

Occupation Projections

Most high-growth jobs will be in health care for 2016 to 2026

By **PAUL MARTZ**

After almost negligible job growth in 2013 and 2014, Alaska lost roughly 10,000 jobs from 2015 to 2017 when the recession hit, mainly in the oil industry and industries tied to it.

We're set to slowly climb out of the recession, but projected growth will average just 1,700 new jobs per year from 2016 to 2026 — and 510 of those will be in a health care occupation (see exhibits 1 and 3), driven by the demands of an older population as well as overall population increase.

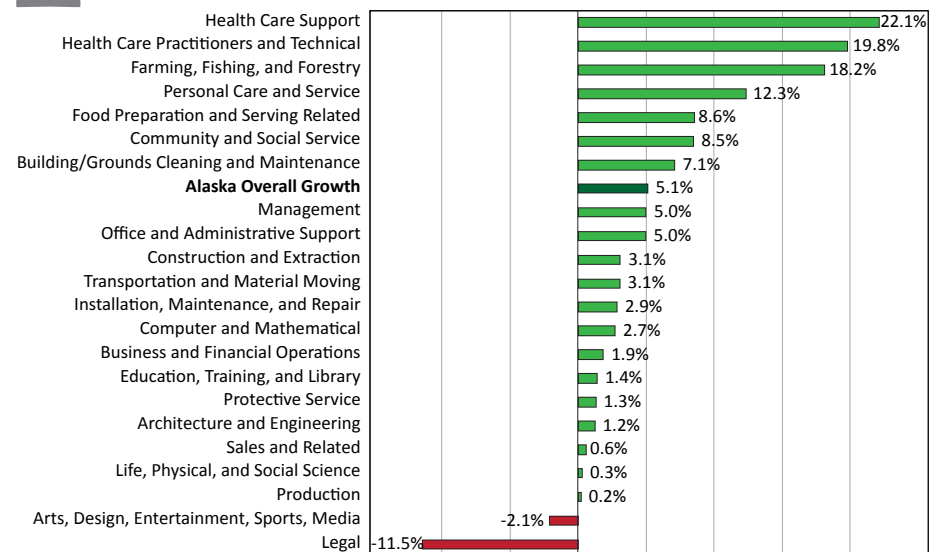
Though the most growth will be in health care occupations, the most openings overall, when separations are considered, will be in the three largest occupational categories: office and administrative support, food preparation and serving, and sales. (See exhibits 2 and 9.)

An estimated 37,700 job openings per year — nearly 96 percent of total openings — will come from retirements and other separations rather than growth. (See the sidebar on page 16 for more on separations.)

Health care and high growth jobs

Fifteen of the 25 occupations with the highest projected percent growth are health care practitioners or technicians, and five are in health care support. (See Exhibit 3.)

1 Projected Growth by Occupation Category ALASKA, 2016 TO 2026



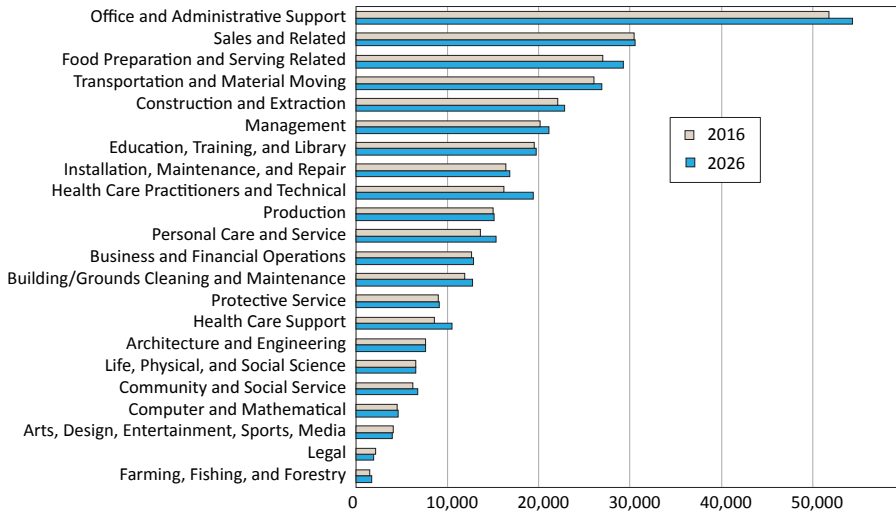
Note: Occupational categories are based on the federal Standard Occupational Classification Manual. Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Three of the remaining five are also health care related: medical secretaries, personal care aides, and health care social workers. The largest of those is personal care aides, at an estimated 5,387 in 2016. (For context, the closest related occupation with that many jobs was registered nurses at 5,476.) Personal care aides provide in-home services including cooking, cleaning, help with personal hygiene, and in some cases limited medical assistance under the direction of a registered nurse who provides advanced medical care.

