

Alaska's 'brain drain': myth or reality?

A variety of administrative data are used to determine if the long-term education, employment, and outmigration patterns of Alaska's youth are draining Alaska's labor force, causing 'brain drain'

Jeff Hadland

Alaska has one of the highest outmigration rates in the Nation. The general belief is that a disproportionately large percentage of Alaska's young adults leave Alaska after graduating from high school or after completing some postsecondary education in the State. Also, there is wide concern that the percentage of Alaskans who continue their education beyond high school is among the lowest in the Nation.¹ This article presents data to quantify these phenomena, sometimes characterized as a "brain drain," using a variety of administrative data.

This article tracks a study group of more than 16,000 Alaskans, age 15–16 in 1994 (hereinafter, 1994 Youth).² It follows this group through their postsecondary education in Alaska and at out-of-State institutions and examines their employment status in Alaska.

Summary of findings

- More than 62 percent of the 1994 Youth were still Alaskan residents in 2002, compared with 71.3 percent of the total Alaskan population.
- A little more than 55 percent of the 1994 Youth group had some reported postsecondary education, nearly identical to the postsecondary education rate of a group of 17- and 18-year-old Alaskan youth in 2000.
- Approximately 62 percent of the 1994 Youth group who pursued postsecondary education, did so exclusively in Alaska.
- More than 84 percent of the 1994 Youth who

had received their postsecondary education exclusively in Alaska were still Alaska residents in 2002, compared with 51 percent of the 1994 Youth who had received postsecondary education exclusively outside the State were Alaska residents in 2002.

- Nearly 70 percent of the 1994 Youth group with postsecondary education had attended the University of Alaska at some time from 1996 through 2002.
- More than 12 percent of the total 1994 Youth group earned one or more degrees as of the end of 2002.
- Nearly 54 percent (8,659) of the 1994 Youth group were employed in Alaska in 2002 based upon a match with Alaskan unemployment insurance wage records. Average 2002 earnings varied by educational attainment, with highest average earnings in Alaska achieved by those youth who had earned a degree at the University of Alaska.

The number of young Alaskans entering the labor force each year is rapidly increasing. In 2002, there were nearly twice as many 16-year-old Alaskans (11,246) as there were new jobs created in Alaska from 2001 to 2002 (6,500). Nevertheless, a significant number of employment opportunities are available to new entrants to the labor force. The large number of new hires each quarter and an increasing number of workers approaching retirement age all present opportunities to young jobseekers. Although there is always the likelihood

Jeff Hadland is an economist for the Alaska Department of Labor and Workforce Development Research and Analysis Section, Juneau, AK. E-mail: Jeff_Hadland@labor.state.ak.us

of a mismatch between skills of a new worker and job openings, tracking the postsecondary education and employment patterns of young Alaskans can be helpful in determining priorities and programs that could provide additional opportunities in the coming years for Alaska youth.

Methodology

More than 16,000 Alaskans age 15–16 in 1994 were identified based upon reported date of birth on their Alaska Permanent Fund Dividend application³ and matched with unemployment insurance wage records, as well as a variety of administrative data. This cohort was tracked from 1994 to 2002 and monitored on its continuing education and employment outcomes. There is currently no high school graduate database available for Alaska, so this compilation was used as a proxy for that information. An additional group of 20,413 17- and 18-year-olds in 2000 was selected for tracking short-term postsecondary education choices.

The majority of the study group retained their Alaska residency during the 1994–2002 evaluation period and had identifiable postsecondary education both within and outside Alaska. No information was available for youth employed outside Alaska or youth who died or left the United States during this period. Youth arriving in Alaska after 1994 were excluded from the study group.

Administrative data. The Alaska Permanent Fund Dividend application form provides a few key demographic variables. Age, sex and place of residence information is collected from the file and used to identify the population, identify place of residence by year, determine continued residency and track in-State and estimate out-of-State migration.

Continuing education among Alaskan youth was tracked using University of Alaska and other Alaska postsecondary education files, as well as National Student Clearinghouse data showing education and degrees obtained in other Alaskan schools and in other States. Although not all out-of-State schools and all years were available, the Clearinghouse data helped to fill a gap in information about the large number of Alaskans who pursue postsecondary education outside the State. Although not all schools report information for all years, the data provided was the best available for postsecondary education activity and outcomes of the Alaska youth population.

Other available data In addition to industry and earnings information, Alaska's unemployment insurance wage record file contains occupation and place of work information for most wage and salary workers in the State. Employers are provided with special occupational coding manuals, based on the Standard Occupational Classification system that assist them in coding each of their worker's jobs. Besides providing

information on the progress of workers through a career ladder, the coding manuals allow researchers to compare occupational information by matching an occupation with the typical education level for that occupation and examine earnings by occupation. In addition, occupation data associated with each worker are helpful in determining if workers were employed in an occupation related to their education and training. This information is collectively known as Alaska's Occupational Database. The Wage Record Interchange System could not be used to track the employment outcomes of youth that were employed outside the State because that file can be used only for evaluating the performance of certain federally funded training programs, primarily those associated with the Workforce Investment Act.

Characteristics of Alaska's youth

The study cohort of 16,114 Alaskans age 15–16 in 1994 had significantly more men (52.5 percent) than women (47.5 percent). In fact, the number of men exceeded the number of women in all age groups in Alaska in 1994. Also consistent with the overall population distribution in Alaska, the 1994 Youth population reported their residence as: 37.8 percent in Anchorage, 12.3 percent in Fairbanks, 10.4 percent in Matanuska-Susitna⁴, and 8.7 percent in Kenai.

No information is currently available indicating whether the 1994 Youth were Alaskan high school students in 1994 or had graduated from an Alaskan high school in 1994. In 1996 and 1997, the Alaska Department of Education and Early Development reported that there were 12,209 high school graduates from Alaska's school districts, and this group represents a large percentage of the total high school-graduation-age population for those years. (The statewide dropout rate for grades 7–12 ranged from 3.4 percent to 4.1 percent from 1996 to 1998.)

For purposes of comparison, a second group of Alaskan youth age 17–18 in 2000 was selected and matched with administrative data. This group of recent high-school-graduation-age youth was examined to determine their employment and postsecondary education outcomes shortly after their high school years.

Residency and outmigration

Older youth and young adults typically have the highest migration rates of any other population group. These individuals are at a crossroads of their lives when they are either continuing their education or considering a serious job or career. To achieve these goals, many young persons consider moving to another location. Although the majority of Alaska's 1994 Youth study group chose to continue their work or education close to home, many others chose to leave Alaska to pursue their long-term goals.

