

10-year occupational projections

Highest-growth jobs list for 2018 to 2028 is an eclectic mix

By PAUL MARTZ

The pandemic is a much smaller factor in the outlook for occupations than it is for industries. In the occupational projections, these disruptions add uncertainty to the growth component of future job openings, but 96 percent of all openings come from people leaving existing positions.

Growth produces just 1,800 jobs each year, on average, while occupational separations result in about 39,000 openings per year. These separations include retirements, people returning to school, and workers leaving one occupation for another — the normal cycle of worker movements that will continue regardless. So, even if COVID-19 throws growth estimates way off, total openings won't change much.

Highest-growth occupations

Marijuana cultivation is a small group, but leads in percent terms

Agricultural occupations will increase most in

percentage terms from 2018 to 2028, mainly due to marijuana, but they will account for just 2.7 percent of all new jobs, or about 49 per year.

The legalization of marijuana created a new market that has steadily added farm workers and laborers for crops, nurseries, and greenhouses in recent years and will continue to grow over the decade. These workers will account for 91 percent of the projected new jobs in agriculture and 125 additional separation openings, making it the fastest-growing occupation in Alaska.

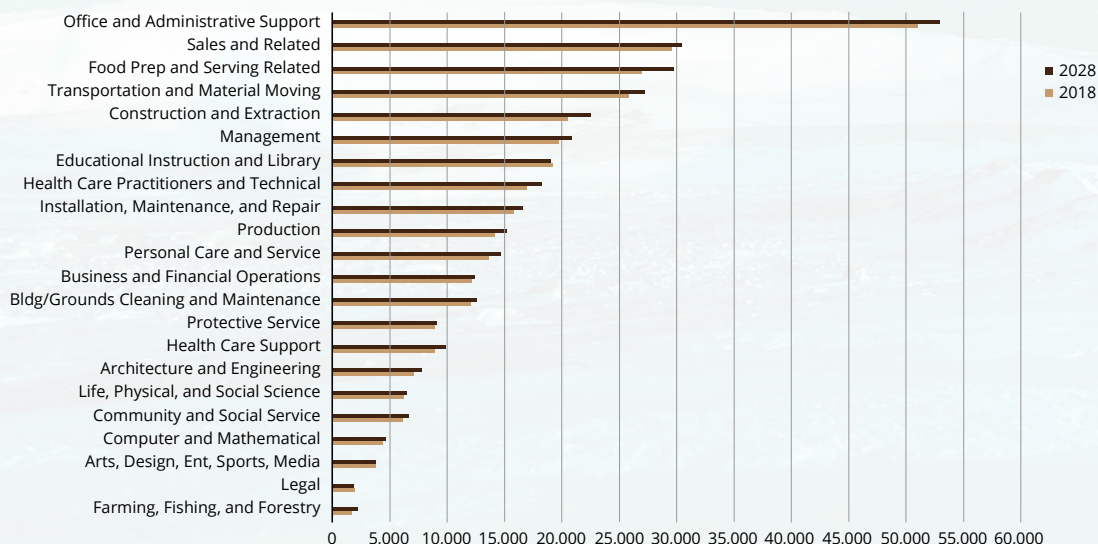
The rest of agriculture's growth will be in supervisory and related jobs.

Health care jobs will keep growing, but pandemic adds short-term uncertainty

Health care support is the next-highest category for percent growth at 10.9 percent, which equates to 97 projected new jobs each year over the decade.

Growth in most health care occupations will slow, except for home health aides and nursing assistants. These two occupations are projected to add 252 and

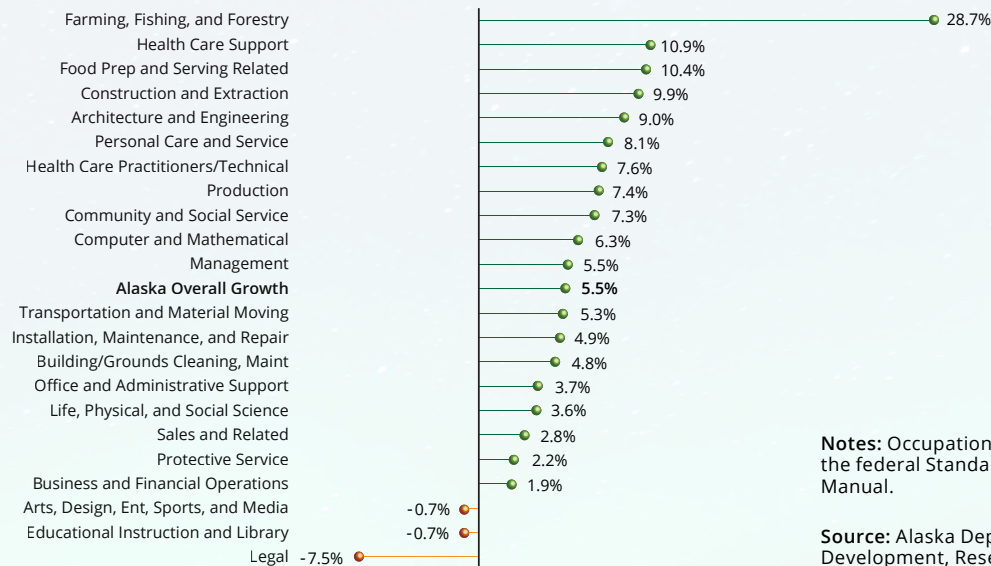
Projected total employment by occupational group, 2018 to 2028



