

Population Projections, 2010 to 2034

Alaska by age, sex, and race



Population projections tell us more than how many people we should expect — they tell us what kinds of services we'll need to support the future population. Alaskans use these projections to plan for social services like nursing homes, schools, and hospitals. This article is an overview of projected numbers for the state, regions, and borough/census areas as well as the Alaska Native population. It also summarizes how the Department of Labor makes these projections and explains components of change (mortality, fertility, and migration).

The state's total population is projected to increase by nearly 25 percent from 2009 to 2034, growing from 692,314 to 862,750 people. The number of seniors (age 65-plus) is expected to grow the most of any age group, more than doubling in size as Alaska's baby boomers age. Alaska's Native population is projected to increase by more than 45,000 by 2034.

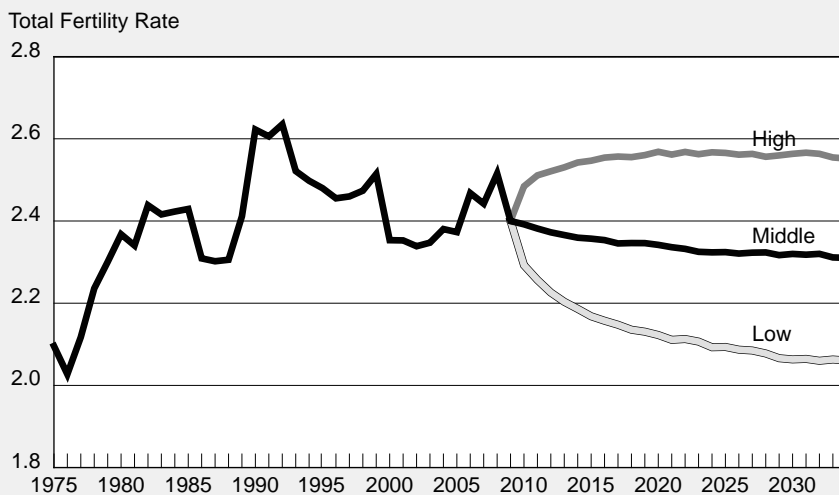
Projected population growth varies significantly across the state and in each of the economic regions, with the largest gain of about 38 percent in the Anchorage/Matanuska-Susitna region by 2034. By contrast, the projection for Southeast is a drop of 14.2 percent over the same period.

Methodology

Rather than building forecasts on economic factors, demographers base projections on the current population and historical trends in each of the components of population change. Specifically, they "age" the population¹ of each sex while accounting for natural increase (births minus deaths) and migration (in-migration and out-migration)². However, past and current economic conditions also affect demographic variables³.

Statewide, the demographers repeated the projections 2,000 times with random combinations of potential fertility and migration numbers, while keeping the age-specific mortality, or death rate, fixed. The projections took into account variations in recent trends of natural increase and migration, which gave a statistically valid⁴ high and low projection range at the state level. There is a 90 percent chance that the actual values will fall

1 Total Fertility Rate Alaska, 1975 to 2034



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

¹ For example, if a person is 10 years old in 2009, he or she will be 35 in the 2034 projection.

² This method is the "cohort component method."

³ For example, fertility rates may drop during a recession.

⁴ The probabilistic projection method provided a probability distribution for Alaska's future population, by sex and single years of age. After calculating 2,000 sets of component paths for each age and sex, the demography unit applied them to a cohort component projection model. More specifically, Leslie Matrices were used to project natural increase, with projected vectors of migrants added at each step. This process generated a distribution of 2,000 potential population paths from 2010 to 2034. The sums of the boundaries of the 90 percent confidence intervals for each age-by-sex are reported as the 90 percent confidence high and low variants.

within the range. These ranges do not account for all future uncertainty, such as state economic and social changes.

High and low ranges are not statistically significant at the regional and borough/census area levels, as they are adjusted to add up to the state's ranges to attempt to capture the uncertainty of these projections.

