



ALASKA ECONOMIC
TRENDS

OCTOBER 2014

**10-YEAR FORECAST:
INDUSTRIES and
OCCUPATIONS**

ALASKA ECONOMIC TRENDS

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INDUSTRY FORECAST OCCUPATIONAL FORECAST

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2012 to 2022 By PAUL MARTZ

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ON THE COVER:

Sunrise over the Gastineau Channel between Juneau and Douglas Island. Photo by Sam Dapcevich

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Workforce investment priorities align with job projections



By Dianne Blumer
Commissioner



Follow the Alaska Department of Labor and Workforce Development on Facebook (facebook.com/alaskalabor) and Twitter (twitter.com/alaskalabor) for the latest news about jobs, workplace safety, and workforce development.

Alaska remains a state of opportunity.

This issue of *Trends* details industry and occupational forecasts for Alaska — what occupations will need to be filled and which industries will grow the most — between 2012 and 2022. The news continues to be good with business growth, new economic opportunities, and more jobs on the horizon.

Alaska is expected to gain more than 36,000 jobs by 2022, increasing the state's total job count to more than 370,000. Our employers will also need to fill an additional 95,000 replacement openings as workers retire or change careers.

Alaska added almost 1,700 jobs from the first quarter of 2013 to the first quarter of 2014. More information is available online at labor.alaska.gov/news/2014/news14-38.pdf. The Parnell Administration has helped Alaska add 16,000 jobs since 2009.

Demand for health care and social assistance workers remains strong, with projected increases of about 25 percent. Mining jobs are projected to increase 24.8 percent, with oil and gas extraction increasing 15.3 percent.

The increased exploration and production we're seeing in Alaska's oil fields and construction of a natural gas pipeline will create even more high-paying jobs.

Alaska's Top Jobs list identifies those occupations where wages are in the top 50 percent of all occupations with projected growth of at least 75 jobs, or where projected openings are in the top 50. This list is an excellent tool for students, parents, educators and training providers, and those seeking a career change. Our administration is focused on ensuring Alaska's workforce investments are aligned with education, job training, and employment opportunities. By working together, we can better use our resources to ensure we

are producing a workforce to meet the needs of employers and keep Alaska competitive.

The Alaska Department of Labor's Business Partnerships Division recently launched a new Web page to help track the state's investment in our workforce system. Alaskans can see these investments by fund and grantee, including programs for young Alaskans, adult workers, and training institutions. Users can find the information at labor.alaska.gov/bp/workforce_investments/.

A recent investment involved helping wounded warriors and veterans bridge the gap to civilian employment as carpenters, pipefitters, and welders on Alaska's North Slope. Under a State Training and Employment Grant to Alaska Healing Hearts, 16 transitioning service members trained at Northern Industrial Training and have secured craft positions on the Point Thomson Project.

The outcome of our partnership with CH2M HILL Alaska, NIT, Hero2Hired, and Alaska Healing Hearts doesn't get any better as this training program hit the bull's eye on three critical components: Alaska hire, veteran hire, and 100 percent job placement.

That's what investing in Alaska's talent pipeline is all about.

We also continue to focus on connecting job seekers and Alaska employers through our Alaska Job Center Network and Business Connections with workshops, recruitments, and fairs.

One of our most popular events is the annual Alaska Veterans Job Fair. On Friday, Nov. 7 at the University Center in Anchorage, more than 100 employers will have the opportunity to visit with more than 1,000 veterans, transitioning soldiers, and their families. For more details about the event, including contact information, go to jobs.alaska.gov/jobfairs/.

Alaska INDUSTRY FORECAST

2012 to 2022

Health care and mining will lead growth

By **PAUL MARTZ**

Alaska is projected to gain 36,113 jobs between 2012 and 2022 for a growth rate of 10.8 percent. The health care and social assistance sector will grow the most at a projected 25 percent, followed closely by mining — minus oil and gas — at 24.8 percent.

Two other notable categories — oil and gas extraction and professional and business services — are likely to grow at a faster rate than the economy overall. On the other end of the spectrum, we expect construction and information to grow slower than overall employment.

Government is the only sector projected to lose jobs. We expect the federal job count to drop 9 percent, and project little to no growth for state and local government.

Health care continues to lead

Alaska's population is expected to grow by 10 percent between 2012 and 2022. During the same period, Alaskans aged 65 and older will increase by a whopping 79 percent, which will substantially increase demand for health care workers.

Hospital employment will grow by an estimated 20.1 percent. This is partly due to the overall population increase, but senior citizens use a disproportionate amount of hospital services. The same is true for ambulatory health care — physician's offices, outpatient care centers, and home health care services — which we expect to grow by 28.5 percent. High demand by seniors will especially boost the home health care services industry, which provides patient care in the home

rather than a clinic or hospital.

Increases in social assistance will be due to growth in nursing care facilities and retirement communities, which we project will grow by 33.1 percent over the 10-year period.

Together, health care and social assistance will be responsible for 31 percent of total job growth, and its share of employment in the state will increase from 13.4 percent to 15.2 percent. This sector is undoubtedly a driving force in Alaska, but growth has slowed from its 24-year average of 4 percent per year.

Mining a close second

Nonoil mining employment is projected to grow by 24.8 percent from 2012 to 2022. This increase, nearly equal to that of health care, will be due to a combination of higher-than-average mineral commodity prices and the expansion of existing mines.

Metal ore mining jobs — the largest mining subcategory — more than doubled from 2001 to 2013. We expect that upward trend to continue with growth in existing mines and the continuation of work toward prospective mines. Specifics include:

- Kinross Fort Knox Mine has submitted a request to the Bureau of Land Management to expand its gold mine onto surrounding federal lands.
- Coeur Mining's Kensington gold mine, which began operating in 2010, will undergo additional surface exploration in 2014.
- Due to promising recent exploration around the Pogo gold mine, Sumitomo is expected to continue operating the mine past the end of its originally

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Alaska Employment Forecast by Industry

2012 TO 2022

Industry ¹	2012 estimated jobs ²	2022 projected jobs	Change from 2012 to 2022	Total % change ³
Total Employment, All Jobs ⁴	333,953	370,066	36,113	10.8%
Goods-Producing	48,501	54,132	5,631	11.6%
Natural Resources and Mining	18,062	21,494	3,432	19.0%
Agriculture, Forestry, Fishing and Hunting	1,033	1,091	58	5.6%
Mining	17,029	20,403	3,374	19.8%
Oil and Gas Extraction	3,889	4,484	595	15.3%
Mining (except Oil and Gas)	2,758	3,441	683	24.8%
Support Activities for Mining	10,382	12,478	2,096	20.2%
Construction	16,545	17,632	1,087	6.6%
Construction of Buildings	4,909	5,630	721	14.7%
Heavy and Civil Engineering Construction	3,269	3,374	105	3.2%
Specialty Trade Contractors	8,367	8,628	261	3.1%
Manufacturing	13,894	15,006	1,112	8.0%
Food Manufacturing	10,616	11,319	703	6.6%
Seafood Product Preparation and Packaging	10,166	10,844	678	6.7%
Manufacturing, All Other	3,278	3,687	409	12.5%
Services-Providing	285,150	315,799	30,649	10.7%
Trade, Transportation, and Utilities	65,573	71,939	6,366	9.7%
Wholesale Trade	6,373	7,317	944	14.8%
Retail Trade	35,308	38,823	3,515	10.0%
Transportation and Warehousing ⁵	21,717	23,464	1,747	8.0%
Air Transportation	5,903	6,288	385	6.5%
Water Transportation	924	1,106	182	19.7%
Truck Transportation	3,220	3,764	544	16.9%
Transportation and Warehousing, All Other	11,670	12,306	636	5.4%
Utilities	2,175	2,335	160	7.4%
Information	6,189	6,370	181	2.9%
Financial Activities	12,885	14,168	1,283	10.0%
Finance and Insurance	7,023	7,604	581	8.3%
Real Estate and Rental and Leasing	5,862	6,564	702	12.0%
Professional and Business Services	29,337	33,895	4,558	15.5%
Professional, Scientific, and Technical Services	15,120	17,578	2,458	16.3%
Management of Companies and Enterprises	2,559	3,069	510	19.9%
Administrative and Support and Waste Management and Remediation Services	11,658	13,248	1,590	13.6%
Education and Health Services	76,123	90,154	14,031	18.4%
Educational Services, Public and Private ⁶	31,219	34,003	2,784	8.9%
Elementary and Secondary Schools, Public and Private	21,813	23,987	2,174	10.0%
Educational Services, Public and Private, All Other	9,406	10,016	610	6.5%

Table continues on next page

projected 2019 life span.

