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Employment and Population Projections 1994 to 2004

Prepared by
The Alaska Department of Labor
Research and Analysis Section

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Labor Force and Population Projections 1994 - 2004

I. Summary and Overview

The Alaska Department of Labor forecasts employment in the Alaska economy for the ten-year period from 1994 to 2004 to increase by 10.7%. This is below the trend in the post pipeline period as shown in Figure 1. The primary reason for the projected slower growth is reduced expenditures by both

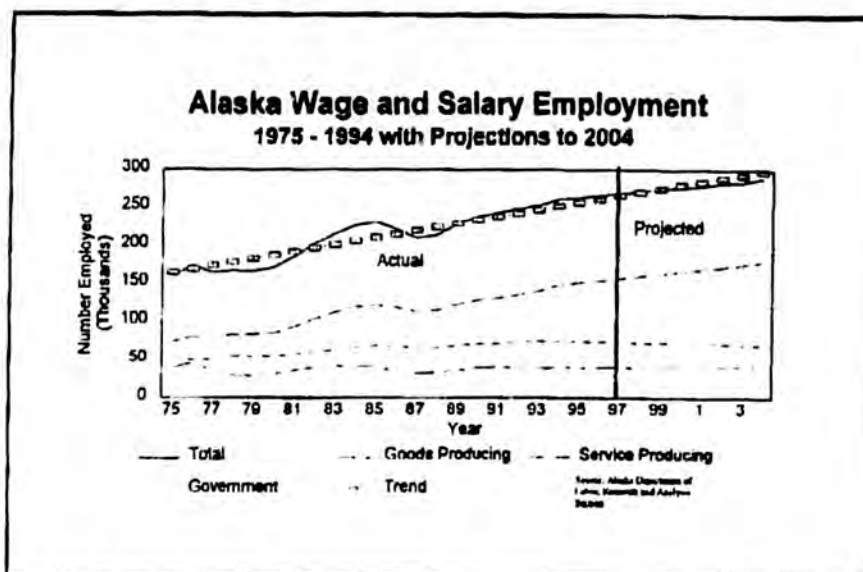
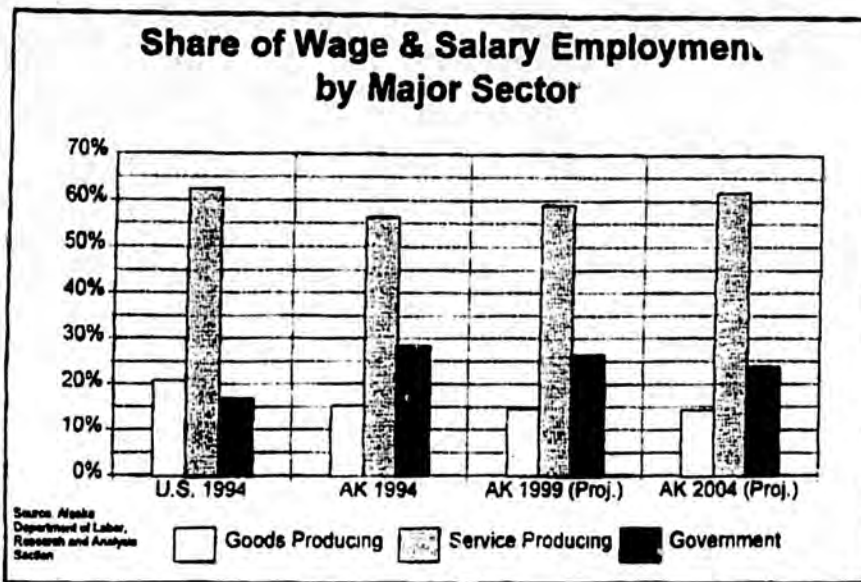


Figure 1

expenditures by both the State and Federal governments. This decrease in the government growth rate is reflected not only in direct employment, but also reduced growth in the construction and service producing industries. As can be seen from Figure 1 only the service producing industries are expected to grow. Employment in the goods producing sector is projected to remain constant and employment in government is expected to decline. One direct ramification is that the average wage earned in Alaska is likely to decline as jobs are shifted from higher paying government and goods producing positions to lower paying service industry jobs. This shift in composition of the labor force is shown in Figure 2 where the proportion of employment is decreasing for government and the goods producing industries and increasing for the service producing industries.

