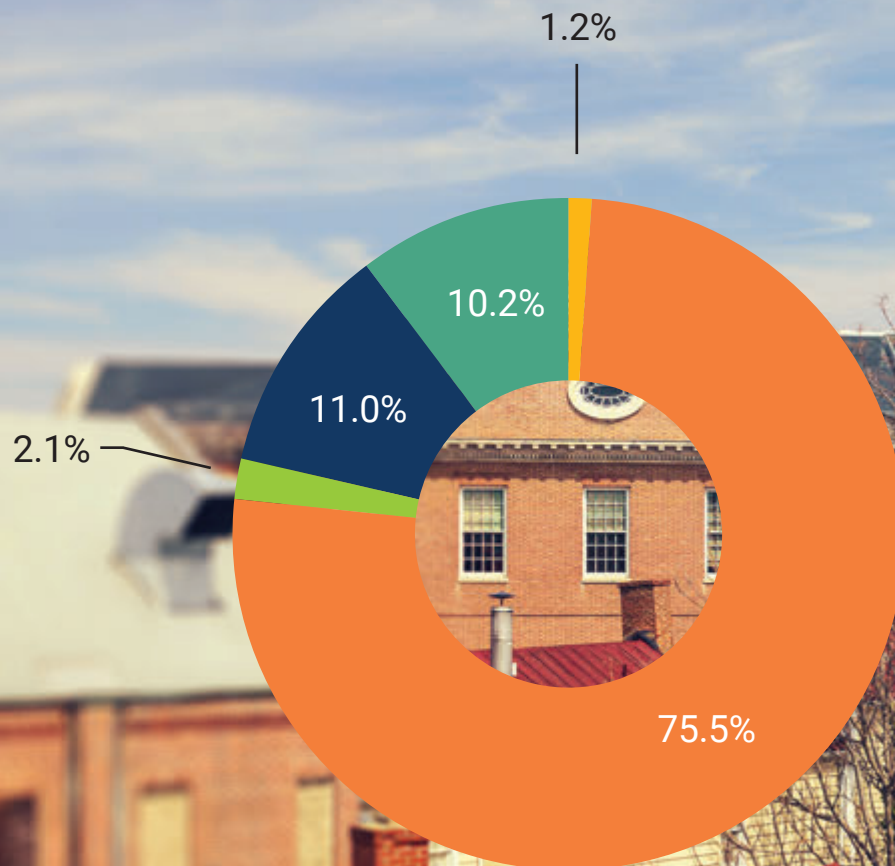
Family-supporting jobs in Anne Arundel County constitute 14.1 percent of total demand, or 54,184 jobs, the third highest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (75.5 percent), post-secondary non-degree award (11.0 percent), and associate's degree (10.2 percent) predominate.

Tables 29B and 29C list the top 25 family-supporting occupations in Anne Arundel County by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative support workers, sales representatives (services), sales representatives (wholesale and manufacturing), first-line supervisors of construction trades and extraction workers and electricians. Those five occupations comprise 30.2 percent of the total demand for family-supporting workers in the county from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: ANNE ARUNDEL COUNTY



No formal educational credential



High school diploma or equivalent



Some college, no degree



Postsecondary nondegree award



Associate's degree





Anne Arundel County: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

150 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	3,892	4,699	807	4,171	4,979	\$28.28	2.1%
Sales Representatives, Services, All Other	HS	3,177	3,690	514	4,056	4,570	\$28.17	1.9%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	2,082	2,690	607	2,386	2,993	\$28.11	1.3%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	1,556	1,853	297	1,615	1,912	\$31.33	0.8%
Electricians	HS	1,383	1,642	259	1,635	1,894	\$24.97	0.8%
Plumbers, Pipefitters, and Steamfitters	HS	1,053	1,404	351	1,269	1,620	\$24.52	0.7%
Carpenters	HS	1,418	1,570	152	1,338	1,490	\$22.98	0.6%
Automotive Service Technicians and Mechanics	HS+	1,188	1,390	202	1,185	1,387	\$22.67	0.6%
Flight Attendants	HS	880	1,142	262	1,071	1,333	\$28.12	0.6%
Licensed Practical and Licensed Vocational Nurses	HS+	1,069	1,494	425	895	1,320	\$26.25	0.6%
Police and Sheriff's Patrol Officers	HS	1,376	1,701	324	968	1,292	\$29.75	0.5%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	1,043	1,262	219	970	1,189	\$29.76	0.5%
Executive Secretaries and Executive Administrative Assistants	HS	873	1,013	140	1,004	1,144	\$30.02	0.5%
Computer User Support Specialists	SC	998	1,301	303	829	1,132	\$25.32	0.5%
Operating Engineers and Other Construction Equipment Operators	HS	640	809	169	781	950	\$23.54	0.4%
Claims Adjusters, Examiners, and Investigators	HS	796	934	138	703	842	\$33.06	0.4%
Paralegals and Legal Assistants	AA	605	743	138	673	811	\$24.63	0.3%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	509	715	207	581	788	\$24.86	0.3%
Computer Network Support Specialists	AA	845	946	101	645	746	\$34.66	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	631	734	103	608	711	\$39.67	0.3%
Production, Planning, and Expediting Clerks	HS	493	570	77	532	609	\$23.49	0.3%
Electrical and Electronics Engineering Technicians	AA	643	678	34	562	597	\$33.52	0.2%
First-Line Supervisors of Production and Operating Workers	HS	553	590	37	549	586	\$29.02	0.2%
Inspectors, Testers, Sorters, Samplers, and Weighers	HS	401	463	61	511	572	\$22.79	0.2%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	443	515	71	486	557	\$26.73	0.2%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Anne Arundel County: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