- Usibelli Coal Mine plans to open the Jumbo Dome mine in 2014, having completed the permit process in 2012.
- Teck Resources expects to continue Red Dog Mine production from the current deposits until 2031.
- Barrick Gold and NovaGolds' Donlin Creek project has continued to progress. As of summer 2014, the project was in the draft environmental impact statement stage of permitting, and the companies involved had signed an agreement with The Kuskokwim Corporation to use the surface lands at the proposed mine site.
- International Tower Hills is still exploring the Livengood Gold Mine, but its economic viability is uncertain because recent gold prices aren't high enough for the mine to begin operations.
- Exploration of Ucore Rare Earth Inc.'s Bokan-Dotson Ridge and Heatherdale Resources' Niblack project have continued, and both have been authorized to receive financial assistance from the Alaska Industrial Development and Export Authority.
- NovaCopper Inc. is still exploring the Arctic and Bornite deposits, although the prospects of that mine may hinge on construction of a road into the Ambler Mining District.

1

Alaska Employment Forecast by Industry, continued

2012 to 2022

Industry ¹	2012 estimated jobs ²	2022 projected jobs	Change from 2012 to 2022	Total % change ³
Health Care and Social Assistance, Public and Private ⁷	44,904	56,151	11,247	25.0%
Ambulatory Health Care Services	17,310	22,236	4,926	28.5%
Hospitals	13,225	15,877	2,652	20.1%
Health Care and Social Assistance, All Other	14,369	18,038	3,669	25.5%
Leisure and Hospitality	33,524	37,360	3,836	11.4%
Arts, Entertainment, and Recreation	4,703	5,259	556	11.8%
Accommodation and Food Services	28,821	32,101	3,280	11.4%
Accommodation	7,911	9,044	1,133	14.3%
Food Services and Drinking Places	20,910	23,057	2,147	10.3%
Other Services (Except Government)	12,196	12,904	708	5.8%
Total Government	49,323	49,009	-314	-0.6%
Total Federal Government ⁸	14,368	13,071	-1,297	-9.0%
Total State Government ⁹	17,832	18,774	942	5.3%
Total Local Government ¹⁰	17,123	17,164	41	0.2%
Unreported	302	135	-	-

Notes:

¹Several industry categories are not consistent with others we publish as detailed in the footnotes below.

²Industry sector numbers may not sum to total employment because of rounding.

³Percent change may be inconsistent with employment change due to rounding of the employment numbers.

⁴Excludes self-employed workers, fishermen, domestic workers, unpaid family workers, and nonprofit volunteers.

⁵Includes U.S. Postal Service employment.

⁶Includes local and state government educational service employment.

⁷Includes public sector hospital employment.

⁸Excludes uniformed military, postal, and hospital employment.

⁹Excludes university, railroad, and hospital employment.

¹⁰Excludes public school and hospital employment.

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

Many other mining plans, proposals, and concepts are circulating throughout the state. Because these projects have such a volatile relationship with their respective commodity prices, financing, global economic fluctuations, and environmental regulations, it's impossible to predict which projects will proceed. The outlook for the industry is positive, but a significant decline in mineral prices would change that picture.

Range of possibilities for oil and gas

Oil and gas extraction employment is projected to increase by 15.3 percent over the period, but few industries have such a wide range of possible long-term outcomes. The last decade has been a wild ride for the industry with a combination of big price swings, declining production, and relatively strong overall job growth.

The impact of a major change to the state's oil and gas tax structure in 2014, and the new investment oil companies announced in response, will take a number of years to assess. Oil prices, both current and projected, will continue to drive investment decisions, but technological developments, national policies and politics, and stability in the world's oil-producing regions will all play a role.

Oil and gas extraction jobs represent about a third of

all oil and gas industry employment — the others are classified in oil and gas drilling or support activities, which are part of the support activities for mining category.

A mixed bag for construction

We project somewhat slow growth for construction, at 6.6 percent, due to the winding down of a large project in the power and communication line and related structures industry. (See the sidebar on page 9 for more information.) If we factored out this temporary blip, the projected growth rate would be 9.5 percent.

Residential and nonresidential building construction industries are expected to increase by 14.9 percent and 14.5 percent respectively. Residential construction's gains will come mostly from population increases and replacement of Alaska's aging housing stock. Nonresidential construction's increase will be the result of more demand for goods and services as Alaska's economy and population grow, and to a lesser extent, the aging of commercial and institutional buildings.

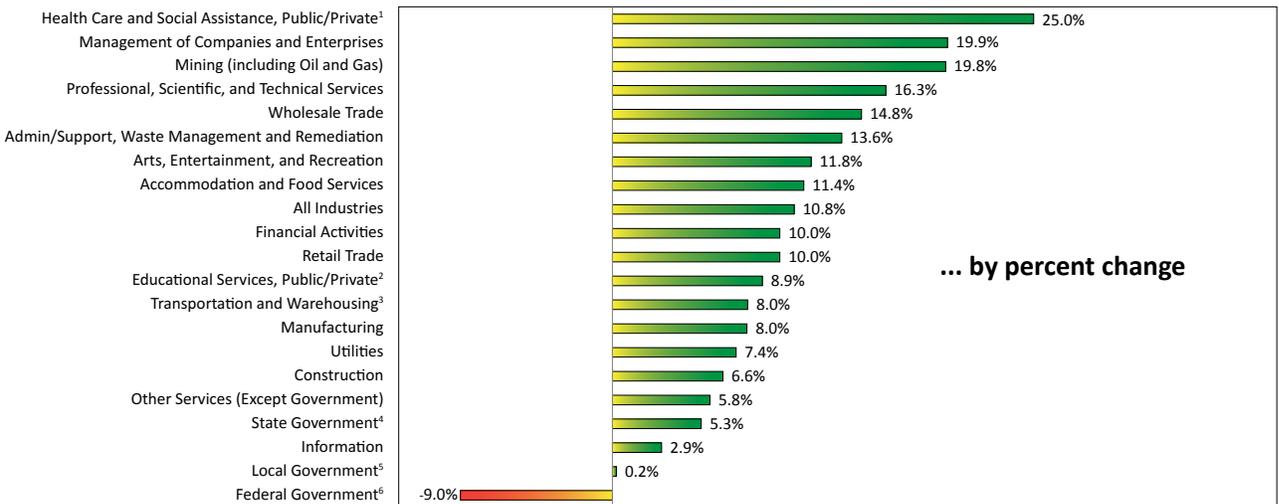
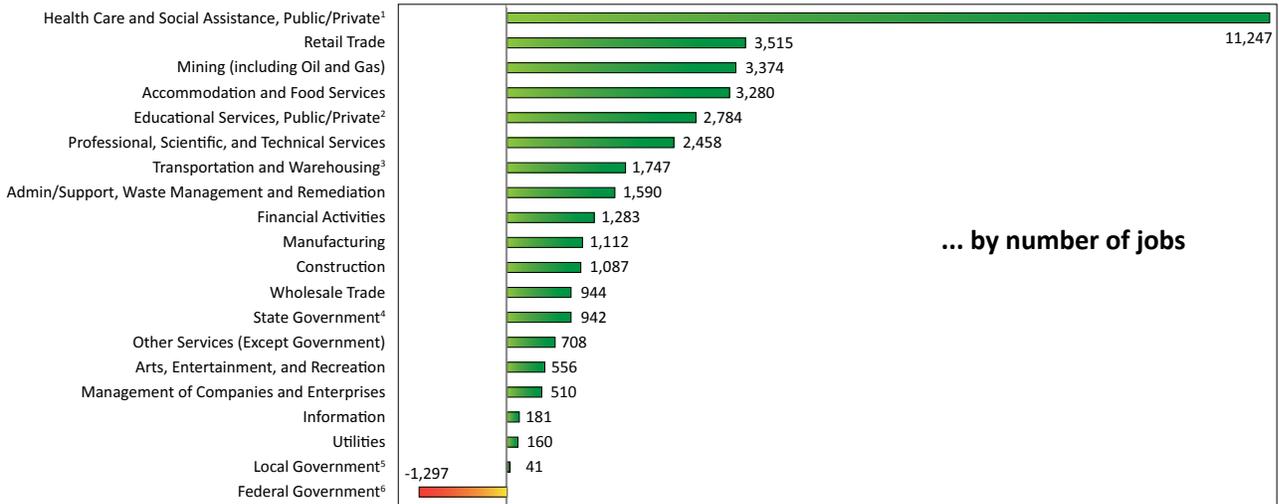
Some growth for parts of retail

