

# 10-year industry projections

## Varying pandemic recoveries muddy some long-term growth rates

### Alaska ended 2023 barely below pre-pandemic job level

At the time of publication, finalized 2023 numbers put Alaska's total employment at 328,532. That was just 560 jobs shy of 2019, before COVID. First-quarter 2024 employment was 1.3 percent higher than the same quarter in 2019. Both show Alaska is, overall, past the pandemic job recovery stage.

This article uses 2022 job numbers to project 10 years forward, a challenging base year because at that time, pandemic job recovery was ongoing. In many cases, the low starting point makes the 10-year growth rate for an industry or occupation look much bigger than it actually is. For context, we include 2019 numbers.

For more on how we create these projections, see page 11.

By PAUL MARTZ

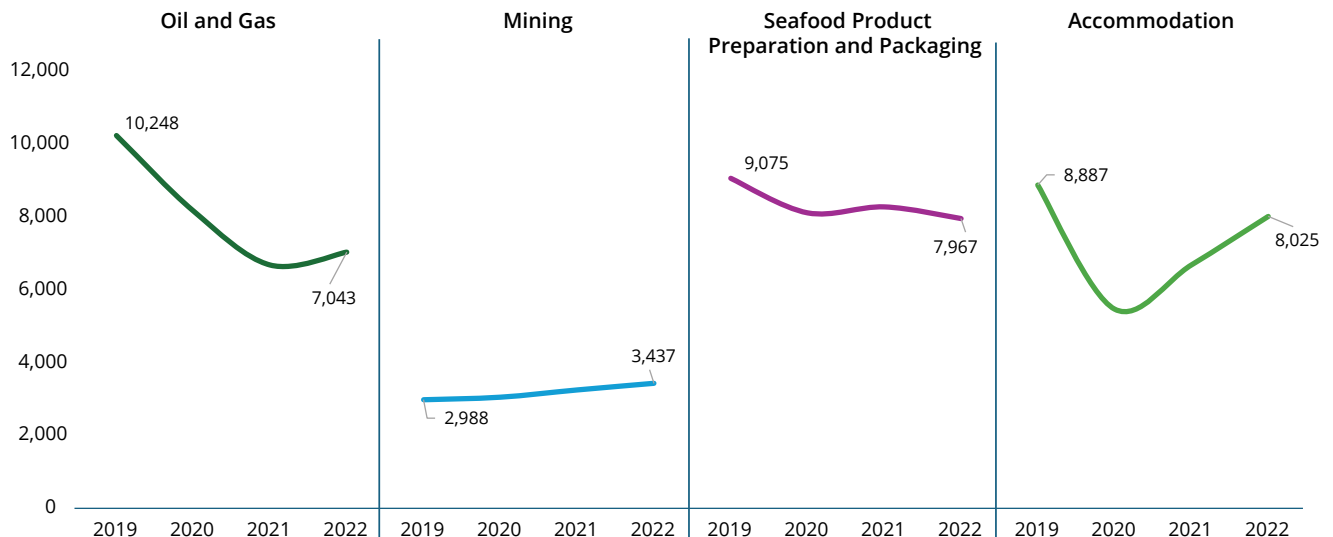
By the end of 2022, Alaska had recovered 62.6 percent of the jobs lost during the pandemic. That put us about 3 percent below our total pre-COVID job count. From that base year, we project total employment will grow 6.9 percent through 2032.

It's important to note that pandemic job recovery has varied widely across industries, though. Some were still way below pre-pandemic job levels in 2022, meaning much of their projected growth over the decade will be catch-up. (See the sidebar on the left.)

For example, the accommodation industry was one of the hardest hit during COVID but its recovery curve was strong as tourism rebounded, putting the industry only about 800 jobs below the pre-pandemic count after just two years. The oil and gas industry, however, shed 20 percent of its jobs in 2020 and another 18 percent the following year. It wasn't until 2022 that oil and gas began a meager recovery, growing 5 percent that year.

Both are stark contrasts to hard rock mining, which continued to grow throughout the pandemic and beyond.