Mortality

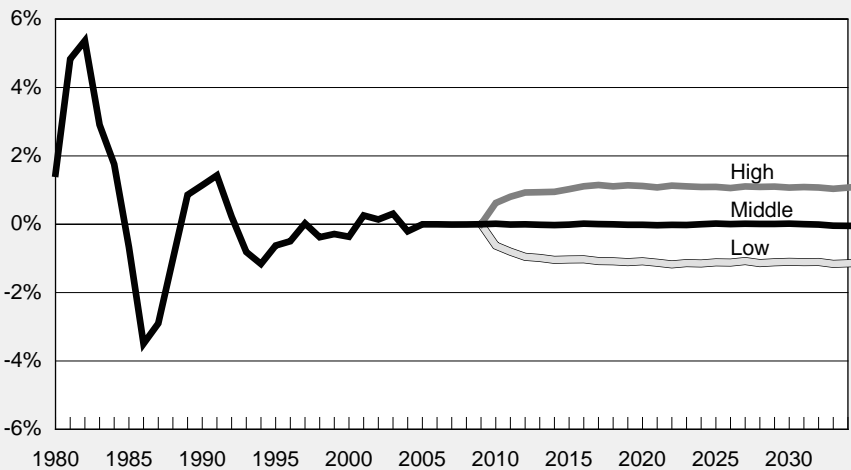
Mortality rates across all age groups refer to a person's life expectancy at birth if that person lived according to age-specific mortality rates that year. Just as the makeup of Alaska's population varies greatly among groups, so does life expectancy. Overall, Alaska's life expectancy has been similar to that of the nation. From 2000 to 2034, life expectancy for Alaskan males is expected to rise from 74.9 to 79.9 years, and from 79.7 to 83.6 years for females.

Mortality is the most predictable component of change for Alaska's population. It has been relatively stable over recent history, and is expected to continue improving, following the U.S. Social Security Administration's projected future changes in U.S. mortality.

Fertility

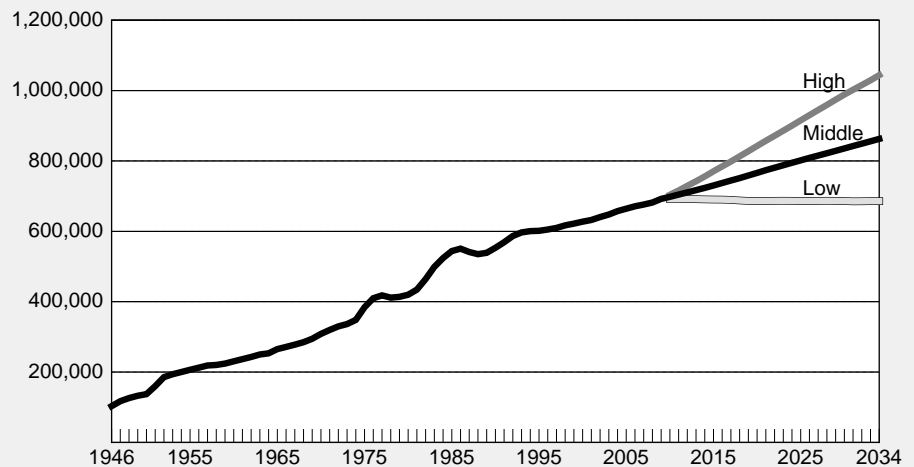
The level of fertility, or births, is expressed in the Total Fertility Rate (TFR). The TFR for a specified year is the average number of children that a woman would bear if she followed that year's age-specific fertility rates throughout her childbearing years. A TFR of 2.1 children per woman would be necessary for natural increase (births minus deaths) to break even. Alaska's TFR ranks among the highest in the U.S., allowing for robust and steady growth. Even if net-migration (in-migration minus out-migration) were zero, Alaska would continue to grow from natural increase alone.