150 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Air Traffic Controllers	AA	20	30	10	23	33	\$54.72	0.0%
Media and Communication Equipment Workers, All Other	HS	70	77	7	67	73	\$48.54	0.0%
Commercial Pilots	HS	118	157	39	128	166	\$47.40	0.1%
Detectives and Criminal Investigators	HS	122	163	41	88	129	\$46.58	0.1%
Dental Hygienists	AA	345	444	98	232	330	\$46.27	0.1%
Elevator Installers and Repairers	HS	196	299	104	286	389	\$45.41	0.2%
Funeral Service Managers	AA	18	22	3	14	17	\$44.73	0.0%
Transportation, Storage, and Distribution Managers	HS	187	227	40	156	196	\$42.62	0.1%
Captains, Mates, and Pilots of Water Vessels	HS+	60	78	18	69	88	\$41.97	0.0%
Engineering Technicians, Except Drafters, All Other	AA	170	197	27	157	183	\$41.77	0.1%
First-Line Supervisors of Police and Detectives	HS	457	560	103	300	403	\$41.18	0.2%
Nuclear Technicians	AA	16	17	1	19	20	\$40.67	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	631	734	103	608	711	\$39.67	0.3%
Aerospace Engineering and Operations Technicians	AA	53	55	2	46	48	\$38.96	0.0%
Radiation Therapists	AA	20	26	7	11	17	\$38.24	0.0%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	208	247	39	148	186	\$38.04	0.1%
Artists and Related Workers, All Other	NoED	25	29	4	21	25	\$36.46	0.0%
Lodging Managers	HS	33	43	9	38	47	\$36.34	0.0%
Nuclear Medicine Technologists	AA	25	29	4	14	18	\$35.70	0.0%
Power Plant Operators	HS	15	16	1	13	15	\$35.62	0.0%
Farmers, Ranchers, and Other Agricultural Managers	HS	11	13	2	9	11	\$35.46	0.0%
Computer Network Support Specialists	AA	845	946	101	645	746	\$34.66	0.3%
Postmasters and Mail Superintendents	HS	21	22	2	15	17	\$34.61	0.0%
Radio, Cellular, and Tower Equipment Installers and Repairs	AA	26	34	8	31	39	\$34.26	0.0%
Boilermakers	HS	11	17	6	14	20	\$34.01	0.0%

Source: Emsi 2017.3.

Mayor's Office of Employment Development

(Workforce Development Board for Baltimore City)

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	384,771		29,564		355,207
Family-Supporting Openings	55,557		3,109		52,448

The Mayor's Office of Employment Development (MOED) coordinates and directs workforce development initiatives responsive to the needs of Baltimore City employers and job seekers to strengthen and promote the local economy.

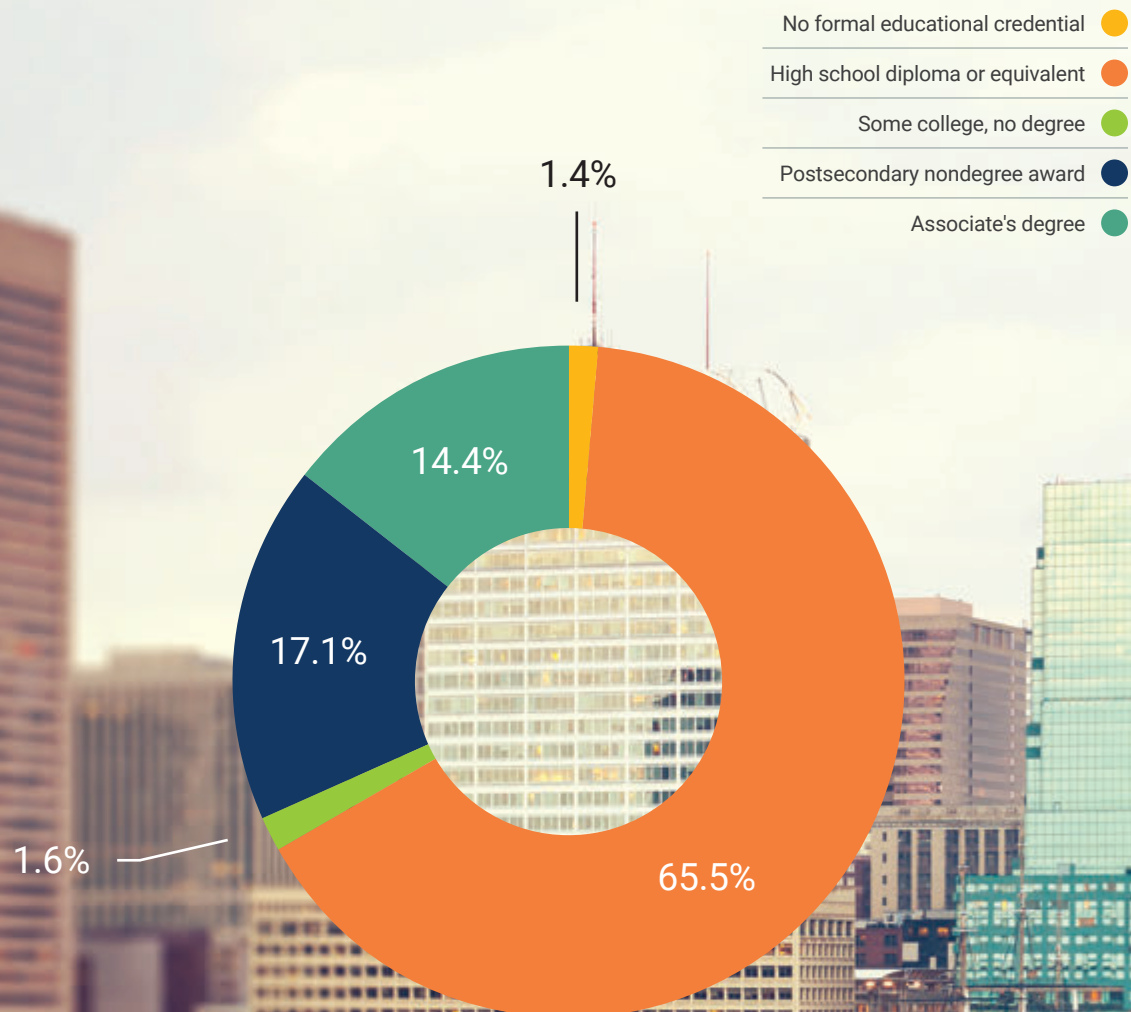
Family-supporting jobs in Baltimore City constitute 14.4 percent of total demand, or 55,557 jobs, the second highest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (65.5 percent), postsecondary non-degree award (17.1 percent) and associate's degree (14.4 percent) predominate.