### Industries' pandemic job recovery trajectories differ considerably



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

# Alaska industry<sup>1</sup> projections, 2022 to 2032 and remaining recovery

	2019 est jobs <sup>2</sup>	2020 est jobs <sup>2</sup>	2021 est jobs <sup>2</sup>	2022 est jobs <sup>2</sup>	2032 projected	Change, 2022-32	% change, 2022-32 <sup>3</sup>
<b>Total Employment<sup>4</sup></b>	<b>329,092</b>	<b>303,046</b>	<b>310,555</b>	<b>319,345</b>	<b>341,442</b>	<b>22,097</b>	<b>6.9%</b>
Goods-Producing	44,102	40,325	39,663	40,408	46,729	6,321	15.6%
Natural Resources and Mining	14,980	12,996	11,900	12,461	15,612	3,151	25.3%
Agriculture, Forestry, Fishing and Hunting	1,495	1,553	1,615	1,608	1,567	-41	-2.5%
Mining	13,485	11,443	10,285	10,853	14,045	3,192	29.4%
Oil and Gas <sup>5</sup>	10,248	8,179	6,690	7,043	9,718	2,674	38.0%
Oil and Gas Extraction	3,528	3,208	2,865	2,783	3,575	792	28.5%
Mining (except Oil and Gas)	2,988	3,058	3,255	3,437	3,969	533	15.5%
Support Activities for Mining	6,969	5,178	4,165	4,633	6,500	1,867	40.3%
Construction	15,754	15,196	15,331	15,567	16,968	1,401	9.0%
Construction of Buildings	4,598	4,585	4,796	4,752	4,908	156	3.3%
Heavy and Civil Engineering Construction	3,762	3,474	3,254	3,390	3,999	609	18.0%
Specialty Trade Contractors	7,394	7,138	7,281	7,425	8,061	636	8.6%
Manufacturing	13,368	12,133	12,432	12,380	14,149	1,769	14.3%
Food Manufacturing	9,660	8,660	8,923	8,654	9,867	1,212	14.0%
Seafood Product Preparation and Packaging	9,075	8,124	8,288	7,967	9,121	1,155	14.5%
Manufacturing, All Other	3,708	3,473	3,509	3,726	4,282	557	14.9%
Services-Providing	284,938	262,690	270,827	278,775	294,420	15,645	5.6%
Trade, Transportation, and Utilities	66,650	61,088	63,404	66,419	69,534	3,115	4.7%
Wholesale Trade	6,465	6,099	6,082	6,156	6,543	387	6.3%
Retail Trade	35,427	33,495	34,457	35,191	35,692	502	1.4%
Transportation and Warehousing <sup>6</sup>	22,460	19,169	20,383	22,584	24,688	2,104	9.3%
Air Transportation	6,345	5,246	5,543	6,177	6,947	770	12.5%
Water Transportation	1,214	1,090	1,151	1,185	1,212	27	2.3%
Truck Transportation	2,680	2,588	2,558	2,652	2,881	229	8.6%
Transportation and Warehousing, All Other	12,222	10,245	11,130	12,570	13,648	1,078	8.6%
Utilities	2,298	2,326	2,482	2,488	2,611	122	4.9%
Information	5,311	4,933	4,984	4,955	4,367	-588	-11.9%
Financial Activities	12,441	11,790	11,846	11,962	11,759	-203	-1.7%
Finance and Insurance	6,673	6,430	6,327	6,314	6,121	-193	-3.1%
Real Estate and Rental and Leasing	5,768	5,360	5,519	5,648	5,639	-10	-0.2%
Professional and Business Services	27,244	25,547	26,142	26,910	29,195	2,286	8.5%
Professional, Scientific, and Technical Services	13,488	12,826	13,009	13,145	14,318	1,173	8.9%
Management of Companies and Enterprises	2,307	2,122	2,205	2,203	2,460	257	11.7%
Admin, Support and Waste Mgmt/Remediation Svcs	11,449	10,598	10,928	11,562	12,417	855	7.4%
Education and Health Services	78,257	74,713	76,093	76,194	82,854	6,660	8.7%
Educational Services, Public and Private <sup>7</sup>	28,818	26,464	26,874	27,302	28,276	974	3.6%
Elementary and Secondary Schools, Public/Private	20,476	18,797	18,943	19,263	19,433	170	0.9%
Educational Services, Public and Private, All Other	8,341	7,668	7,931	8,039	8,843	804	10.0%
Health Care and Social Assistance, Public and Private <sup>8</sup>	49,439	48,249	49,219	48,892	54,579	5,686	11.6%
Ambulatory Health Care Services	21,633	21,067	21,824	21,796	24,001	2,205	10.1%
Hospitals	15,185	15,056	15,197	15,342	17,260	1,918	12.5%
Health Care and Social Assistance, All Other	12,622	12,127	12,198	11,755	13,318	1,563	13.3%
Leisure and Hospitality	36,496	26,869	30,393	34,101	37,230	3,129	9.2%
Arts, Entertainment, and Recreation	4,958	3,327	3,793	4,651	5,623	972	20.9%
Accommodation and Food Services	31,537	23,541	26,600	29,450	31,607	2,158	7.3%
Accommodation	8,887	5,476	6,690	8,025	9,005	980	12.2%
Food Services and Drinking Places	22,650	18,065	19,910	21,425	22,602	1,177	5.5%
Other Services (Except Government)	11,716	10,676	10,957	11,524	11,734	209	1.8%
Total Government	46,824	47,074	47,009	46,709	47,746	1,037	2.2%
Federal Government <sup>9</sup>	12,927	13,492	13,101	12,948	13,218	269	2.1%
State Government <sup>10</sup>	16,405	16,208	16,381	16,053	16,279	227	1.4%
Local Government <sup>11</sup>	17,492	17,375	17,527	17,708	18,249	540	3.1%