Due primarily to outmigration during the 1994–2002 period, there was a significant decline in the number of Alaska’s 1994 Youth from 1994 though 1997 when most of the students would have been old enough to graduate from high school. In 1997, 82.6 percent of the 1994 Youth group were still Alaskan residents based upon Permanent Fund Dividend applications. By 2002, 62.5 percent of this population were still Alaska residents. (See chart 1.)⁵

Outmigration rates for Alaskan youth age 17–19 and age 15–16 in 1994 were the highest of any other age group. In comparison, 28.7 percent of all of Alaska’s residents (Permanent Fund Dividend basis) were no longer Alaskan residents in 2002, fully 37.5 percent of 15- and 16-year-olds and 38.8 percent of 17- and 19-year-olds no longer resided in Alaska in 2002. (See table 1.) The migration rate for male and female youth was virtually the same for those in the 15- and 16-age-group.

Overall, 37.7 percent of the 1994 Youth age 15–16 were no longer residents of Alaska in 2002. Although there were significant differences in outmigration rates from Alaska by age group from 1994 to 2002, the migration rates by geographic area varied dramatically depending on where the youth lived in Alaska in 1994. (See table 2.) Boroughs in Southeast Alaska exhibited the largest outmigration rate for the 15–16 year old population, with only 50.5 percent of these youth from Ketchikan still in Alaska in 2002, 52.5 percent of the Juneau

youth cohort remaining in Alaska, and 56.8 percent of the Sitka youth remaining in the State.

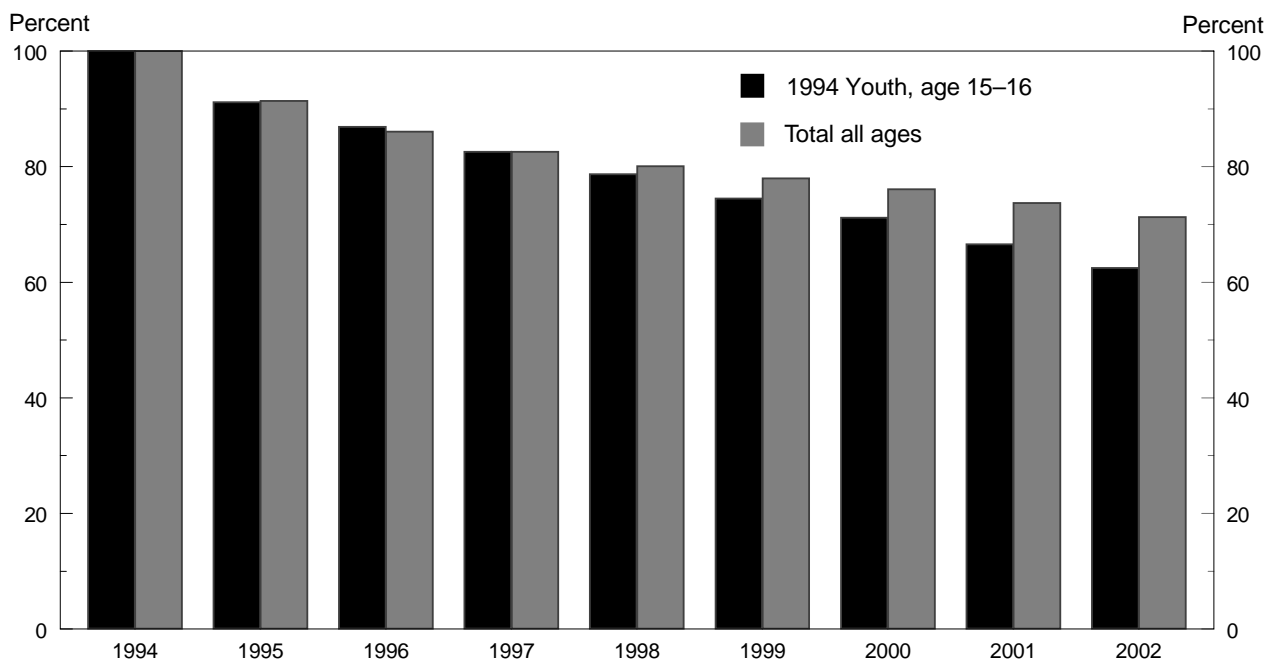
Some of Alaska’s rural Boroughs and census areas had very low outmigration rates, with nearly 90 percent of the 1994 Youth of Wade Hampton, 88.4 percent of Dillingham youth, 85.9 percent of Nome youth, and 84.6 percent of Bethel youth remaining in-State through 2002.

By 2002, more than 14 percent of Alaska resident 1994 Youth moved to another borough or census area in Alaska. (See chart 2.) Rural resident youth were just as likely to move to another part of Alaska than to move outside Alaska. Following a wider variety of education or employment opportunities, those who moved from a rural area and stayed in Alaska were much more likely to move to Anchorage or Fairbanks than to another rural region.

Alaska generally has one of the highest interstate migration rates of any other State. Outmigration during the 1990’s averaged 7.2 percent per year for the total population. Based upon analysis of Internal Revenue Service tax return data, 46.9 percent of gross migration (both “immigration” and outmigration) was to States in the western part of the United States. Washington and California were the two top States for interstate migration.⁶ Alaska youth attended out-of-State postsecondary schools in these same “magnet” States.

Although some of the regions in Alaska with the highest

Chart 1. Percent of population retaining Alaskan residency, 1994 Youth cohort and total all ages, 1994–2002



SOURCE: Department of Labor Workforce Development, Research and Analysis, and Alaska Permanent Fund Dividend application data.

Table 1. Percent of Alaska 1994 population remaining in Alaska in subsequent years, by age group

Age group	1994	1995	1996	1997	2002
Total	100	91.4	86.1	82.6	71.3
Age 14 years and under	100	91.5	86.9	83.9	74.8
15–16 years	100	91.2	86.9	82.6	62.3
17–19 years	100	88.9	82.3	77.2	61.2
20–29 years	100	87.8	80.6	76.0	65.9
30–39 years	100	92.1	86.8	83.5	74.1
40–49 years	100	93.4	89.2	86.5	76.2
50 years and older	100	91.5	86.2	82.1	65.9

NOTE: Continued residency in Alaska measured by application for Alaska Permanent Fund Dividend.

SOURCE: *Alaska Population Overview—1999 Estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2000.

migration rates had slow growing or declining economies, this was not the entire explanation for this pattern. Some of the rural regions of Alaska with relatively low migration rates also exhibited slow growth prospects during the 1990's. Clearly, both economic, cultural factors and environmental

factors play a part in the decision to leave Alaska for continuing education and pursuing economic opportunities.