Retail trade is likely to grow slightly slower than the

2

Health Care Will Grow the Most Again

ALASKA INDUSTRIES' PROJECTED GROWTH, 2012 TO 2022



Notes:

¹Includes public sector hospital employment.

²Includes local and state government educational service employment.

³Excludes university, railroad, and hospital employment.

⁴Excludes public school and hospital employment.

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

How the Department of Labor creates these projections

The Department of Labor and Workforce Development creates 10-year industry and occupational forecasts for Alaska every other year. These projections are the product of four steps:

Step 1: Project industry employment

We use data from the Quarterly Census of Employment and Wages to determine the number of jobs for each industry during the first year, or “base year,” of the projection period.¹ Certain types of public-sector employment — such as education, hospitals, rail transportation, and U.S. Postal Service — are combined with employment in private-sector industries.

We create projections for each industry based on historical trends and expected economic changes, Alaska and U.S. population projections, and other industry-specific variables. The projections also take into account any knowledge of specific projects and observations of the current economic climate.

Step 2: Determine the occupational makeup, or “staffing pattern,” of each industry

To estimate base year employment for each occupation, we determine the occupational “staffing pattern” of each industry. Most industries have a variety of occupations. The staffing pattern is the breakdown of each occupation’s share of the industry’s total employment, referred to as “staffing ratios.”

Employers in Alaska report their workers’ occupations when they submit unemployment insurance quarterly contribution reports, which form the basis of Alaska’s Occupational Database. We use an analysis of the three most recent years of ODB data to calculate occupational staffing ratios for the majority of industries.

Step 3: Calculate base year and projected occupational employment

For each occupation, we multiply each industry’s estimated base year employment by the staffing ratio, then sum the results to get the base year estimate.

For the projections, adjustments to staffing ratios within an industry are called “change factors.” Change factors are multipliers that increase or decrease an occupation’s estimated share of industry employment based on factors other than an industry’s projected employment change. Some examples are changes in consumer demand, technology, or business practices.

We then multiply each industry’s projected employment by the adjusted staffing ratio for each occupation, with the results summed by each occupation to get the projections.

Step 4: Estimate job openings

Job openings for an occupation result from both job growth and replacements of workers who leave. An occupation’s growth openings are equal to its positive change over the projection period. Estimates of replacement openings use a combination of Bureau of Labor Statistics formulas and formulas derived from an analysis of historical ODB data.

¹Estimates and projections do not include self-employed workers, private household workers, most agricultural workers and fishermen, and others who are not covered by the state’s unemployment insurance program.

overall economy, at 10 percent over the 10-year period. Changing consumer behavior suggests sales will lag at electronics and appliance stores as well as book, periodical, and music stores. Clothing and clothing accessory stores are also likely to weigh down job growth, as they haven’t rebounded since losing approximately 200 jobs in 2009.

On the growth side, we expect health and personal care stores to add 374 jobs due to an aging population and more demand for over-the-counter health care supplies and medications.

This industry has already begun to expand in Alaska with Walgreen’s opening stores in the Anchorage/Matanuska-Susitna area in 2009. Two more stores are scheduled to open in Fairbanks in 2014. And as we’ve seen in other industries, once a national chain opens in Alaska, its competition soon follows.

Growth in motor vehicle and parts dealers, along with department stores, will likely top 16 percent. The recession hit automotive industries hard, but job growth has accelerated as consumers regain confidence. Department store employment has been relatively flat

Plant construction brought major shifts for the industry

From 2011 to 2013, Chugach Electric and Municipal Light and Power built a 183 megawatt gas-fired power plant, dubbed the Southcentral Power Project. That project added more than 400 jobs between 2011 and 2012, of which nearly 200 disappeared as the project neared completion in 2013.

Now that the construction phase is winding down, employment on the project is expected to decline to near zero, returning the industry's overall employment to levels more consistent with long-term trends.

In addition to the newly finished plant, Anchorage Municipal Light and Power will begin work on the George M. Sullivan Plant 2 Generation Replacement Project, which it expects to complete in 2016. This will produce an additional employment spike for the industry.

since 2006, but population increase and higher household spending is projected to boost employment by 16.9 percent.

The leisure and hospitality sector is projected to add jobs at a rate of 11.4 percent, likely because of overall population growth and more tourists visiting the state. We expect travel accommodations and RV parks to grow by over 14 percent combined, and restaurants by 12.4 percent.

The only projected decline in the retail sector is for bars, which we expect to drop by 9.2 percent. Jobs at bars have been on a downward trend since the late 1990s, as consumers appear to favor restaurants serving food as well as alcohol.

Water, truck transportation gains

The transportation and warehousing sector will also benefit from more tourists in the coming years, resulting in a projected employment gain of 8 percent.

Scenic and sightseeing land transportation has been slowly recovering from the effects of the national recession. However, some of that sluggishness appears to be the result of sales and purchases of land tour operations within interior Alaska. We expect that once the industry becomes more stable, employment will increase to 1,300 jobs, which would be near its pre-recession level.

Water transportation employment, which includes cruise ships and freight transportation, is expected to increase by almost 20 percent. For the truck transportation industry, we project growth at 16.9 percent because of increased investment on the North Slope,

overall population growth, and the potential for a fleet of trucks moving liquefied natural gas off the North Slope.

The most significant strains on transportation will be the U.S. Postal Service and the rail transportation industry. Because of continued nationwide losses in revenue, postal employment is projected to fall by 20.6 percent in Alaska from 2012 to 2022. We don't expect the rail transportation industry to fare much better, with an anticipated job loss of 17.1 percent.

The decline in rail transportation began in 2008 and continued into 2013 with a total loss of around 200 jobs. The closure of the Flint Hills refinery in North Pole, which was a major source of revenue for the railroad, is expected to spur additional job cuts. The number of jobs necessary to maintain railroad operations is unclear.

More students, more jobs in elementary, secondary schools

Public and private education will add jobs at a projected rate of 8.9 percent over the 10-year period, with elementary and secondary schools responsible for 78 percent of that growth. The population of 5-to-18-year-olds will increase by about 11.5 percent during that time, but the number of teachers and staff aren't likely to increase at the same pace.

The remaining growth will be in education services, which consist of the University of Alaska, Alaska Pacific University, trade schools, training organizations, and private sports and recreational instructors. The University of Alaska's enrollment remained high during the national recession and recovery. However, its enrollment seems to have peaked, and reduced state spending will also affect the university system in the future.

Net losses in government

The federal government has been eliminating jobs in Alaska since 2011, with a decline of 588 in 2012 and an additional decrease of 833 in 2013. These reductions were mostly due to federal budget problems and spending cuts from the budget sequestration. Attrition and continued federal spending cutbacks in Alaska will lead to further losses.

Growth in state government jobs is projected to be less than half of overall job growth at 5.3 percent, and local government employment will remain essentially flat.

Some of the sluggishness in state and local government will be due to reduced federal funding. This

downward pressure will be compounded by budget pressure at the state and local levels.