<sup>1</sup>Industry categories differ from other data sets we publish, largely because these combine public and private employment.

<sup>2</sup>May not sum to total employment due to rounding

<sup>3</sup>Percent change may be inconsistent with employment change due to rounded employment

<sup>4</sup>Excludes self-employed workers, fishermen, domestic workers, unpaid family workers, and nonprofit volunteers

<sup>5</sup>Includes oil and gas exploration and oilfield services

<sup>6</sup>Includes U.S. Postal Service employment

<sup>7</sup>Includes local and state government education employment

<sup>8</sup>Includes public-sector hospital employment

<sup>9</sup>Excludes uniformed military, postal service, and hospital employment

<sup>10</sup>Excludes university, railroad, and hospital employment

<sup>11</sup>Excludes public school and hospital employment

These variances in recovery require different interpretations of the projected growth because the base year we use can vastly change the projection.

For example, from 2022, we project a 10-year growth rate of 12.2 percent for accommodation; for oil and gas, it's 38 percent.

If we use 2019 as the base year, that pre-pandemic starting point gives vastly different decade change rates of 1.3 percent and -5.2 percent, respectively.

In other words, even by 2032, we don't expect oil and gas to have regained its pre-COVID job level.

## Cannabis industry hits its ceiling

The agriculture sector's recent pattern shows the booming cannabis industry has stalled. We project overall agriculture employment, which in Alaska is mainly cannabis, will decline by 2.5 percent between 2022 and 2032.

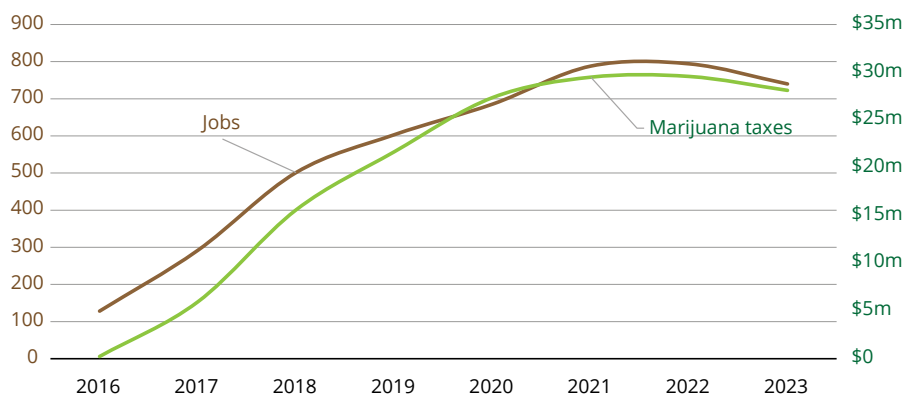
The greenhouse, nursery, and floriculture production industry expanded 520 percent between 2016 and 2022 as the newly legal cannabis industry took off. From 2021 to 2022, it grew just 0.8 percent, and then last year, it began to decline (-6.8 percent). This industry is small, with about 800 jobs at the 2022 peak.