There was very little flow from “resident” to “nonresident” status and back, over the course of the 9 years from 1994 through 2002. For those resident youth in 1994 who were still residents in 2002, more than 90 percent had been residents throughout the entire period. Once they left Alaska and became nonresidents, very few became residents again in later years. For the recent population study of Alaskan youth age 17–18 in 2000, 86.1 percent were still residents of Alaska in 2002 based upon Alaska Permanent Fund Dividend application.

Postsecondary education rates

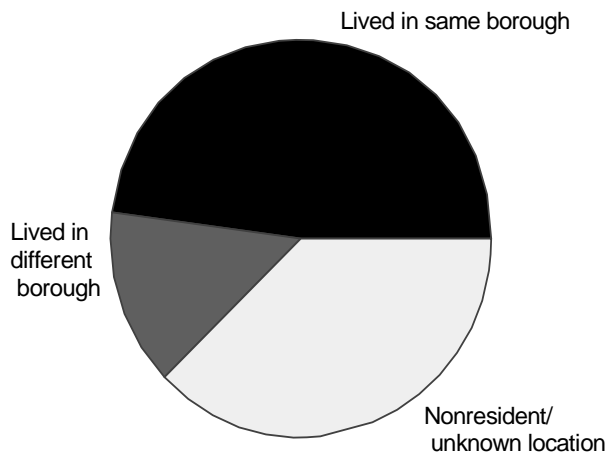
Three sources of information were used to identify postsecondary education activity for Alaska's youth: University of Alaska student records from 1996 through 2002, Alaska training program records collected as part of an annual evaluation of State funded training programs, and data from the National Student Clearinghouse, 2000 through 2002. The National Student Clearinghouse data includes information

Table 2. Borough/census area place of residence of Alaskan youth age 15–16 in 1994 and place of residence in 2002

Residence in 1994	Residence in 2002						
	Total	Remained in same borough/census area		Moved to other borough/census area in Alaska		Moved outside Alaska	
		Number	Percent	Number	Percent	Number	Percent
Total	16,114	7,713	47.9	2,324	14.4	6,077	37.7
Aleutians East	38	23	60.5	7	18.4	8	21.1
Aleutians West	69	24	34.8	18	26.1	27	39.1
Anchorage	6,089	3,180	52.2	515	8.5	2,394	39.3
Bethel	443	316	71.3	59	13.3	68	15.3
Bristol Bay	29	8	27.6	10	34.5	11	37.9
Denali	53	21	39.6	15	28.3	17	32.1
Dillingham	130	87	66.9	28	21.5	15	11.5
Fairbanks	1,982	937	47.3	198	10	847	42.7
Haines	74	19	25.7	22	29.7	33	44.6
Juneau	904	288	31.9	186	20.6	430	47.6
Kenai	1,409	593	42.1	233	16.5	583	41.4
Ketchikan	428	162	37.9	54	12.6	212	49.5
Kodiak	359	141	39.3	70	19.5	148	41.2
Lake and Peninsula	52	26	50.0	18	34.6	8	15.4
MatSu	1,682	769	45.7	319	19	594	35.3
Nome	284	180	63.4	64	22.5	40	14.1
North Slope	186	117	62.9	34	18.3	35	18.8
Northwest Arctic	210	136	64.8	41	19.5	33	15.7
POW-Outer Ketchikan	183	75	41.0	35	19.1	73	39.9
Sitka	241	95	39.4	42	17.4	104	43.2
Skagway-Hoonah-Angoon	107	33	30.8	32	29.9	42	39.3
Southeast Fairbanks	208	70	33.7	75	36.1	63	30.3
Valdez-Cordova	282	88	31.2	75	26.6	119	42.2
Wade Hampton	198	141	71.2	36	18.2	21	10.6
Wrangell-Petersburg	179	65	36.3	36	20.1	78	43.6
Yakutat	24	9	37.5	8	33.3	7	29.2
Yukon-Koyukuk	244	110	45.1	88	36.1	46	18.9
Unknown	27	0	0	6	22.2	21	77.8

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2000.

Chart 2. Residence in 2002 of the 1994 Alaskan Youth, age 15–16



SOURCE: Department of Labor Workforce Development, Research and Analysis, and Alaska Permanent Fund Dividend historical application Data.

about the education and degree status of more than 90 percent of the students enrolled in the Nation's colleges and universities.

At least 55.3 percent (8,903) of the 1994 Alaskan Youth population had attended one or more postsecondary schools from 1996 through 2002. More than 34 percent (5,537) of these youth pursued their postsecondary education exclusively in Alaska, 7.4 percent (1,190) went to school exclusively outside Alaska, and 13.5 percent (2,176) attended postsecondary education institutions both inside and outside the State. Nationwide, about 63 percent of high school graduates age 16 to 24, and about 43 percent of all 18- to 24-year-olds had enrolled in college in 1999.

More than 6,200 of the 1994 Youth attended the University of Alaska at some time from 1996 through 2002. Of those youth, 34.1 percent earned credits, and the remainder either withdrew from their course or courses, received an incomplete, or failed. Nearly 70 percent of the 1994 Alaska Youth that attended a postsecondary institution attended the University of Alaska.

More than 12 percent (1,989) of the 1994 Youth group had earned one or more degrees or certificates, or both, as of December 2002. From 1996 through 2002, 838 of the youth earned one or more degrees and certificates of all types from the University of Alaska.

Residency and current employment status varied significantly depending upon the location of reported postsecondary education activity. Those 1994 Youth who had reported both in-State and out-of-State postsecondary education had the lowest current Alaska employment and residency, with only 25 percent of those youth residents of Alaska in 2002 and 18 percent reported working in the State in 2002. (See table 3.)

The number (and percent) of 1994 Youth who attended a postsecondary institution varied significantly by place of residence (See table 4 and chart 3). Rural areas had representatives among both the lowest and highest postsecondary participation groups. Lowest postsecondary participation (less than 45 percent) was reported in the North Slope Borough, Northwest Arctic Borough, and Bethel Census Area and the highest rates (more than 60 percent) were reported in Valdez-Cordova Census Area, Denali Borough, and Dillingham Census Area.

The 1994 youth in the urban areas of Anchorage, Fairbanks and Matanuska-Susitna attained the largest number of postsecondary degrees or certificates, and urban areas generally had higher rates of attainment. However, the Aleutians West Census Area and Denali Borough both had high rates of degree attainment, but with very small total numbers. In general, rural areas fared poorly in terms of degree attainment, with the North Slope Borough and Wade Hampton having less than 2 percent of their youth population reporting that they had achieved a degree or certificate as of 2002.