Tables 30B and 30C list the top 25 family-supporting occupations in Baltimore City by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative support workers, sales representatives (services), heavy and tractor trailer truck drivers, paralegals and legal assistants and licensed practical and licensed vocational nurses. Those five occupations comprise 27.6 percent of the total demand for family-supporting jobs in Baltimore City from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: BALTIMORE CITY





Baltimore City: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

153 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE CITY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	5,352	5,601	249	5,291	5,539	\$29.80	2.3%
Sales Representatives, Services, All Other	HS	2,535	2,631	96	3,038	3,134	\$27.69	1.3%
Heavy and Tractor-Trailer Truck Drivers	HS+	2,693	2,784	91	2,867	2,959	\$23.12	1.2%
Paralegals and Legal Assistants	AA	1,613	1,797	184	1,695	1,880	\$28.78	0.8%
Licensed Practical and Licensed Vocational Nurses	HS+	1,997	2,297	301	1,495	1,796	\$25.32	0.8%
Executive Secretaries and Executive Administrative Assistants	HS	1,735	1,709	(26)	1,818	1,793	\$31.47	0.8%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	1,493	1,518	25	1,496	1,520	\$26.13	0.6%
Police and Sheriff's Patrol Officers	HS	2,672	2,508	(164)	1,616	1,452	\$31.84	0.6%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	1,297	1,417	119	1,284	1,403	\$31.26	0.6%
Plumbers, Pipefitters, and Steamfitters	HS	996	1,204	208	1,133	1,341	\$28.32	0.6%
Electricians	HS	994	1,164	170	1,168	1,338	\$25.03	0.6%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	1,115	1,149	35	948	983	\$30.62	0.4%
Computer User Support Specialists	SC	1,056	1,165	109	797	906	\$24.42	0.4%
Operating Engineers and Other Construction Equipment Operators	HS	650	772	122	765	887	\$24.11	0.4%
Medical Records and Health Information Technicians	HS+	1,084	1,272	188	693	882	\$23.28	0.4%
Information and Record Clerks, All Other	HS	565	655	90	678	768	\$22.63	0.3%
First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand	HS	559	678	119	633	752	\$23.66	0.3%
First-Line Supervisors of Production and Operating Workers	HS	825	796	(29)	776	747	\$29.46	0.3%
Radiologic Technologists	AA	1,095	1,240	146	594	740	\$31.85	0.3%
Captains, Mates, and Pilots of Water Vessels	HS+	385	612	226	502	728	\$41.02	0.3%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	670	703	33	695	728	\$29.36	0.3%
Production, Planning, and Expediting Clerks	HS	590	674	84	633	717	\$23.79	0.3%
Surgical Technologists	HS+	693	813	120	578	699	\$24.22	0.3%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	511	642	130	547	677	\$28.88	0.3%
Claims Adjusters, Examiners, and Investigators	HS	786	801	15	639	654	\$35.78	0.3%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Baltimore City: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

153 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE CITY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Air Traffic Controllers	AA	12	18	6	14	20	\$52.88	0.0%
Media and Communication Equipment Workers, All Other	HS	78	89	11	76	86	\$47.48	0.0%
Detectives and Criminal Investigators	HS	147	165	18	96	114	\$47.21	0.0%
Transportation, Storage, and Distribution Managers	HS	236	288	52	198	250	\$46.95	0.1%
Commercial Pilots	HS	41	39	(1)	37	35	\$45.13	0.0%
First-Line Supervisors of Police and Detectives	HS	811	766	(45)	462	417	\$43.72	0.2%
Funeral Service Managers	AA	31	23	(8)	18	10	\$42.63	0.0%
Lodging Managers	HS	40	41	1	40	41	\$42.24	0.0%
Radiation Therapists	AA	88	104	16	44	60	\$41.18	0.0%
Captains, Mates, and Pilots of Water Vessels	HS+	385	612	226	502	728	\$41.02	0.3%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	371	337	(33)	228	194	\$40.85	0.1%
First-Line Supervisors of Non-Retail Sales Workers	HS	523	500	(23)	451	429	\$39.72	0.2%
Nuclear Medicine Technologists	AA	118	125	7	62	69	\$39.53	0.0%
Artists and Related Workers, All Other	NoED	24	28	4	20	24	\$38.89	0.0%
Dental Hygienists	AA	270	354	84	184	268	\$38.67	0.1%
Engineering Technicians, Except Drafters, All Other	AA	163	186	23	148	171	\$38.44	0.1%
Power Plant Operators	HS	117	146	29	116	146	\$38.41	0.1%
Ship Engineers	HS+	53	92	38	86	124	\$37.45	0.1%
Power Distributors and Dispatchers	HS	45	39	(7)	36	30	\$37.40	0.0%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	162	144	(18)	132	115	\$36.92	0.0%
Elevator Installers and Repairers	HS	67	78	11	83	94	\$36.78	0.0%
Magnetic Resonance Imaging Technologists	AA	235	261	26	126	152	\$36.58	0.1%
Nuclear Technicians	AA	27	27	1	31	32	\$36.03	0.0%
Claims Adjusters, Examiners, and Investigators	HS	786	801	15	639	654	\$35.78	0.3%
Postmasters and Mail Superintendents	HS	33	21	(12)	18	6	\$35.59	0.0%

Source: Emsi 2017.3.

Baltimore County Department of Economic and Workforce Development

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	472,665		46,647		426,019
Family-Supporting Openings	61,050		6,016		55,034

Baltimore County’s comprehensive workforce development system serves the local business community by connecting employers with the talent they need to compete in today’s global economy.

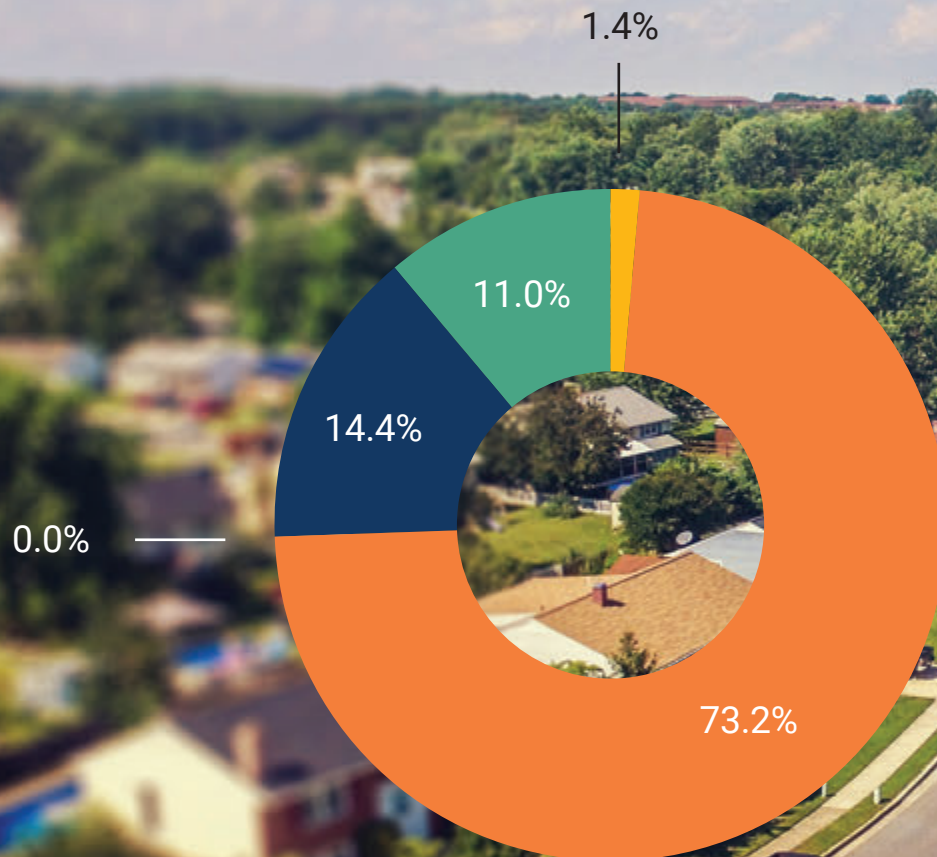
Family-supporting jobs in Baltimore County constitute 12.9 percent of total demand, or 61,050 jobs, the fourth-highest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (73.2 percent), postsecondary non-degree award (14.4 percent) and associate’s degree (11.0 percent) predominate.