Net Migration Ratio 2



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

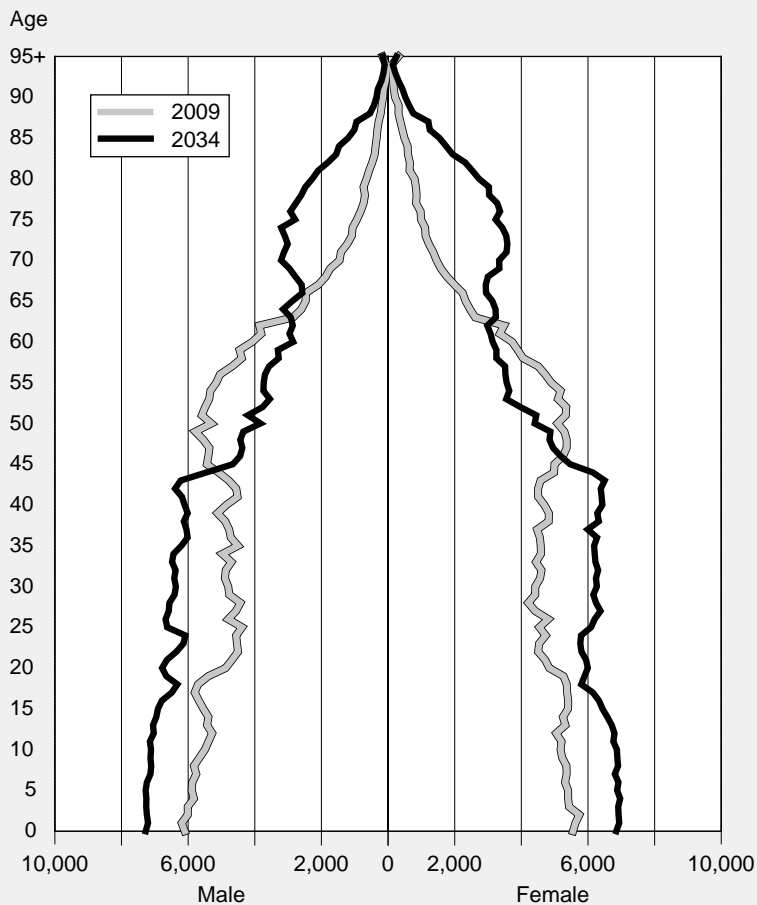
Alaska's Population 3



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

Fertility varies greatly across the state, with estimated TFR ranging from 5.1 children per woman in the Wade Hampton Census Area to just 1.3 in the Aleutians West Census Area. However, the current global trend of rural-to-urban migration results in lower overall fertility rates. Assuming that continues in Alaska, the state's projected fertility rate is likely to be 2.3 in 2034, down from the 2009 estimate of 2.4. The statistical model estimated the level of uncertainty around this value by using variance from recent decades.

4 Population By Age and Sex Alaska, 2009 and 2034¹



¹ Middle projection series
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Exhibit 1 shows the projected levels of TFR through 2034. There is a 10 percent chance TFR will fall outside these bounds in any given year, so it is likely to be outside this range at some point over the next 25 years.

Migration

The most volatile component is migration, which is affected by the economy in Alaska and the Lower 48. Wars, pipeline construction, and the oil boom led to significant influxes of new residents throughout Alaska's modern history, while base closures, pipeline completion, and the oil bust prompted people to leave. However, large-scale economic events like the construction of the oil pipeline are unlikely over the next 25 years. Even construction of a natural gas pipeline probably

would not reach that level of impact. Therefore, migration rates are likely to remain stable.

The projection model considered two ratios of migration (migrants divided by total population): in-migration and out-migration. The model estimated with 90 percent certainty that Alaska's net-migration will fall within about 1 percent of Alaska's population in a given year through 2034. (See Exhibit 2.) For example, if population is projected to be 700,000 in a given year, there is a 90 percent chance that net-migration will be within +/- 7,000 people. However, as with TFR, net-migration is likely to fall outside the predicted range at some point over the next 25 years, as it's 10 percent likely to do so in any given year.

Special populations

The military makes up a large portion of the population in Anchorage, Fairbanks, Denali, and Kodiak, and these military populations were held constant over the projection period to avoid "aging" these populations, which would underestimate residents in their 20s and 30s. Fish processing (group quarters) populations in Aleutians East and Aleutians West were also kept constant to prevent errantly "aging" these transient populations.

Statewide projections

Though the department projects a total statewide population increase through 2034 (see Exhibits 3 through 6), the annual rate of growth will likely slow over the projection period because of the expected increase in deaths relative to births. However, as stated earlier, the state is expected to continue growing even if net-migration were zero. By 2014, the most likely scenario is a population of 723,619, with 794,975 people in 2024 and 862,750 by 2034. The level of uncertainty greatly increases with time.

Projections for age groups

Alaska's population 4 years of age and younger is projected to increase by 22.3 percent, from 57,899 to 70,805 children between 2009 and 2034. (See Exhibit 6.) Numerous potential levels of fertility and migration cause greater uncertainty for younger age groups.

The most likely scenario for school-age children (ages 5 to 17) is 25.7 percent growth, from 141,873 to 178,392 people between 2009 and 2034. With the “echo boom” cohort (the children of baby boomers) now entering working ages, the short-term projection for the school-age group supports slow growth; but further into the future, the projected total school age population will grow at a steady pace.