The remaining two occupations in the top 25 are linked to marijuana and mining. The number of workers in nurseries and greenhouses is likely to double as a result of marijuana legalization, from 242 to 484,

2 Projected Total Jobs by Category

ALASKA, 2016 TO 2026



Note: Occupational categories are based on the federal Standard Occupational Classification Manual.
 Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

making this the highest-growth occupation in percent terms, although small in number. A similar small group is extraction worker helpers, who round out the list at 22.3 percent projected growth.

Other high-growth occupations outside health care that didn't quite make the list include:

- Earth drillers (except oil and gas): 20 percent, mostly in mineral mining and construction related drilling.
- Nonfarm animal caretakers: 16.1 percent, listed under the personal care and service occupations category and typically working at dog boarding facilities.

3 Top 25 Occupations

PROJECTED GROWTH, 2016 TO 2026

Occupation	Percent growth	Health care	Health support	Soc Svc
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	100.0%			
Home Health Aides	27.1%		✓	
Nurse Midwives	25.2%	✓		
Chiropractors	25.0%	✓		
Dentists, General	24.1%	✓		
Dental Assistants	24.0%		✓	
Medical and Clinical Lab Techs	24.0%	✓		
Radiologic Technologists	24.0%	✓		
Dental Hygienists	23.9%	✓		
Physical Therapist Assistants	23.8%		✓	
Phlebotomists	23.8%		✓	
Surgical Technologists	23.8%	✓		
Medical Secretaries	23.7%			
Family and General Practitioners	23.6%	✓		
Diagnostic Medical Sonographers	23.6%	✓		
Healthcare Social Workers	23.6%			✓
Medical Assistants	23.4%		✓	
Nurse Practitioners	23.2%	✓		
Medical and Clinical Lab Techs	23.0%	✓		
Internists, General	22.8%	✓		
Physical Therapists	22.6%	✓		
Helpers: Extraction Workers	22.3%			
Recreational Therapists	22.2%	✓		
Physician Assistants	22.0%	✓		
Personal Care Aides	20.9%			

Note: The list of the 25 occupations with the highest percent growth is limited to occupations with at least 50 workers and growth of at least 20 jobs. It excludes residual occupations ending with "all other."
 Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