Tables 31B and 31C list the top 25 family-supporting occupations in Baltimore County by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative support workers, sales representatives (services), insurance sales agents, sales representatives (wholesale and manufacturing) and licensed practical and licensed vocational nurses. Those five occupations comprise 31.2 percent of the total demand for family-supporting workers in the county from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: BALTIMORE COUNTY



- No formal educational credential 
- High school diploma or equivalent 
- Some college, no degree 
- Postsecondary nondegree award 
- Associate's degree 



Baltimore County: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

142 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	5,566	6,119	553	5,654	6,207	\$27.27	2.6%
Sales Representatives, Services, All Other	HS	4,002	4,164	163	4,806	4,969	\$25.45	2.1%
Insurance Sales Agents	HS	2,090	2,589	499	2,209	2,707	\$24.92	1.1%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	2,281	2,542	260	2,405	2,666	\$26.95	1.1%
Licensed Practical and Licensed Vocational Nurses	HS+	2,313	2,960	647	1,835	2,483	\$24.34	1.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	2,241	2,473	232	2,231	2,464	\$30.88	1.0%
Automotive Service Technicians and Mechanics	HS+	2,108	2,466	358	2,101	2,458	\$22.44	1.0%
Plumbers, Pipefitters, and Steamfitters	HS	1,771	2,061	291	1,971	2,262	\$26.18	0.9%
Executive Secretaries and Executive Administrative Assistants	HS	1,278	1,401	123	1,421	1,544	\$27.45	0.6%
Claims Adjusters, Examiners, and Investigators	HS	1,781	1,788	6	1,444	1,450	\$34.66	0.6%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	1,423	1,583	160	1,261	1,421	\$30.03	0.6%
Electricians	HS	1,598	1,272	(325)	1,536	1,210	\$24.51	0.5%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	856	1,077	222	917	1,138	\$26.63	0.5%
Police and Sheriff's Patrol Officers	HS	1,511	1,625	114	982	1,097	\$30.36	0.5%
Operating Engineers and Other Construction Equipment Operators	HS	711	864	153	848	1,001	\$23.33	0.4%
Paralegals and Legal Assistants	AA	1,029	967	(63)	990	927	\$23.31	0.4%
First-Line Supervisors of Production and Operating Workers	HS	850	855	5	817	821	\$28.37	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	843	887	44	768	812	\$36.73	0.3%
Computer Network Support Specialists	AA	1,018	998	(19)	722	703	\$29.99	0.3%
Information and Record Clerks, All Other	HS	573	595	22	648	670	\$22.96	0.3%
Industrial Machinery Mechanics	HS	573	692	119	536	655	\$24.73	0.3%
Automotive Body and Related Repairers	HS	512	628	116	536	652	\$25.64	0.3%
Massage Therapists	HS+	394	539	145	470	615	\$23.24	0.3%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	496	551	55	529	585	\$26.74	0.2%
Medical Records and Health Information Technicians	HS+	723	845	122	461	584	\$22.51	0.2%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Baltimore County: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

142 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Air Traffic Controllers	AA	16	20	4	17	21	\$59.36	0.0%
Detectives and Criminal Investigators	HS	121	127	6	77	83	\$50.63	0.0%
Media and Communication Equipment Workers, All Other	HS	98	97	(1)	88	87	\$48.61	0.0%
Commercial Pilots	HS	64	71	7	62	69	\$46.52	0.0%
Transportation, Storage, and Distribution Managers	HS	187	201	14	146	159	\$43.28	0.1%
Dental Hygienists	AA	557	639	82	350	433	\$43.00	0.2%
First-Line Supervisors of Police and Detectives	HS	491	511	20	294	315	\$42.60	0.1%
Funeral Service Managers	AA	70	78	9	51	60	\$39.89	0.0%
Radiation Therapists	AA	33	41	8	17	25	\$39.65	0.0%
Engineering Technicians, Except Drafters, All Other	AA	169	178	9	147	157	\$38.99	0.1%
Captains, Mates, and Pilots of Water Vessels	HS+	56	56	0	56	56	\$38.58	0.0%
Nuclear Medicine Technologists	AA	43	46	3	23	26	\$38.43	0.0%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	267	287	20	179	200	\$37.96	0.1%
Artists and Related Workers, All Other	NoED	29	30	0	23	23	\$36.88	0.0%
Elevator Installers and Repairers	HS	100	28	(71)	68	(3)	\$36.78	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	843	887	44	768	812	\$36.73	0.3%
Postmasters and Mail Superintendents	HS	19	21	2	14	16	\$35.64	0.0%
Farmers, Ranchers, and Other Agricultural Managers	HS	28	30	1	21	23	\$35.46	0.0%
Magnetic Resonance Imaging Technologists	AA	112	124	11	60	71	\$35.07	0.0%
Claims Adjusters, Examiners, and Investigators	HS	1,781	1,788	6	1,444	1,450	\$34.66	0.6%
Healthcare Practitioners and Technical Workers, All Other	HS+	174	196	21	92	114	\$34.48	0.0%
Lodging Managers	HS	20	23	3	21	24	\$34.22	0.0%
Diagnostic Medical Sonographers	AA	183	230	47	105	152	\$33.89	0.1%
Nuclear Technicians	AA	27	32	5	34	39	\$33.84	0.0%
Boilermakers	HS	16	21	4	18	22	\$33.74	0.0%

Source: Emsi 2017.3.