Traditional media will continue to decline

The information sector is expected to grow by about 3 percent, but employment in traditional media will shrink. Newspaper, periodical, book, and directory publishers will cut jobs by 9.8 percent over the 10-year period. Broadcasting, excluding Internet, will also continue to decline, with projected losses near 12 percent.

Though we've seen some telecommunications losses in the past few years, Verizon's arrival in the state will likely prop up employment numbers for a projected growth rate of 3.4 percent. We expect the largest increase in data processing and hosting employment, which will nearly double.

Professional, scientific, and technical services

The projected growth rate for the professional, scientific, and technical services sector is 16.3 percent, with above-average growth in 10 of its 17 sectors. Only legal services is likely to decline, at a projected job loss of 11.8 percent.

We project the largest total job growth for the engineering and drafting services industry, at 740 jobs. In terms of the largest percentage, the research and development industry will gain a projected 80 jobs, a growth rate of 51.5 percent.

Most of the industries in this sector grew considerably over the previous decade, which will continue with an anticipated increase in expenditures on the North Slope as well as additional expenditures toward development of an in-state natural gas pipeline.

Alaska OCCUPATIONAL FORECAST

2012 to 2022

Most 'top jobs' connected to an aging population

By **PAUL MARTZ**

The next few years will bring Alaskans a range of job opportunities through 36,000 new positions and 95,000 additional replacement openings. Because of the shift to an older Alaska and a growing population overall, more than half of the top 25 occupations for growth will be in health care.

Health care occupations are intrinsically linked to population dynamics. Older people rely more heavily on these services, and between 2012 and 2022, the senior population will grow considerably, generating more

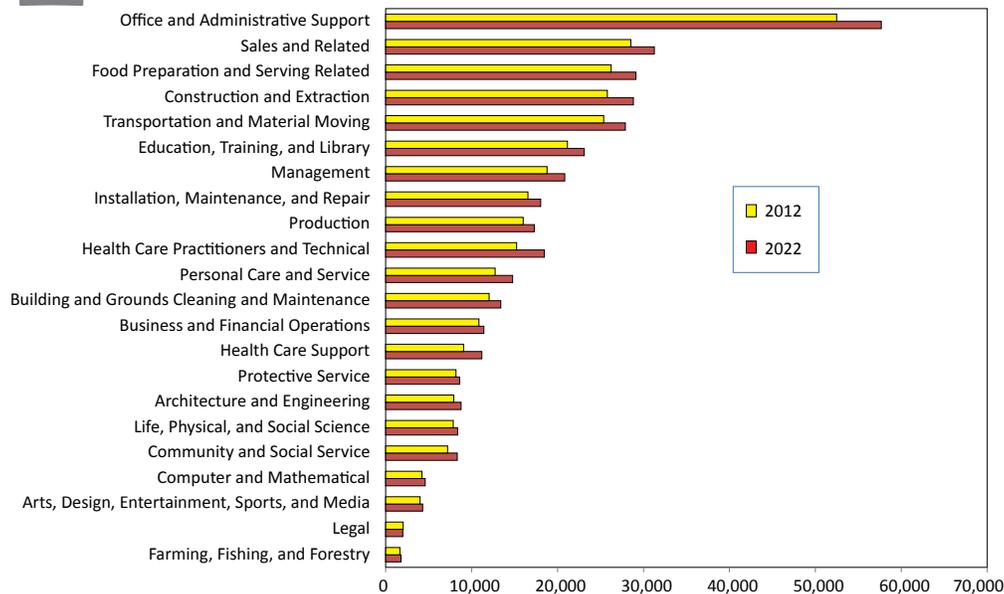
demand.

The age group from 65 to 79 will increase by a projected 85.4 percent, and those 80 and older will grow by 51.1 percent. For comparison, the rest of the population between 0 and 64 is expected to increase by just 3.6 percent.

Health care is at the top

Alaska's changing demographics are particularly noticeable when looking at the 25 occupations we expect to grow most, by percentage. (See Exhibit 6.) Twelve are in the health care practitioners and technical occupations

1 Highest Total Jobs in Office Work PROJECTED TOTAL JOBS BY OCCUPATIONAL CATEGORY, 2012 AND 2022

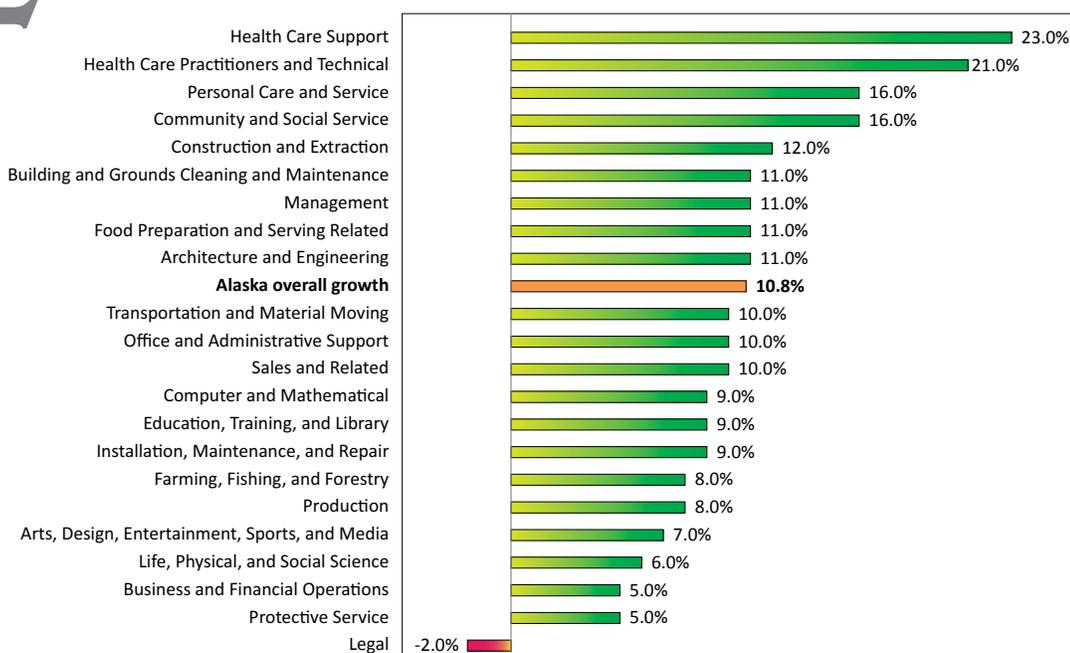


Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

2

Health Care Support to Grow the Most

PERCENT GROWTH BY OCCUPATIONAL CATEGORY, 2012 AND 2022



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

category and four are in health care support. Together, these two occupational categories will grow a projected 22 percent, adding 5,350 jobs. (See Exhibits 1 and 2.) People who leave these occupations, usually due to retirement or changing careers, will create an additional 4,707 openings. (See Exhibit 3.)

Several other high-growth occupations that aren't categorized in health care but will still be critical to meeting the needs of older Alaskans include:

- Personal care aides, which will increase by a projected 26 percent, or 1,033 jobs, with another 1,155 replacement openings. Personal care aides help the elderly or disabled with daily tasks such as cooking, cleaning, and hygiene. Some within this category also provide limited medical assistance under the direction of a registered nurse.
- Funeral attendant, which is a small occupation in Alaska at just 34 jobs in 2012, but one that we expect to grow 29.2 percent by 2022.
- Health care social workers and social and human service assistants, who help chronically ill or injured people and their families, are projected to increase by 18.9 and 17.6 percent respectively.

High growth outside health care

The other highest-growth occupations are mainly in pro-

duction and in construction and extraction. At the top, with a projected growth rate of 25 percent, are continuous mining machine operators. This mining occupation includes operating mining equipment for ore removal.

Closely following with expected growth of 24.3 percent are millwrights. Millwrights aren't mining-specific, but their duties, which include installation and movement of heavy equipment, are important to the mining industry.