Notes: Occupational categories are based on the federal Standard Occupational Classification Manual.

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

Projected percent growth for occupational groups, 2018-2028



Notes: Occupational categories are based on the federal Standard Occupational Classification Manual.

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

175 jobs, respectively, by 2028. Separations will create an additional 137 job opportunities per year for home health aides and 246 for nursing assistants.

Growth in health care practitioners will also slow to a projected 1,294 new jobs (7.6 percent). Registered nurse is this group’s largest occupation, projected to grow 6.9 percent (404 jobs) and generate 323 additional openings through separations.

Health care practitioners and support workers combined represent about 12.6 of the total projected new jobs in Alaska over the decade. They appear disproportionately sensitive to the pandemic, however. Some businesses will close if people put off medical visits for too long, which could also spur early retirements. New health care businesses would be slower to replace them than, say, a retail operation could, as health care providers can’t form as quickly due to high educational and licensing requirements. They also cost more to open and operate.

Health care slowdown means other occupations made the high-growth list

Health care has led the state’s job growth for decades, and its slowdown means the higher-growth list of 25 occupations has become more varied. The rebound of oil and gas after the recent statewide recession and continued growth in mining account for many of the jobs on this list, which was rounded out by veterinary services and manufacturing workers, mainly in beverage manufacturing. (See the table at the top of the next page for the full list.)

The marijuana workers mentioned previously topped the list, and “separating, filtering, clarifying, precipitating, and still machine” workers came in second. This occupation is small, at about 59 workers in 2018, and it’s projected to grow 64 percent, to 97 jobs. These workers are split between two divergent but growing industries: beverage manufacturing, which is mostly beer, and mining. While the work differs widely, both deal with industrial processing of materials suspended in liquids — from grains to minerals — giving this relatively obscure job a major bump in the percent rankings.

Another job near the top of the list, packing and filling machine operators and tenders, also falls into multiple industries but made the list because of beverage manufacturing. Still, while its projected percent growth is large, this occupation accounts for just 33 projected new jobs over 10 years.

Nonfarm animal caretaker is another atypical entry for this list, and it’s linked to the veterinary industry’s growth. These workers include dog groomers, staff in kennels and shelters, and dog walkers. We project it will grow 14.7 percent (63 jobs) by 2028.

Occupations in decline

Media-related jobs will continue to disappear

The list of declining occupations is less varied and more predictable. Six of the first 10 are media-related. Traditional formats such as newspapers

High 25, low 25 occupations for projected growth, 2018-2028

Highest-growth occupations	Growth, 2018-28
1 Farmworkers/Laborers, Crop, Nursery, Grnhouse	72.7%
2 Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	64.4%
3 Packaging/Filling Machine Operators and Tenders	42.3%
4 Veterinary Technologists and Technicians	26.6%
5 Veterinary Assistants, Lab Animal Caretakers	25.7%
6 Helpers: Extraction Workers	24.8%
7 Veterinarians	23.5%
8 Home Health Aides	23.0%
9 Millwrights	22.7%
10 Surveyors	21.9%
11 Mining/Geological Engrs, incl Mining Safety	20.2%
12 Food Batchmakers	20.0%
13 Demonstrators and Product Promoters	19.4%
14 Earth Drillers, Except Oil and Gas	18.4%
15 Rotary Drill Operators, Oil and Gas	17.8%
16 Chemical Technicians	15.4%
17 Architectural and Civil Drafters	15.2%
18 Personal Care Aides	14.9%
19 Nonfarm Animal Caretakers	14.7%
20 Carpenters	14.1%
21 Software Developers, Applications	14.0%
22 Surveying and Mapping Technicians	13.8%
22 Roustabouts, Oil and Gas	13.8%
24 Geological and Petroleum Technicians	13.6%
25 Inspectors, Testers, Sorters, Samplers, Weighers	13.4%

