



*State of Hawai'i*

**EMPLOYMENT  
FORECASTS**  
*for the*  
**SHORT-TERM  
FUTURE**

**1ST QUARTER 2019**



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# Introduction

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*Employment Forecasts for the Short-Term Future* is produced annually and provides short-term industry and occupational forecasts for the State of Hawai‘i. The projections use actual first quarter 2017 employment as the base year and employment is forecasted out to the first quarter of 2019.

This report presents employment forecasts for industries and occupations beginning with highlights that reveal an overall snapshot of the economy at a broad level. Both industry and occupational forecasts are discussed at the broad and a more detailed level. The charts illustrate the amount and percent of growth, as well as projected job openings. Included again this year is a table of the Top 25 “Hot Jobs” featuring occupations with the best overall outlook using a combined average ranking of job growth and openings.

Job openings are categorized by the U.S. Department of Labor’s Bureau of Labor Statistics (BLS) in terms of education, experience, and training levels.

This year, the U.S. Department of Labor’s Bureau of Labor Statistics (BLS) introduced a new methodology to calculate job openings due to separations. More information on this is included in the Methodology section.

The information in this report may be used by students and jobseekers who are making career decisions; education and training program planners who develop specific occupational training programs; job placement specialists who help people find employment; counselors who assist individuals in selecting careers; managers who design, evaluate, and direct employment and training programs; policy decision makers who develop short-range to long-range personnel policies; and employers who need information to help them plan the expansion or relocation of their businesses.

Prior to using the employment forecasts in this publication, it is important to understand the methodology used to develop these projections and note the limitations of the data.

## Methodology

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Industry employment is obtained from the Hawai‘i State Department of Labor and Industrial Relations’ Quarterly Census of Employment and Wages (QCEW) and Current Employment Statistics (CES) surveys. Monthly employment was compiled from January 1990 to March 2017. The 2012 Census of Agriculture, conducted every five years, was used to estimate farming employment.

Industry employment forecasts were produced using the Short-term Industry Projections software system. The system uses a state leading index, a combination of selected variables that helps predict changes in employment. National economic variables were provided with the system and state variables included civilian labor force, unemployment rate, average weekly hours and earnings, general

fund revenues, transient accommodations tax, building permits, visitor arrivals, and retail sales. The system uses a series of statistical models to project employment and a forecast is chosen based on established statistical methodology. The forecasts were adjusted based on current industry employment trends and near future economic events.

Staffing patterns were derived from the May 2016 Occupational Employment Statistics (OES) survey, using the 2010 Standard Occupational Classification (SOC) codes. The pattern was used to divide each industry's employment into different occupations, forming a matrix. Occupational forecasts were generated by the Occupational Projections System software. The system applies occupational change factors to the projected patterns to form a projected matrix. Using national self-employment staffing patterns provided by the Bureau of Labor Statistics, the system generated employment estimates and projections for self-employed people.

The new separations methodology developed by BLS can capture a more accurate picture of the workforce and offers the ability to differentiate between workers who are leaving the labor force entirely and those who are changing jobs and leaving an occupation. There are three types of job openings:

1. Job openings due to **change** are created by employment expansion. It is the difference between projected year employment and base year employment divided by the number of years in the forecast period.
2. Job openings due to **transfers** occur when someone moves from one type

of occupation to another type such as for a promotion or career change.

3. Job openings due to **exits** appear when someone retires or dies.

The total job openings are the sum of job openings due to change, transfers, and exits.

What's the difference between the old replacement methodology and the new separation methodology? The old way reflected primarily people who left their job due to retirement or death. The new methodology accounts for different types of job changes such as changing careers, being promoted into management or completing a retraining program. Therefore, the openings are not comparable from this year to the last. More information on this issue is available online at: [https://www.bls.gov/emp/ep\\_separations.htm](https://www.bls.gov/emp/ep_separations.htm).

Education and training levels are assigned by the Bureau of Labor Statistics. Each detailed occupation is designated with an education, work experience, and on-the-job training level.

#### **Data limitations:**

These forecasts are based on historical employment trends and do not take into account any economic events that occurred after January 2018. Projections should be viewed as indicators of relative magnitude and direction rather than as forecasts of absolute occupational demand. Therefore, it is more meaningful to look at the rate of growth rather than the number projected for employment in the first quarter of 2019. The number of job openings due to change may be more indicative of actual opportunities than the openings due to transfers and exits.

# Highlights

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*The state's economic growth will be led by the leisure and hospitality industry, poised to expand by 3.7 percent, while producing 4,430 new positions. For every job created in accommodations, there will be three new jobs in food services and drinking places.*

*Service occupations will dominate job creation with 5,970 jobs at a 3.1 percent rate of growth. Over half of these new jobs will be food preparation and serving related.*

*An estimated 87,170 total job openings are projected for each year between 2017 and 2019. This will consist of 6,430 jobs generated by economic growth, 45,160 resulting from transfers, and 35,570 due to exits.*

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## FROM AN INDUSTRY PERSPECTIVE . . .

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- **Leisure and hospitality**, Hawai'i's second largest industry, is poised to expand by 3.7 percent. It will lead all industries in job creation with 4,430 positions. About 95 percent of these jobs will be in the accommodations and food services sector. The food services and drinking places will contribute nearly three-fourths of the new positions, with the remainder in accommodations.
- The state's largest industry, **education and health services**, will post 4,010 new jobs as it is projected to increase by 2.8 percent. Health care and social assistance will contribute about 61 percent of these positions, mostly in ambulatory health care services.
- Hawai'i's other large industry - **trade, transportation, and utilities** - will provide 1,960 new jobs, although growing at a slower-than-average rate of 1.6 percent. Nearly 68 percent of these jobs will occur in retail trade, while transportation and warehousing will contribute 32 percent.

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## FROM AN OCCUPATIONAL PERSPECTIVE . . .

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- The largest group, **services**, will lead the state by generating 5,970 new jobs at a faster-than-average growth rate of 3.1 percent during the two-year period. It also will provide the most annual job openings with 31,390. This aggregated group combines five major groups: healthcare support; protective service; food preparation and serving related; building and grounds cleaning and maintenance; and personal care and service. The leading job creator will be the **food preparation and serving related** occupational group, accounting for about 56 percent of the new jobs and a total of 16,410 annual openings.
- **Education, legal, community service, arts, and media** occupations are anticipated to experience above-average growth of 2.2 percent while generating 1,710 new jobs. About 7,990 annual job openings are anticipated. Approximately 69 percent of the new positions will be in **education, training, and library** and a total of 4,930 annual openings are expected.