Carroll County Business and Employment Resource Center

(Portion of Mid-Maryland Workforce Development Board)

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	78,010		8,908		69,101
Family-Supporting Openings	7,933		1,030		6,903

The Mid-Maryland Workforce Development Board collaborates with a wide variety of individuals, businesses and organizations. The WDB's primary responsibility is to provide guidance, and oversight to the local workforce development system through the Howard County Office of Workforce Development and Carroll County Business and Employment Resource Center.

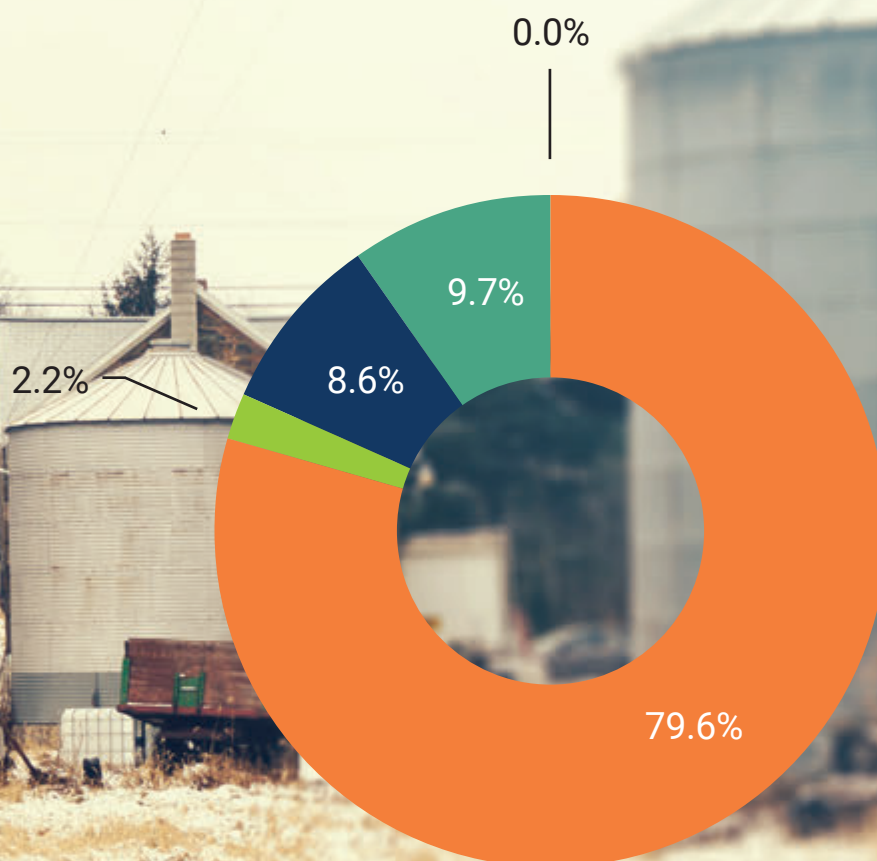
Family-supporting jobs in Carroll County constitute 10.2 percent of total demand, or 7,933 jobs, the lowest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (79.6 percent), associate's degree (9.7 percent), and postsecondary non-degree award (8.6 percent) predominate.

Tables 32B and 32C list the top 25 family-supporting occupations in Carroll County by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative support workers; sales representatives (services); first-line supervisors of construction trades and extraction workers; sales representatives (wholesale and manufacturing); and plumbers, pipefitters and steamfitters. Those five occupations comprise 39.9 percent of the total demand for family-supporting jobs in Carroll County from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: CARROLL COUNTY



- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●



Carroll County: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

77 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	726	821	94	749	843	\$25.34	0.4%
Sales Representatives, Services, All Other	HS	536	590	54	663	717	\$24.47	0.3%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	528	598	70	532	602	\$28.04	0.3%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	495	555	59	525	585	\$26.37	0.2%
Plumbers, Pipefitters, and Steamfitters	HS	370	395	25	392	417	\$23.05	0.2%
Operating Engineers and Other Construction Equipment Operators	HS	239	313	74	298	372	\$23.08	0.2%
Licensed Practical and Licensed Vocational Nurses	HS+	300	392	93	241	334	\$23.70	0.1%
First-Line Supervisors of Production and Operating Workers	HS	212	217	5	206	212	\$29.22	0.1%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	200	228	28	179	207	\$27.81	0.1%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	181	203	22	182	204	\$23.50	0.1%
Police and Sheriff's Patrol Officers	HS	239	277	38	162	200	\$27.48	0.1%
Machinists	HS	148	174	26	161	187	\$25.97	0.1%
Computer User Support Specialists	SC	147	197	50	124	174	\$22.35	0.1%
Executive Secretaries and Executive Administrative Assistants	HS	142	150	8	155	163	\$26.65	0.1%
Industrial Machinery Mechanics	HS	95	125	29	94	123	\$24.43	0.1%
Automotive Body and Related Repairers	HS	90	111	21	95	116	\$25.05	0.0%
Computer Network Support Specialists	AA	117	137	20	91	111	\$31.04	0.0%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	95	104	9	101	110	\$24.94	0.0%
Excavating and Loading Machine and Dragline Operators	HS	77	92	15	91	106	\$23.11	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	102	111	8	95	103	\$35.18	0.0%
Food Service Managers	HS	75	88	13	86	99	\$26.05	0.0%
Dental Hygienists	AA	111	136	25	73	98	\$38.07	0.0%
Mobile Heavy Equipment Mechanics, Except Engines	HS	78	88	10	78	88	\$22.59	0.0%
Postal Service Mail Carriers	HS	136	133	(3)	90	87	\$25.78	0.0%
Paralegals and Legal Assistants	AA	67	79	12	73	85	\$23.31	0.0%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Carroll County: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