Occupations to decline most	Loss, 2018-28
1 Radio and Television Announcers	-22.2%
2 Broadcast Technicians	-21.4%
3 Reporters and Correspondents	-20.9%
4 Fallers	-13.3%
5 Printing Press Operators	-12.9%
6 Gaming and Sports Book Writers and Runners	-12.9%
7 Legal Secretaries	-12.4%
8 Editors	-12.4%
9 Logging Equipment Operators	-11.3%
10 Print Binding and Finishing Workers	-11.1%
11 Paralegals and Legal Assistants	-10.9%
12 Dancers	-9.7%
13 Producers and Directors	-9.3%
14 Title Examiners, Abstractors, and Searchers	-9.2%
15 Sewing Machine Operators	-7.4%
16 Insurance Underwriters	-6.6%
17 Lawyers	-6.3%
18 Legal Support Workers, All Other	-6.1%
19 Laundry and Dry-Cleaning Workers	-6.1%
20 Media and Communication Workers, All Other	-5.8%
21 Petroleum Pump System Operators, Refinery Operators, and Gaugers	-5.5%
22 Insurance Claims and Policy Processing Clerks	-5.5%
23 Education Teachers, Postsecondary	-4.4%
24 Engineering Teachers, Postsecondary	-4.4%
25 Biological Science Teachers, Postsecondary	-4.4%

Note: Occupations with at least 50 workers

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

and broadcasting have declined for years with the growth of the internet, a shift we covered in depth in last month's issue of *Alaska Economic Trends*.

The extent of this change is harder to gauge. We know that jobs have disappeared, but we don't know how many former media workers have become self-employed, which our data sets don't cover. Freelance writing and production, for example, aren't new — but the extent to which they are becoming the de facto type of work might be.

Educators appear on the 'bottom' list

The newcomers to this list are education-related. We anticipate fewer postsecondary teachers as the University of Alaska system faces immediate cuts, but this drop will probably level out later in the decade.

Policy choices will dictate which departments, and therefore which occupations, will be cut. Therefore, for these projections, we assumed the related occupations with the largest numbers of workers would see the largest percentage declines.