Marijuana tax receipts mirrored the job decline (see the graph on this page). Even tourism's resurgence in Alaska in 2021 and 2022 didn't spur additional demand, suggesting that widespread legalization and decriminalization of marijuana has softened its novelty.

Our data also show some firms are moving away from vertical integration — that is, both cultivating and selling cannabis products — and focusing on the retail side of the industry. Jobs manufacturing or selling cannabis products are counted in those industries rather than in agriculture.

The move away from vertical integration could mean cultivation competition is steep, that there's more money in sales, or both. But altogether, signs point to cannabis transitioning from a new, strong-growth industry to a stable one.

## Greenhouse jobs, marijuana taxes track



Sources: Alaska Department of Revenue, Tax Division; and Alaska Department of Labor and Workforce Development, Research and Analysis Section

## Large projected growth for oil and gas will be all recovery

Oil and gas has struggled for upward momentum in recent years after back-to-back economic shocks. The pandemic came on the tail of the state recession that arose from the historic oil price collapse in 2015.

From 2015 to 2021, the oil and gas industry lost 8,431 jobs, or 56 percent of its total. The industry added back just 354 jobs in 2022 and 518 more in 2023.

While job recovery has been slow, Alaska is not alone. No state with more than 1,000 oil and gas jobs had fully bounced back from COVID-related losses by 2022, and only Utah had more oil jobs in 2023 than it had in 2019 before demand and prices plummeted because of the pandemic. (See the table on page 8.)