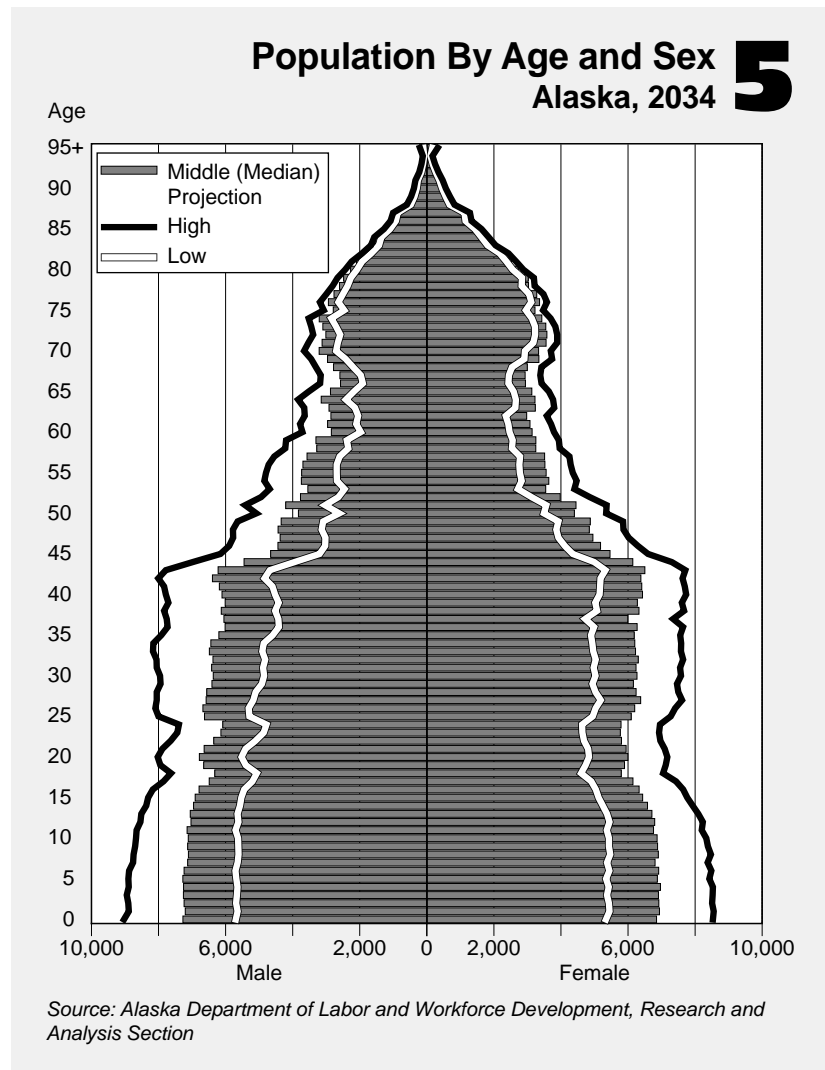
Alaska’s working-age population (ages 18 to 64) is currently 440,279 people, and is likely to increase by 11 percent over the projection period to 488,696 in 2034. As baby boomers become retirees, the echo boomers will move into the working ages, yielding almost no change in the overall working-age population for the majority of the period.

As mentioned earlier, retirees (ages 65 and older) are likely to more than double by 2034. This is attributable to Alaska’s large number of baby boomers reaching age 65 and older in 2009, representing 7.5 percent of the state’s population. That number is projected to climb 138.9 percent (to 124,857) by 2034, when it would represent 14.5 percent of the population. (See Exhibit 7.) The U.S. Census Bureau projects a similar trend for the nation as a whole, with the proportion age 65 and older in the U.S. increasing from 12.9 percent in 2009 to 19.8 percent in 2034.

Increasing dependency ratios

Dependency ratios show the burden of support on the working-age population to care for the young and old, traditionally nonworking populations. In 2009, every 100 Alaskans of working age supported 45.4 people under age 18, and 11.9 people over age 65, which adds up to a total dependency ratio of 57.3. Each of these figures is expected to rise over the next 25 years. (See Exhibits 7 and 8.)

With the aging of Alaska’s echo boom, the youth dependency ratio will probably first decrease to 45.2 in 2014, then rise to 50.0 in 2024 and 51.0 in 2034. The aged dependency ratio is projected to increase to 14.6 by 2014, then 23.5 by 2024, and 25.5 by 2034. Though there is uncertainty in the



specific figures for the aged dependency ratio, it is certain it will climb dramatically over the next 25 years.

Projections for regions and boroughs/census areas

Population change is likely to vary greatly across the state, following paths similar to the last decade. (See Exhibits 9 and 10.) Regions and boroughs/census areas are more susceptible to the impact of migration than any other component of change because it includes intrastate and interstate migration. Although applying recent trends of migration to regions and boroughs/census areas can predict growth or decline, it is possible these trends will significantly change across the state in the future. Migration depends on economic and social factors, making it less predictable.