Occupations in decline

Forty-one occupations face projected declines between 2012 and 2022. Most are casualties of continual cuts to U.S. Postal Service and Alaska Railroad Corporation jobs. Others are due to large reductions in the federal workforce and anticipated drops in broadcasting, newspapers, and legal services.

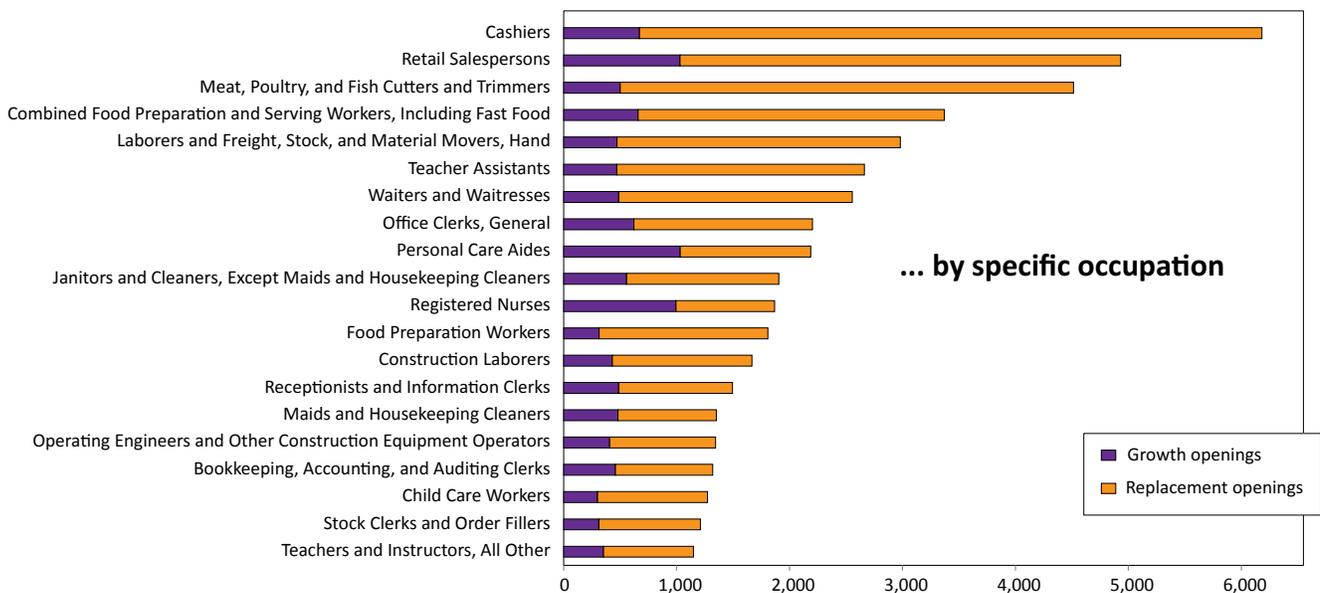
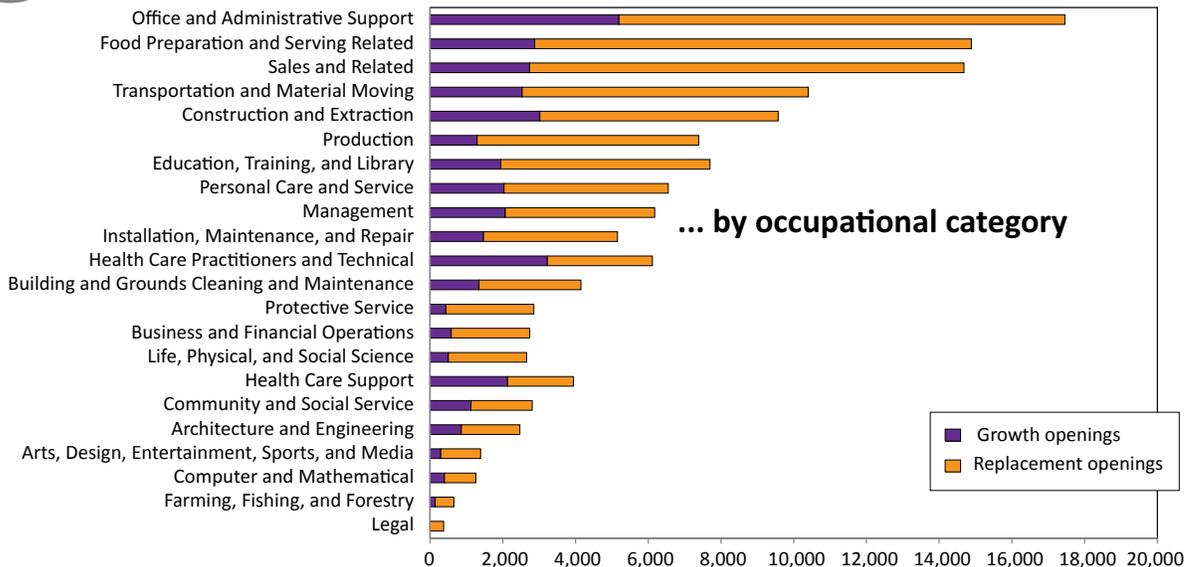
Some of the expected federal losses will include psychologists, biological scientists, historians, and compensation and benefits managers. Broadcasting and newspaper losses will include broadcast technicians, print binding and finishing workers, and editors. We anticipate the legal industry to lose lawyers, legal secretaries, and legal assistants. (See Exhibit 6.)

Most openings are replacements

When looking at the long-term outlook for any occupa-

3 Growth vs. Replacements

TYPES OF OCCUPATIONAL OPENINGS, 2012 AND 2022



Notes: Growth openings are new jobs. Replacement openings result from vacancies left by workers who retire or permanently leave an occupation.

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

tion, replacement openings are just as important as new jobs from the perspective of someone planning a career or assessing workforce training needs. For this 10-year period, replacement openings will generate 2.5 times more job opportunities than openings from growth. Replacement openings are vacancies left by a worker who retires or otherwise permanently leaves an occupation, whether that's from changing careers or leaving Alaska.

It's important to note that a vacancy left by a worker who moves from one employer to another in the same

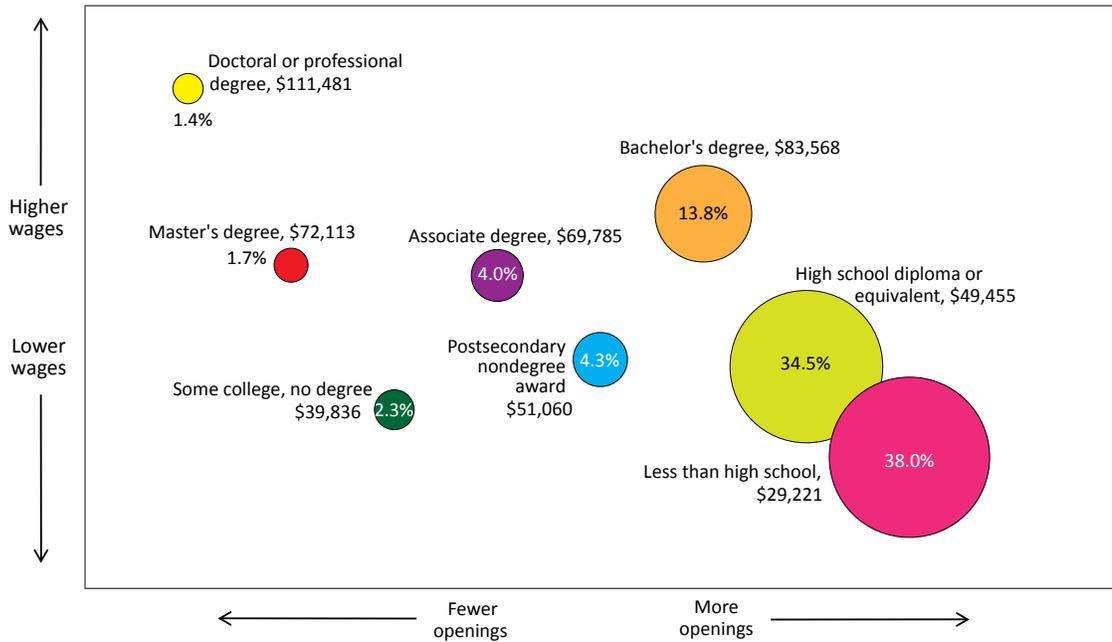
occupation doesn't count as a replacement opening. This is called job turnover, and it's much more common. Though replacement openings don't include turnover, many occupations with high turnover also generate high numbers of replacement openings.