Postsecondary education, 2000

The 20,413 of Alaska's youth age 17–18 in 2000 were matched with University of Alaska and National Student Clearinghouse files to identify their participation in postsecondary education. (See table 4 and chart 4) Their participation mirrored the 1994 Youth group, with a 55.1-

Table 3. Residency and employment status in 2002 of Alaskan youth age 15–16 years in 1994

Education	Total	Resident in 2002		Employed in Alaska 2002	
		Number	Percent	Number	Percent
No reported postsecondary school information	7,211	4,202	58.3	3,623	50.2
Alaska only	5,537	4,679	84.5	4,207	76.0
Outside Alaska only	1,190	607	51.0	428	36.0
Inside and outside Alaska	2,176	549	25.2	400	18.4
Total	16,114	10,037	62.3	8,658	53.7

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2000.

Table 4. Education, residency, and employment indicators of Alaskan youth in 1994 and 2000 by place and residence

Residency	Youth age 15–16 in 1994					Youth age 17–18 in 2000				
	Total youth	Attended Post-secondary education	Degree recipient	Resident in 2002	Employed in Alaska in 2002	Total youth	Attended Post-secondary education	Degree recipient	Resident in 2002	Employed in Alaska in 2002
Total	16,114	8,886	1,989	10,037	8,658	20,413	11,254	142	17,566	14,300
Aleutians East	38	22	4	30	24	54	27	0	48	38
Aleutians West	69	44	11	42	44	75	38	1	60	48
Anchorage	6,089	3,503	843	3,695	3,146	7,587	4,207	40	6,619	5,400
Bethel	443	160	17	375	356	552	221	3	517	442
Bristol Bay	29	17	4	18	15	39	28	0	33	28
Denali	53	37	10	36	30	60	38	2	55	38
Dillingham	130	86	9	115	100	153	99	1	145	109
Fairbanks	1,982	1,176	295	1,135	971	2,413	1,418	17	2,091	1,769
Haines	74	36	8	41	42	98	53	1	80	69
Juneau	904	499	118	474	434	1,213	643	11	1,015	856
Kenai	1,409	794	192	826	693	1,838	1,191	11	1,597	1,265
Ketchikan	428	243	48	216	201	439	231	2	361	284
Kodiak	359	219	41	211	175	393	262	7	329	256
Lake and Peninsula	52	28	2	44	38	73	42	0	61	56
Matanuska-Susitna	1,682	885	198	1,088	914	2,311	1,200	24	2,008	1,582
Nome	284	141	22	244	212	318	145	2	292	246
North Slope	186	47	3	151	133	257	84	0	227	205
Northwest Arctic	210	68	9	177	159	259	84	0	241	196
POW-Outer Ketchikan	183	72	10	110	90	208	91	0	172	126
Sitka	241	157	28	137	121	273	176	2	219	183
Skagway-Hoonah-Angoon ..	107	54	14	65	61	100	53	2	85	72
Southeast Fairbanks	208	107	21	145	123	238	122	5	203	149
Valdez-Cordova	282	197	39	163	142	338	270	7	293	237
Wade Hampton	198	73	3	177	164	270	77	1	255	215
Wrangell-Petersburg	179	90	20	101	81	212	127	0	171	125
Yakutat	24	14	0	17	15	21	9	0	20	18
Yukon-Koyukuk	244	103	14	198	169	269	136	0	246	201
Other/unknown	27	14	6	6	5	352	182	3	123	87

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

percent rate for those attending one or more postsecondary institutions. Longer term tracking of the 2000 Youth group will likely result in higher postsecondary education participation rates than the 1994 group.

Although only the most ambitious 17-year-old would have had time to earn a Bachelor's degree by the end of 2002, more than 140 youth in this group had earned certificates or Associate degrees by that time.

For those youth who had received some postsecondary education, as of 2002, two-thirds had received that education exclusively in Alaska. The remainder received some postsecondary education outside the state, with 12.4 percent continuing their education exclusively outside Alaska.

Female youth more likely to participate in postsecondary education. More than 50 percent (4,279) of men in the 1994 Youth group had some reported postsecondary education and 60.2 percent (4,602) of the women had postsecondary education. A little less than 10 percent of the men earned a degree and more than 15 percent of the women were degree recipients. Nearly 59 percent of those with degrees were

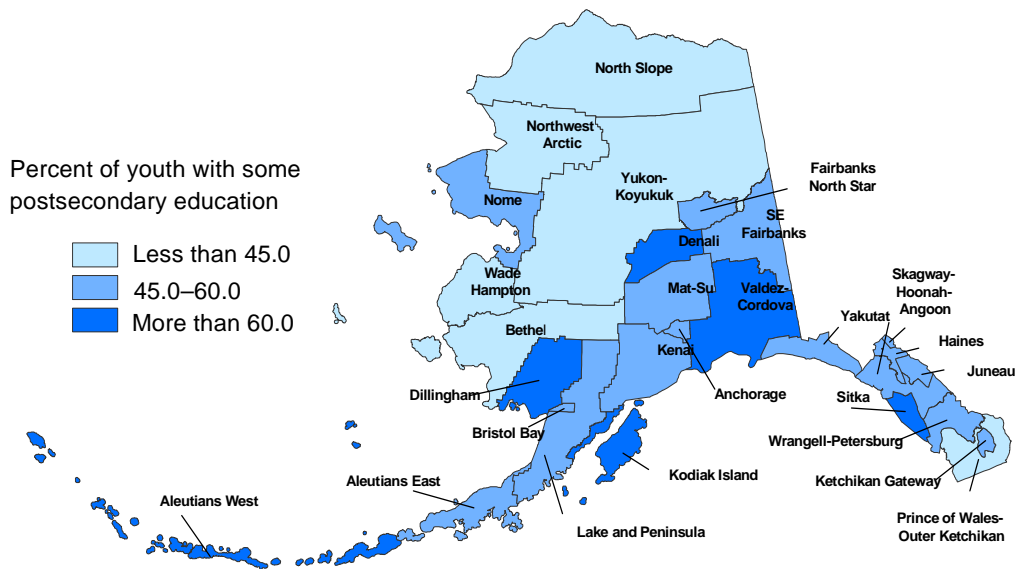
women. For those attending postsecondary schools, women were more likely to attend exclusively in Alaska.

Alaska students matriculate along the west coast. The 1994 Youth group attended colleges and universities in every State in the Nation from 2000–02 (See chart 5). However, postsecondary education students who went to school at some time outside Alaska were most likely to attend colleges and universities in the western part of the United States. Based upon the State of the last school that the 1994 Youth group attended, Washington, Oregon, California, Colorado, Utah, Montana and Nevada were the top States for college and university attendance.