# Industry Forecasts

**Statewide employment is forecasted to increase by 12,870 jobs or 1.8 percent from 714,250 in the first quarter of 2017 to 727,120 in the first quarter of 2019. Ten-out-of-twelve major industries will experience positive growth.**

## Broad Industry Trends

The projected 1.8 percent growth rate is more conservative than last year's forecast of 2.1 percent as the economy begins to plateau following years of robust recovery. With historically low unemployment and years of strong job growth the result is a labor shortage. However, tourism is still demonstrating strength after surpassing its own record-breaking levels. All but two of the 12 major industry divisions will experience positive growth in the 2017 to 2019 first quarter period (Figure 1). It will be the two smallest industries that will bear the brunt of negative job projections: information; and natural resources and mining.

The state's largest dual industry, **education and health services**, is poised to create 4,010 new jobs for a 2.8 percent increase. This equals 31 percent of the statewide total forecasted jobs. Slightly more than six-out-of-ten jobs will be in the health care and social assistance sector, of which approximately 63 percent will be in ambulatory health care. Educational services will contribute nearly four-out-of-ten new jobs.

The visitor industry will continue to flourish as visitor arrivals continue its upward climb. **Leisure and hospitality** is expected to be the leading job creator with 4,430

new positions, advancing at a 3.7 percent clip. This industry will account for more than one-third of all new jobs statewide. In terms of employment size, this tourism-led industry jumped from third to second in a one-year span. About 95 percent of the job gains will come in the large accommodation and food services sector. This sector will fuel the state's economy by producing 4,200 jobs for a hefty increase of 3.9 percent (Figure 2). A further breakdown of new jobs in this sector has restaurants and bars contributing almost three-fourths and hotels will provide slightly more than one-fourth.

### Education & Health Services: ↑ 4,010 jobs, 2.8%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Health Care & Social Assistance	73,620	76,050	2,430	3.3%
Ambulatory Health	28,160	29,690	1,530	5.4%
Social Assistance	16,440	16,820	390	2.4%
Hospitals	20,610	20,920	310	1.5%
Nursing/Resident Care	8,420	8,620	200	2.4%
Educational Services	67,460	69,040	1,580	2.4%

### Leisure & Hospitality: ↑ 4,430 jobs, 3.7%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Accommodation & Food Services	108,820	113,020	4,200	3.9%
Food Service/Drinks	67,950	71,040	3,090	4.5%
Accommodation	40,870	41,980	1,110	2.7%
Arts, Entertainment, Recreation	12,500	12,720	230	1.8%



The combined industry trio of **trade, transportation, and utilities**, Hawai‘i’s third largest, will grow at a more modest pace of 1.6 percent, while adding 1,960 jobs. The biggest sector in this group, retail trade, will be responsible for almost 68 percent of the industry job growth while generating 1,330 jobs. Food and beverage will drive job creation in this large sector by accounting for a 46 percent share of new jobs. Also contributing significantly to the industry growth are: clothing and accessories stores and general merchandise stores. The transportation and warehousing sector will generate 630 new jobs and account for 32 percent of the industry gains, as air transportation will lead the way with 290 positions. Other areas of job growth include transportation support activities, couriers and messengers, truck transportation,

and scenic and sightseeing transportation. Being a very small industry sector will not prevent utilities from creating 50 new positions. On a negative note, wholesale trade is expected to contract by 50 jobs, despite an increase in nondurable goods merchant wholesalers.

**Trade, Transportation, Utilities:** ↑ 1,960 jobs, 1.6%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Retail Trade	70,420	71,740	1,330	1.9%
Food & Beverage	14,990	15,600	610	4.1%
Clothing & Accessories	11,360	11,730	370	3.3%
General Merchandise	14,210	14,520	310	2.2%
Transportation, Warehousng	28,570	29,200	630	2.2%
Air Transportation	9,390	9,670	290	3.1%
Transportation Support	4,680	4,830	150	3.1%
Couriers & Messengers	1,810	1,930	120	6.6%
Wholesale Trade	17,840	17,790	-50	-0.3%
Utilities	3,740	3,790	50	1.3%

Figure 1

**INDUSTRY EMPLOYMENT AND GROWTH, 2017–2019**

INDUSTRY	EMPLOYMENT		CHANGE (2017-2019)		ANNUAL PERCENT CHANGE
	2017 Q1	2019 Q1	NUMBER	PERCENT	
Total, All Industries	714,250	727,120	12,870	1.8%	0.9%
Education and Health Services	141,080	145,090	4,010	2.8%	1.4%
Leisure and Hospitality	121,320	125,740	4,430	3.7%	1.8%
Trade, Transportation, and Utilities	120,570	122,530	1,960	1.6%	0.8%
Professional and Business Services	81,220	82,200	980	1.2%	0.6%
Government	74,330	74,630	300	0.4%	0.2%
Self Employed	56,720	56,770	50	0.1%	0.0%
Construction	35,770	36,050	280	0.8%	0.4%
Financial Activities	28,020	28,400	380	1.4%	0.7%
Other Services	26,140	26,780	640	2.4%	1.2%
Manufacturing	13,990	14,090	100	0.7%	0.4%
Information	9,000	8,950	-60	-0.7%	-0.3%
Natural Resources and Mining	6,090	5,900	-190	-3.2%	-1.6%

Employment total may not add due to rounding to the nearest ten. Number and percent change is calculated before employment is rounded.



**Professional and business services** should manage to produce 980 new positions even as it expands at a slower-than-average rate of 1.2 percent. While being the largest sector, administrative and support and waste management and remediation services will account for nearly 60 percent or 580 jobs, mostly concentrated in administrative and support services. The smallest sector, management of companies and enterprises, will add about 240 more jobs, while professional, scientific, and technical services is expected to contribute 160 more jobs.