This is because many of these occupations are low-wage and frequently filled by young workers who are likely to change careers as they age. For example, many cashiers are young people doing seasonal work rather than making a career choice, and many will never return to a

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Openings by Educational Level* and Wages

ALASKA OCCUPATIONAL PROJECTIONS, 2012 TO 2022



*See sidebar on page 16 to learn more about the different between education and training.

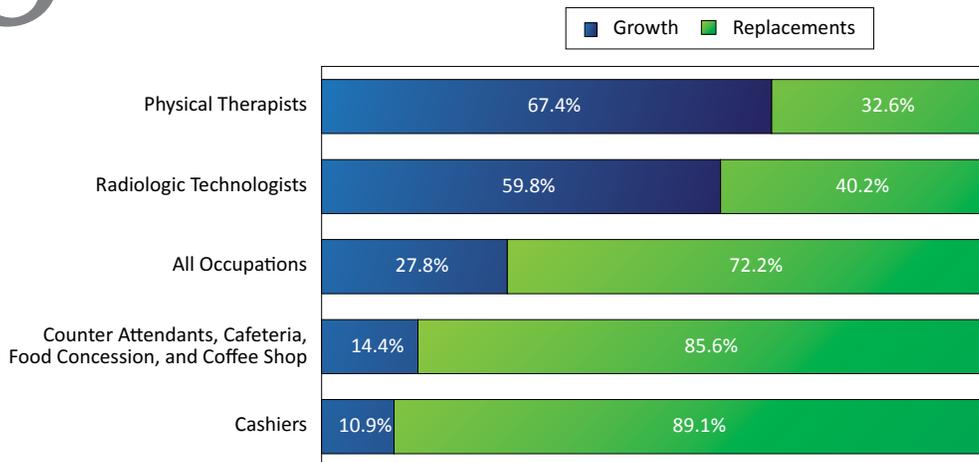
Note: includes openings from growth and replacements

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

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Percent New Jobs vs. Replacement Openings

SELECT ALASKA OCCUPATIONS, 2012 TO 2022



Notes: Growth openings are new jobs. Replacement openings result from vacancies left by workers who retire or permanently leave an occupation.

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

6

Highest Projected Growth

TOP 25 OCCUPATIONS, 2012 TO 2022

Occupation	Percent growth
Opticians, Dispensing	29.7%
Dental Hygienists	27.8%
Dental Assistants	27.0%
Home Health Aides	26.0%
Personal Care Aides	26.0%
Medical Assistants	25.7%
Physician Assistants	25.5%
Mental Health and Substance Abuse Social Workers	25.0%
Continuous Mining Machine Operators	25.0%
Dentists, General	24.6%
Millwrights	24.3%
Recreational Therapists	24.2%
Family and General Practitioners	24.1%
Massage Therapists	23.9%
Medical Secretaries	23.7%
Nurse Practitioners	23.7%
Hazardous Materials Removal Workers	23.4%
Substance Abuse and Behavioral Disorder Counselors	23.2%
Packaging and Filling Machine Operators and Tenders	23.2%
Medical and Clinical Laboratory Technicians	23.1%
Physical Therapists	23.0%
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	22.3%
Radiologic Technologists	22.2%
Surgical Technologists	22.0%
Medical and Clinical Laboratory Technologists	21.8%

Note: This list only includes occupations with at least 50 workers and growth of at least 20 jobs. It excludes residual occupations ending with "all other" and a small number with incomplete or unreliable data.

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

cashiering job after the season ends. This leaves a large number of openings — in fact, 89.1 percent of openings for cashiers will be replacements. (See Exhibit 5.)

On the opposite end, more permanent and high-wage jobs typically have more growth openings. Openings for physical therapists, for example, will be 67.4 percent new positions. (See Exhibit 5.)

Highest total openings in lower-paying occupations

The highest total openings will be in office and administrative support, food preparation and serving, and sales. (See Exhibit 3.) These categories are typically high-replacement, but food service and sales jobs slightly edge out administrative occupations for replacements because they're often seasonal and lower-wage.

Openings by education level

Over the projection period, 72.5 percent of the avail-

Highest Projected Loss

BOTTOM 25 OCCUPATIONS, 2012 TO 2022

Occupation	Percent loss
Postmasters and Mail Superintendents	-21.1%
Pressers, Textile, Garment, and Related Materials	-20.7%
Postal Service Mail Carriers	-19.9%
Mail Sorters, Processors, Proc Machine Operators	-19.9%
Railroad Brake, Signal, and Switch Operators	-17.6%
Postal Service Clerks	-17.2%
Locomotive Engineers	-16.1%
Rail Track Laying/Maintenance Equipment Operators	-14.3%
Radio, Cellular, and Tower Equip Installers/Repairers	-14.0%
Broadcast Technicians	-10.8%
Machine Feeders and Offbearers	-10.0%
Reporters and Correspondents	-9.9%
Rail Car Repairers	-9.6%
Print Binding and Finishing Workers	-9.4%
Psychologists, All Other	-9.1%
Radio and Television Announcers	-8.1%
Prepress Technician and Workers	-7.7%
Compensation and Benefits Managers	-5.1%
Biological Scientists, All Other	-5.0%
Legal Secretaries	-5.0%
Transportation Inspectors	-4.9%
Social Scientists and Related Workers, All Other	-4.8%
Paralegals and Legal Assistants	-4.5%
Title Examiners, Abstractors, and Searchers	-4.0%
Historians	-3.3%
Printing Press Operators	-3.2%
Artists and Related Workers, All Other	-3.0%
Physical Scientists, All Other	-3.0%
Dancers	-2.8%
Hydrologists	-2.6%
Business Operations Specialists, All Other	-2.6%
Forest and Conservation Technicians	-2.4%
Media and Communication Equip Workers, All Other	-2.3%
Helpers: Brickmasons, Blockmasons, Stonemasons, and Tile and Marble Setters	-2.3%
Advertising Sales Agents	-2.1%
Laundry and Dry Cleaning Workers	-1.9%
Producers and Directors	-1.0%
Foresters	-0.9%
Lawyers	-0.9%
Editors	-0.8%
Conservation Scientists	-0.3%

able job openings will require a high school diploma or less, though many still require significant postsecondary training and, in some cases, years of vocational education through apprenticeships.

Jobs that require a high school diploma or less typically pay less than those requiring higher levels of education. (See Exhibit 4 and the sidebar on page 16.) The average annual wage for a job requiring a high school diploma is about \$49,455, and for those that don't require a diploma, wages average \$29,221. These wage estimates are based on a 40-hour work week year-round, so many that are seasonal or part-time will pay considerably less.

The remaining 27.5 percent of openings will be in occupations that require some college, a degree, or a post-secondary nondegree award. Aircraft mechanics, medical assistants, and commercial drivers are common post-secondary nondegree award jobs. About 13.8 percent of these openings will require at least a bachelor's degree, meaning higher wages and full-time, year-round work.

What makes a 'top job'

Long-term occupation projections are a vital tool for workforce development agencies, job placement and counseling professionals, job seekers, and education and training providers, but it can be difficult to determine which occupations should get the most attention from these stakeholders. To help answer this question, we developed the Alaska's Top Jobs list. (See Exhibit 8.)

The list focuses on occupations we project will fare well and pay well over the projections period. To make the top jobs list, an occupation must meet two criteria:

- Its average wages must rank in the top 50 percent of all occupations.
- It must either: 1) have projected growth of at least 75 jobs and percentage growth that's higher than that of all occupations combined, or 2) be among the 50 occupations with the most projected openings.

The occupations in the top jobs list represent 53 out of 788 occupations found in Alaska, or 6.7 percent. It comprises a select group of occupations that are at the top end of 13 out of 23 broad occupational categories.