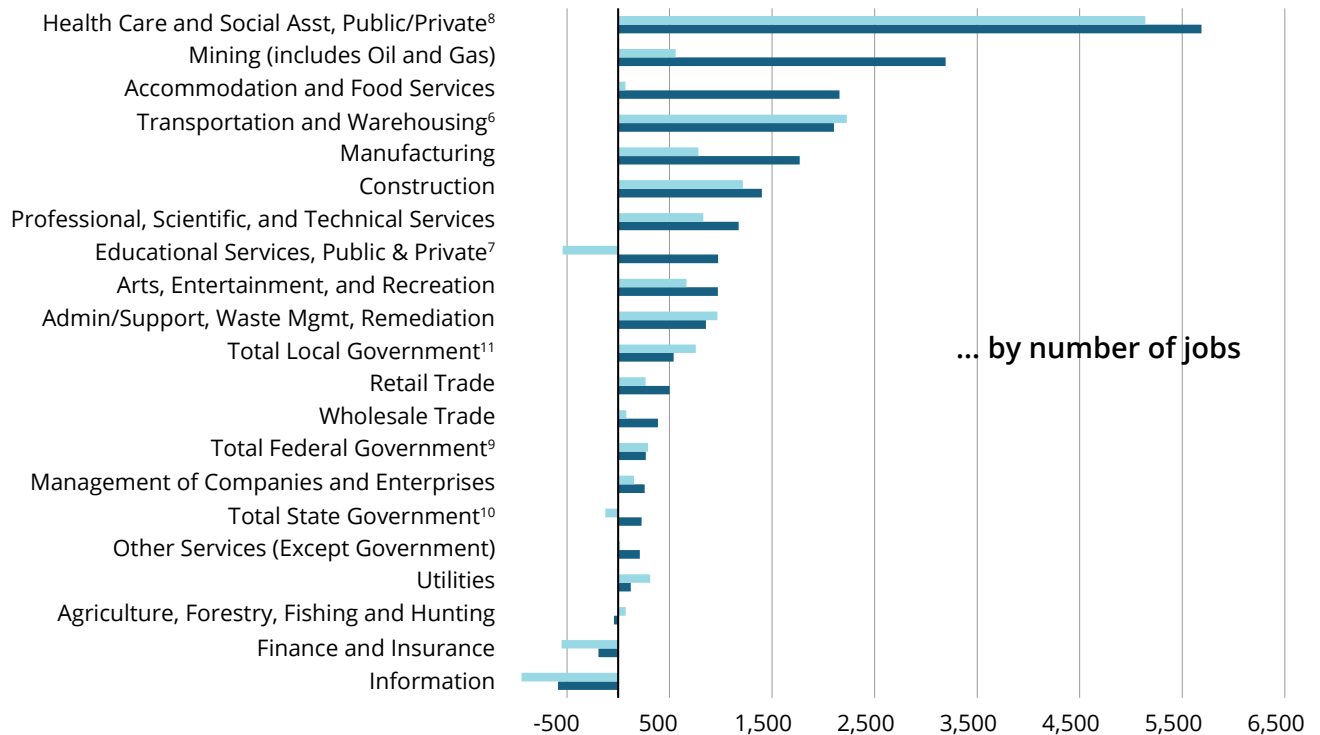
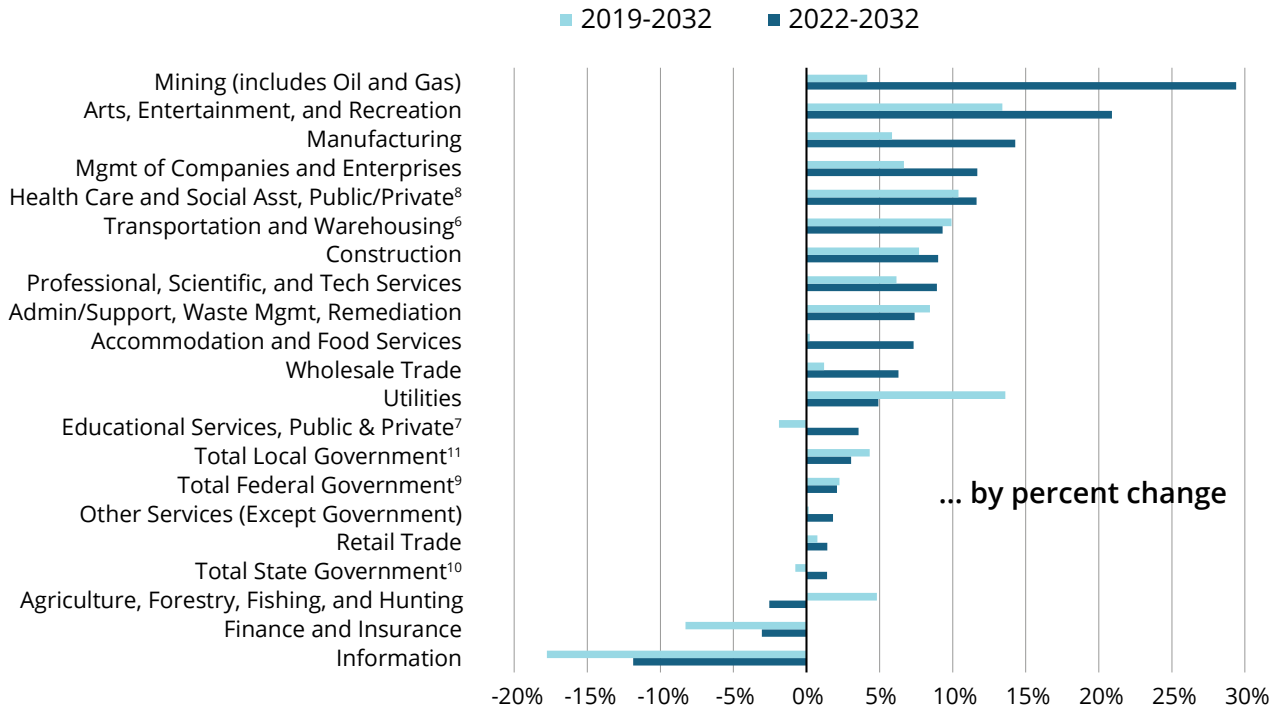
The fact that the industry differs widely in all of these states but most have been slow to recover suggests pandemic-related structural problems are lingering.