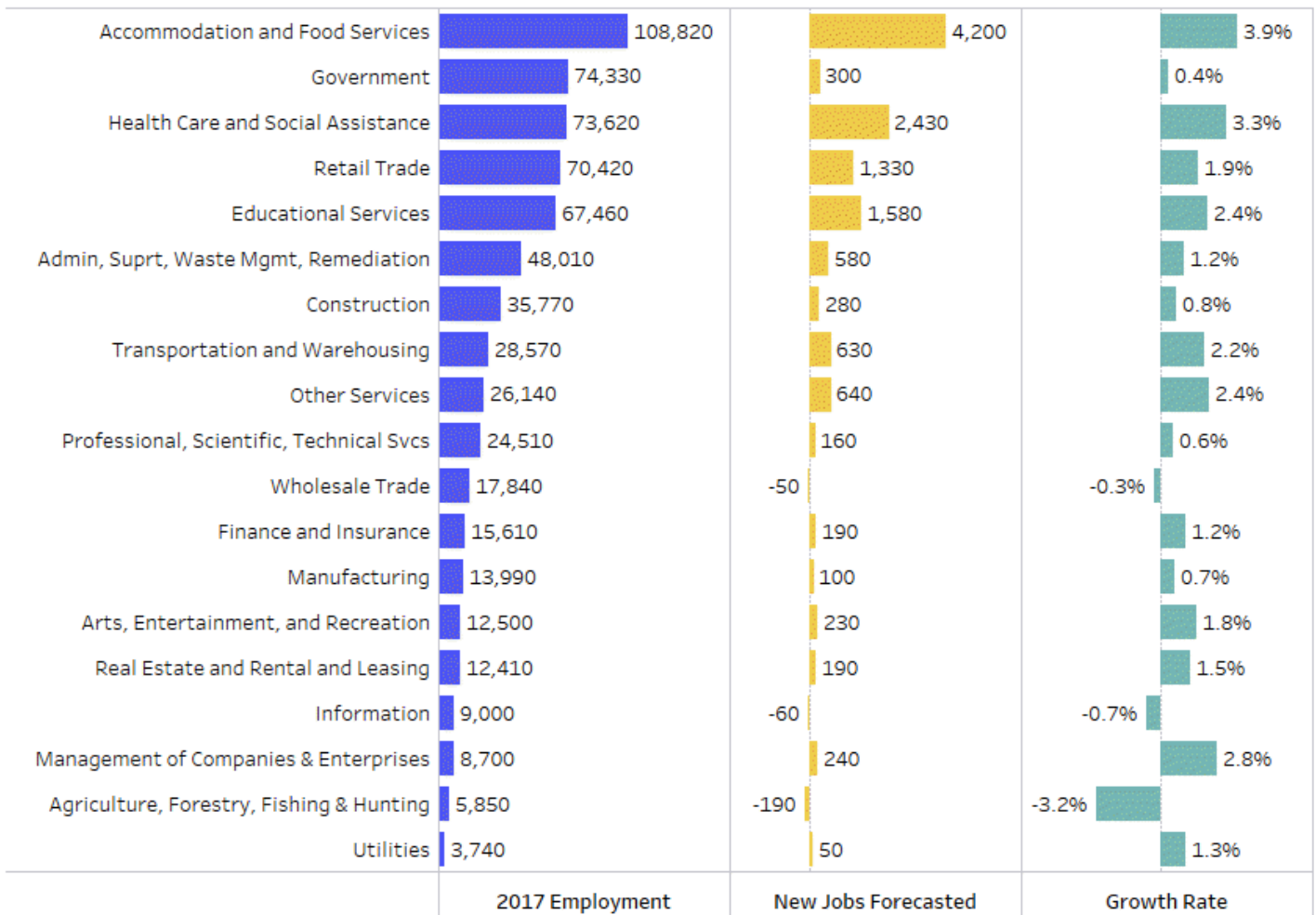
**Professional & Business Svcs:** ↑ 980 jobs, 1.2%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Admin, Support, Waste Mgmt, Remediation Svcs	48,010	48,590	580	1.2%
Admin & Support	45,870	46,360	490	1.1%
Waste & Remediation	2,150	2,240	90	4.1%
Mgmt of Companies	8,700	8,940	240	2.8%
Prof, Sci, Tech Svcs	24,510	24,670	160	0.6%

Although **government** is a sizeable industry in Hawai‘i, it will not be a major player in terms of job creation with only 300 new positions at a 0.4 percent rate of growth.

Figure 2

**INDUSTRY SECTORS, 2017–2019**



State government will add 140 jobs for a 0.6 percent gain, while the federal government could actually post 120 new jobs, improving by 0.4 percent. Meanwhile, local government will benefit from minimal job growth of 30 jobs or 0.2 percent.

**Government:** ↑ 300 jobs, 0.4%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
State Government	22,140	22,280	140	0.6%
Federal Government	33,430	33,560	120	0.4%
Local Government	18,760	18,790	30	0.2%

After five years on a consistent upward trend, the building industry saw employment level off in 2017. **Construction** jobs are predicted to increase by just 280 or 0.8 percent. Over half of the new jobs will occur in specialty trade as this is the largest sector within the industry. There will be more residential building projects combined with public infrastructure work to sustain the industry’s workforce.

**Construction:** ↑ 280 jobs, 0.8%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Specialty Trade	20,650	20,800	150	0.7%
Building Construction	10,690	10,780	90	0.9%
Heavy & Civil Engineering	4,440	4,470	40	0.8%

Employment in the **financial activities** industry will rise by 380 at a rate of 1.4 percent. Job creation will be equally split between the two sectors: finance and insurance; and real estate and rental and leasing services. The insurance carriers will outperform the financial subsectors, while real estate will top rental and leasing services.

**Financial Activities:** ↑ 380 jobs, 1.4%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Finance and Insurance	15,610	15,800	190	1.2%
Insurance Carriers	7,260	7,430	170	2.3%
Credit Intermediation	7,240	7,260	20	0.2%
Real Estate,Rental, Leasing	12,410	12,590	190	1.5%
Real Estate	7,970	8,140	170	2.1%
Rental and Leasing	4,410	4,430	20	0.4%

Meanwhile, **other services** may produce 640 jobs, for a robust 2.4 percent increase. Bolstering this industry will be religious, grantmaking, civic, professional, and similar organizations with 310 new jobs.

**Other Services:** ↑ 640 jobs, 2.4%

Sector	2017 Emp	2019 Emp	New Jobs	Growth Rate
Religious, Similar Orgs	13,120	13,430	310	2.3%
Personal & Laundry	8,530	8,720	190	2.2%
Repair & Maintenance	4,100	4,240	140	3.3%

The **manufacturing** industry may experience a small job increase of around 100 or 0.7 percent. Those manufacturing food or transportation equipment are expected to fare the best.

**Information** is slated to lose 60 positions for a dip of 0.7 percent. The unpredictable motion picture and sound recording industries should enjoy positive job growth, but cutbacks are foreseen in other sectors, especially telecommunications.

The **natural resources and mining** industry will also contract as 190 jobs will be eliminated for a reduction of 3.2 percent. The downturn will be initiated by weakness in crop production while animal production is the only sub-sector to display positive growth.