4 Bottom 25 Occupations

PROJECTED LOSS, 2016 TO 2026

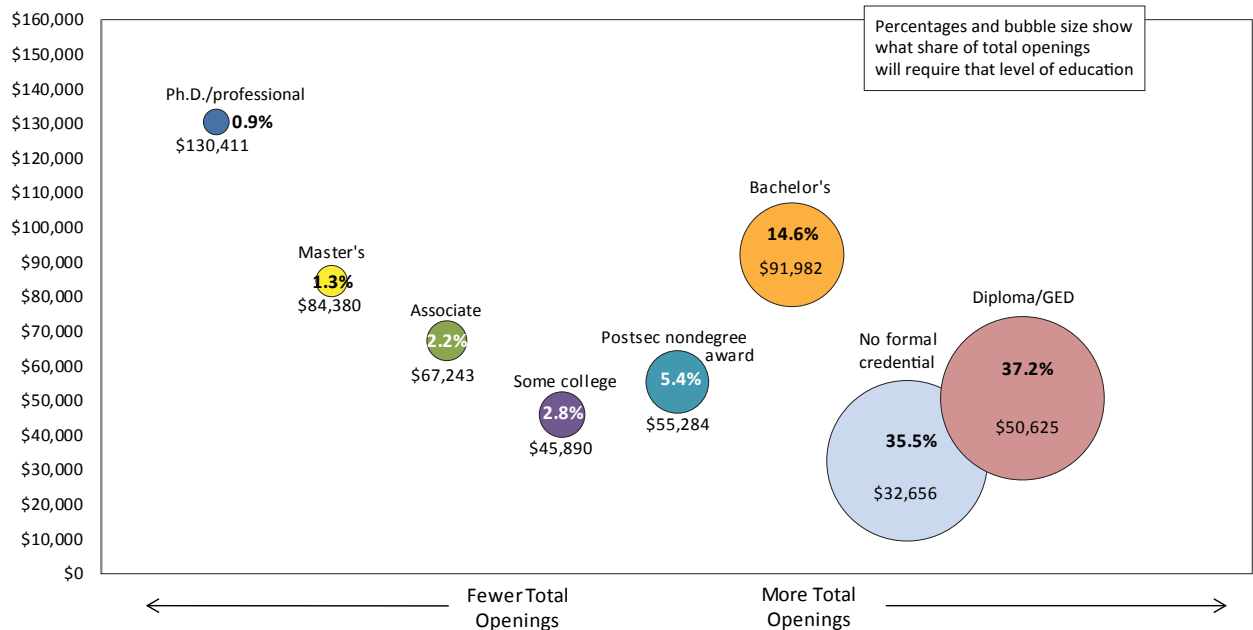
Occupation	Percent loss
Reporters and Correspondents	-31.6%
Editors	-26.0%
Machine Feeders and Offbearers	-26.0%
Radio and Television Announcers	-21.7%
Broadcast Technicians	-20.8%
Legal Secretaries	-18.5%
Printing Press Operators	-18.5%
Fallers	-17.3%
Logging Equipment Operators	-17.3%
Paralegals and Legal Assistants	-16.3%
Advertising Sales Agents	-15.1%
Gaming Dealers	-13.3%
Gaming Cage Workers	-10.9%
Gaming and Sports Book Writers and Runners	-10.8%
Legal Support Workers, All Other	-10.4%
Lawyers	-10.2%
Title Examiners, Abstractors, and Searchers	-9.7%
Gaming Service Workers, All Other	-8.8%
Producers and Directors	-8.8%
Gaming Change Persons and Booth Cashiers	-8.6%
Rail-Track Laying and Maintenance Equipment Operators	-7.8%
Judicial Law Clerks	-7.5%
Graphic Designers	-7.4%
Locomotive Engineers	-7.0%
Door-to-Door Sales Workers, News and Street Vendors, and Related Workers	-7.0%

Note: The occupations with the most projected job loss are only those with 50 or more workers. Additional occupations with fewer than 50 workers are projected to lose jobs.
 Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

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Yearly Openings by Education Level vs. Wages

PROJECTED, 2016 TO 2026



Notes: Average annual wages are based on 2017 OES occupation wage estimates for Alaska, weighted by base year (2016) employment. Occupational education levels are based on 2015 and 2016 American Community Survey Public Use Microdata from the U.S. Census Bureau. Openings include annual average growth and separations for occupations with a reported OES wage.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

- Tour guides and escorts: 15.5 percent, through strong growth in tourism.

Declining occupations

While some occupations took a heavy hit during the recession, the list of occupations projected to decline over the decade resembles those that were already on long-term downward trajectories. These include media, legal, logging, and railroad-related occupations. (See Exhibit 4.)

The five occupations projected to decline most are all in media, in line with the downward trend for the newspaper and broadcasting industries as news becomes increasingly digital. With the caveat that some may be transitioning to freelance, we project a 31.6 percent decline for reporters and correspondents, closely followed by editors and machine feeders/offbearers at losses of 26 percent each. Other industries have machine feeders, but in Alaska, most operate industrial printing equipment.

The next two are radio and television announcers at -21.7 percent and broadcast technicians at -20.8 percent. Like legal and other media occupations, their declines are part of the shift to

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Wages by Occupation Category