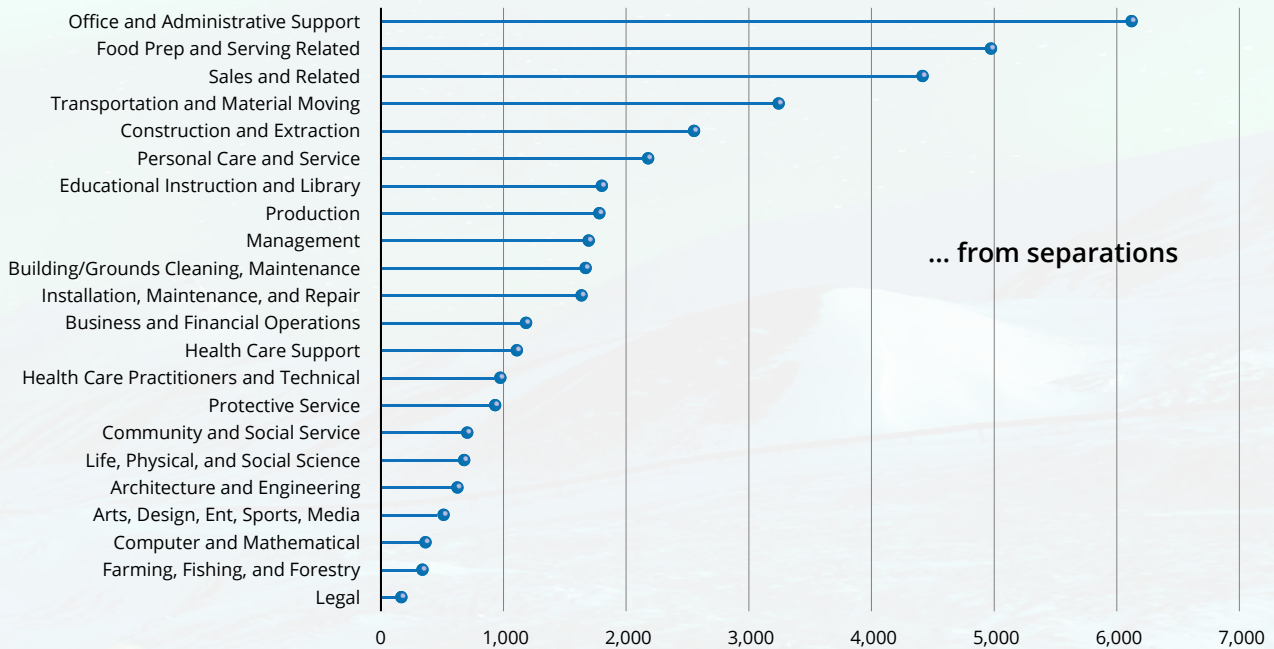
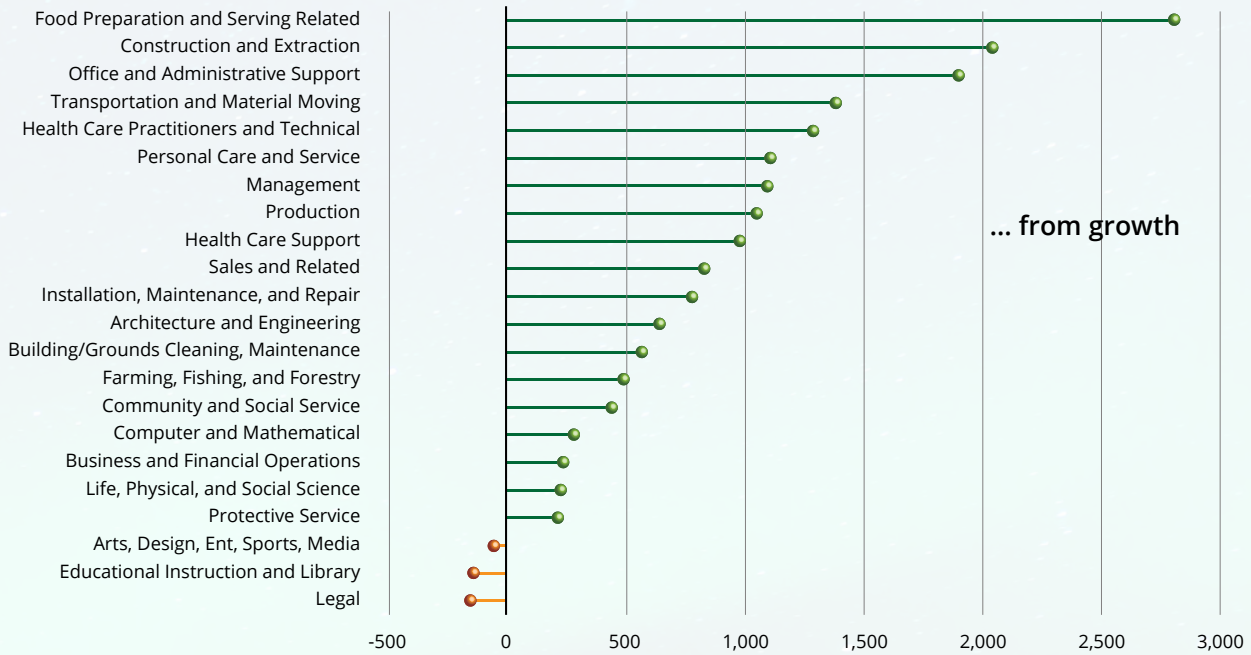
Job openings from growth versus occupational separations

The categories set to grow the most numerically over the decade also have the largest numbers of workers. The food preparation and serving category is projected to grow the most with increasing demand for dining out, and it's also the state's third-largest, at 26,943 jobs in 2018.

The pandemic could put a damper on this expansion if it persists, but we project the 10-year increase at 2,806 new jobs, or 281 per year. That's a large number of new jobs, but it's dwarfed by the anticipated separation openings: 4,968 each year. This isn't unusual, as most of these positions have low wages and low barriers to entry. People tend to hold them for a short time as they gain skills or education.

The office and administrative support occupational group is Alaska's largest at more than 50,000 jobs. It ranks third for the number of projected new jobs, at 1,890 over the decade and 189 each year, and ranks first for yearly separation openings (6,087). Like food service, many of these jobs require little education and training and are low on the pay scale, so separation openings are common as people gain experience and move on.