University of Alaska student data

Nearly 39 percent of the 1994 Youth (6,264 students) attended one or more terms at the University of Alaska from the fall of 1996 through the fall of 2002. However, a large percentage (46.7 percent) of the youth who attended the University of Alaska attended for three or fewer terms during the period. More than 62 percent of those youth who attended the

Chart 3. Percent of 1994 Youth with some postsecondary education, 2002



SOURCE: Department of Labor Workforce Development, Research and Analysis, and Alaska Permanent Fund Dividend application data.

University of Alaska at some time during the period started their attendance by the fall of 1997.

As of fall 2002, 838 of the youth cohort had received one or more degrees from the University of Alaska. Based upon the first reported degree awarded, 488 had earned a baccalaureate degree; 308, an Associate's degree; and the remainder had earned advanced degrees or other certifications.

Each year, the University of Alaska awards approximately 1,300 bachelor's degrees. Chart 6 shows the number of degrees awarded and the 2002 resident and employment status for each year's degree recipients. As expected, the 2002 University of Alaska graduates have the highest current Alaska residency and employment rates, but those students who earned degrees early in the decade have relatively high and stable employment and residency rates as well. For the recent youth cohort, those Alaskans age 17–18 in 2000, 38.6 percent attended the University of Alaska at some time from 1996 through 2002. Nearly 16 percent were still attending the University of Alaska as of fall 2002.

Employment and earnings of University of Alaska students.

A little more than 4,200 2002 graduates and former students of the University of Alaska from the 1994 Youth cohort were employed in Alaska in 2002. This group earned more than \$79 million, based upon administrative record matches with

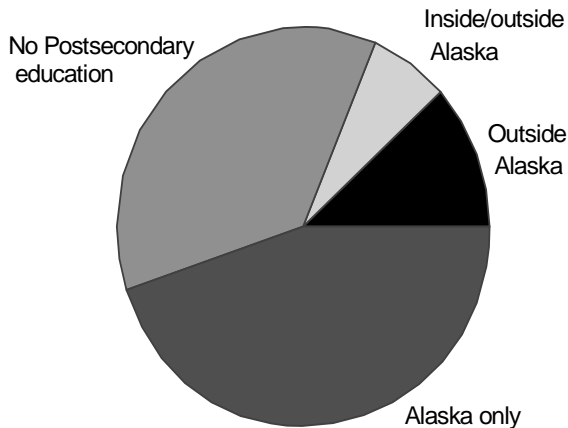
Alaska unemployment insurance wage records. Students who earned one or more degrees at the University of Alaska had the highest average total Alaska earnings in 2002 when compared with all other 1994 Youth. (See chart 7 and table 5.) Workers who reported having between 61 and 90 University of Alaska credits had the second highest average earnings.

No matter the level of educational attainment, the male group earned more than the female cohort in Alaska in 2002. Nevertheless, there was a much larger number of reported female degree recipients and a much larger number who were employed in Alaska in 2002. (See table 6.) Women who earned a degree at the University of Alaska had wage and salary earnings approximately 50 percent greater than those females who did not attend the University of Alaska. In 2002, male youth who did not attend the university had average earnings that were 94 percent as much as the entire male youth cohort and female youth who did not attend earned 83.9 percent as much as all women in the group.

Employment and earnings of Alaska youth

Total wage and salary earnings in Alaska in 2002 for the 8,659 employed 1994 Youth were \$149.2 million. These workers, representing 53.7 percent of the total 1994 Youth study group, earned on average \$17,238 in 2002, compared with \$25,808 average

Chart 4. Postsecondary education status thru 2002 for year 2000 Alaskan youth age 17–18



SOURCE: Department of Labor Workforce Development, Research and Analysis.

annual earnings for all workers employed at some time during the year in Alaska in the same year. The largest number of workers and the highest total earnings were in the trade, transportation and utilities industry, however, highest average and median earnings were paid to workers in the natural resource and mining industry. (See table 7.)

Alaska's oil and mining industry has very high paying jobs. Average earnings for the 1994 Youth workers in that industry were \$35,226; twice as much as the average for all of the 1994 Youth working in Alaska in 2002. But these 1994 Youth workers still earned significantly less than all workers employed in the natural resources and mining industry who average \$62,557 annual earnings in 2002.

Although Alaska's unemployment insurance wage record file does not capture the number of hours worked for each employee, calendar quarters worked does provide some indication of attachment to the labor force over time. In 2002, 55 percent of the 1994 Youth employed in Alaska 2002 worked during all four quarters of the year suggesting a strong attachment to the labor force. (See chart 8.) However, nearly 64 percent of the 1994 Youth workers employed at some time during the year in Alaska earned less than \$20,000 and about 40 percent earned less than \$10,000. (See chart 9.) Workers who were employed during all four quarters earned an average of \$25,129.

Youth with postsecondary education. Matching the 1994 Youth age 15–16 records with 2002 Alaska unemployment insurance wage records and education and residency administrative data, this study finds that the majority of total Alaska earnings were received by those youth who had reported some Alaska postsecondary education. Total earnings were \$149.2 million, with \$81.0 million going to youth with some Alaska postsecondary education (table 8). Those youth who had earned one or more degrees had the highest average earnings (\$19,754), although those youth reporting some Alaska postsecondary education earned nearly as much, with \$19,251 in 2002. Lowest average and total earnings were received by youth who had postsecondary education both inside and outside Alaska.