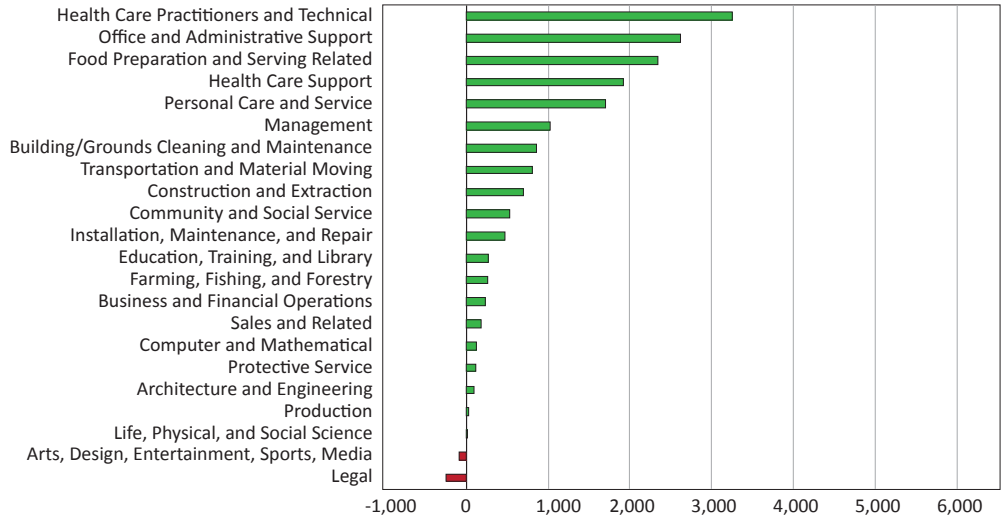
PROJECTED, 2016 TO 2026

Category	Wages ¹
Management Occupations	\$110,628
Architecture and Engineering Occupations	\$99,531
Legal Occupations	\$96,042
Health Care Practitioners and Technical Occupations	\$94,832
Business and Financial Operations Occupations	\$79,678
Computer and Mathematical Occupations	\$79,494
Life, Physical, and Social Science Occupations	\$74,172
Construction and Extraction Occupations	\$64,352
Education, Training, and Library Occupations	\$63,111
Installation, Maintenance, and Repair Occupations	\$60,602
Protective Service Occupations	\$59,296
Transportation and Material Moving Occupations	\$55,066
Arts, Design, Entertainment, Sports, and Media Occ	\$53,459
Community and Social Service Occupations	\$52,629
Office and Administrative Support Occupations	\$44,950
Health Care Support Occupations	\$43,511
Production Occupations	\$40,234
Farming, Fishing, and Forestry Occupations	\$38,484
Sales and Related Occupations	\$35,848
Building and Grounds Cleaning and Maintenance Occ	\$34,674
Personal Care and Service Occupations	\$31,973
Food Preparation and Serving Related Occupations	\$27,920

¹Average annual wages are based on 2017 OES occupation wage estimates for Alaska, weighted by base year (2016) employment.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

providing services online. For legal occupations, another likely factor is that lawyers are increasingly self-employed — and these projections cover only wage and salary jobs.

7 Total 10-Year Growth Openings by Category PROJECTED, 2016 TO 2026



Most openings will have low prerequisites

About 73 percent of openings over the period will require a high school diploma or less, though many require postsecondary training or years of vocational education through apprenticeships. The line between education and training is blurring, and readers should be careful not to conclude that someone is fully qualified when they graduate high school for jobs that only require a diploma. In many cases, training requirements are intensive, difficult, and ongoing. Electricians, commercial pilots, and diesel mechanics are just a few examples.

The remaining 27.3 percent will require some college or a degree, certificate, or award. Examples include nursing assistants, paramedics, and mechanics. About 17 percent will require a bachelor's degree or higher.

Notes: Occupational categories are based on the federal Standard Occupational Classification Manual. Growth openings are new jobs created from 2016 to 2026. Occupations in decline will have no growth openings but may have openings through separations. Separation openings result from labor force exits and occupational transfers.

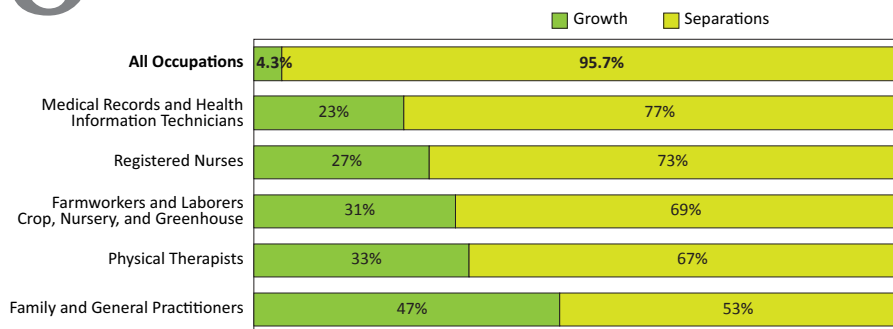
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

These jobs typically have higher wages and a greater likelihood of full-time, year-round work. (See Exhibit 5.)

Jobs that require more education typically pay more. (See exhibits 5 and 6.) The average annual wage for a job requiring a high school diploma is \$50,625. (Although again, many require apprenticeships or further training. See the Top Jobs table on page 17.)

For occupations with no formal educational requirements, it's \$32,656. These estimates are based on full-time, year-round work, so seasonal and part-time jobs pay considerably less.