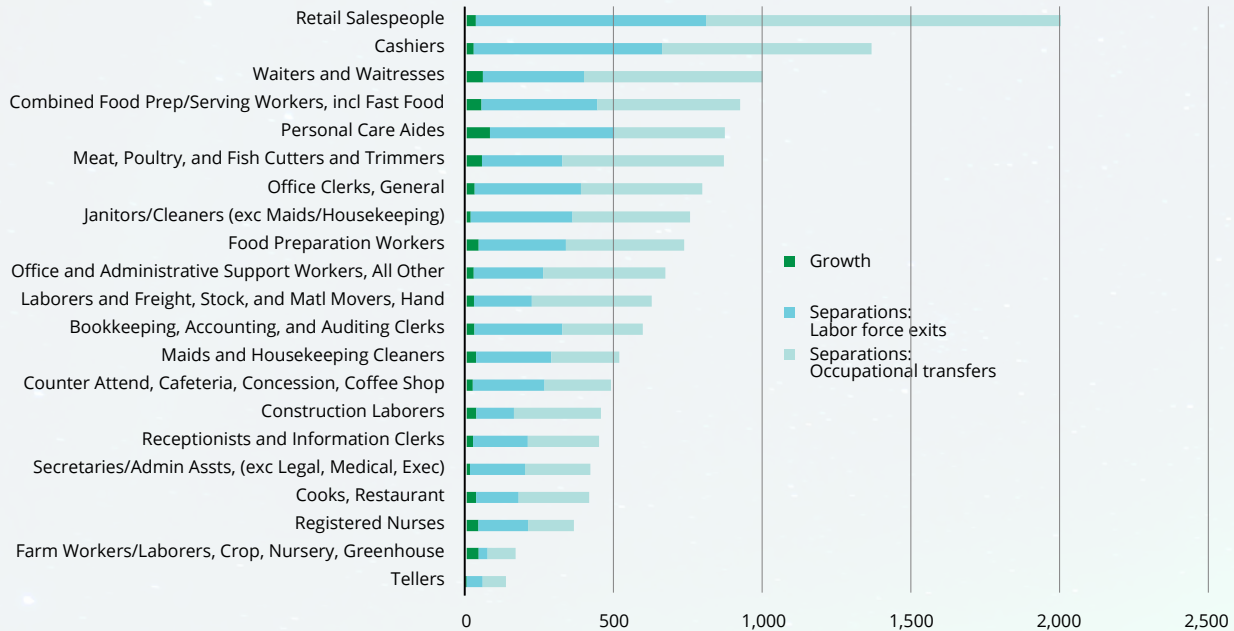
Types of job openings by occupational group, 2018 to 2028



Notes: Occupational categories are based on the federal Standard Occupational Classification Manual. Growth openings are new jobs between 2018 and 2028. Occupations in decline will have no growth openings but may have openings from separations, which are vacated positions. Separations result from people leaving the labor force or transferring to a different occupations. Separations typically represent openings for new workers, but in declining occupations, not all separations result in openings.

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

Most job openings come from separations, not growth, 2018-28



Notes: Annual openings are a combination of new jobs (growth), people permanently leaving the labor force (labor force exits), and people leaving an occupation for a different one (occupational transfers). Occupational separations are the sum of labor force exits and transfers. In declining occupations, not all separations result in job openings.

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

The second-highest growth category is construction and extraction workers, with a projected increase of 2,033 jobs (203 per year). This category represents around 20,500 jobs, which is only 5,000 less than food service, but it will produce around half as many separation openings (2,503).

While this category also includes lower-paid occupations, many of its occupations require significant education and training investment — for example, electricians, plumbers, and carpenters. When people leave these occupations, it’s typically for related work in management, inspection, or other technical services. Others go back to school to advance in engineering or project management.

Most jobs won’t require higher education but will require training

In terms of openings by education level, just under 73 percent will require a high school diploma or less. These positions often have other requirements, though, such as postsecondary training or vocational education through apprenticeships. Of the 19 “top jobs” that require a high school diploma or less, 12

require at least moderate-term on-the-job training.

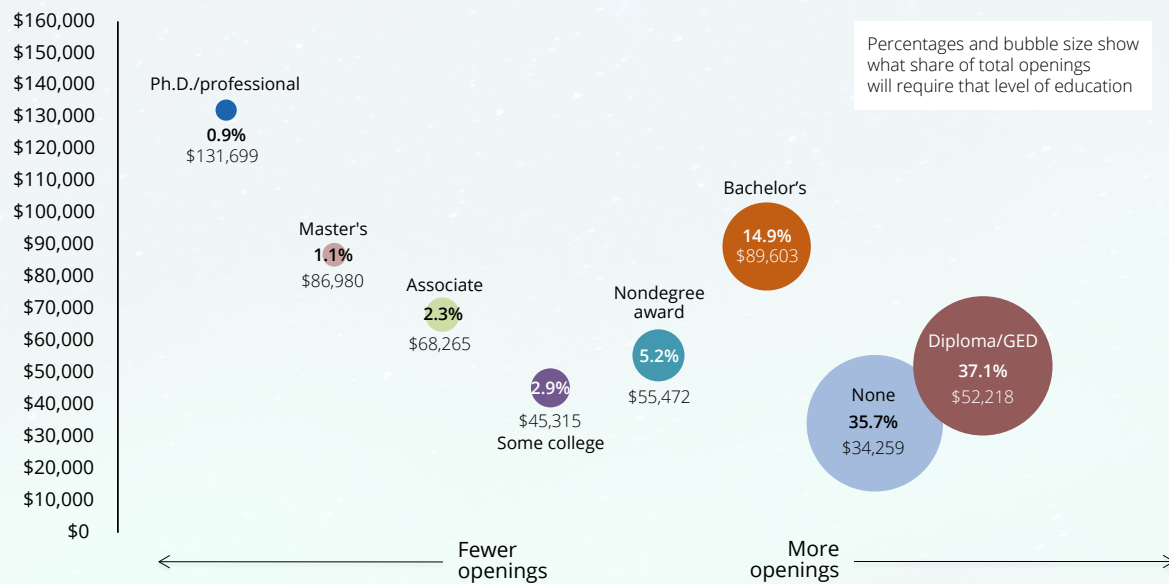
The remaining 27.2 percent of openings will require some college or a degree, certificate, or award. The largest subset is bachelor’s degrees, which will be necessary for 14.9 percent of projected openings.