## Detailed Industry Trends

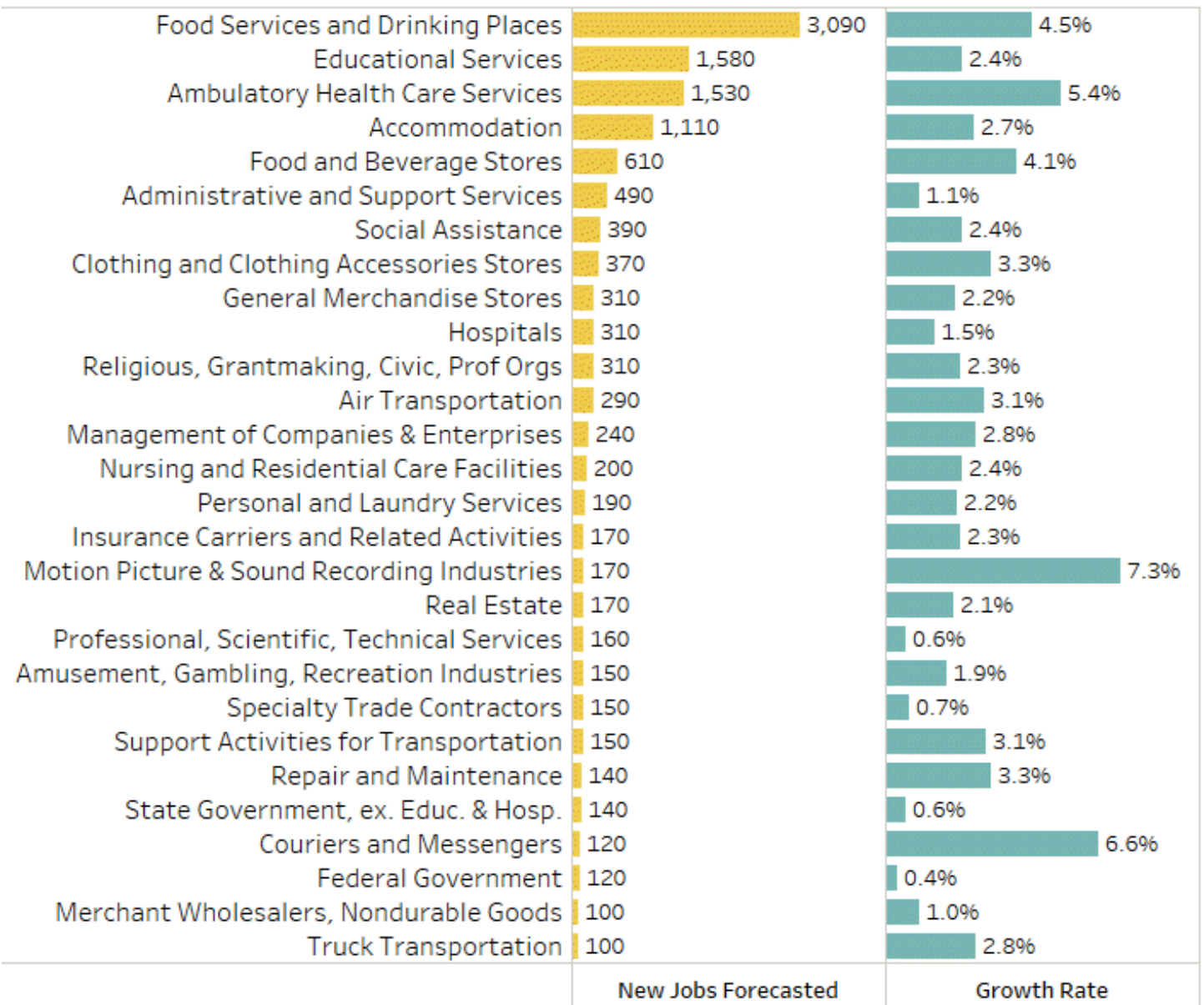
The industry sub-sector anticipated to generate the greatest number of jobs during the 2017 to 2019 period is food services and drinking places (3,090 jobs) by a wide margin (Figure 3). It is the largest of all sub-sectors and is the driving force in the leisure and hospitality industry which is slated to lead the state’s economic expansion

in the coming year. In addition to the sheer number of jobs being created by restaurant and bars, the impressive growth rate of 4.5 percent is significantly faster than the overall statewide rate of 1.8 percent.

Educational services is the second largest sub-sector and the second-best job creator with 1,580 for a 2.4 percent increase. A very close third is ambulatory health services with 1,530 jobs and a 5.4 percent growth rate.

Figure 3

### INDUSTRY SUB-SECTORS, 2017–2019



These two sub-sectors combined to boost the education and health services industry into the second most highest job creator, while being the largest major industry.

Accommodation, although outshined by its food services counterpart, will still experi-

ence significant growth by adding 1,110 jobs.

Rounding out the top five is food and beverage stores with a forecast of 610 jobs. This is a smaller sub-sector which will fuel the retail trade sector with rapid growth of 4.1 percent.

# Occupational Forecasts

**Statewide employment is forecasted to advance by 1.8 percent from 714,250 in the first quarter of 2017 to 727,120 in the first quarter of 2019, creating 12,870 new jobs. On an annual basis, this 0.9 percent increase equals 6,430 new jobs resulting from change. About 45,160 job openings are expected to arise due to transfers and another 35,570 due to exits. The total number of annual job openings is 87,170.**

## Broad Occupational Trends

All but one of the major occupational groups are forecasted to experience positive growth between 2017 and 2019 (Figure 4). Over the 2-year period, service jobs will grow at the fastest rate of 3.1 percent, experience the greatest increase in employment with 5,970, and produce the most annual job openings with 31,390. The only group with a negative forecast is farming, fishing, and forestry with a 3.0 percent decline.

Since the **service** occupational group is by far the largest, it naturally follows that it is the leading job creator, accounting for 36 percent of all job opportunities statewide. The dominant player in this diverse aggregated group and responsible for more than half of the projected openings is food preparation and serving related occupations which include: food and beverage servers; cooks and food preparation workers; and their supervisors. While the restaurant and bar industry sector is expected to flourish, the main benefactors will be the food servers and preparers. The thriving visitor industry will spur the advancement of the building and grounds cleaning and maintenance occupations such as janitors and maids. Personal care and

service occupations will demonstrate moderate job creation, especially for personal care aides, childcare workers, recreation workers, and amusement and recreation attendants. Healthcare support occupations with notable job prospects are nursing assistants, home health aides, and medical assistants. Security guards will be the main source of job opportunities in protective service.

**Service:** ↑ 3.1%, 31,390 openings

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Food Preparation & Serving Related	84,820	88,200	4.0%	16,410
Food & Beverage Serv	41,520	43,290	4.3%	8,730
Cooks & Food Prep	22,670	23,510	3.7%	3,850
Building & Grounds Cleaning & Maintenance	41,360	42,250	2.2%	5,660
Building Cleaning & Pest Control	28,640	29,320	2.4%	4,080
Grounds Maintenance	9,550	9,710	1.7%	1,220
Personal Care & Service	25,010	25,660	2.6%	4,110
Healthcare Support	20,710	21,600	4.3%	2,770
Nursing, Psychiatric, & Home Health Aides	10,430	10,890	4.4%	1,420
Protective Service	21,490	21,660	0.8%	2,450

There will be ample job openings in **office and administrative support** positions, despite it having the lowest projected growth rate of 0.5 percent, simply because the group is quite large. The 10,770 poten-

tial job openings represent 12 percent of the statewide total. Information and record clerks are a primary source of these opportunities accounting for 28 percent of the total, with customer service representatives predicted to have more than one thousand open slots. Other types of clerks contributing to the job openings in this sub-group include receptionists, hotel desk clerks, and reservation and ticket clerks. Almost one-fifth of the openings will be represented by other office and administrative support workers including general office clerks, which is the largest occupation in this group. Material recording, scheduling, and dispatching workers will account for 18 percent of the job openings with the most notable occupation being stock clerks and order fillers. Other groups with at least one

thousand job openings are secretaries and administrative assistants and financial clerks.