8 Growth vs. Separations, Total Openings PROJECTED, FOR SELECT OCCUPATIONS, 2016 TO 2026



Notes: Growth openings are new jobs, and separations are the projected number of openings produced by workers permanently leaving that occupation. Separations are the sum of occupational transfers and labor force exits.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Types of separation openings

Over the decade, 95.7 percent of job opportunities will come from people vacating existing positions rather than from growth. (See Exhibit 8.) These are called occupational separations, and they consist of labor force exits and occupational transfers.

Labor force exits are mainly re-

tirements but include leaving the labor force permanently or temporarily for other reasons, such as college or job training, resulting in a permanent occupational change.

Occupational transfers are common as people advance through their working years. For example, an auto parts salesperson might become an auto mechanic. Transfers shouldn't be confused with turnover, where a worker switches employers but continues to work in the same occupation.

How separations vary by education requirements

Occupations with lower educational requirements make it easier for workers to enter and leave, resulting in high separations of both types but particularly occupational transfers as people move up to higher-paying jobs. (See Exhibit 10.) Labor force exits for these occupations are more

often people enrolling in school or training rather than retiring.

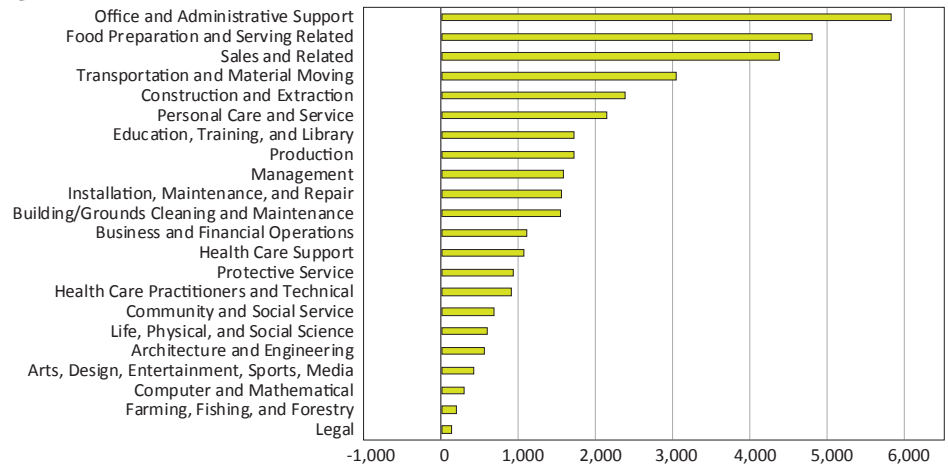
A good example is personal care aides, which have more than double the projected openings of reg-

istered nurses, and 88.1 percent will be from separations. Of those, about 43 percent will be transfers and 57 percent will be exits. This shows personal care aides often take the job as an entry to the health care field or the job market in general, and they are highly likely to return to school or job training or to move to a different occupation that also requires minimal training and education. They may also move up to higher-paying occupations (such as nursing assistants) as they gain experience.

Positions with high educational requirements can have high separation rates, but for different reasons. Among registered nurses, nearly 73 percent of projected openings will be

9 Yearly Separation Openings by Category

PROJECTED ANNUAL AVERAGE, 2016 TO 2026

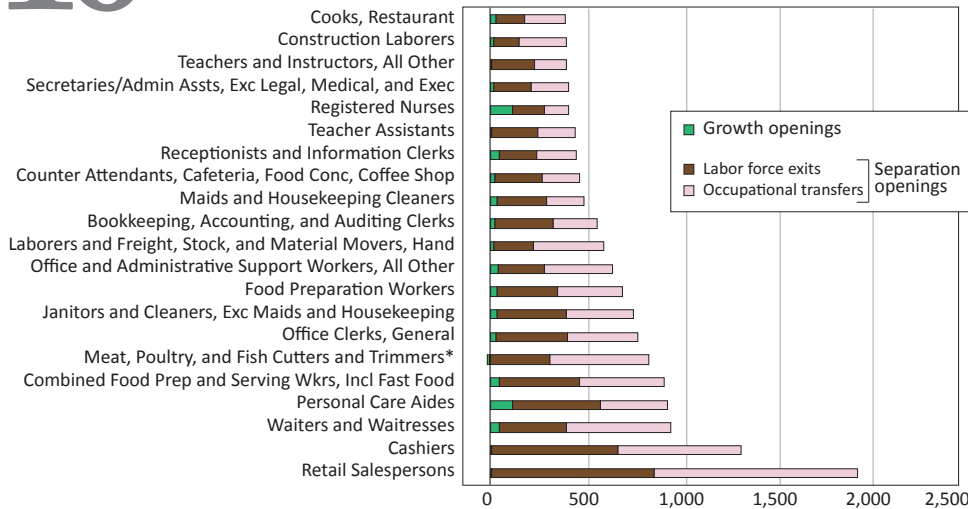


Notes: Occupational categories are based on the federal Standard Occupational Classification Manual. Separation openings result from labor force exits and occupational transfers. In declining occupations, some separations may not result in openings if positions are eliminated.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

10 Where Yearly Openings Will Come From

ANNUAL AVERAGE FOR SELECT OCCUPATIONS, 2016 TO 2026



*This occupation has no projected growth openings and has a projected loss of 153 jobs over the period.