... but education still equates to significantly higher pay

As mentioned earlier, higher education requirements typically mean fewer separations. These occupations usually pay more, with those requiring a bachelor’s degree paying \$89,603 a year on average while jobs occupations without formal education requirements pay just \$34,259. Those requiring a diploma pay \$52,218 — but with the caveat that many mandate an apprenticeship or significant on-the-job training.

Wages by occupational category tell a similar story. On the high end are management, health care, engineering, and legal occupations, which all pay more than \$80,000 per year. On the lower end are food

Percent of yearly openings by education, 2018-2028



Notes: Annual wage estimates are based on employment-weighted averages of 2019 Occupational Employment Statistics wage data. Occupational education levels are based on the U.S. Census Bureau American Community Survey Public Use microdata. Openings include annual average wage growth and separations for occupations with a reported OES wage.

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

preparation, personal care, and building cleaning and maintenance occupations.

How a job's requirements relate to the types of separations

Separations are of two types: labor force exits and occupational transfers. Labor force exits include people retiring but also leaving the workforce for school or other job training.

Transfers are permanent moves from one occupation to another, which are common as people advance. Transfers differ from turnover, which comes from workers switching employers but staying in the same type of job.

Occupations with lower entry requirements typically have more separations. The types of separations can differ, though.

Separation openings among retail salespeople total about 1,982 per year. (Just 31 openings come from growth.) About 61 percent of separations are transfers to another occupation and the remaining 39 percent are labor force exits. While some of the latter are retirements, it's more common for retail workers to leave the labor force for education or training.

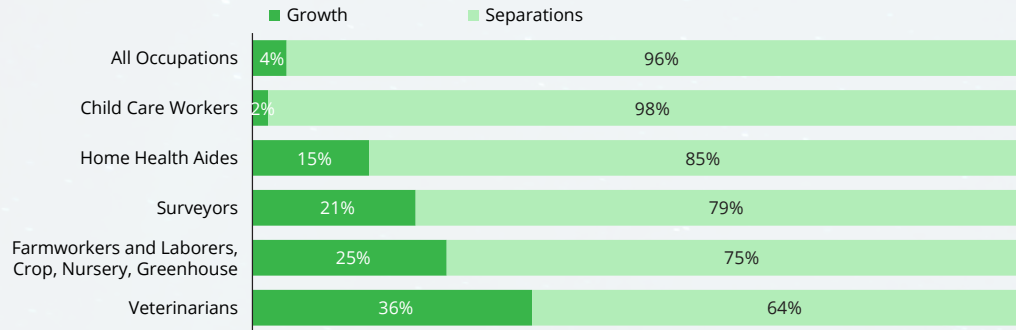
Projected yearly wage for select occupations, 2018 to 2028

Occupational category	Avg annual wages
Management Occupations	\$109,940
Health Care Practitioners and Technical Occs	\$97,223
Architecture and Engineering Occupations	\$95,244
Legal Occupations	\$88,730
Business and Financial Operations Occupations	\$78,973
Computer and Mathematical Occupations	\$77,363
Life, Physical, and Social Science Occupations	\$74,666
Transportation and Material Moving Occupations	\$64,751
Construction and Extraction Occupations	\$64,145
Installation, Maintenance, and Repair Occupations	\$61,133
Educational Instruction and Library Occupations	\$60,097
Protective Service Occupations	\$59,490
Community and Social Service Occupations	\$55,958
Arts, Design, Ent, Sports, and Media Occupations	\$52,421
Office and Administrative Support Occupations	\$46,339
Health Care Support Occupations	\$45,603
Production Occupations	\$42,213
Sales and Related Occupations	\$36,368
Farming, Fishing, and Forestry Occupations	\$35,946
Building, Grounds Cleaning/Maintenance Occs	\$35,858
Personal Care and Service Occupations	\$34,005
Food Preparation and Serving Related Occupations	\$28,791

Note: Wages are based on 2019 Occupational Employment Statistics wage estimates for Alaska, weighted by base year 2018 employment.