Primary forecast assumptions:

- 1) No State tax increases will be instituted throughout the period
- 2) Production forecasts by the Department of Revenue are correct
- 3) There will be no significant increased valuation of the dollar
- 4) Tourism will continue to grow at present rates
- 5) Trade and services in Alaska will continue to look more like the rest of the country.

**Figure 2**

Substantial decreases in the price of oil which could be brought on by several events (e.g., allowing Iraq to return to full production levels) could make the forecast overly optimistic. (The consensus in the group was that minor increases would be absorbed by increased demand by countries such as China.) Decreases in

tourism or an increase in the value of the dollar would also have adverse effects on Alaska during the 10-year projection period.

Non-covered employment - The analysis in this report is based primarily on civilian non-agricultural wage and salary employment. Several important segments are not included, specifically fishers, the military, and the self-employed. These groups are very important to Alaska and impact on our study indirectly in their consumption of economic goods and services which translate directly into jobs that are measured in Alaska Department of Labor (AKDOL) numbers. Fishers generate some crew employment that is directly reflected in the AKDOL data. Fishers also have a substantial influence on the manufacturing sector, since they supply the raw fish to the processors. Finally, self-employed individuals such as consultants are not required to report to the AKDOL and constitute a large share of those working in Alaska. Self-employment activities are assumed to impact the economy at the same relative level throughout the projection period.

Tourism - Strictly speaking, tourism is not an identified sector of the economy for analytical purposes. Tourism is identified by parts of several, primarily service producing industries that are providing services to travelers to a particular area (this definition of a tourist is consistent with the definition of a tourist within the "industry"). Obviously, tourism activity is very important to Alaska since it provides a significant portion of the economic base in several areas of the state. In our analysis of the service producing sector, tourism was the major driving force to the continued growth of these industries. Tourists are assumed to increase their visits to the state by 37.7% during the first five years of the projections and by another 30.7% during the second

five years. This means that the overall number of tourists visiting the state will increase by nearly 80% during the forecast period. According to our forecasts, it is this growth that will be the driving force in the service sector for the next 10 years.

II. Industry Analysis

A. Agriculture - Agriculture, a small industry in Alaska, does not directly affect non-agriculture wage and salary employment. However, it does have secondary impacts, primarily in the service producing sector and to a more limited extent in the goods producing sector. There is no reason to expect growth in this industry since competition from lower cost areas continues to make it more efficient to produce most agricultural commodities elsewhere.

B. Mining - Oil production at Prudhoe Bay will continue to decline throughout the forecast period. During the first five years of the projection, secondary and tertiary oil recovery efforts are assumed to keep oil field employment slightly above current levels (approximately 6 percent for the five years). The increase during the second five years is expected to total less than one percent (essentially no change in employment). Most of the increase in oil and gas production will occur as a result of preliminary ANWR development which is assumed to start in the last two years of the period (2003-2004).

Hardrock mineral prices are currently being buoyed by the devaluation of the dollar. There is no reason to assume that the dollar will increase in value relative to other currencies until the large U.S. deficit is reduced. Some advances are possible in the near term but overall, the dollar is assumed to maintain its same relative value throughout the forecast period. The result will be an increase in hardrock mining activity throughout the period. The number of jobs in hardrock mining is forecast to increase by at least 1,000 during the second five-year period. This amounts to a 50 percent increase in the hardrock mining sector.

Overall mining employment is projected to increase by 11.4% during the first five years and by 13.6% over the entire ten-year period.

C. Construction - During the first five years, construction activity is expected to decrease as government funded projects decline (particularly State and Locally funded projects). Some construction will occur as a result of tourism and population growth, but not sufficiently to offset the employment decreases resulting from cutbacks in government projects.

Construction in the second five years is forecast to increase at the same rate as the rest of the economy as the construction cuts by State and Local governments cease.

Overall construction employment is projected to decrease by 2.3% during the first five years but to return to 1994 levels by 2004.