Notes: Annual openings are a combination of those generated from new jobs (growth), people permanently leaving one occupation for another (occupational transfers), and people leaving the labor force (labor force exits). Occupational separations are the sum of the exits and transfers. Separations typically represent openings for new workers, but in declining occupations, not all separations produce openings.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

A change in how we measure openings in existing positions

The numbers of separation openings in this set of projections (called “replacements” in prior projections) are considerably higher than they have been in the past, but this is due to a change in the Bureau of Labor Statistics’ methods rather than any economic change.

From 1991 through 2016, BLS estimated job openings from replacements using a cohort-component method. Because these replacement estimates weren’t capturing all actual replacements, BLS developed a new method called “occupational separations.” It produces a much higher number of openings — about four times as many — but these are simply due to an improvement in capturing actual openings.

Occupational separations are created when workers permanently leave an occupation, and there are two types: labor force exits and occupational transfers. A labor force exit is created when a person drops out of the labor force entirely. If the person ever re-enters the labor force, it’s in a different occupation. Retirements are the most common labor force exits, but people can leave for other reasons, including returning to school. In an occupational transfer, a person permanently leaves one occupation for another. Transfers capture normal job movements as people move through their working years; for example, a retail sales worker might become a manager or a registered nurse. Transfers do not include those who change employers but remain in the same occupation, which is turnover.

For detailed methodology, see: <https://www.bls.gov/emp/documentation/separations-methods.htm> or <https://www.bls.gov/opub/mlr/2018/article/occupational-separations-a-new-method-for-projecting-workforce-needs.htm>.

through separations, and the makeup of these nongrowth openings is the same as personal care aides at 43 percent transfers and 57 percent exits. For nurses, this reflects both their high mobility and their continuing education requirements. Registered nurses’ credentials give them more opportunities for advancement as well as further training, and advancing often requires returning to school. Their labor force exit rate also reflects a large number of retirements because of the time and effort spent building a nursing career.

In general, though, occupations that require high levels of training or education have a lower percentage of separations, and they reflect more exits than transfers. (See exhibits 10 and 11.) Openings for doctors, for example, will be just 53 percent separations, made up of 40 percent transfers and 60 percent exits. Doctors have fewer advancement options, and they tend to stay in that career and retire.

Mental health counselors are an exception in that they transfer out of the occupation at nearly the same rate as parts salespeople and hotel clerks: roughly 64 percent. This could reflect advancement potential but also the difficulty of the work.

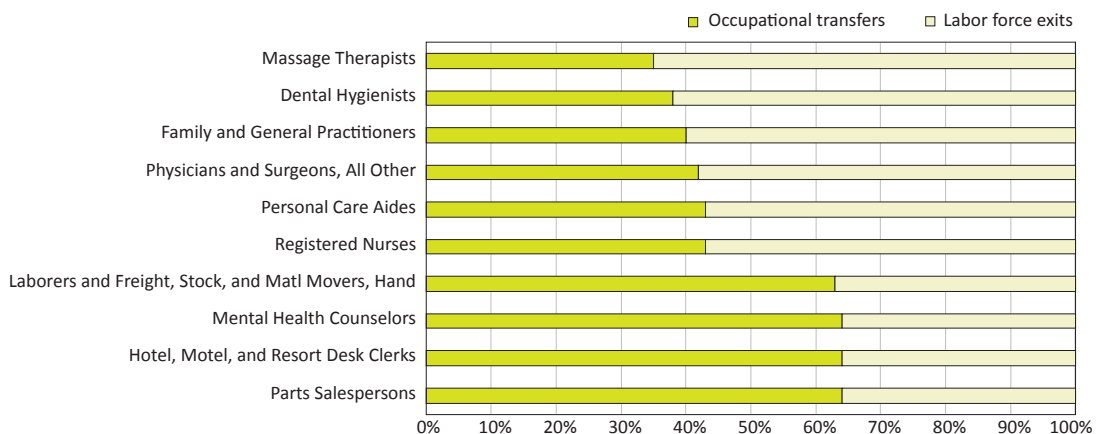
Alaska’s top jobs

Long-term occupation projections are a vital tool

Continued on page 22

11 Yearly Separations Broken Down into Transfers and Exits

PROJECTED, ANNUAL AVERAGE FOR SELECT OCCUPATIONS, 2016 TO 2026



Notes: Separations are the projected number openings produced by workers permanently leaving that occupation, and are the sum of occupational transfers and labor force exits.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