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

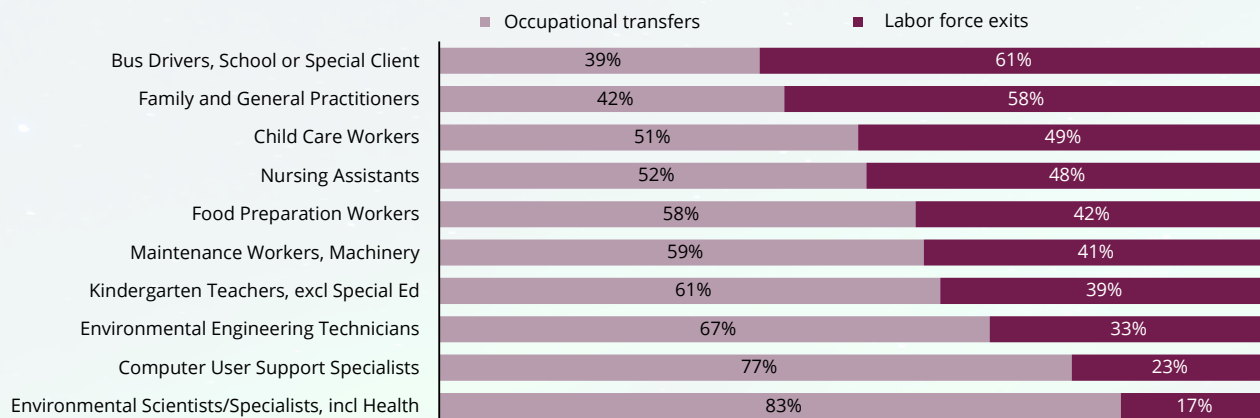
Projected growth and separations for select occupations, 2018-28



Notes: Growth openings are new jobs. Separations are the projected numbers of workers permanently leaving an occupation.

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

Types of separation openings for select occupations, 2018-28



Notes: Occupational transfers are the projected numbers of workers permanently leaving an occupation for another. Labor force exits are the projected numbers of workers leaving the labor force, and are common at retirement age but can happen at any age.

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

On the other hand, family doctors' separations are 58 percent exits and 42 percent transfers. Because medical school is such an undertaking and investment, people tend to remain in that career.

Exits among doctors are mainly retirements, and when they transfer, it's to other high-paying medical occupations. Some high-requirement occupations have high transfer rates because they create opportunities for advancement.

50 of Alaska's 777 occupations made the 'top jobs' list

Long-term projections are a vital tool for workforce development agencies, job placement and counseling professionals, job seekers, and education and

training providers. To help them determine where to focus, we developed Alaska's top jobs list, shown on the next page, which identifies the occupations we expect to fare well and pay well over the decade.

To make the list, an occupation must pay higher-than-average wages plus have higher-than-average growth or a large number of openings.

Out of Alaska's 777 occupations, 50 made the list this year. Twenty-four require a bachelor's degree and six require an associate degree or some type of postsecondary education, such as a vocational certificate or college attendance. Of the 19 top jobs that require a high school diploma or less, 12 require on-the-job training or an apprenticeship.

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Alaska's top jobs, 2018 to 2028