**Office and Admin Support:**      **↑ 0.5%, 10,770 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Info & Record Clerks	23,720	24,060	1.4%	3,040
Other Office & Admin. Support Workers	18,120	18,070	-0.2%	2,040
Material Record, Schedule, Dispatch, Dist. Wrks	16,300	16,600	1.8%	1,920
Secretaries, Admin. Assts.	15,800	15,620	-1.1%	1,580
Financial Clerks	12,620	12,630	0.1%	1,370
Supervisors	7,100	7,180	1.1%	730
Comm. Equip. Oper.	870	840	-3.6%	100

With a forecast of 1.1 percent growth, the **sales and related** occupational group, is anticipated to generate 9,730 annual job openings. Retail sales workers will spearhead progress in this group by producing nearly

Figure 4

**OCCUPATIONAL EMPLOYMENT AND GROWTH, 2017–2019**

OCCUPATIONAL GROUP	EMPLOYMENT		CHANGE		ANNUAL AVERAGE OPENINGS			
	2017 Q1	2019 Q1	#	%	CHANGE	TRNSFR	EXIT	TOTAL
<b>Total, All Occupations</b>	<b>714,250</b>	<b>727,120</b>	<b>12,870</b>	<b>1.8%</b>	<b>6,430</b>	<b>45,160</b>	<b>35,570</b>	<b>87,170</b>
Service	193,390	199,360	5,970	3.1%	2,980	15,030	13,380	31,390
Office & Administrative Support	94,520	94,990	480	0.5%	240	5,670	4,860	10,770
Sales & Related	67,270	68,010	740	1.1%	370	5,220	4,140	9,730
Educ., Legal, Comm. Svc., Arts, Media	78,690	80,400	1,710	2.2%	860	3,760	3,370	7,990
Management, Business & Financial	85,360	86,470	1,120	1.3%	560	4,240	2,700	7,500
Transportation & Material Moving	45,120	45,930	810	1.8%	410	3,110	2,270	5,780
Construction & Extraction	41,150	41,500	350	0.9%	170	2,630	1,440	4,240
Installation, Maintenance & Repair	26,290	26,670	380	1.4%	190	1,540	930	2,660
Computer, Engineering & Science	28,520	28,910	390	1.4%	190	1,460	650	2,300
Healthcare Practitioners & Tech.	32,710	33,630	920	2.8%	460	830	880	2,170
Production	16,990	17,130	140	0.8%	70	1,200	800	2,080
Farming, Fishing & Forestry	4,240	4,110	-130	-3.0%	-60	470	150	560

Percent change is calculated based on raw data, before it is rounded to the nearest ten. Total may not add due to rounding.



7,000 openings, mostly for retail salespersons and cashiers. The supervisors will also contribute a modest number of openings.

**Sales & Related: ↑ 1.1%, 9,730 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Retail Sales Workers	42,150	42,730	1.4%	6,990
Supervisors	10,200	10,320	1.2%	1,100
Sales Reps, Services	6,530	6,570	0.7%	750
Sales Reps, Whlsle/Mfg	4,590	4,590	-0.1%	460
Other Sales & Related	3,800	3,790	-0.1%	430

Anticipated to advance by 2.2 percent is **education, legal, community service, arts, and media** occupations with prospective annual openings of 7,990. About 62 percent of these job openings will be in education, training, and library with the emphasis on elementary and secondary school teachers. Teacher assistants and substitute teachers and are also expected to add many openings. Community and social service occupations will contribute nearly 1,400 job openings in areas such as counselors, social workers, and other social service specialists. Another 1,340 openings will occur in the field of arts, design, entertainment, sports, and media in occupations such as entertainers and performers, sports, and related workers.

**Educ, Legal, Comm Svc, Art, Media: ↑ 2.2%, 7,990 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Education, Trng, Library	49,470	50,650	2.4%	4,930
Preschool, Primary, Secondary & Special Ed. School Teachers	17,930	18,330	2.2%	1,510
Postsecondary Teachers	9,150	9,410	2.8%	830
Community & Social Svc.	11,380	11,680	2.7%	1,390
Arts, Design, Entertainmt, Sports, Media	12,850	13,030	1.4%	1,340
Legal	4,990	5,040	0.9%	330

The **management, business, and financial** occupational group is forecasted to undergo slower than average job growth of 1.3 percent yet still will manage to create 7,500 job openings. About 62 percent of these openings will fall in the management field. Top executives such as general and operations managers will play a major part in terms of job creation. On the business and financial operations side, accountants and auditors will generate quite a lot of job openings.

**Management, Business, Financial: ↑ 1.3%, 7,500 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Management	55,770	56,420	1.2%	4,640
Other Management	31,720	31,900	0.6%	2,500
Top Executives	13,970	14,190	1.6%	1,220
Business & Financial Operations	29,590	30,060	1.6%	2,860
Business Operations Specialists	19,590	19,890	1.5%	1,930
Financial Specialists	9,990	10,170	1.8%	930

The **transportation and material moving** occupations is projected to keep pace with the statewide overall growth rate of 1.8 percent and provide 5,780 job openings. Both material moving workers and motor vehicle operators will be major contributors to this group with over 2,000 projected job openings each. Hand laborers and freight, stock, and material movers singlehandedly will experience over 1,000 job opportunities.

**Transportation/Material Moving: ↑ 1.8%, 5,780 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Material Moving	14,600	14,880	1.9%	2,120
Motor Vehicle Operators	17,300	17,550	1.5%	2,030
Air Transportation	4,860	5,030	3.5%	570
Other Transportation	3,880	3,950	1.7%	570
Water Transportation	2,410	2,410	0.0%	260
Supervisors	2,060	2,110	2.3%	240



The construction and extraction occupational group will experience more measured growth than its been accustomed to in the past few years. About 4,240 openings will result from just 0.9 percent improvement. The bulk of employment resides in construction trades workers, which is estimated to add 3,630 slots. Some of the more popular jobs are carpenters, laborers, and electricians.