In Alaska, as the Pikka and Willow projects are developed, we expect employment to spike in the short term. The shape of growth after that is hard to predict, but we project the industry will reach 9,718 total jobs by 2032, which would be 5 percent below its 2019 peak but 38 percent higher than in 2022.

## Hard rock mining growth will be mainly in existing infrastructure

Mineral mining flourished throughout the pandemic,

# Projected job change by industry, 2019 and 2022 to 2032 comparisons



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

# Oil and gas industry recovery by state, 2019 to 2023

	2019*	2020*	2021*	2022*	2023*	Chg 19-23	Pct chg
Utah	3,811	3,018	2,959	3,651	4,138	327	9%
Michigan	1,914	1,527	1,553	1,713	1,802	-112	-6%
New Mexico	21,816	16,345	15,135	17,748	20,132	-1,684	-8%
Texas	234,014	178,162	166,003	185,693	197,503	-36,511	-16%
Louisiana	33,588	27,736	26,435	27,954	28,053	-5,535	-16%
North Dakota*	19,347	13,125	11,796	14,220	16,076	-3,271	-17%
Illinois	2,157	1,704	1,672	1,777	1,781	-376	-17%
<b>U.S. total</b>	<b>471,772</b>	<b>353,487</b>	<b>326,160</b>	<b>361,957</b>	<b>382,703</b>	<b>-89,069</b>	<b>-19%</b>
West Virginia	6,479	4,814	4,754	5,145	5,078	-1,401	-22%
California	14,252	11,427	10,305	11,020	11,120	-3,132	-22%
Ohio	6,531	4,525	4,310	4,632	4,991	-1,540	-24%
<b>Alaska**</b>	<b>10,248</b>	<b>8,179</b>	<b>6,690</b>	<b>7,043</b>	<b>7,532</b>	<b>-2,716</b>	<b>-27%</b>
Colorado	24,066	17,365	15,415	16,406	17,160	-6,906	-29%
Wyoming	12,593	8,530	7,372	8,413	8,969	-3,624	-29%
Pennsylvania	17,541	13,012	11,806	12,081	12,146	-5,395	-31%
Oklahoma	45,596	28,977	25,097	28,154	28,926	-16,670	-37%

\*Due to data suppression, North Dakota employment includes more industries than just drilling oil and gas wells and support jobs for oil and gas, making its oil and gas employment higher. We analyzed nonsuppressed data for other years and determined the expanded employment wasn't sufficient to invalidate these broad comparisons.

\*\*Alaska employment data were changed to reflect the data series used in projections and will not match the Quarterly Census of Employment and Wages data that we typically publish in *Trends*.

Source: U.S. Bureau of Labor Statistics

growing consistently from 2019 to 2022. We project 15.5 percent growth over the decade. Most of the gains will come from exploration intended to sustain existing mines or use current infrastructure, as many of Alaska's operating mines are approaching their end-of-life time frames.

Information on new large-scale mines has been slim, and because of the long lead times in these projects, we don't include them in the projections until they are near-certain. The Donlin Gold Project is a good example. Donlin has passed all of the major permitting hurdles, but a final decision on construction and operation may still be years away.

That's not to say new mines won't open. The Manh Choh project has recently begun operating, although with a short five-year time frame. Other similarly structured projects could crop up over the next decade.

## A robust outlook for construction

We project 9 percent growth for construction from 2022 to 2032. Although the industry lost jobs during COVID, the decline was minor and concentrated in the heavy and civil engineering industry, which tends to track with oil and gas.

Residential construction employment grew with the surging demand for home improvements

during the pandemic, rising 18 percent from 2020 through 2023. We expect demand to return to normal from 2022 to 2032 and for employment to drop 15 percent.