	Employment			Average annual openings, 2018-28			Training* required	Wage** quartile
	2018	2028	Percent change	Growth	Separations	Total openings		
Master's degree								
Educational, Guidance, School, and Vocational Counselors	505	499	-1.2%	-1	51	50	None	\$\$\$
Bachelor's degree								
Chief Executives	1,704	1,830	7.4%	13	126	139	None	\$\$\$\$
General and Operations Managers	4,368	4,622	5.8%	25	390	415	None	\$\$\$\$
Sales Managers	808	846	4.7%	4	74	78	None	\$\$\$\$
Administrative Services Managers	1,234	1,300	5.4%	7	106	113	None	\$\$\$\$
Computer and Information Systems Managers	931	963	3.4%	3	74	77	None	\$\$\$\$
Financial Managers	1,146	1,188	3.7%	4	90	94	None	\$\$\$\$
Human Resources Managers	561	595	6.1%	3	49	52	None	\$\$\$\$
Construction Managers	993	1,089	9.7%	10	75	85	Moderate OJT	\$\$\$\$
Medical and Health Services Managers	962	1,036	7.7%	7	79	86	None	\$\$\$\$
Buyers and Purchasing Agents	690	705	2.2%	2	73	75	Moderate OJT	\$\$\$
Compliance Officers	730	731	0.1%	0	64	64	Moderate OJT	\$\$\$\$
Human Resources Specialists	625	659	5.4%	3	64	67	None	\$\$\$
Management Analysts	524	534	1.9%	1	49	50	None	\$\$\$\$
Accountants and Auditors	1,932	2,053	6.3%	12	185	197	None	\$\$\$\$
Computer Systems Analysts	570	626	9.8%	6	43	49	None	\$\$\$
Network and Computer Systems Administrators	752	785	4.4%	3	54	57	None	\$\$\$\$
Civil Engineers	999	1,077	7.8%	8	81	89	None	\$\$\$\$
Zoologists and Wildlife Biologists	920	927	0.8%	1	84	85	None	\$\$\$\$
Environmental Scientists and Specialists, Including Health	613	689	12.4%	8	70	78	None	\$\$\$\$
Substance Abuse, Behavioral Disorder, Mental Health Counselors	675	733	8.6%	6	72	78	None	\$\$\$
Elementary School Teachers, Except Special Education	2,283	2,264	-0.8%	-2	168	166	None	\$\$\$
Secondary School Teachers, Exc Special and Career/Tech Ed	1,695	1,680	-0.9%	-2	118	117	None	\$\$\$
Registered Nurses	5,856	6,260	6.9%	40	323	363	None	\$\$\$\$
Airline Pilots, Copilots, and Flight Engineers	2,083	2,163	3.8%	8	216	224	Moderate OJT	\$\$\$\$
Associate degree or postsecondary nondegree award or some college, no degree								
Civil Engineering Technicians	638	669	4.9%	3	64	67	None	\$\$\$
Dental Hygienists	670	733	9.4%	6	47	53	None	\$\$\$\$
Massage Therapists	518	560	8.1%	4	63	67	None	\$\$\$
Telecomms Equip Installers and Repairers, Except Line Installers	770	752	-2.3%	-2	84	82	Moderate OJT	\$\$\$\$
Aircraft Mechanics and Service Technicians	1,476	1,504	1.9%	3	122	125	None	\$\$\$
Captains, Mates, and Pilots of Water Vessels	642	681	6.1%	4	62	66	None	\$\$\$
High school diploma or equivalent								
Food Service Managers	595	660	10.9%	7	72	79	None	\$\$\$
Correctional Officers and Jailers	1,283	1,243	-3.1%	-4	111	107	Moderate OJT	\$\$\$
Police and Sheriff's Patrol Officers	1,283	1,242	-3.2%	-4	88	84	Moderate OJT	\$\$\$\$
First-Line Supervisors of Office and Administrative Support	2,062	2,151	4.3%	9	221	230	None	\$\$\$
Executive Secretaries and Executive Administrative Assistants	3,209	3,353	4.5%	14	367	381	None	\$\$\$
Supervisors of Construction and Extraction Workers	740	829	12.0%	9	81	90	None	\$\$\$\$
Carpenters	2,162	2,467	14.1%	31	239	270	Apprentice	\$\$\$
Operating Engineers, Other Construction Equipment Operators	2,788	2,951	5.9%	16	330	346	Moderate OJT	\$\$\$
Electricians	1,769	1,901	7.5%	13	212	225	Apprentice	\$\$\$
Plumbers, Pipefitters, and Steamfitters	1,307	1,411	8.0%	10	151	161	Apprentice	\$\$\$\$
First-Line Supervisors of Mechanics, Installers, and Repairers	672	720	7.1%	5	64	69	None	\$\$\$\$
Bus and Truck Mechanics and Diesel Engine Specialists	701	747	6.6%	5	67	72	Long OJT	\$\$\$
Mobile Heavy Equipment Mechanics, Except Engines	822	910	10.7%	9	86	95	Long OJT	\$\$\$
First-Line Supervisors of Production and Operating Workers	619	674	8.9%	6	67	73	None	\$\$\$
Welders, Cutters, Solderers, and Brazers	590	639	8.3%	5	68	73	Moderate OJT	\$\$\$
1st-Line Supervisors of Transp/Matl Movers, Exc Air Cargo	685	727	6.1%	4	75	79	None	\$\$\$
Commercial Pilots	932	939	0.8%	1	95	96	Moderate OJT	\$\$\$\$
Flight Attendants	463	458	-1.1%	-1	52	52	Moderate OJT	\$\$\$\$
No formal educational credential								
Service Unit Operators, Oil, Gas, and Mining	993	1,074	8.2%	8	146	154	Moderate OJT	\$\$\$

Note: To rank as a "top job," an occupation must: 1) rank in the top two wage quartiles; AND 2) have total 10-year projected growth of at least 75 jobs and greater percentage growth than all occupations combined, OR be among the 50 occupations with the most projected average annual openings (of those with wages in the top two quartiles). Residual "all other" occupations are excluded.

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

**Wages: \$\$\$ = \$60,370 to \$78,010 annually (\$29.02 to \$37.50 hourly), \$\$\$\$ = More than \$78,010 annually (\$37.50 hourly), based on 2019 Occupational Employment Statistics wage estimates for Alaska.

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