D. Manufacturing - Little change is foreseen in fisheries. There is potential for small decreases in employment as owners continue to substitute capital for labor in both harvesting and processing activities (some substitution is assumed during the period from 1999 to 2004). Small growth might occur in the production of specialty products. Species emphasis may change, depending on international fish prices, but overall fishing activity will remain at current levels. The only downside to the industry is the potential for decreased harvests if "Lower 48" treaty obligations are expanded further into Alaska fisheries. Our projections assume this will not happen.

There is potential for increased timber production if log prices remain high (e.g., the resolution of "landless" native claims). Logging and sawmill activities are projected to increase but pulp production will remain below pre-1994 levels. Growth in harvesting and mill production is forecast to increase primarily in the second half of the ten-year period.

Some growth is expected in manufacturing even if there were no change in fishing or timber production. Other small areas of manufacturing such as printing and publishing will account for much of the growth.

Overall manufacturing employment is projected to increase by 3% during the first five years and by 4.2% for the 10 year period between 1994 and 2004.

E. Transportation, Communications, and Public Utilities - Transportation is projected to be one of the strongest growth industries in the Alaskan economy based on assumptions of continued strong growth in air freight activity between Europe and the Orient and gains in tourist related activities. Decreases will occur in pipeline transportation due to the decline in oil activity at Prudhoe Bay, but this will be more than offset by gains elsewhere in transportation.

Communications, a recently declining sector, is expected to experience substantial growth in the first five years due to industry innovation. For the second five years communications is assumed to grow at nearly the same rate as population.

Public utilities is assumed to grow at the same rate as population for the entire 10 years.

Overall transportation, communications, and public utilities employment is projected to increase by 10.7% during the first five years and by 20.6% for the 10 years from 1994 to 2004.

F. Retail and Wholesale Trade - Both retail and wholesale trade are expected to grow faster than the overall economy.

Most of the growth in the first five years of the projection will be in wholesale trade where Alaska continues to lag behind the rest of the country. The growth will not bring us to the same proportion of the economy in wholesale trade as the rest of the country because the low transportation rates to Alaska make it cheaper to warehouse many items outside of Alaska. In the second five years, wholesale trade employment is expected to parallel the growth in the rest of the economy.

Retail trade has recently undergone substantial growth, particularly in large retail operations. Consequently, it will not experience the same growth as wholesale trade. Retail trade will generally parallel the growth in the rest of the economy.

Overall wholesale and retail trade employment is projected to increase by 7.4% during the first five years and by 16.1% for the 10-year period between 1994 and 2004. This is an average growth of 1.5% per year.

G. Finance, Insurance, and Real Estate - These industries are expected to grow at a higher rate than the rest of the economy due primarily to activity in the real estate (mostly land dealings by non-profit organizations and the needs of an expanding population) and banking sectors.

The five-year growth rate for finance, insurance, and real estate is projected at 4.5% and the ten year-growth is expected be 16.5%.

H) Services - Services are expected to grow at or faster than the rest of economy. Several factors will maintain the rapid growth in this sector. Tourism, which is expected to grow more rapidly during this period than any other area of the economy, has the majority of its activities in service related businesses. The impact on service employment is projected be substantial. In addition, overall service levels in Alaska are below those in other areas of the country. This means there should be some growth in this industry from businesses trying to expand their markets in Alaska. Finally, planned health service expansion (hospitals and public health facilities primarily) should also stimulate employment growth.

The five-year growth rate is projected to be 8.9% and the ten-year growth rate is estimated to be 19.0%.

I) Government - Government is expected to decline throughout the ten-year forecast period. Local government is expected to increase slightly during the first five years and to decrease slightly thereafter. The primary reasons why Local government is expected to decrease less than either State or Federal government are educational

expansion and block grants from both the State and Federal governments.

State and Federal government are both expected to decrease throughout the period. State government decreases are primarily the result of decreasing oil revenues. The re-establishment of an income tax is not assumed because the anticipated rate of decrease will be gradual and will not generate sufficient political impetus to bring about the tax. Other programs are such as the Permanent Fund Dividend are likely to be reduced before any tax increase is going to be acceptable. Program reduction will account for part of the decrease in State government employment.