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Alaska's Top Jobs¹

PROJECTED, 2016 TO 2026

	Employment			Average Annual Openings			Training requirements ²	Wage quartile ³
	2016	2026	Percent change	Growth	Separations	Total openings		
Doctoral or Professional Degree								
Physical Therapists	496	608	22.6%	11	22	33	None	\$\$\$\$
Family and General Practitioners	360	445	23.6%	9	10	19	Intern/Resident	\$\$\$\$
Masters Degree								
Educational, Guidance, School, and Vocational Counselors	517	526	1.7%	1	53	54	None	\$\$\$
Physician Assistants	419	511	22.0%	9	24	33	None	\$\$\$\$
Nurse Practitioners	332	409	23.2%	8	18	26	None	\$\$\$\$
Bachelor's Degree								
Airline Pilots, Copilots, and Flight Engineers	2054	2130	3.7%	8	192	200	Moderate OJT	\$\$\$\$
Construction Managers	1073	1088	1.4%	2	73	75	Moderate OJT	\$\$\$\$
Compliance Officers	746	747	0.1%	0	59	59	Moderate OJT	\$\$\$\$
Registered Nurses	5476	6617	20.8%	114	304	418	None	\$\$\$\$
General and Operations Managers	4465	4665	4.5%	20	367	387	None	\$\$\$\$
Accountants and Auditors	2037	2112	3.7%	8	180	188	None	\$\$\$\$
Elementary School Teachers, Except Special Education	2306	2326	0.9%	2	162	164	None	\$\$\$
Chief Executives	1732	1844	6.5%	11	125	136	None	\$\$\$\$
Secondary School Teachers, Exc Spec and Career/Tech Educ	1715	1728	0.8%	1	117	118	None	\$\$\$\$
Administrative Services Managers	1254	1344	7.2%	9	103	112	None	\$\$\$\$
Medical and Health Services Managers	909	1098	20.8%	19	76	95	None	\$\$\$\$
Financial Managers	1160	1217	4.9%	6	86	92	None	\$\$\$\$
Zoologists and Wildlife Biologists	948	920	-3.0%	-3	79	76	None	\$\$\$
Civil Engineers	1031	1040	0.9%	1	73	74	None	\$\$\$\$
Training and Development Specialists	732	751	2.6%	2	71	73	None	\$\$\$\$
Sales Managers	847	854	0.8%	1	71	72	None	\$\$\$\$
Computer and Information Systems Managers	950	963	1.4%	1	69	70	None	\$\$\$\$
Human Resources Specialists	652	682	4.6%	3	63	66	None	\$\$\$
Environmental Scientists and Specialists, Including Health	634	645	1.7%	1	58	59	None	\$\$\$\$
Human Resources Managers	572	609	6.5%	4	47	51	None	\$\$\$\$
Network and Computer Systems Administrators	778	798	2.6%	2	48	50	None	\$\$\$\$
Associate Degree/Postsecondary Nondegree Award or Some College, No Degree								
Firefighters	1444	1466	1.5%	2	95	97	Long-term OJT	\$\$\$
Telecomm Equip Installers and Repairers, Exc Line Installers	843	832	-1.3%		87	86	Moderate OJT	\$\$\$
Aircraft Mechanics and Service Technicians	1390	1447	4.1%	6	107	113	None	\$\$\$
Computer User Support Specialists	996	1027	3.1%	3	73	76	None	\$\$\$\$
Captains, Mates, and Pilots of Water Vessels	647	679	5.0%	3	66	69	None	\$\$\$
Massage Therapists	509	612	20.2%	10	57	67	None	\$\$\$\$
Dental Hygienists	641	794	23.9%	15	42	57	None	\$\$\$\$
Civil Engineering Technicians	662	645	-2.6%	-2	55	53	None	\$\$\$
Radiologic Technologists	431	534	23.9%	10	24	34	None	\$\$\$
High School Diploma or Equivalent								
Electricians	1958	2002	2.3%	4	216	220	Apprenticeship	\$\$\$
Carpenters	2254	2350	4.3%	10	207	217	Apprenticeship	\$\$\$
Plumbers, Pipefitters, and Steamfitters	1481	1480	-0.1%	0	153	153	Apprenticeship	\$\$\$
Mobile Heavy Equipment Mechanics, Except Engines	887	919	3.6%	3	85	88	Long-term OJT	\$\$\$
Bus and Truck Mechanics and Diesel Engine Specialists	737	753	2.2%	2	66	68	Long-term OJT	\$\$\$
Operating Engineers and Other Construction Equip Operators	2996	2992	-0.1%	0	324	324	Moderate OJT	\$\$\$
Sales Reps, Wholesale and Manufacturing, Exc Tech/Sci Products	1189	1221	2.7%	3	121	124	Moderate OJT	\$\$\$
Correctional Officers and Jailers	1314	1255	-4.5%	-6	103	97	Moderate OJT	\$\$\$
Commercial Pilots	818	876	7.1%	6	78	84	Moderate OJT	\$\$\$\$
Police and Sheriff's Patrol Officers	1291	1286	-0.4%		81	81	Moderate OJT	\$\$\$\$
Welders, Cutters, Solderers, and Brazers	642	674	5.0%	3	69	72	Moderate OJT	\$\$\$
Hazardous Materials Removal Workers	434	461	6.2%	3	53	56	Moderate OJT	\$\$\$
Executive Secretaries and Executive Administrative Assistants	3269	3409	4.3%	14	355	369	None	\$\$\$
First-Line Supervisors of Office and Admin Support Workers	2068	2206	6.7%	14	206	220	None	\$\$\$
Supervisors of Construction and Extraction Workers	810	835	3.1%	3	78	81	None	\$\$\$\$
First-Line Supervisors of Production and Operating Workers	648	655	1.1%	1	63	64	None	\$\$\$
First-Line Supervisors of Mechanics, Installers, and Repairers	690	721	4.5%	3	59	62	None	\$\$\$\$
Property, Real Estate, and Community Association Managers	609	631	3.6%	2	47	49	None	\$\$\$\$
No Formal Educational Credential								
Service Unit Operators, Oil, Gas, and Mining	1265	1205	-4.7%	-6	146	140	Moderate OJT	\$\$\$