A high percentage of these occupations, about 17 percent, are related to health care, but construction and extraction along with management make up 13.2 percent and 15.1 percent respectively. The remaining occupations run the gamut from petroleum engineers to air traffic controllers, with elementary school teachers in between.

7 Wages by Category

ALASKA PROJECTED, 2012 TO 2022

Category	Average wages
Management Occupations	\$103,634
Architecture and Engineering Occupations	\$94,515
Legal Occupations	\$90,913
Health Care Practitioners and Technical Occupations	\$81,900
Business and Financial Operations Occupations	\$74,513
Computer and Mathematical Occupations	\$72,297
Life, Physical, and Social Science Occupations	\$67,794
Construction and Extraction Occupations	\$59,070
Education, Training, and Library Occupations	\$57,681
Installation, Maintenance, and Repair Occupations	\$56,067
Transportation and Material Moving Occupations	\$52,298
Protective Service Occupations	\$52,246
Community and Social Service Occupations	\$50,099
Arts, Design, Entertainment, Sports, and Media Occ	\$47,961
Office and Administrative Support Occupations	\$41,324
Production Occupations	\$38,194
Health Care Support Occupations	\$37,191
Farming, Fishing, and Forestry Occupations	\$33,078
Sales and Related Occupations	\$32,012
Personal Care and Service Occupations	\$29,477
Building and Grounds Cleaning and Maintenance Occupations	\$29,389
Food Preparation and Serving Related Occupations	\$24,867

Note: This list only includes occupations with at least 50 workers and growth of at least 20 jobs. It excludes residual occupations ending with "all other" and a small number with incomplete or unreliable data.

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

This list centers on occupations that would be considered professions, not just a job. They're typically long-term and require considerable investments to pursue. Twenty-seven require at least a bachelor's degree, and eight more require at least an associate degree or some form of postsecondary award such as a vocational certificate.

'Educational level' is not the same as 'postsecondary training'

Although a significant number and percentage of projected occupational openings won't require more than a high school diploma, that doesn't mean those jobs don't require postsecondary training.

The key point is that "educational level" is a formal measure of education that doesn't include the many types of

postsecondary training. A few examples will be helpful. To qualify for a job as an electrician, a person doesn't need a bachelor's or associate degree or any college at all, but they do generally need an apprenticeship. Likewise, a commercial pilot (different from an airline pilot) doesn't need a degree but does need a significant number of flight hours before being fully qualified.



Alaska's Top Jobs

PROJECTED, 2012 TO 2022

	Employment			Openings 2012-2022			Wage quartile ¹
	2012	2022	Percent change	New	Replac- ement	Total openings	
Doctoral or Professional Degree							
Family and General Practitioners	399	495	24.1%	96	76	172	\$\$\$\$
Physical Therapists	400	492	23.0%	93	45	138	\$\$\$\$
Lawyers	1,019	1,010	-0.9%	0	188	188	\$\$\$\$
Master's Degree							
Physician Assistants	376	472	25.5%	97	69	166	\$\$\$\$
Mental Health Counselors	349	423	21.2%	74	101	175	\$\$\$
Education Administrators, Elementary and Secondary School	517	566	9.5%	48	141	190	\$\$\$\$
Bachelor's Degree							
Medical and Health Services Managers	949	1,137	19.8%	188	224	412	\$\$\$\$
Petroleum Engineers	539	622	15.4%	83	115	198	\$\$\$\$
Environmental Scientists and Specialists, Including Health	697	804	15.4%	108	162	270	\$\$\$
Captains, Mates, and Pilots of Water Vessels	608	701	15.3%	93	218	311	\$\$\$
Administrative Services Managers	1,818	2,084	14.6%	266	435	702	\$\$\$\$
Geoscientists, Except Hydrologists and Geographers	509	583	14.5%	75	118	193	\$\$\$\$
Construction Managers	1,044	1,183	13.3%	139	253	392	\$\$\$\$
Chief Executives	1,270	1,438	13.2%	169	184	353	\$\$\$\$
General and Operations Managers	3,350	3,752	12.0%	402	603	1005	\$\$\$\$
Sales Managers	657	732	11.4%	75	185	260	\$\$\$\$
Financial Managers	1,128	1,252	11.0%	124	200	324	\$\$\$\$
Middle School Teachers, Exc Spec and Career/Tech Ed	799	879	10.0%	79	170	250	\$\$\$
Elementary School Teachers, Except Special Education	2,797	3,068	9.7%	272	595	867	\$\$\$
Secondary School Teachers, Exc Spec and Career/Tech Ed	1,432	1,570	9.6%	138	379	517	\$\$\$
Accountants and Auditors	1,732	1,894	9.4%	162	360	522	\$\$\$\$
Civil Engineers	849	910	7.2%	62	167	228	\$\$\$\$
Probation Officers and Correctional Treatment Specialists	697	736	5.6%	39	146	185	\$\$\$
Airline Pilots, Copilots, and Flight Engineers	1,735	1,828	5.4%	92	504	597	\$\$\$\$
Compliance Officers	765	795	3.9%	30	148	179	\$\$\$
Zoologists and Wildlife Biologists	976	1,006	3.1%	30	213	243	\$\$\$
Computer and Information Systems Managers	907	912	0.6%	5	220	225	\$\$\$\$
Associate Degree or Postsecondary Nondegree Award							
Dental Hygienists	571	730	27.8%	159	111	270	\$\$\$\$
Medical and Clinical Laboratory Technicians	355	437	23.1%	82	67	149	\$\$\$
Radiologic Technologists	441	539	22.2%	98	66	164	\$\$\$
Registered Nurses	4,979	5,973	20.0%	994	873	1867	\$\$\$\$
Geological and Petroleum Technicians	821	969	18.0%	148	231	378	\$\$\$
First-Line Supervisors of Production and Operating Workers	855	929	8.7%	74	166	239	\$\$\$\$
Aircraft Mechanics and Service Technicians	1,303	1,399	7.4%	96	316	412	\$\$\$
Air Traffic Controllers	549	554	0.9%	6	170	176	\$\$\$\$
High school diploma or equivalent							
Hazardous Materials Removal Workers	346	427	23.4%	81	117	198	\$\$\$
Welders, Cutters, Solderers, and Brazers	732	861	17.6%	129	189	318	\$\$\$
Inspectors, Testers, Sorters, Samplers, and Weighers	510	591	15.9%	81	107	189	\$\$\$
Supervisors of Construction and Extraction Workers	973	1,116	14.7%	142	217	360	\$\$\$\$
Bus and Truck Mechanics and Diesel Engine Specialists	697	793	13.8%	96	146	243	\$\$\$
Mobile Heavy Equipment Mechanics, Except Engines	981	1,112	13.4%	131	247	378	\$\$\$
Commercial Pilots	837	944	12.8%	107	284	391	\$\$\$
Operating Engineers and Other Const Equip Operators	3,225	3,632	12.6%	407	937	1344	\$\$\$
First-Line Supervisors of Office and Admin Support Workers	2,164	2,425	12.1%	262	561	822	\$\$\$
Carpenters	2,973	3,318	11.6%	345	610	956	\$\$\$
Plumbers, Pipefitters, and Steamfitters	1,670	1,830	9.6%	160	467	627	\$\$\$
First-Line Supervisors of Mechanics, Installers, and Repairers	721	789	9.4%	68	184	252	\$\$\$\$
Electricians	2,355	2,531	7.5%	176	615	791	\$\$\$\$
Purchasing Agents, Except Wholesale, Retail, and Farm	542	574	5.9%	32	141	173	\$\$\$
Correctional Officers and Jailers	883	924	4.6%	41	150	192	\$\$\$
Water and Wastewater Treatment Plant and Sys Operators	606	630	4.0%	25	152	176	\$\$\$
Police and Sheriff's Patrol Officers	1,209	1,228	1.6%	19	316	335	\$\$\$\$
Less than high school							
Service Unit Operators, Oil, Gas, and Mining	892	1,058	18.6%	166	182	348	\$\$\$