Nonresidential construction will add a projected 14.9 percent through 2032. The industry had been on the rebound from the oil price recession before slowing drastically during the pandemic. We expect it to gradually ramp back up to pre-pandemic levels.

The specialty trade contractor side of the construction sector remained mostly stable during the pandemic, losing some jobs through 2021 and then fully recovering and adding more in 2022. We project 8.6 percent growth through 2032.

As mentioned earlier, heavy and civil engineering tends to move with oil and gas, and this category lost about 9.9 percent of its jobs during the 2019-2022 downturn. We expect recovery to speed up as federal infrastructure projects start in earnest and the oil industry grows, for projected 18 percent growth by 2032.

## Headwinds for seafood processing but job recovery likely eventually

Seafood processing's trajectory has been atypical, as challenging market conditions followed the

pandemic shutdowns and disrupted its recovery.

COVID made hiring seasonal workers difficult, leading to a 10.5 percent job loss in 2020. Employment ticked up 2 percent in 2021, fell again in 2022, then resumed growing in 2023.

The short-term outlook is bleak, however, as the broader seafood industry grapples with less demand. Ample supply from Alaska and Russia has lowered prices, compounded by U.S. trade embargoes with China and inflation pushing consumers toward cheaper options. In the long run, we expect the industry will stabilize and processing employment will settle close to its pre-pandemic level of 9,121 by 2032.

## Small growth for retail, wholesale

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Wholesale and retail trade have added jobs over the last few years, but as of 2022, both were still below pre-COVID levels (4.8 and 0.7 percent lower, respectively).

We project wholesale will eventually level off at just over 6,500 jobs, which would be 6.3 percent above 2022 and 1.2 percent over 2019.

Retail's recovery trajectory has been steeper since the pandemic, and we project 1.4 percent growth over the decade. With the rise of online shopping, some parts of retail had been on long-term declines even before the pandemic, which will continue into the next decade and dampen growth.

## Strong projected growth for most of transportation

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Tourism drove transportation employment up in recent years, but the labor scarcity muted those gains. Tourism-centered scenic and sightseeing operations, for example, which rely heavily on nonresident workers, remained well below 2019 levels in 2022, but by 2023 they were just 1.4 percent short.

Scheduled air transportation (mainly commercial airlines) still has ground to recover. Airline employment fell 11.6 percent between 2019 and 2022 and remained 6.4 percent below pre-pandemic levels in 2023 but is headed in a positive direction.

In contrast, nonscheduled air transportation (chartered flights, for example) lost just 145 jobs in 2020 and then regained them plus 96 more in 2021. A large part of this industry depends on tourism, but

it also moves cargo, which appears to be the source of the post-COVID gains.

Altogether, air transportation will grow a projected 12.5 percent over the decade.

Skyrocketing online shopping during the shutdowns drove shipping demand and created jobs in warehousing and storage as well as for couriers and express delivery services. By 2022, these industries combined added 592 jobs, but 73 disappeared the following year. We project that by 2032, employment will settle about 5.4 percent below pandemic highs but 15.8 percent above pre-pandemic levels.

## Long-term declines for finance with technological advances

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We don't expect finance and insurance to regain their recent losses, and we project a loss of about 193 jobs over the decade. Banks haven't grown for the past decade, with employment peaking in 2016 and declining every year since. Insurance has followed a similar trend.

Many of the jobs in these industries deal directly with customers, and over time, more will be performed remotely or shift to self-service as technology advances.

## Education employment to level off after pandemic recovery

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With population declines and budgetary constraints, we project elementary and secondary school employment will end up 5.1 percent below 2019 levels in 2032. However, because school employment was still down in the base year, 2022, the projected decade change is 0.9 percent growth.

Education employment was remarkably stable before COVID. Between 2001 and 2019, jobs ranged from a low of 19,998 in 2001 to 21,838 in 2011.

The school-age population declined 0.5 percent a year on average over that period. We expect the school-age population to continue decreasing through 2032, by an average of 0.8 percent a year.