6 Population by Age

Statewide and Alaska Natives, 2009 to 2034¹

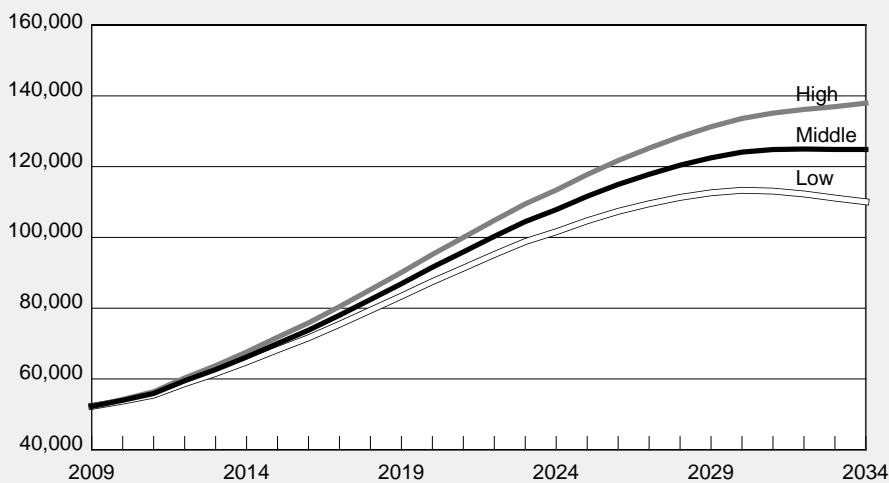
Total Alaska Population							Alaska's Native Population						
Age	2009	2014	2019	2024	2029	2034	Age	2009	2014	2019	2024	2029	2034
Birth to 4	57,899	59,656	64,160	66,695	68,614	70,805	Birth to 4	14,344	13,666	14,480	14,862	15,470	16,317
5 to 9	55,674	58,943	60,923	65,703	68,348	70,268	5 to 9	12,060	14,138	13,464	14,271	14,647	15,249
10 to 14	52,991	55,828	59,256	61,409	66,320	69,022	10 to 14	11,058	11,994	14,067	13,392	14,196	14,570
15 to 19	54,941	50,698	53,474	56,864	58,895	63,771	15 to 19	12,235	10,845	11,770	13,828	13,150	13,944
20 to 24	46,487	57,967	53,619	56,261	59,231	61,308	20 to 24	11,427	11,964	10,586	11,499	13,536	12,861
25 to 29	45,324	49,970	61,743	57,770	60,486	63,930	25 to 29	9,219	11,257	11,797	10,437	11,347	13,371
30 to 34	46,859	47,101	52,037	64,102	60,260	63,325	30 to 34	7,007	9,082	11,102	11,647	10,314	11,224
35 to 39	47,260	47,510	47,921	53,089	65,037	61,466	35 to 39	7,170	7,075	9,136	11,149	11,711	10,424
40 to 44	47,053	44,351	44,680	45,249	50,270	62,232	40 to 44	7,832	7,004	6,922	8,952	10,939	11,503
45 to 49	53,789	44,485	41,845	42,204	42,584	47,572	45 to 49	8,104	7,653	6,865	6,800	8,797	10,756
50 to 54	53,133	50,353	41,220	38,594	38,749	39,110	50 to 54	7,105	7,739	7,320	6,573	6,521	8,465
55 to 59	45,804	48,978	46,221	37,276	34,499	34,687	55 to 59	5,694	6,773	7,402	7,023	6,327	6,293
60 to 64	32,837	41,579	44,612	41,917	33,070	30,397	60 to 64	4,057	5,354	6,394	7,010	6,670	6,023
65 to 69	20,556	28,948	37,199	40,090	37,480	29,127	65 to 69	2,821	3,719	4,934	5,917	6,516	6,221
70 to 74	12,525	17,355	25,059	32,661	35,380	33,105	70 to 74	1,982	2,436	3,239	4,319	5,216	5,780
75 to 79	8,423	9,517	13,673	20,350	27,010	29,505	75 to 79	1,508	1,574	1,954	2,625	3,525	4,292
80 to 84	5,746	5,538	6,415	9,691	15,059	20,460	80 to 84	881	1,081	1,138	1,426	1,942	2,628
85 to 89	3,280	3,091	2,966	3,560	5,789	9,527	85 to 89	428	524	650	690	874	1,204
90+	1,733	1,751	1,590	1,490	1,786	3,133	90+	268	277	316	387	434	535
Total	692,314	723,619	758,613	794,975	828,867	862,750	Total	125,200	134,155	143,536	152,807	162,132	171,660

¹ Middle projection series

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

7 Age 65 and Older

Alaska's population, 2009 to 2034



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

The boroughs and census areas with the highest projected average annual growth rates over the period are the Matanuska-Susitna Borough (3.1 percent), the Wade Hampton Census Area (2.3 percent), and the Bethel Census Area (1.4 percent).

Those with the most dramatic expected losses in average annual population include the Haines Borough (-1.5 percent) and the Wrangell-Petersburg and Prince of Wales census areas (-1.3 percent).

The Anchorage/Mat-Su region's population is projected to grow by more than 142,535 — 38.0 percent, with a 1.5 percent average annual growth rate — from 374,902 people in 2009 to 517,429 in 2034. Anchorage is expected to continue growing, following the state's rural-to-urban migration trend. The Mat-Su Borough has grown dramatically throughout Alaska's history as a state, and is expected to continue.