Federal government is expected to decline not only because of the current political climate but because it will be very difficult to maintain the same level of Defense Department activities for the entire period. If the U.S. Congress maintains its current focus on government reductions, cuts could be deeper than the ones forecast.

Overall government activity is expected to decline by 1.0% in the first five years and by a total of 11.8% over the entire ten-year period.

Alaska Wage and Salary Employment					
1994 with Projections to 2004					
Industry Title	AK		Percent	AK	Percent
	1994	1999	Increase 5 yrs	2004	Increase 10 yrs
Goods Producing	38,456	39,700	3.2%	41,000	6.6%
Mining	9,333	10,400	11.4	11,000	17.9
Total Construction	13,000	12,700	-2.3	13,000	0.0
Manufacturing	16,123	16,600	3.0	17,000	5.4
Service Producing	149,678	161,900	8.2	177,000	18.3
Transportation etc.	23,220	25,700	10.8	28,000	20.6
Wholesale trade	8,455	9,300	10.0	10,000	18.3
Retail trade	45,823	48,800	6.4	53,000	15.7
Fin, Ins, & Real Est.	12,021	12,600	4.5	14,000	16.5
Services	60,159	65,500	8.9	72,000	19.7
Government	72,492	72,300	-0.3	69,000	-4.8
State Gov.	21,178	20,300	-4.2	19,000	-10.3
Local Gov	33,264	35,000	5.2	34,000	2.2
Federal Gov.	18,050	17,000	-5.8	16,000	-11.4
Total	260,626	273,800	5.06%	289,000	10.9%
Source: Alaska Department of Labor, Research and Analysis.					

III. Population Projections

Key Observations:

The average annual rate of change during the period 1994-2004 is 1.6%. Natural increase accounts for about 86 to 88 percent of the change, with net-migration from outside Alaska accounting for the remaining 12 to 14 percent of the growth.

Growth of the elderly as a proportion of the working age population will increase. The number of persons over 65 is expected to almost double in the next 10 years, primarily as a result of the aging of the resident population. The proportion of the elderly is expected to rise from 4.5% to 6.0% and will be concentrated in the Urban areas of the state.

Both youth and elderly dependents are expected to increase relative to the working age population. The result is that in 2004, every 100 working age persons will have to support 63 older or younger persons. This contrasts to 55 persons in 1994.

The pressure for jobs will be strongest among younger state residents. To the degree that job growth does not occur, there may be an increase in the out-migration of young adults or a failure of young adults to return to Alaska following college, military service or other out-of-state post secondary training.

Changing job composition may also change the social character of Alaska communities. Decline in the growth of higher pay, higher skill federal and state government employment opportunities in favor of lower paying service occupations fosters a decline in the average education level among younger adults migrating to or remaining in communities.

In and out migration to Alaska is most affected by opportunities in Alaska relative to the opportunities for employment in our key "feeder" states, Washington, California and Oregon and, to a lesser degree, the Mountain States as a whole. One-third of the migration to/from Alaska originates in these three key feeder states and half of our migration originates in the West. Alaska has the highest turnover of population of any "state" except the District of Columbia and Nevada.

Military and their dependents have made up about 10 percent of Alaska's population and contribute to its transient character. By 2004, military and dependent populations may shrink to 6.5% or less.

The population in Rural Alaska is expected to grow more slowly than the Urban and

Bush populations. Of the projected population growth between 1990-2004, 84.2% is in Urban Alaska, 11.8% in the Bush and only 4.0% in the Rural region.

The projected population levels are consistent with the job growth projected, but the disparity is potentially wider 10 years out with growth of the potential labor force slightly larger than the projected employment. It is not possible to adequately research the many factors that lie between population growth and jobs either at the state or regional levels in the time allotted. For comparative purposes, levels of labor force participation and self employment are assumed to be at their 1990 level. Military employment is expected to decline to approximately 19,000 and the level of unemployment is assumed to remain at about 8 percent.