77 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Transportation, Storage, and Distribution Managers	HS	21	24	3	17	20	\$39.22	0.0%
First-Line Supervisors of Police and Detectives	HS	64	74	10	41	51	\$38.14	0.0%
Dental Hygienists	AA	111	136	25	73	98	\$38.07	0.0%
Elevator Installers and Repairers	HS	15	17	2	19	21	\$36.78	0.0%
Funeral Service Managers	AA	11	14	2	9	11	\$36.23	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	102	111	8	95	103	\$35.18	0.0%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	44	49	6	30	36	\$34.83	0.0%
Magnetic Resonance Imaging Technologists	AA	13	15	2	7	9	\$31.74	0.0%
Claims Adjusters, Examiners, and Investigators	HS	29	30	1	24	24	\$31.52	0.0%
Farmers, Ranchers, and Other Agricultural Managers	HS	29	36	7	24	31	\$31.45	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	20	23	3	11	14	\$31.04	0.0%
Computer Network Support Specialists	AA	117	137	20	91	111	\$31.04	0.0%
Diagnostic Medical Sonographers	AA	25	32	7	14	21	\$30.63	0.0%
Respiratory Therapists	AA	26	35	9	14	23	\$30.08	0.0%
Cardiovascular Technologists and Technicians	AA	20	25	5	12	17	\$29.77	0.0%
First-Line Supervisors of Production and Operating Workers	HS	212	217	5	206	212	\$29.22	0.1%
Telecommunications Line Installers and Repairers	HS	59	58	(1)	57	56	\$28.70	0.0%
Electrical and Electronics Engineering Technicians	AA	43	48	5	39	44	\$28.65	0.0%
Rail Car Repairers	HS	25	33	7	28	35	\$28.47	0.0%
Occupational Therapy Assistants	AA	16	27	10	26	36	\$28.34	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	17	19	3	15	18	\$28.14	0.0%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	528	598	70	532	602	\$28.04	0.3%
Property, Real Estate, and Community Association Managers	HS	32	30	(1)	23	21	\$27.94	0.0%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	200	228	28	179	207	\$27.81	0.1%
Radiologic Technologists	AA	66	77	11	36	47	\$27.75	0.0%

Source: Emsi 2017.3.

Howard County Office of Workforce Development

(Portion of Mid-Maryland Workforce Development Board)

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	230,497		35,371		195,126
Family-Supporting Openings	42,814		6,661		36,153

In addition to the Carroll County Business and Employment Resource Center, the Mid-Maryland Workforce Development Board provides guidance and oversight to the Howard County Office of Workforce Development.

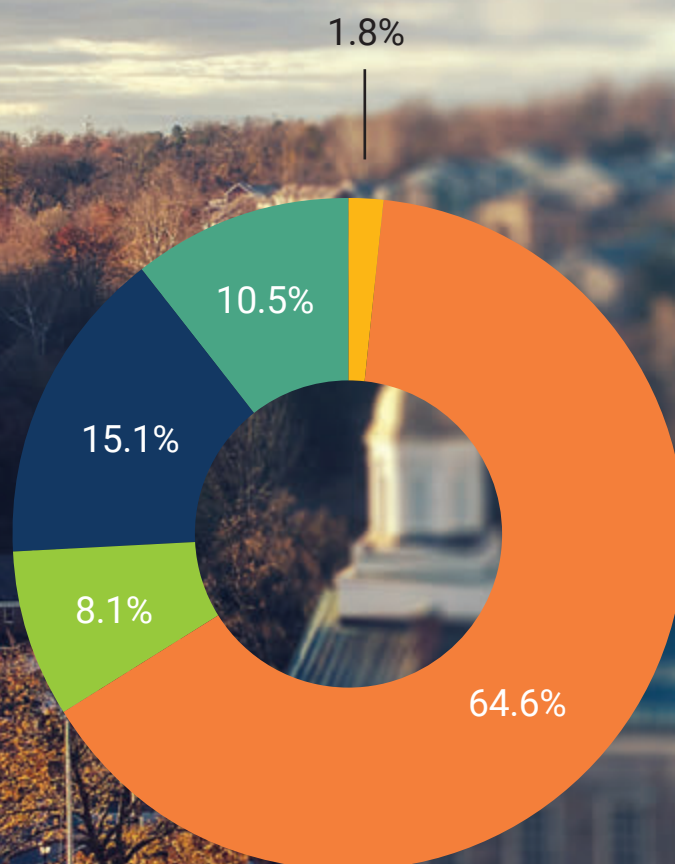
Family-supporting jobs in Howard County constitute 18.6 percent of total demand, or 42,814 jobs, the highest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (64.6 percent), postsecondary non-degree award (15.1 percent) and associate's degree (10.5 percent) predominate.

Tables 33B and 33C list the top 25 family-supporting occupations in Howard County by total hiring demand and median hourly earnings, respectively. High-demand occupations include sales representatives (services); heavy and tractor-trailer truck drivers; first-line supervisors of office and administrative support workers; sales representatives (wholesale and manufacturing); and bookkeeping, accounting and auditing clerks. Those five occupations comprise 34.6 percent of the total demand for family-supporting workers in Howard County from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: HOWARD COUNTY



No formal educational credential

High school diploma or equivalent

Some college, no degree

Postsecondary nondegree award

Associate's degree



Howard County: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026

150 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Sales Representatives, Services, All Other	HS	2,583	2,999	416	3,295	3,711	\$30.21	1.6%
Heavy and Tractor-Trailer Truck Drivers	HS+	2,400	2,886	485	2,784	3,269	\$22.84	1.4%
First-Line Supervisors of Office and Administrative Support Workers	HS	2,555	3,075	519	2,734	3,253	\$29.80	1.4%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	2,065	2,292	226	2,176	2,403	\$29.64	1.0%
Bookkeeping, Accounting, and Auditing Clerks	SC	1,727	1,910	182	2,013	2,195	\$22.43	0.9%
Carpenters	HS	1,229	1,565	336	1,257	1,593	\$25.06	0.7%
Electricians	HS	1,041	1,195	154	1,208	1,362	\$27.36	0.6%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	1,095	1,310	216	1,141	1,357	\$34.61	0.6%
Computer User Support Specialists	SC	1,012	1,414	402	876	1,278	\$25.89	0.5%
Plumbers, Pipefitters, and Steamfitters	HS	710	864	154	811	965	\$26.63	0.4%
Insurance Sales Agents	HS	593	839	246	679	924	\$29.16	0.4%
Executive Secretaries and Executive Administrative Assistants	HS	631	729	98	725	823	\$31.01	0.3%
Computer Network Support Specialists	AA	849	1,001	152	668	820	\$36.02	0.3%
Automotive Service Technicians and Mechanics	HS+	676	792	116	674	790	\$22.99	0.3%
First-Line Supervisors of Non-Retail Sales Workers	HS	614	699	85	585	670	\$43.43	0.3%
First-Line Supervisors of Production and Operating Workers	HS	472	591	119	515	634	\$31.73	0.3%
Licensed Practical and Licensed Vocational Nurses	HS+	457	685	227	399	626	\$24.44	0.3%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	545	626	81	491	572	\$32.60	0.2%
Web Developers	AA	445	627	181	371	552	\$28.01	0.2%
Inspectors, Testers, Sorters, Samplers, and Weighers	HS	325	413	88	437	526	\$23.56	0.2%
Production, Planning, and Expediting Clerks	HS	370	460	90	417	507	\$24.85	0.2%
Police and Sheriff's Patrol Officers	HS	558	659	101	381	483	\$32.49	0.2%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	346	446	100	376	476	\$27.38	0.2%
Cement Masons and Concrete Finishers	NoED	274	377	102	345	447	\$22.61	0.2%
Industrial Machinery Mechanics	HS	291	419	127	302	429	\$27.23	0.2%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Howard County: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings