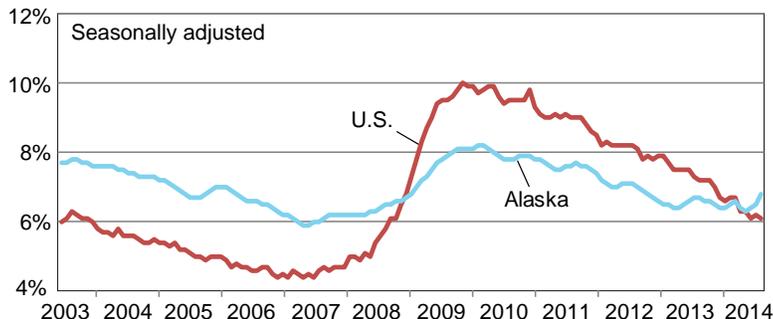
Notes: To rank as a "top job," the occupation must: 1) rank in the top two wage quartiles; AND 2) have projected growth of at least 75 jobs and greater percentage growth than all occupations combined OR be one of the 50 occupations with the most projected openings (of those with wages in the top two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

¹Earnings \$\$\$ = \$54,370 to \$73,245 annually (\$26.14 to \$35.21 hourly), \$\$\$\$ = More than \$73,245 annually (\$35.21 hourly), based on 2013 OES estimates for Alaska.

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

Employment Scene

1 Unemployment Rates JANUARY 2003 TO JULY 2014



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis; and U.S. Bureau of Labor Statistics



This month in Trends history

Overall, Alaska had the highest average annual pay of all states in 1984. At \$28,806, it was 57 percent greater than the U.S. average of \$18,350. South Dakota had the lowest average annual pay at \$13,532. However, Alaska had the lowest rate of growth in pay from 1983 to 1984, at only 0.2 percent. It was the only state with less than 1 percent growth in pay. The national average was 4.6 percent, and the state with the highest rate of growth in pay was Michigan at 6.3 percent.

AUGUST 1984

Alaska was no different from most other states in that mining had the highest average annual pay of all industries. For Alaska, in 1984, it was \$56,444.

Though Alaska's average annual pay is well above the national average, all other states, and the District of Columbia, when government is excluded from the computation, average annual pay for the state declined by 1 percent. This indicates a general slowdown of industrial activity, especially in construction.

The Department of Labor and Workforce Development has published *Alaska Economic Trends* as far back as 1961 and other labor market summaries since the late 1940s. Historical *Trends* articles are available at labor.alaska.gov/trends as far back as 1978, and complete issues are available from 1994.

2 Unemployment Rates BOROUGHES AND CENSUS AREAS

	Prelim. 8/14	Revised 6/14	8/13
SEASONALLY ADJUSTED			
United States	6.1	6.2	7.2
Alaska Statewide	6.8	6.5	6.7
NOT SEASONALLY ADJUSTED			
United States	6.3	6.5	7.3
Alaska Statewide	6.3	6.1	5.8
Anchorage/Mat-Su Region	5.6	5.5	5.2
Municipality of Anchorage	5.3	5.1	4.9
Matanuska-Susitna Borough	6.7	6.9	6.2
Gulf Coast Region	6.2	6.0	5.7
Kenai Peninsula Borough	6.6	6.2	6.1
Kodiak Island Borough	4.9	5.3	4.4
Valdez-Cordova Census Area	5.9	5.9	5.7
Interior Region	6.2	6.1	5.8
Denali Borough	2.9	2.9	3.4
Fairbanks North Star Borough	5.6	5.5	5.2
Southeast Fairbanks Census Area	9.7	10.0	9.3
Yukon-Koyukuk Census Area	13.2	13.5	13.2
Northern Region	9.8	9.9	9.7
Nome Census Area	12.6	13.1	12.0
North Slope Borough	4.7	4.4	5.2
Northwest Arctic Borough	14.8	15.2	14.4
Southeast Region	5.3	5.2	4.8
Haines Borough	4.5	4.6	4.5
Hoonah-Angoon Census Area	9.2	8.4	8.1
Juneau, City and Borough	4.5	4.3	4.1
Ketchikan Gateway Borough	5.0	4.7	4.3
Petersburg Census Area	7.7	6.8	5.5
Prince of Wales-Hyder CA	11.9	12.3	10.0
Sitka, City and Borough	4.1	4.1	4.0
Skagway, Municipality	1.3	2.4	2.4
Wrangell, City and Borough	6.5	5.9	6.5
Yakutat, City and Borough	7.9	6.5	6.1
Southwest Region	12.4	11.0	11.8
Aleutians East Borough	8.1	6.6	8.8
Aleutians West Census Area	6.1	5.9	6.8
Bethel Census Area	16.0	15.5	15.2
Bristol Bay Borough	2.0	1.0	2.1
Dillingham Census Area	8.6	7.3	7.8
Lake and Peninsula Borough	7.6	5.8	5.8
Wade Hampton Census Area	22.8	25.8	21.1

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis; and U.S. Bureau of Labor Statistics

Safety Minute

How to recognize and prevent falls at construction sites

Falls are one of the leading causes of worker injury and death on residential construction work sites, and while the result of a fall is clear, the circumstances under which they occur may not be. Of the 89 residential construction deaths in the United States in 2012, 49 were caused by a fall.

To prevent these tragedies, employers and employees must take several steps to recognize hazards and implement the proper protection or prevention:

- **Recognize and anticipate a fall hazard at the job site.** It may be something easy to spot, like a steep sloping roof, an open stairwell, or an exposed leading edge on a deck more than six feet from the ground. Fall hazards can also be inconspicuous like an uncovered skylight, a fiberglass ladder with structural stress damage, or a scaffold system that isn't set up properly.
- **Select a protection method or course of action, including standard fall protection.** In residential construction, standard fall protection may include a guardrail, a scaffold platform, or a personal fall arrest/restraint system. It may also be necessary to remove damaged equipment from service, such as broken ladders or poorly maintained aerial lifts.
- **Train or brief employees.** Topics may include how to use a fall protection device or how to mitigate the hazard. If this includes a series of actions and systems, ensure everyone at the work site is clear on what they are and understand their individual roles.
- **Implement the system or device with qualified supervision.** This is especially important with complicated systems such as a horizontal lifeline or specialty fall arrest anchoring system.

After the system or procedure is established, inspect everything to confirm it's been done properly and make sure there are no new hazards. It's important to remember that any working surface six feet or more above the ground needs to have some form of fall protection.

For additional information on how to eliminate fall hazards at your job site, visit the federal OSHA Web site at www.osha.gov or contact the Alaska Occupational Safety and Health Consultation and Training program at (800) 656-4972.

Safety Minute is written by the Labor Standards and Safety Division of the Alaska Department of Labor and Workforce Development.

Employer Resources

How Alaska job fairs benefit employers and job seekers

The Alaska Job Center Network has been holding job fairs for many years to connect job seekers with employers looking for skilled workers. Employers in cities around Alaska will often host these recruitment events, sometimes for multiple employers in varying industries.

Job fairs provide a convenient, centralized location where workers can submit an application or resume directly to a hiring manager. This allows the managers to interview at the same time and place.

These fairs are also an opportunity for job seekers to meet hiring managers from various companies and build relationships, creating the potential to connect for future openings.

Job center staff members throughout the state are trained to assist employers with major programs that cover the core, intensive, and training categories defined in the Workforce Investment Act. These include employment services,

veteran services, job training services, Youth First, Mature Alaskans Seeking Skills Training, and work services. Job center staff can also connect Alaskans with partner agencies that can help them meet their employment goals.

The success rate of a job fair is evidenced by the turnout. The job fair for veterans and military spouses that was recently held in Anchorage attracted 127 employers and about 1,700 attendees. That single event produced 396 hires.

For more information on how you can participate, please go to jobs.alaska.gov/jobfairs/index.html or contact the business connection staff for your area at jobs.alaska.gov/employer.htm.

Employer Resources is written by the Employment Security Division of the Alaska Department of Labor and Workforce Development.