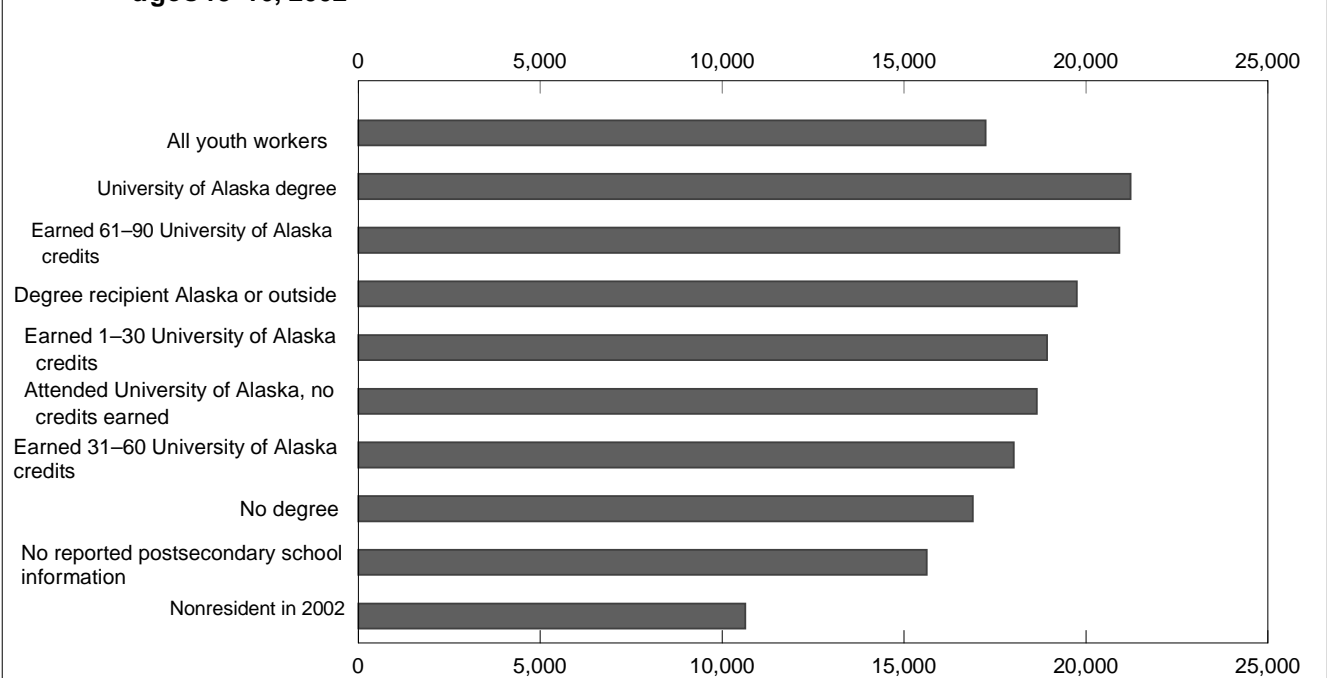
Based upon analysis of those 1994 Youth employed at some time during 2002, nearly 53 percent were employed by one employer during the year, 28.3 percent of workers were employed by two employers (either consecutively or concurrently), and 12.0 percent were employed by three employers in 2002. These workers were employed an average of 3.2 quarters per year.

Occupation and educational attainment

Alaska's unemployment insurance wage records contain Standard Occupational Classification- based occupational identifiers for more than 95 percent of unemployment insurance wage records. Minimum training level codes, assigned according to the Bureau of Labor Statistics classification system, can be used to determine if postsecondary education graduates, or those receiving significant postsecondary education are working in an occupation that require that level of training. If workers are employed in an occupation that requires only short-term on- the-job training, but they had received considerable postsecondary education, they can be considered "underemployed."

The 1994 Youth group has not had time for significant work experience following postsecondary education. Preliminary findings show that about one-third of the 991 youth who had degrees were employed in Alaska in 2002 in occupations with assigned training levels and were working in occupations in which a degree was required. (See table 9.)

However, a significant number of 1994 Youth with no reported degree information were working in occupations generally requiring degrees. Some of the occupations most frequently reported in this category include financial specialists, general and operations managers, biological technicians, preschool teachers, computer support specialists, recreation workers, accountants and auditors, engineering technicians, and health technologists. Incomplete educational attainment information and occupational coding issues both may be a factor in the discrepancy, but it is clear that a large number of the 1994 Youth

Chart 7. Average total Alaska earnings for selected education and residency groups, 1994 Youth ages 15–16, 2002

SOURCE: Department of Labor Workforce Development, Research and Analysis, May 2002.

workers, whether or not degree status information was available, were employed in 2002 in occupations requiring a significant level of training. It should be noted that many of these workers had earned a significant number of credits from the University of Alaska.

Occupation and gender

Occupations most frequently held in 2002 by the 1994 Youth workers varied significantly by gender. (See table 10.) The top occupations in terms of total numbers and average earnings for the men were generally construction related occupations. Specifically, construction laborer had the highest number of men, and operating engineers/equipment operators had the highest average earnings for men. However, retail salesperson and janitors did make the top five in total numbers for men. The women were most frequently employed as office clerks, retail salespersons, and waiters/waitresses, with the highest average earnings paid to executive secretaries/administrative assistants.

Identifying employment opportunities

The relatively high migration rate among youth from Alaska is the result of many factors. The estimated number of youth

leaving the State is quite high, but the overall rate of outmigration has not increased in recent years. In fact, the percentage of 18-year-olds leaving the State in the late 1990s (about 9 percent annually) was lower than that at any time during the decade.

Each year during the 1990s, at least 11,000 Alaska youth entered the labor force. This inflow was more than matched by a growing number of job openings. Current Occupational Employment Statistics projections estimate an increase in Alaska employment of 16.7 percent from 302,255 to 352,693 between 2000 and 2010, resulting in more than 12,000 job openings projected annually during this 10-year period. These projected openings are the combined result of employment growth and net separations from the occupations and do not include jobs resulting from employee turnover.

In addition to overall employment growth, there are additional opportunities available to new entrants to the labor force. Currently, the Alaska Department of Labor and Workforce Development estimates that there were nearly 68,000 nonresidents of Alaska employed at some time in Alaska in 2001. Alaska residency of workers is determined using Permanent Fund Dividend data. Industries, occupations, and employers that have high nonresident hire rates signal an unmet training need and a placement opportunity for Alaska's training programs.

Turnover in the workplace provides additional employment opportunities. In 2001, there were approximately 200,000 new

Table 5. Employment, earnings, and residency in 2000 of youth age 15–16 in 1994, University of Alaska students, and other groups in 1994, 2002 residency, employment, and earnings

Education	Youth age 15–16 in 1994	Resident in 2002	Employed in Alaska	Total earnings	Average total earnings	Total quarters worked
Total	16,114	10,037	8,659	\$149,262,715	\$17,238	27,434
Attended University of Alaska:						
Attended but no credits earned	736	533	468	8,435,591	18,025	1,518
1 to 30 credits earned	3,327	2,458	2,143	40,589,836	18,941	7,014
31 to 60 credits earned	884	701	609	11,361,407	18,656	2,014
61 to 90 credits earned	486	431	354	7,408,458	20,928	1,160
91 to 120 credits earned	371	344	307	5,256,249	17,121	1,020
121 or more credits earned	421	391	346	6,088,189	17,596	1,113
Earned one or more degrees	838	734	657	13,952,018	21,236	2,210
Attended University of Alaska	6,264	4,887	4,255	79,561,938	18,698	13,924
Did not attend University of Alaska	9,850	5,150	4,404	69,700,777	15,827	13,510

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

Table 6. Employment and average earnings in 2002 by Alaskan youth age 15–16 in 1994, University of Alaska students, and other groups

Education	Male youth			Female youth		
	Number	Employed in Alaska	Average total earnings	Number	Employed in Alaska	Average total earnings
Total	8,458	4,605	19,098	7,642	4,051	15,123
Attended University of Alaska:						
Attended but no credits earned	424	272	20,064	312	196	15,194
1 to 30 credits earned	1,546	985	20,699	1,779	1,156	17,441
31 to 60 credits earned	403	284	20,473	481	325	17,068
61 to 90 credits earned	239	177	24,719	247	177	17,136
91 to 120 credits earned	152	126	18,153	219	181	16,403
121 or more credits earned	161	123	18,065	260	223	17,337
Earned one or more degrees	314	237	25,267	524	420	18,961
Did not attend University of Alaska ..	5,511	2,619	17,967	4,327	1,784	12,686

NOTE: Totals for male and female youth may not add to total due to missing gender data for some youth.