**Construction & Extraction: ↑ 0.9%, 4,240 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Construction Workers	35,860	36,140	0.8%	3,630
Supervisors	2,720	2,750	1.2%	280
Other Construction	1,590	1,620	1.9%	190
Construction Helpers,	910	910	0.7%	130
Extraction Workers	70	70	0.0%	10

The **installation, maintenance, and repair** group will increase at a slower than average pace of 1.4 percent and produce only 2,660 annual job openings. More than half of the job openings are classified as ‘other’ installation, maintenance, and repair occupations, of which the general maintenance and repair workers are expected to contribute the most openings. Slightly more than a quarter of the openings will be seen in vehicle and mobile equipment mechanics, installers, and repair occupations - especially the automotive service technicians and mechanics.

**Installation, Maint, Repair: ↑ 1.4%, 2,660 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Other Installation, Maintenance, Repair	13,610	13,870	1.9%	1,450
Vehicle & Mobile Equip	7,380	7,490	1.4%	720
Electrical & Electronic Equipment	2,820	2,790	-0.8%	270
Supervisors	2,480	2,520	1.5%	230

Also slated for 1.4 percent job growth is the **computer, engineering, and science** aggregated occupational group along with the addition of 2,300 openings. About 35 percent of these openings will come in the architecture and engineering field with civil engineers benefitting the most. The remaining job opportunities are evenly split between life, physical, and social sciences occupations and computer and mathematical occupations.

**Computer, Engineering, Science: ↑ 1.4%, 2,300 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Architecture & Engineering	10,500	10,600	0.9%	800
Engineers	6,670	6,730	1.0%	480
Drafters, Engineering Technicians, & Mapping Technicians	2,570	2,590	0.9%	230
Life, Physical, Social Sci	7,920	8,050	1.5%	760
Life, Physical, Social Science Technicians	2,210	2,230	1.1%	250
Social Scientists & Related	2,840	2,890	1.8%	240
Computer & Mathematical	10,100	10,270	1.7%	750
Computer Occupations	9,620	9,760	1.5%	700

The **healthcare practitioners and technical** occupational group will post above average job growth with 2.8 percent and 2,170 annual job openings. Nearly 60 percent of these job openings will be found in diagnosing and treating practitioners that includes registered nurses. Meanwhile, the technologists and technicians field will create about 38 percent of job openings, with pharmacy technicians and licensed practical nurses showing the most job prospects.

**Healthcare Practitioners/Technical: ↑ 2.8%, 2,170 openings**

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Diagnosing & Treating Practitioners	21,220	21,830	2.9%	1,270
Technologists & Technicians	10,470	10,750	2.7%	830
Other Practitioners/Tech	1,030	1,060	2.6%	70

## Detailed Occupational Forecasts

The second smallest group is **production** occupations which is forecasted to grow at a slow pace of 0.8 percent and create 2,080 job openings. Food processing workers such as bakers will benefit considerably from this expansion, along with various types of other production workers. Laundry and dry-cleaning workers, under the textile, apparel, and furnishings group, will also display significant progress.

The fastest growing occupations are usually smaller in size and tend to have fewer job openings. The top 25 forecasted to expand the most rapidly range from 3.9 percent to 7.7 percent (Figure 5). Five of these occupations are food preparation and serving related jobs and three are in the healthcare support field.

The top three occupations are health-care related. Atop the list with projected job growth of 7.7 percent are home health aides. It is a moderately sized occupation with 4,350 employment in 2017 and the expected number of annual openings is 670. Coming in with 7.2 percent expected growth is nurse practitioners which is a very small occupation at only 330 employment and 30 job openings. Phlebotomists was third with 6.3 percent growth and 90 openings with employment of 690.

Both personal care aides (4,270 employment) and food preparation and serving workers (13,430 employment) are expected to improve by 5.9 percent, providing 740 and 2,900 job openings, respectively.

Since faster growth doesn't always come with significant job openings, it is also wise to look at occupations projected to have the most annual openings. These jobs tend to be larger in size, but may grow at a slower rate. Job openings can result from employment change and separations from either transfers or exits. The top 25 jobs expected to yield the most openings are dominated by occupations in food preparation and serving related as well as office and administrative support. (Figure 6).

### Production: ↑ 0.8%, 2,080 openings

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Food Processing Workers	3,720	3,840	3.3%	560
Other Production	3,980	4,010	0.6%	490
Textile, Apparel, Furnishing	3,240	3,240	-0.1%	410
Metal Workers & Plastic	1,610	1,620	0.7%	180
Supervisors	1,420	1,450	1.5%	150
Plant & System Operators	1,250	1,250	0.4%	120
Assemblers & Fabricators	850	840	-2.2%	90
Woodworkers	470	480	2.1%	60
Printing Workers	440	410	-7.0%	30

**Farming, fishing, and forestry** is the smallest occupational group and is predicted to shrink further by 3.0 percent as all three sub-groups will experience weakness. However, there is expected to be 560 job openings as people transfer out and leave these occupations.

### Farming, Fishing, Forestry: ↑ -3.0%, 560 openings

Group	2017 Emp	2019 Emp	Growth Rate	Total Job Openings
Agricultural Workers	3,890	3,770	-3.1%	510
Supervisors	210	210	-2.4%	30
Forest, Conservation, & Logging Workers	120	120	-0.8%	20

Retail salespersons, the largest occupation with 23,470 employment, came in first with 3,550 openings, edging out waiters and waitresses which is anticipated to produce 3,530 openings.

Cashiers will account for 3,110 job openings, followed by food preparation and serving workers with 2,900 openings. Ranking fifth on the list is maids and house-keeping cleaners with 2,030 openings.

Three food preparation and serving related occupations made both Top 25 lists: 1) food preparation and serving related work-