The Gulf Coast region's population boomed during the 1980s, but growth has moderated in recent years. The projections yield an increase of roughly 5,239 people between 2009 and 2034 — 6.8 percent — but recent trends

could change significantly with future resource development.

Alaska's Interior region has grown steadily over recent years. However, the future of the populations in the Fairbanks North Star Borough and the Southeast Fairbanks Census Area may greatly depend on the military. Assuming current trends continue, the predicted increase for the Interior is 16,195 people between 2009 and 2034, or 14.9 percent.

High birth rates in the Northern and Southwest regions are anticipated to outpace the projected out-migration, resulting in net growth in those regions. Projections show the Northern region gaining about 5,908 residents (a 25.0 percent increase), and the Southwest region adding 10,433 (a 26.6 percent increase).

The only regional population expected to decline over the projection period is Southeast. Due to particularly low birth rates and the highest median age in the state (39.3), growth would require a sharp rise in net-migration. Southeast's projected loss is about 9,866 people (a 14.2 percent drop) between 2009 and 2034. The future of Southeast is uncertain because of its dependence on future social and economic developments.

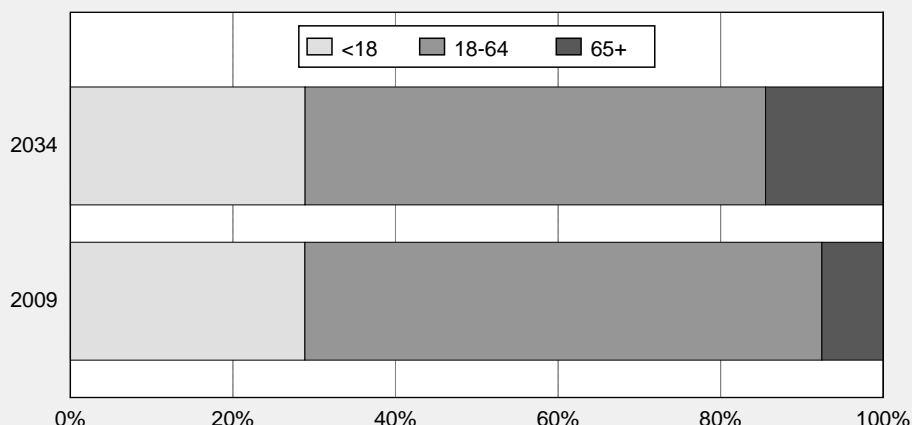
Projections show no change in the population rank-ordering of the regions over the projection period. In other words, the Anchorage/Mat-Su region is likely to remain the most populous, followed by the Interior, Gulf Coast, Southeast, and Southwest regions. The Northern region is expected to remain the least populated because of rural-to-urban migration.

Alaska Native projections

The department used the 2009 "bridged race"⁵

⁵ "Bridge" series race estimates use the definition of race from the 1990s, when people could only choose one race to define themselves. With the 2000 census, people could check all of the races that applied. As a result, race as reported after 2000 is no longer compatible with earlier data, and statistics on race are far more complex.

Population by Selected Age Groups Alaska, 2009 and 2034¹



¹ Middle projection series

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

estimate as a base for the Alaska Native⁶ population, applying the same method as regions and boroughs/census areas.

Mortality, fertility, and migration rates among Alaska Natives have historically differed greatly from those of the overall state population. Native mortality and fertility rates are among the highest in the nation. Alaska Native life expectancy will likely follow the U.S. Social Security Administration's projections for change in U.S life expectancy over the projected period. From 2009 to 2034, life expectancy for Alaska Native males is expected to rise from 67.2 to 74.7 years, and from 73.7 to 78.6 years for Native females. Projected fertility will decline from 3.2 children per woman in 2009 to 3.0 in 2034, due to the rural-to-urban migration discussed earlier. Because of the social and economic characteristics of urban centers, urban women are more likely to have fewer children than their rural counterparts.

Compared to statewide rates, Alaska Native migration is relatively low. Natives migrate to the state at just above 2 percent of the total Native population and leave the state at just over 2 percent of the population. This very slight annual loss

⁶ Alaska Native: A person with origins in any of the original peoples of North or South America (including Central America), who maintains tribal affiliation or community attachment. (Federal Office of Management and Budget) This includes Native Americans in Alaska; however, the majority of Natives in Alaska are Alaska Natives.