Population Overview—1999 estimates, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

Table 7. Employment and earnings in 2002 of Alaskan youth age 15–16 in 1994, by industry

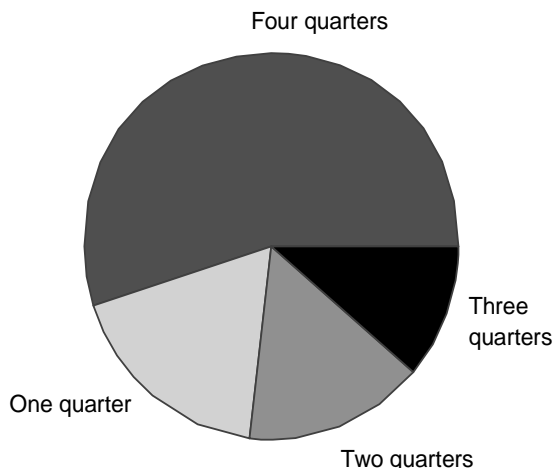
Industry	Total workers	Total earnings	Mean earnings	Median earnings
Total ¹	8,659	\$149,262,715	\$17,238	\$13,905
Local government	932	12,563,184	13,480	9,462
State government	422	8,104,181	19,204	18,743
Construction	808	19,437,983	24,057	21,488
Educational and health services	945	16,555,507	17,519	16,451
Financial activities	451	8,155,414	18,083	17,446
Information	199	4,741,951	23,829	21,686
Leisure and hospitality	1,175	11,782,065	10,027	7,197
Manufacturing	216	3,114,855	14,421	9,997
Natural resources and mining	312	10,990,562	35,226	32,650
Other services	365	5,623,264	15,406	13,337
Professional and business services	715	11,742,102	16,423	13,514
Trade, transportation, and utilities	2,110	36,275,154	17,192	14,840

¹ Includes some unknown industries.

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

ment of Labor and Workforce Development, Research and Analysis, May 2002.

Chart 8. Number of quarters worked in 2002, 1994 Youth age 15–16



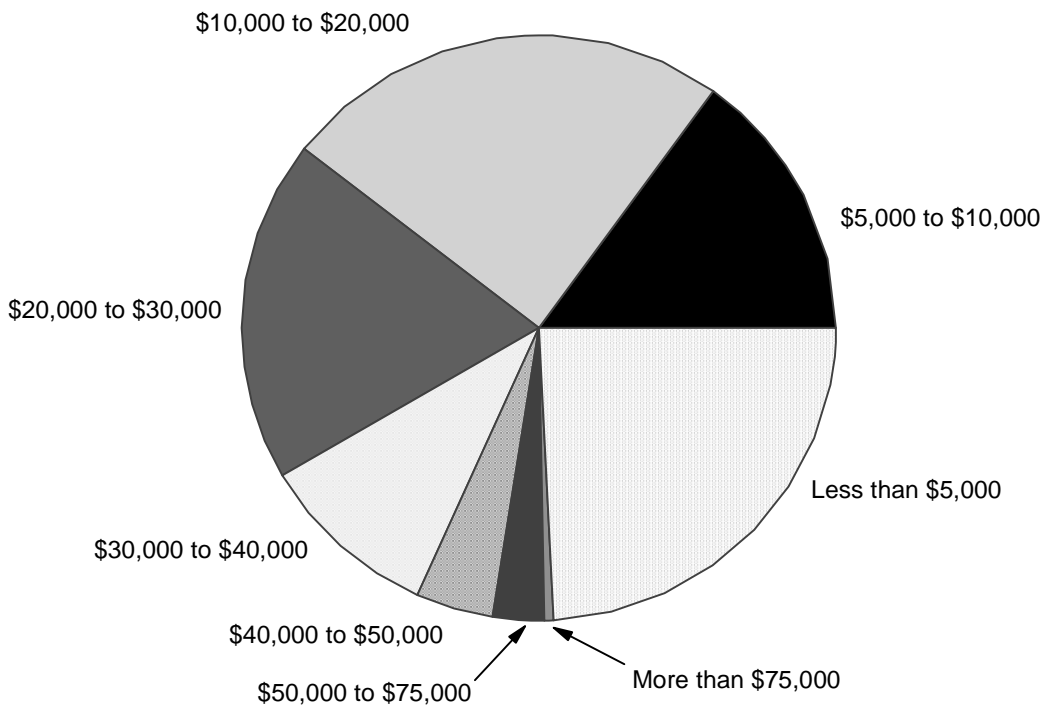
SOURCE: Department of Labor Workforce Development, Research and Analysis.

“hires,” defined as a worker, hired by an employer in a quarter, who had not worked for that employer at any time in the previous four calendar quarters. (See table 11.) These hires, along with other wage record transaction measures can help to identify employment opportunities for jobseekers and training needs for training providers.

Wage records matched with administrative data also help to identify rapidly changing retirement rates in particular industries and occupations. Alaska’s population is “aging” rapidly, and assuming no significant change in the average retirement age, the quickly increasing average age of workers suggests that retirement (and death) will play an even larger role in the number of Alaska job openings during the next several years. In 2001, 16.6 percent of private sector workers in Alaska were age 50 and older and 8.5 percent were age 55 and older. More than 20 percent of workers in the oil industry and health care industry are age 50 or older, and in State government, more than 28 percent of all workers are older than age 50.

Given the relatively long lead time required to train workers in many occupations, the combination of increasing average age, turnover, and underlying growth in industry and occupations are all important in identifying training needs and opportunities.

Chart 9. Average total earnings in 2002, 1994 Youth age 15–16



SOURCE: Department of Labor Workforce Development, Research and Analysis.