The projection model used is the same one employed in *Alaska Population Projections*, (Alaska Department of Labor, 1991). The low projection case is assumed, since it represents a conservative case for population growth. This case generally assumes growth levels below those historically experienced for periods as long as ten years. "Booms" or "busts" in the economy would affect both the level of migration and fertility assumed. No change in the pattern of deaths from that used in the publication is assumed. New age-specific fertility rates for calendar year 1993 have been used and held constant for the entire 10-year period as an assumed level of births. Net migration for the period averages a gain of about 1,000 persons a year statewide. Projections are computed for the State of Alaska and three regions, Urban, Rural and Bush. In addition, income distributions are shown for the state and regions for 1989. The regions are defined as follows.

Urban: Anchorage Borough, Fairbanks North Star Borough, Juneau Borough, Kenai Peninsula Borough, Matanuska-Susitna Borough, Sitka Borough.

Rural: Aleutians West census area, Denali Borough, Haines Borough, Kodiak Island Borough, Prince of Wales-Outer Ketchikan census area, Skagway-Hoonah-Angoon census area, Southeast Fairbanks census area, Valdez-Cordova census area, Wrangell-Petersburg census area, Yakutat Borough.

Bush: Aleutians East borough, Bethel census area, Bristol Bay Borough, Dillingham census area, Lake & Peninsula Borough, Nome census area, North Slope Borough, Northwest Arctic Borough, Wade Hampton census area, Yukon-Koyukuk census area.

Alaska Household Income by Region, 1989.

	Total	Percent	Urban	Percent	Rural	Percent	Bush	Percent
Total	189,700	100.00%	155,558	100.00%	18,070	100.00%	18,072	100.00%
Less than \$5,000	6,631	3.50%	4,648	2.99%	584	3.23%	1,399	8.70%
\$5,000-\$9,999	9,152	4.82%	6,785	4.36%	852	4.71%	1,515	9.43%
\$10,000-\$12,499	6,156	3.25%	4,625	2.97%	629	3.48%	902	5.01%
\$12,500-\$14,999	5,972	3.15%	4,608	2.96%	566	3.13%	798	4.97%
\$15,000-\$17,499	6,229	3.28%	4,930	3.17%	612	3.39%	687	4.27%
\$17,500-\$19,999	5,900	3.11%	4,795	3.08%	550	3.04%	555	3.45%
\$20,000-\$22,499	6,870	3.62%	5,543	3.56%	694	3.84%	633	3.94%
\$22,500-\$24,999	6,140	3.24%	5,089	3.26%	580	3.21%	491	3.06%
\$25,000-\$27,499	6,952	3.66%	5,593	3.60%	766	4.24%	593	3.69%
\$27,500-\$29,999	6,080	3.21%	5,012	3.22%	554	3.07%	514	3.20%
\$30,000-\$32,499	6,924	3.65%	5,778	3.71%	654	3.62%	492	3.06%
\$32,500-\$34,999	5,917	3.12%	4,855	3.12%	578	3.19%	486	3.02%
\$35,000-\$37,499	6,414	3.38%	5,297	3.41%	668	3.70%	449	2.79%
\$37,500-\$39,999	5,836	3.08%	4,768	3.07%	613	3.39%	455	2.83%
\$40,000-\$42,499	6,529	3.44%	5,359	3.45%	658	3.64%	512	3.19%
\$42,500-\$44,999	5,268	2.78%	4,368	2.81%	513	2.84%	387	2.41%
\$45,000-\$47,499	5,890	3.10%	4,964	3.19%	546	3.02%	380	2.36%
\$47,500-\$49,999	5,185	2.73%	4,338	2.79%	486	2.69%	361	2.25%
\$50,000-\$54,999	10,428	5.50%	8,700	5.59%	1,024	5.67%	704	4.38%
\$55,000-\$59,999	8,235	4.34%	6,795	4.37%	843	4.67%	597	3.71%
\$60,000-\$74,999	21,756	11.47%	18,788	12.08%	1,810	10.02%	1,158	7.21%
\$75,000-\$99,999	20,626	10.87%	17,603	11.32%	1,819	10.07%	1,204	7.48%
\$100,000-\$124,999	7,870	4.15%	6,662	4.28%	737	4.08%	471	2.93%
\$125,000-\$149,999	2,903	1.53%	2,472	1.59%	241	1.33%	190	1.18%
\$150,000 +	3,837	2.02%	3,203	2.06%	495	2.74%	139	0.86%

Source: 1990 Census of Population & Housing.