150 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTY

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Media and Communication Equipment Workers, All Other	HS	12	14	2	12	14	\$52.64	0.0%
Detectives and Criminal Investigators	HS	13	13	1	8	9	\$51.66	0.0%
Commercial Pilots	HS	19	19	0	18	17	\$49.06	0.0%
Transportation, Storage, and Distribution Managers	HS	111	135	24	92	116	\$46.23	0.0%
First-Line Supervisors of Police and Detectives	HS	151	175	24	96	120	\$45.11	0.1%
Engineering Technicians, Except Drafters, All Other	AA	96	121	24	92	117	\$44.28	0.0%
First-Line Supervisors of Non-Retail Sales Workers	HS	614	699	85	585	670	\$43.43	0.3%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	102	123	22	73	95	\$41.70	0.0%
Aerospace Engineering and Operations Technicians	AA	37	47	10	36	46	\$40.75	0.0%
Dental Hygienists	AA	246	348	102	175	277	\$40.43	0.1%
Nuclear Technicians	AA	23	25	2	28	30	\$39.81	0.0%
Elevator Installers and Repairers	HS	33	42	9	43	53	\$39.69	0.0%
Funeral Service Managers	AA	12	12	0	8	8	\$38.08	0.0%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	12	12	0	10	10	\$36.89	0.0%
Nuclear Medicine Technologists	AA	10	13	3	6	9	\$36.44	0.0%
Computer Network Support Specialists	AA	849	1,001	152	668	820	\$36.02	0.3%
Lodging Managers	HS	11	13	1	12	13	\$35.49	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	50	67	17	30	47	\$34.81	0.0%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	HS+	85	93	8	77	84	\$34.74	0.0%
Electrical and Electronics Engineering Technicians	AA	390	432	42	350	392	\$34.71	0.2%
Claims Adjusters, Examiners, and Investigators	HS	339	359	20	283	302	\$34.64	0.1%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	1,095	1,310	216	1,141	1,357	\$34.61	0.6%
Property, Real Estate, and Community Association Managers	HS	237	287	51	196	247	\$34.49	0.1%
Telecommunications Line Installers and Repairers	HS	225	212	(13)	211	198	\$34.38	0.1%
Aircraft Mechanics and Service Technicians	HS+	14	19	5	12	18	\$33.21	0.0%

Source: Emsi 2017.3.

Susquehanna Workforce Network

(Workforce Development Board for Cecil and Harford Counties)

TOTAL HIRING DEMAND 2016–2026

	Total Demand	=	New Jobs	+	Separations
All Openings	170,415		23,185		147,230
Family-Supporting Openings	20,510		3,169		17,341

The Susquehanna Workforce Network, Inc. (SWN) is a private, nonprofit corporation directed by a Board that oversees, coordinates, or plans workforce development programs and services for businesses and individuals in Cecil and Harford Counties. SWN seeks to identify needs and develop solutions that maximize regional economic success and worker potential.

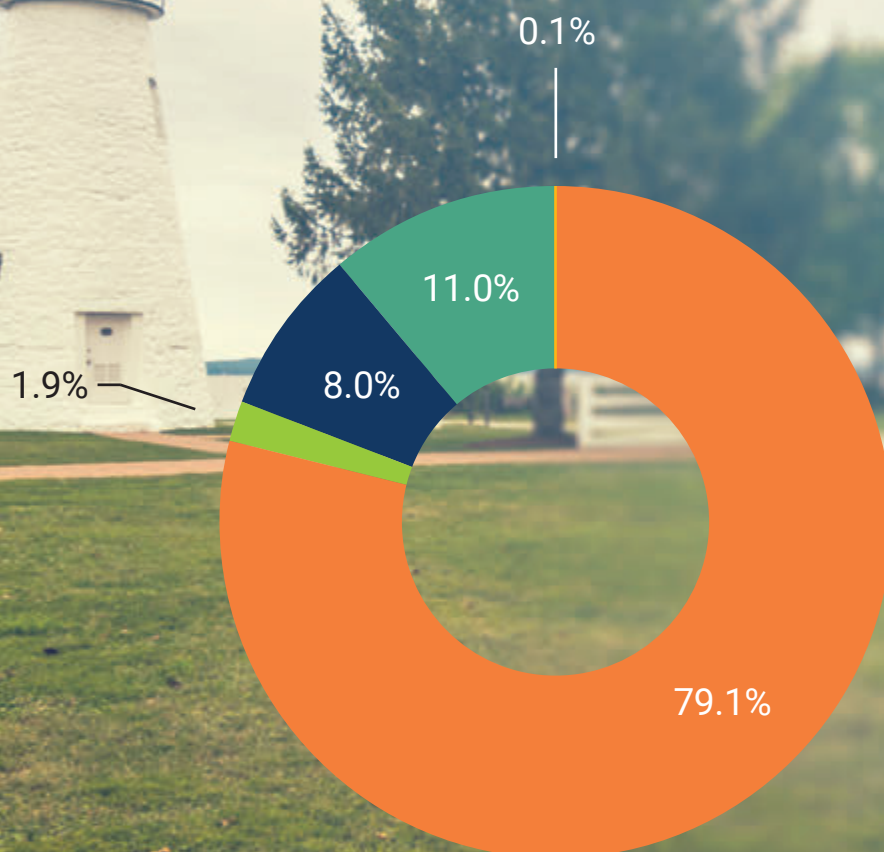
Family-supporting jobs in Cecil and Harford Counties constitute 12.0 percent of total demand, or 20,510 jobs, the second lowest share in the region. Of jobs qualifying as family-supporting, occupations with a typical entry-level education of a high school diploma (79.1 percent), associate's degree (11.0 percent) and postsecondary non-degree award (8.0 percent) predominate.