Table 8. Residency, employment, and earnings in 2002 of Alaskan youth age 15–16 in 1994, by educational attainment

Education	Youth age 15–16 in 1994	Resident	Employed in Alaska	Total earnings	Average total earnings	Total quarters worked
Total	16,114	10,037	8,659	\$149,262,715	\$17,238	27,434
Postsecondary education status:						
No reported postsecondary school information	7,211	4,202	3,623	56,633,076	15,632	11,252
Alaska postsecondary only	5,537	4,679	4,207	80,989,972	19,251	14,055
Outside Alaska postsecondary only	1,190	607	429	6,027,828	14,051	1,117
Inside and outside Alaska	2,176	549	400	5,611,840	14,030	1,010
Degree status (Alaska and United States):						
No degree earned	14,125	8,803	7,635	129,034,593	16,900	24,209
One or more degrees earned	1,989	1,234	1,024	20,228,122	19,754	3,225

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

Table 9. Employment and average earnings in 2002 by Alaskan youth age 15–16 in 1994, University of Alaska students, and other groups

Minimum level of training/education required for occupation	No reported degree earned		One or more degrees earned (all sources)		One or more University of Alaska degrees earned	
	Number of workers	Average total earnings	Number of workers	Average total earnings	Number of workers	Average total earnings
Short-term on-the-job training	4,005	\$13,293	396	\$12,917	256	\$14,474
Moderate-term on-the-job training	1,464	20,529	124	22,417	83	23,895
Long-term on-the-job training	704	22,558	42	27,037	26	32,514
Work experience in a related occupation	227	21,394	24	25,855	16	24,623
Postsecondary vocational award	354	22,187	40	29,189	32	32,172
Associate degree	157	21,634	68	25,656	42	27,822
Bachelor's degree	410	19,677	227	23,494	138	23,734
Bachelor's or higher degree, plus work experience	86	23,687	24	24,780	18	26,011
Master's degree	50	20,144	36	25,480	23	25,379
Doctoral degree	9	14,981	4	9,967	2	16,203
First professional degree	10	23,329	6	22,466	3	29,911

NOTE: Education level information is not available for all workers so total workers will not equal total employed in in Alaska in 2002.

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

ALASKA'S YOUTH APPEAR TO BE participating in postsecondary education at rates comparable to youth in the rest of the United States, although there is a significant difference in participation rates between different geographic areas of Alaska. Overall outmigration from Alaska continues to be quite high, with the highest rates found in the older youth-young adult age groups. These high migration rates for youth and young adults suggest that brain drain is more reality than

myth. Despite the high level of outmigration and participation in postsecondary education outside the State, the majority of Alaska youth age 15–16 in 1994 retained their Alaskan residency through 2002.

The 1990's was a period of slow economic growth in Alaska, with a shift in industry importance from resource extraction to services and retail. During the next decade, overall employment is expected to exhibit fundamental growth, while underlying

Table 10. Top occupations in 2002 of youth age 15–16 in 1994

Occupation	Number of workers	Average earnings
Male		
Construction laborers	271	\$20,436
Laborers and freight, stock, and material movers, hand	250	12,163
Retail salespersons	193	16,547
Carpenters	147	20,796
Janitors and cleaners, except maids and housekeeping cleaner	89	9,194
Combined food preparation and serving workers	73	7,526
Office clerks, general	71	15,966
Cashiers	69	10,522
Automotive service technicians and mechanics	63	23,107
Operating engineers and other construction equipment operators	61	40,389
Female		
Office clerks, general	239	15,006
Retail salespersons	208	13,012
Waiters and waitresses	165	8,915
Cashiers	162	8,528
Receptionists and information clerks	138	15,277
Teacher assistants	136	10,695
Bookkeeping, accounting, and auditing clerks	108	19,437
Executive secretaries and administrative assistants	108	21,340
Office and administrative support workers, all other	104	18,316
Combined food preparation and serving workers	73	5,567

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

demographic shifts and turnover will provide an increasing number of job openings for the quickly growing young adult population in Alaska. Changes in the types of workers required and the number of youth seeking postsecondary education will continue to present opportunities and challenges to Alaska's educational institutions. □

Notes

¹ See Ronald A. Phipps, *Access to Higher Education in Alaska – Strategies for Success* (The Institute for Higher Education Policy, prepared for the Alaska Commission on Postsecondary Education, December 2000). The paper reports that in 1998, 24.2 percent of 19-year-old Alaskans enrolled in college and that in 1996, Alaska enrolled 38.9 percent of recent high school graduates anywhere as first-time freshmen in a college or university, compared with 58 percent of high school graduates in the Nation.

² Jeff Hadland, *Alaska Brain Drain? Using Alaska UI Wage Records and Administrative Data to Determine the Long Term Education, Employment and Migration Patterns of Alaska's Youth* (Alaska Department of Labor and Workforce Development, Research and Analysis Section, December 2004).

³ The Alaska Permanent Fund is derived from earnings from the Alaska Permanent Fund, an oil revenue funded endowment. Each resident is entitled to the dividend after meeting eligibility requirements. In 2002, each Alaskan was paid \$1,542.

⁴ This borough is presented as “Mat-Su” in tables prepared by the Alaska Department of Labor and Workforce Development.

⁵ Residency in Alaska was measured by application for the Alaska Permanent Fund Dividend on an annual basis. The Permanent Fund Dividend program allows absences from Alaska for education, military, illness, and other reasons.

⁶ Alaska Department of Labor and Workforce Development, Research and Analysis, *Alaska Population Overview—1999 Estimates*, May 2000.

Table 11. Estimated number of new hires in Alaska by occupational category, quarterly data, 2001

Occupational category	New hires in 2001			
	Quarter I	Quarter II	Quarter III	Quarter IV
Total	44,704	69,296	47,444	38,074
Management	1,338	1,351	1,243	1,041
Business and financial operations	671	545	504	513
Computer and mathematical	376	207	210	210
Architecture and engineering	542	935	464	289
Life, physical, and social science	325	744	331	234
Community and social services	645	569	567	622
Legal	107	115	171	102
Education, training, and library	1,553	1,784	2,337	3,025
Arts, design, entertainment, sports, and media	486	704	440	504
Health care practitioners and technical	2,378	1,170	1,135	961
Health care support	1,280	769	690	929
Protective service	639	716	690	728
Food preparation and serving related	4,560	8,454	5,594	4,528
Building, grounds cleaning, and maintenance	1,627	3,547	1,682	1,347
Personal care and service	1,517	3,818	1,856	2,041
Sales and related	3,992	7,198	5,153	4,188
Office and administrative support	6,718	7,885	6,006	5,410
Farming, fishing, and forestry	571	1,254	550	156
Construction and extraction	4,113	8,935	6,131	3,400
Installation, maintenance, and repair	1,988	2,611	1,805	1,441
Production	3,623	4,471	2,892	1,061
Transportation and material moving	3,596	7,110	3,805	3,005

SOURCE: *Alaska Population Overview—1999 estimates*, Alaska Department of Labor and Workforce Development, Research and Analysis, May 2002.

Data obtained from Alaska Occupational Database and new hires calculated using MDAR methodology.