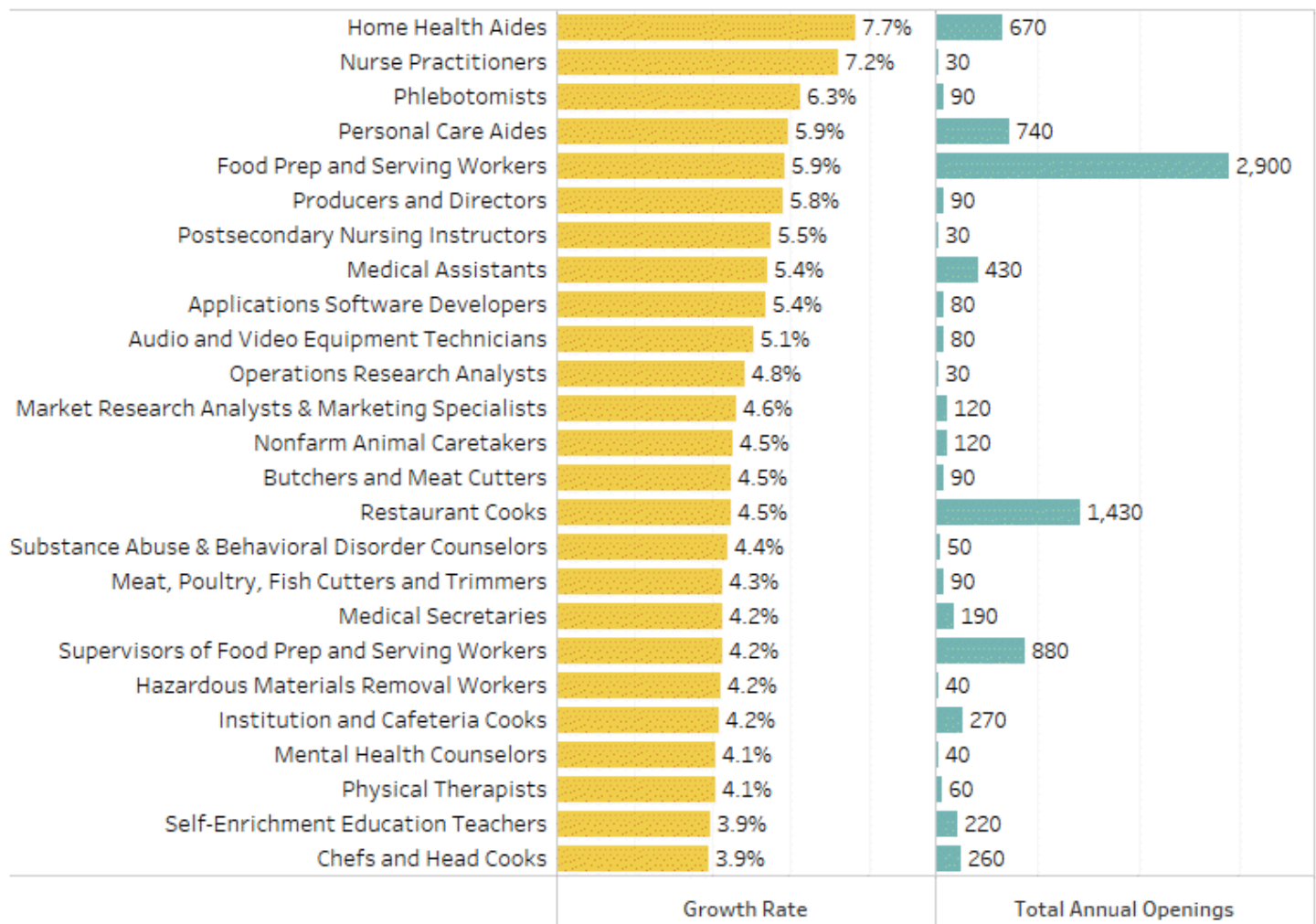
ers; 2) restaurant cooks; and 3) supervisors of food preparation and serving workers.

### Hot Jobs

It is important to know which occupations have the best overall outlook - not just having the most openings, but also possessing strong growth potential. To capture both the growth rate and annual job openings for an occupation, we calculated a combined ranking. First, the occupations are ranked by the greatest number of job openings. Second, the occupations are ranked by

Figure 5

## FASTEST GROWING OCCUPATIONS, 2017-2019



fastest percent growth. Third, the average of the two ranks become the combined ranking. Using this average to sort the list of occupations gave us the Top 25 ‘hot jobs’ with the best combined ranking (Figure 11). In theory, we can look at these occupations and report that they have many job openings as well as strong growth opportunities.

More than three-fourths of the hot jobs are service occupations. More specifically, 12 food preparation and serving related occupations appear on the top 25 list. Food preparation and serving workers

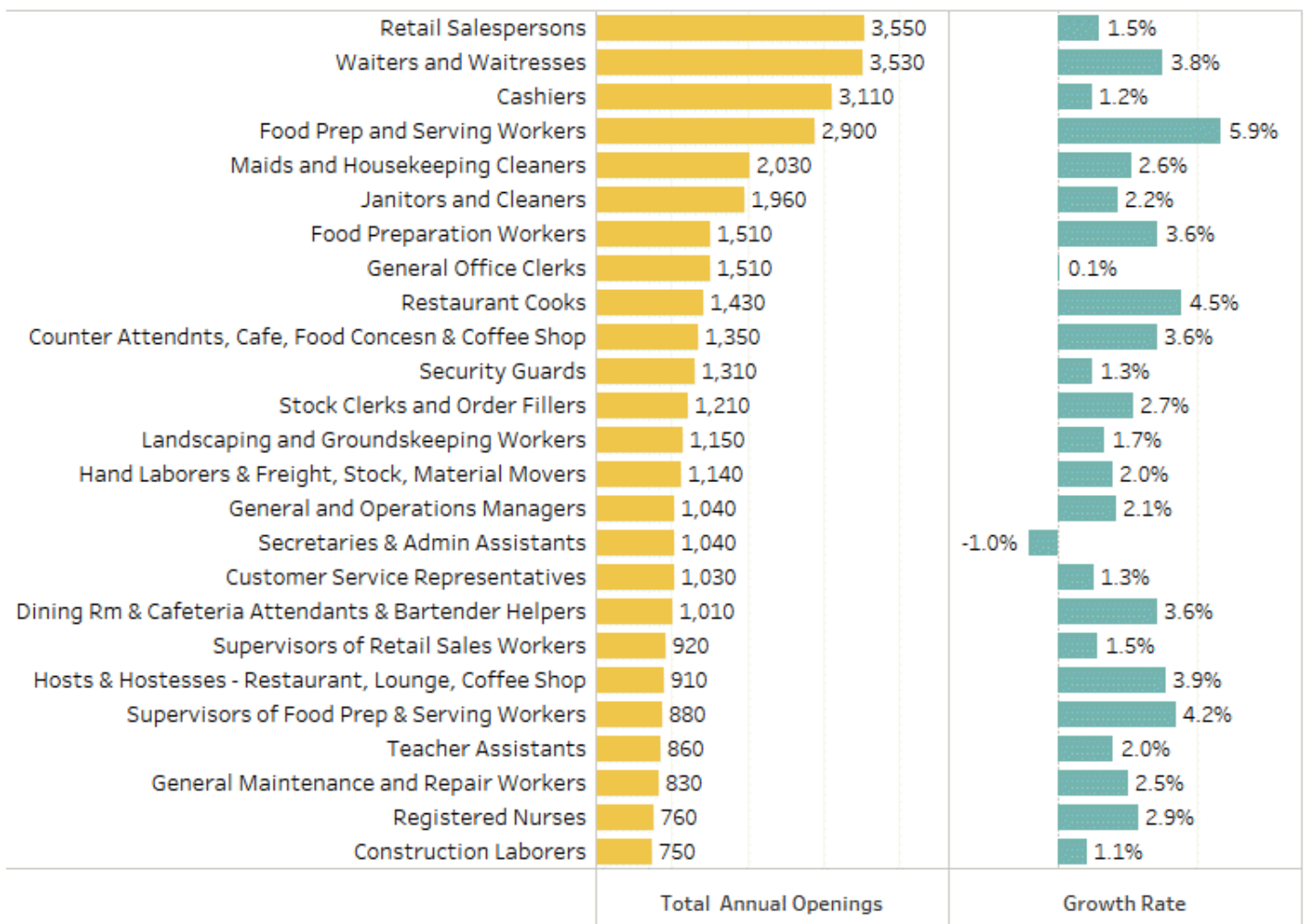
topped the list with 2,900 job openings and a 5.9 percent growth rate.