Educational services, which is mainly jobs in public and private universities and colleges along with technical and trade schools, will grow a projected 10 percent over the decade, to 8,843 jobs.

The industry peaked in 2014 at 9,776 jobs, then declined sharply in 2019 as the University of Alaska adapted to budget cuts and falling enrollment.

## Modest health care gains ahead

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Ambulatory health care, which is doctors' offices and other outpatient services, is the largest category in the health care sector at about 44 percent of all jobs. We project the industry will reach 24,001 jobs by 2032 for a decade growth rate of 10.1 percent.

Hospitals, given their essential nature, lost fewer jobs during the pandemic than outpatient services. We project 12.5 percent growth through 2032, bringing total employment to 17,260.

Nursing and residential care expanded rapidly from the early 2000s to a plateau in 2016. In-home health care lost some jobs from 2016 through 2019 but remained essentially stable throughout the pandemic. We project it will grow strongly over the next decade, adding 758 jobs (19.5 percent).

Social assistance, which includes private and nonprofit services for children, the elderly, and people with disabilities, peaked in 2013 with 9,532 jobs, then lost ground through 2015 and stabilized between 2016 and 2019 at around 8,700. These services fell 6.4 percent in 2020, then faced a few years of minor ups and downs.

We expect modest growth to continue through 2032 (10.3 percent) as Alaska's population

continues to age. Over the past 10 years, the population aged 65-plus grew 71.5 percent, from 64,434 seniors to 110,490. By 2032, that number will increase another 21.7 percent to 134,423.

## Flat projection for restaurants, eventual solid growth for hotels

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Food services and bars were still recovering lost ground in 2022 after employment plunged 20 percent in 2020. Tourism's return boosted their recovery, but then the sector settled back into its pre-pandemic stable trend. We project food services and bar employment will increase 5.5 percent from 2022 to 2032, putting them roughly back to pre-COVID levels.

Accommodation lost 38 percent (-3,411 jobs) during the pandemic, which was about double the food and drink job loss in percent terms. Tourism's brief halt meant essentially no demand for hotels. Recovery has been surprisingly slow, with hotel employment still down 10 percent in 2023.

Other types of accommodations, such as jobs in RV parks and campgrounds, were 25 percent above 2019 levels in 2022.

We expect the sector as a whole to catch up in the long run and grow 12.2 percent by 2032.

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# How we create 10-year industry and occupational projections

The Alaska Department of Labor and Workforce Development's Research and Analysis Section creates 10-year industry and occupational projections for Alaska every other year. These projections are the product of four steps.

## **Step 1: Project industry employment using a base year with solid data**

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. We used 2022 as the base year because it's important to begin with a solid set of numbers that won't be revised further rather than use newer but preliminary data — however, for this set of projections we have included 2019 numbers for context, for the reasons explained on page 4.

Estimates and projections do not include self-employed workers, private household workers, most agricultural workers and fishermen (who are self-employed), and others not covered by the state's unemployment insurance program. We combine certain types of public sector employment — such as education, hospitals, rail transportation, and the U.S. Postal Service — with private sector industries because their underlying drivers differ from most government employment.

We create projections for each industry based primarily on historical trends, Alaska and U.S. population projections, and other industry-specific variables. The projections also factor in knowledge of specific projects, if certain, 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 data that corresponds to the projections' base year, the most recent Occupational Employment Statistics data available, and a baseline of historic industry staffing patterns to calculate occupational staffing ratios for the 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 and then sum the results to get the base year estimate. We adjusted staffing ratios within an industry, 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. Examples include changes in consumer demand, technology, or business practices.

We then multiply each industry's projected employment by the adjusted staffing ratio for each occupation and then sum the results by each occupation to get the projections.

## **Step 4: Estimate job openings**

Job openings for an occupation result from new jobs and vacated positions, called separation openings. An occupation's growth openings are equal to its change over the projection period. We base estimates of separation openings on rates provided by the U.S. Bureau of Labor Statistics that account for labor force exits and occupational transfers. For more on separations, see <https://www.bls.gov/emp/documentation/separations-methods.htm>.