Tables 34B and 34C list the top 25 family-supporting occupations in the counties by total hiring demand and median hourly earnings, respectively. High-demand occupations include first-line supervisors of office and administrative workers, sales representatives (services), sales representatives (wholesale and manufacturing), electricians, and first-line supervisors of construction trades and extraction workers. Those five occupations comprise 30.6 percent of the total demand for family-supporting workers in Cecil and Harford Counties from 2016 to 2026.



Share of Demand for Family-Supporting Jobs (2016–2026)

BY TYPICAL ENTRY-LEVEL EDUCATION: CECIL COUNTY AND HARFORD COUNTY



- No formal educational credential ●
- High school diploma or equivalent ●
- Some college, no degree ●
- Postsecondary nondegree award ●
- Associate's degree ●



Cecil County and Harford County: Top 25 Family-Supporting Occupations, Sorted by Total Demand 2016–2026
121 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTIES

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
First-Line Supervisors of Office and Administrative Support Workers	HS	1,603	1,902	300	1,702	2,001	\$26.29	0.8%
Sales Representatives, Services, All Other	HS	971	1,174	202	1,269	1,471	\$25.13	0.6%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	HS	687	926	240	809	1,048	\$25.11	0.4%
Electricians	HS	661	809	148	795	944	\$22.90	0.4%
First-Line Supervisors of Construction Trades and Extraction Workers	HS	667	790	123	690	813	\$29.50	0.3%
First-Line Supervisors of Production and Operating Workers	HS	597	706	109	630	739	\$31.19	0.3%
Licensed Practical and Licensed Vocational Nurses	HS+	502	638	136	398	535	\$23.83	0.2%
First-Line Supervisors of Mechanics, Installers, and Repairers	HS	500	566	66	448	513	\$30.37	0.2%
Claims Adjusters, Examiners, and Investigators	HS	557	594	38	468	506	\$35.75	0.2%
Plumbers, Pipefitters, and Steamfitters	HS	386	457	71	434	505	\$23.66	0.2%
Information and Record Clerks, All Other	HS	410	414	4	458	462	\$22.93	0.2%
Operating Engineers and Other Construction Equipment Operators	HS	313	389	76	379	455	\$23.25	0.2%
Police and Sheriff's Patrol Officers	HS	491	559	68	330	398	\$28.85	0.2%
Computer User Support Specialists	SC	319	439	120	274	393	\$22.50	0.2%
Industrial Machinery Mechanics	HS	272	379	107	278	385	\$25.61	0.2%
Executive Secretaries and Executive Administrative Assistants	HS	265	298	33	299	332	\$27.30	0.1%
First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators	HS	244	294	49	274	324	\$26.03	0.1%
Correctional Officers and Jailers	HS	271	345	74	247	320	\$22.91	0.1%
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	HS+	228	281	53	242	294	\$24.46	0.1%
Welders, Cutters, Solderers, and Brazers	HS	204	256	52	242	294	\$22.96	0.1%
Computer Network Support Specialists	AA	243	306	63	199	261	\$30.32	0.1%
Machinists	HS	196	238	41	217	259	\$24.11	0.1%
Paralegals and Legal Assistants	AA	215	229	14	222	235	\$23.49	0.1%
Electrical and Electronics Engineering Technicians	AA	226	251	25	203	228	\$28.94	0.1%
Mobile Heavy Equipment Mechanics, Except Engines	HS	176	203	28	179	206	\$24.23	0.1%

Source: Emsi 2017.3.

Note: For Typical Entry-Level of Education Categories: NoED = No formal educational credential; HS = High school diploma or equivalent; HS+ = Postsecondary nondegree award; SC = Some college, no degree; AA = Associate's degree.



Cecil County and Harford County: Top 25 Family-Supporting Occupations, Sorted by Median Hourly Earnings
121 TOTAL FAMILY-SUPPORTING OCCUPATIONS IN THE COUNTIES

Occupation	Typical Entry-Level Education	2016 Jobs	2026 Jobs	New Jobs	Hiring from Separations	Total Demand	Median Hourly Earnings	Share of All FSJ Demand
Air Traffic Controllers	AA	29	27	(2)	26	24	\$56.21	0.0%
Media and Communication Equipment Workers, All Other	HS	55	59	4	52	55	\$50.12	0.0%
Detectives and Criminal Investigators	HS	84	103	18	59	77	\$49.75	0.0%
Transportation, Storage, and Distribution Managers	HS	135	165	30	114	144	\$43.43	0.1%
Commercial Pilots	HS	16	23	7	18	25	\$43.11	0.0%
Dental Hygienists	AA	203	239	36	130	166	\$42.49	0.1%
First-Line Supervisors of Police and Detectives	HS	182	199	17	112	129	\$41.37	0.1%
Engineering Technicians, Except Drafters, All Other	AA	89	94	6	78	84	\$40.01	0.0%
Nuclear Medicine Technologists	AA	15	17	2	8	10	\$37.89	0.0%
Funeral Service Managers	AA	16	24	8	14	22	\$37.70	0.0%
Aerospace Engineering and Operations Technicians	AA	29	23	(6)	22	16	\$36.24	0.0%
First-Line Supervisors of Fire Fighting and Prevention Workers	HS+	87	96	9	59	68	\$36.06	0.0%
Claims Adjusters, Examiners, and Investigators	HS	557	594	38	468	506	\$35.75	0.2%
First-Line Supervisors of Non-Retail Sales Workers	HS	170	207	37	168	205	\$35.67	0.1%
Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	HS+	12	13	1	11	12	\$35.45	0.0%
Elevator Installers and Repairers	HS	14	14	0	16	16	\$35.35	0.0%
Artists and Related Workers, All Other	NoED	18	21	2	15	17	\$35.29	0.0%
Captains, Mates, and Pilots of Water Vessels	HS+	35	74	39	55	94	\$34.53	0.0%
Magnetic Resonance Imaging Technologists	AA	27	32	5	15	20	\$34.28	0.0%
Healthcare Practitioners and Technical Workers, All Other	HS+	64	72	7	34	41	\$33.95	0.0%
Lodging Managers	HS	16	19	3	17	20	\$33.07	0.0%
Diagnostic Medical Sonographers	AA	49	66	17	29	46	\$33.02	0.0%
Farmers, Ranchers, and Other Agricultural Managers	HS	68	78	10	54	64	\$32.03	0.0%
Respiratory Therapists	AA	66	84	18	34	53	\$31.70	0.0%
Petroleum Pump System Operators, Refinery Operators, and Gaugers	HS	14	13	(1)	13	12	\$31.42	0.0%

Source: Emsi 2017.3.



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