Other occupations with the most openings include: Waiters and waitresses (3,530); maids and housekeeping cleaners (2,030); food preparation workers (1,510); and restaurant cooks (1,430).

Other occupations with rapid growth rates are: home health aides (7.7 percent); personal care aides (5.9 percent); medical assistants (5.4 percent); and market research analysts and marketing specialists (4.6 percent).

Figure 6

**OCCUPATIONS WITH THE MOST JOB OPENINGS, 2017–2019**



## 25 HOT JOBS BY OPENINGS AND GROWTH RATE, 2017–2019

*Jobs are listed by the lowest average ranking of highest annual openings combined with fastest percent growth.*

OCCUPATIONAL GROUP	EMPLOYMENT		CHANGE		ANNUAL AVERAGE OPENINGS			
	2017 Q1	2019 Q1	#	%	CHANGE	TRNSFR	EXIT	TOTAL
Food Prep & Serving Workers	13,430	14,220	790	5.9	390	1,280	1,220	2,900
Home Health Aides	4,350	4,690	330	7.7	170	230	270	670
Restaurant Cooks	8,730	9,120	390	4.5	190	710	520	1,430
Personal Care Aides	4,270	4,520	250	5.9	130	260	350	740
Waiters and Waitresses	16,800	17,440	630	3.8	320	1,940	1,270	3,530
Supervisors of Food Prep & Serving Workers	5,380	5,610	230	4.2	110	520	250	880
Medical Assistants	3,190	3,360	170	5.4	90	200	140	430
Hosts and Hostesses (Restaurant, Lounge, Coffee Shop)	3,670	3,810	140	3.9	70	410	430	910
Food Preparation Workers	8,080	8,370	290	3.6	150	710	660	1,510
Counter Attendants (Cafeteria, Food Concession & Coffee Shop)	5,700	5,900	200	3.6	100	550	700	1,350
Dining Room & Cafeteria Attendants & Bartender Helpers	5,320	5,510	190	3.6	90	430	480	1,010
Institution and Cafeteria Cooks	1,660	1,730	70	4.2	30	140	100	270
Dishwashers	4,200	4,330	130	3.2	70	340	320	720
Chefs and Head Cooks	1,810	1,890	70	3.9	40	170	60	260
Massage Therapists	2,320	2,400	90	3.7	40	80	150	280
Self-Enrichment Education Teachers	1,700	1,770	70	3.9	30	80	110	220
Medical Secretaries	1,440	1,500	60	4.2	30	80	80	190
Bartenders	3,340	3,440	100	3.0	50	390	160	600
Hotel, Motel, Resort Desk Clerks	2,440	2,520	80	3.2	40	250	140	420
Registered Nurses	11,540	11,870	330	2.9	170	250	340	760
Stock Clerks and Order Fillers	8,570	8,800	230	2.7	120	620	470	1,210
Maids and Housekeeping Cleaners	14,010	14,380	370	2.6	180	790	1,050	2,030
Market Research Analysts & Marketing Specialists	1,020	1,070	50	4.6	20	70	30	120
Nonfarm Animal Caretakers	710	740	30	4.5	20	60	50	120
Dental Assistants	1,630	1,690	60	3.6	30	100	80	210

*Percent change is calculated based on raw data, before it is rounded to the nearest ten.*



# Job Openings by Education and Training

The Bureau of Labor Statistics (BLS) developed a system of education and training classifications. Each occupation is assigned to three categories of preparation based on education, work experience in a related occupation, and on-the-job training. This presents a complete picture of the requirements needed to enter a particular job and to become competent in it. Here are the three dimensions of this classification system:

## **Education** - *typical education needed to enter an occupation.*

- 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
- No formal educational credential

## **Work experience in a related occupation** - *indicates if work experience in a related occupation may be a typical method of entry to an occupation.*

- 5 years or more
- Less than 5 years
- None

## **On-the-Job training** - *indicates typical on-the-job training needed to attain competency in the skills needed in the occupation.*

- Internship/residency
- Apprenticeship
- Long-term on-the-job training
- Moderate-term on-the-job training
- Short-term on-the-job training
- None

Below is a chart of the annual job openings summarized by education, work experience, and job training.

Figure 7

## **JOB OPENINGS BY EDUCATION AND TRAINING LEVELS, 2017-2019**

Category/Levels	Job Openings	% Dist.
<b>Education</b>		
Doctoral/Professional	1,120	1.3%
Master's	1,160	1.3%
Bachelor's	12,610	14.5%
Associate's	1,310	1.5%
Postsecondary	4,040	4.6%
Some college	1,760	2.0%
High School/equiv	30,620	35.2%
None	34,490	39.6%
<b>Work Experience</b>		
5+ years	3,400	3.9%
< 5 years	9,530	10.9%
None	74,180	85.2%
<b>Job Training</b>		
Internship/Residency	620	0.7%
Apprenticeship	1,760	2.0%
Long-term OJT	1,910	2.2%
Moderate-term OJT	11,150	12.8%
Short-term OJT	47,110	54.1%
None	24,560	28.2%

About 18.6 percent of the projected annual job openings require some kind of college degree, including a Bachelor's, which is required for 14.5 percent of openings. Approximately 39.6 percent, don't have any formal education requirement, and 35.2 percent requires only the minimum high school diploma or equivalency. About 4.6 percent require a non-degree postsecondary award, while the remaining 2.0 percent need to complete some college courses.

In addition to the educational qualifications, some of the job openings will require related work experience. About 3.9 percent will require five or more years of work experience in a related job and another 10.9 percent need

less than five years experience. However, 85.2 percent of future job openings do not require any related work experience at all.

Besides education and experience requirements, there may be on-the-job training that is needed to become competent in a particular occupation. An estimated 54.1 percent of the job openings will typically need only short-term on-the-job training. Another 12.8 percent are looking at moderate-term on-the-job training. A smaller percentage of jobs require long-term on-the-job training, 2.2 percent; apprenticeship, 2.0 percent; or internship/residency, 0.7 percent. Meanwhile, 28.2 percent of openings have no job training requirements.