9 Population By Region and Borough/Census Area Alaska, 2009-2034¹

	2009	2014	2019	2024	2029	2034	Percentage Change 2009-2034	Average Annual Growth Rate 2009-2034
State of Alaska	692,314	723,619	758,613	794,975	828,867	862,750	24.6%	0.9%
Anchorage / Mat-Su Region	374,902	399,950	427,814	457,519	487,028	517,429	38.0%	1.5%
Anchorage, Municipality of	290,588	304,555	319,812	335,672	350,569	364,973	25.6%	1.0%
Matanuska-Susitna Borough	84,314	95,395	108,002	121,847	136,459	152,456	80.8%	3.1%
Gulf Coast Region	76,686	78,196	79,885	81,313	81,908	81,925	6.8%	0.3%
Kenai Peninsula Borough	53,578	56,007	58,562	60,921	62,673	64,019	19.5%	0.7%
Kodiak Island Borough	13,860	13,461	13,095	12,705	12,188	11,567	-16.5%	-0.6%
Valdez-Cordova Census Area	9,248	8,728	8,228	7,687	7,047	6,339	-31.5%	-1.2%
Interior Region	108,463	111,723	115,217	118,773	121,822	124,658	14.9%	0.6%
Denali Borough	1,838	1,783	1,715	1,642	1,550	1,451	-21.1%	-0.8%
Fairbanks North Star Borough	93,779	96,997	100,358	103,768	106,774	109,580	16.8%	0.6%
Southeast Fairbanks Census Area	7,243	7,694	8,216	8,751	9,246	9,742	34.5%	1.3%
Yukon Koyukuk Census Area	5,603	5,249	4,928	4,612	4,252	3,885	-30.7%	-1.2%
Northern Region	23,664	24,760	26,037	27,257	28,354	29,572	25.0%	1.0%
Nome Census Area	9,500	9,911	10,391	10,859	11,282	11,744	23.6%	0.9%
North Slope Borough	6,798	7,140	7,517	7,855	8,157	8,517	25.3%	1.0%
Northwest Arctic Borough	7,366	7,709	8,129	8,543	8,915	9,311	26.4%	1.0%
Southeast Region	69,338	67,948	66,480	64,692	62,244	59,472	-14.2%	-0.5%
Haines Borough	2,286	2,133	1,974	1,802	1,619	1,422	-37.8%	-1.5%
Juneau, City and Borough of	30,661	30,884	31,051	31,040	30,710	30,191	-1.5%	-0.1%
Ketchikan Gateway Borough	12,984	12,464	11,934	11,339	10,633	9,878	-23.9%	-0.9%
Prince of Wales-Outer Ketchikan Census Area	5,392	5,052	4,721	4,368	3,966	3,566	-33.9%	-1.3%
Sitka, City and Borough of	8,627	8,578	8,505	8,400	8,215	8,000	-7.3%	-0.3%
Skagway-Hoonah-Angoon Census Area	2,908	2,785	2,642	2,483	2,297	2,100	-27.8%	-1.1%
Wrangell-Petersburg Census Area	5,852	5,445	5,070	4,701	4,276	3,828	-34.6%	-1.3%
Yakutat, City and Borough of	628	607	583	559	528	487	-22.5%	-0.9%
Southwest Region	39,261	41,042	43,180	45,421	47,511	49,694	26.6%	1.0%
Aleutians East Borough	2,778	2,830	2,887	2,945	2,967	2,981	7.3%	0.3%
Aleutians West Census Area	4,549	4,592	4,627	4,638	4,610	4,564	0.3%	0.0%
Bethel Census Area	16,997	18,036	19,224	20,471	21,720	23,019	35.4%	1.4%
Bristol Bay Borough	967	972	977	986	986	974	0.7%	0.0%
Dillingham Census Area	4,729	4,739	4,781	4,798	4,755	4,698	-0.7%	0.0%
Lake and Peninsula Borough	1,547	1,487	1,441	1,393	1,328	1,258	-18.7%	-0.7%
Wade Hampton Census Area	7,694	8,386	9,243	10,190	11,145	12,200	58.6%	2.3%

¹ Middle projection series

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

through migration is projected to continue through 2034.

The Department of Labor projects stable growth for the Native population through the projection period, from 125,200 people in 2009 to 171,660 in 2034. (See Exhibits 6 and 11.) Additionally, Natives are expected to increase as a share of the state's population, from 18.1 percent in 2009 to 19.9 percent in 2034.

Historical trends for natural increase and inter-state net-migration have been relatively stable, so

uncertainty estimates were unnecessary for this group. Therefore, the Alaska Native projections are only comparable to the middle series of the statewide projections and can be subtracted from this series to estimate the non-Native population.

Decreasing fertility rates are reflected in the Native share of the total population under age 20. That proportion is projected to decline over the period from 22.4 percent in 2009 to 21.9 percent in 2034. The median age for the population is expected to rise from 25.8 to 29.8 between 2009 and 2034.