Alaska Population with Components of Change, 1990-2004.

Period	Population	Change	Average Annual Rate of Change	Births	Deaths	Natural Increase	Net Migration
1970	308,500						
1970-1975	384,100	75,600	4.37%	35,469	7,338	28,131	47,469
1975-1980	419,800	35,700	1.78%	42,980	8,161	34,819	881
1980-1985	543,900	124,100	5.15%	57,469	9,353	48,116	75,984
1985-1990	550,043	6,143	0.22%	59,224	10,509	48,715	(42,572)
1990-1994	606,278	56,235	2.43%	45,885	9,175	36,710	19,525
1994-1999	657,041	50,763	1.61%	57,315	13,642	43,673	7,090
1999-2004	711,900	54,859	1.80%	64,878	16,381	48,497	6,362

Source: Alaska Department of Labor, Research & Analysis, Demographics Unit.

Alaska Population by Age and Region, 1990-2004.

	U.S. Percent	Total	Percent	Urban	Percent	Rural	Percent	Bush	Percent	Total	Percent Urban	Percent Rural	Percent Bush
1990 Census	100.0%	550,043	100.0%	433,710	100.0%	60,238	100.0%	56,095	100.0%	100.0%	78.9%	11.0%	10.2%
0-17	25.7%	172,870	31.4%	133,498	30.8%	17,821	29.6%	21,551	38.4%	100.0%	77.2%	10.3%	12.5%
18-64	61.8%	355,078	64.6%	282,979	65.2%	40,074	66.5%	32,025	57.1%	100.0%	79.7%	11.3%	9.0%
65+	12.5%	22,095	4.0%	17,233	4.0%	2,343	3.9%	2,519	4.5%	100.0%	78.0%	10.6%	11.4%
1994 Provisional	100.0%	606,278	100.0%	478,300		63,900		64,100		100.0%	78.9%	10.5%	10.6%
0-17	26.1%	187,351	30.9%	...		...		...					
18-64	61.2%	391,946	64.6%	...		...		...					
65+	12.7%	26,981	4.5%	...		...		...					
1999 Projected	100.0%	657,041	100.0%	526,734	100.0%	61,560	100.0%	68,747	100.0%	100.0%	80.2%	9.4%	10.5%
0-17	26.1%	190,758	29.0%	149,503	28.4%	16,956	27.5%	24,299	35.3%	100.0%	78.4%	8.9%	12.7%
18-64	61.1%	433,403	66.0%	350,903	66.6%	41,328	67.1%	41,172	59.9%	100.0%	81.0%	9.5%	9.5%
65+	12.8%	32,880	5.0%	26,328	5.0%	3,276	5.3%	3,276	4.8%	100.0%	80.1%	10.0%	10.0%
2004 Projected	100.0%	711,900	100.0%	570,000	100.0%	66,700	100.0%	75,200	100.0%	100.0%	80.1%	9.4%	10.6%
0-17	25.5%	231,500	32.5%	180,600	31.7%	21,600	32.4%	29,300	39.0%	100.0%	78.0%	9.3%	12.7%
18-64	61.7%	437,400	61.4%	355,000	62.3%	40,800	61.2%	41,600	55.3%	100.0%	81.2%	9.3%	9.5%
65+	12.8%	43,000	6.0%	34,400	6.0%	4,300	6.4%	4,300	5.7%	100.0%	80.0%	10.0%	10.0%
Change 1990-2004		161,857	0.0%	136,290	0.00%	6,462	0.00%	19,105	0.00%		1.22%	-1.58%	0.36%
0-17	-0.2%	58,630	1.1%	47,102	0.90%	3,779	2.80%	7,749	0.54%		0.79%	-0.98%	0.19%
18-64	-0.1%	82,322	-3.1%	72,021	-2.97%	726	-5.36%	9,575	-1.77%		1.47%	-1.96%	0.49%
65+	0.3%	20,905	2.0%	17,167	2.06%	1,957	2.56%	1,781	1.23%		2.00%	-0.60%	-1.40%

Source: Alaska Department of Labor, Research & Analysis, Demographics Unit