¹To rank as a top job, the occupation must: 1) rank in the top two wage quartiles AND 2) have 10-year projected growth of at least 75 jobs and greater percent growth than all occupations combined; OR be one of the 50 with the most projected average annual openings (of those in the top two wage quartiles).

²OJT is on-the-job training. Moderate-term is one to 12 months and long-term is more than 12 months.

³Earnings: \$\$\$ = \$59,310 to - \$78,360 annually (\$28.51 - \$37.67 hourly); \$\$\$\$ = More than \$78,360 annually (\$37.67 hourly). Based on 2017 Occupational Employment Statistics (OES) wage estimates for Alaska.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

INDUSTRY PROJECTIONS

Continued from page 10

government lost 1,219 jobs (-6.7 percent), a trend that continued into 2017 with an additional loss of 419 jobs. With no plan in place to address the entire state budget deficit and oil prices and production unlikely to rise dramatically, we project an additional loss of 868 jobs over the projection period (-5.1 percent) and expect state government to eventually settle near its 2005 employment level.

Local government, excluding education and hospitals, continued to grow during the recession, gaining 556 jobs from 2014 to 2017. Whether the recession could catch up with local governments is still in question, but negative effects would probably be short-lived. Sales and property taxes, along with federal funds, have covered municipal costs even amid state cuts. Overall, we project local government will add 300 jobs (1.7 percent) over the decade.

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OCCUPATION PROJECTIONS

Continued from page 16

for workforce development agencies, job placement and counseling professionals, job seekers, and education and training providers. To help them determine which occupations to focus on, we developed Alaska's Top Jobs list, which ranks the occupations we expect to fare well and pay well over the projection period. (See Exhibit 12.)

To make the top jobs list, an occupation must essentially pay higher-than-average wages plus have higher-than-average growth or a large number of openings. (See the footnote to Exhibit 12 for more detail.)

Out of 784 occupations in Alaska, 54 make the list. Twenty-six require at least a bachelor's degree and nine require an associate degree or some type of postsecondary education, such as a vocational certificate or some college attendance. Of the 19 top jobs that require a high school diploma or less, 13 require apprenticeship or other on-the-job training.

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