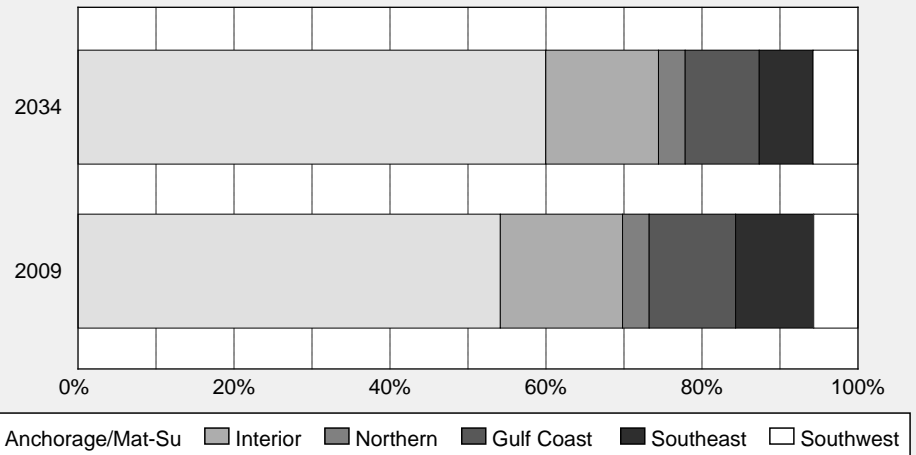
Natives ages 65 and older are projected to follow the same broad trends as the overall population in Alaska and the U.S. Specifically, the number of elderly Natives is expected to rise by 161.9 percent — from 7,888 in 2009 to 20,660 in 2034. The proportion of Natives age 65 and older within the total Native population will likely grow from 6.3 percent in 2009 to 11.7 percent in 2034. Increases in Native life expectancy will also affect future population change.

Historically, migration has not played as large a role in population change as natural increase; therefore only small losses in the population due to net out-migration are projected. However, rural-to-urban migration is expected to continue, so Alaska Natives are likely to help shape the future of urban centers.

The Department of Labor’s Native projections are only at the state level in this series. While Alaska uses the same classification for Native Americans as the U.S. Census Bureau does for the nation, the demographic makeup of the two populations is vastly different, therefore not comparable.

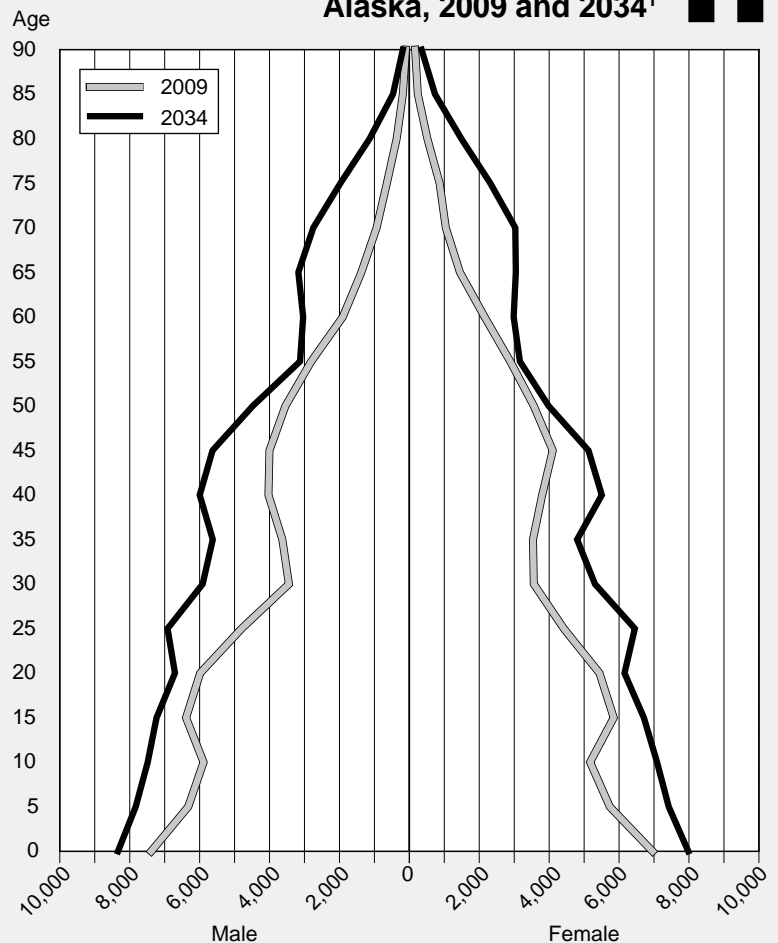
A complete description of the methods and results for these population projections (including high and low projection series) are available on the Research and Analysis Web site at laborstats.alaska.gov. Click on “Population & Census” on the left, then “Estimates & Projections.”

Population by Economic Region **10** Alaska, 2009 and 2034¹



¹ Middle projection series
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Alaska Native Population By Sex **11** Alaska, 2009 and 2034¹



¹ Middle projection series
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section