

A measurable path to employment success

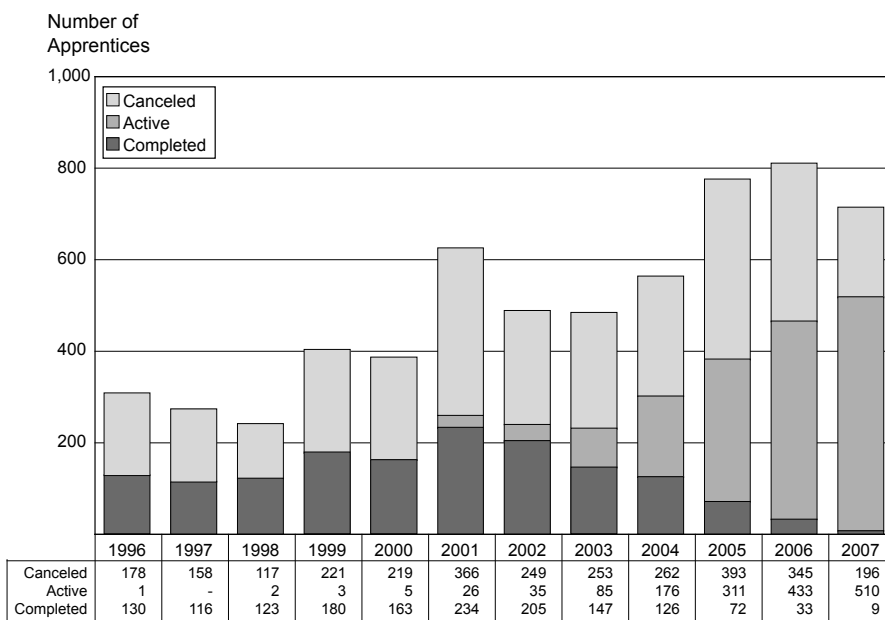
Young Alaskans today have many career options after high school. Some jump right into a job that requires basic skills while others continue with vocational education or college. An important and often overlooked option is taking part in a registered apprenticeship program.

Roughly 11,000 young Alaskans join the working-age population each year and are in need of education and training. Those youth have to compete with people who are unemployed, estimated at nearly 28,000 for Alaska in December 2008, and a national labor force that sends

thousands of nonresident workers to Alaska each year to fill jobs that require a significant skill level.

In a continuing effort to meet the needs of employers and provide greater career opportunities for Alaska's youth, the Alaska Department of Labor and Workforce Development has made a commitment to apprenticeship training by reaching out to not only the industries that have traditionally used the apprenticeship model for workers in the skilled trades – such as construction and mining – but to other high-demand industries in Alaska including health care, manufacturing and retail trade.

1 Apprentices by Current Status By year of registration, 1996 to 2007



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

An apprenticeship demonstration research project

Although employment and earnings data are available for most of Alaska's vocational and postsecondary education programs, very little information has been available to demonstrate the relative success of Alaska's registered apprenticeship programs.

To gain a better understanding of the value of registered apprenticeship programs, the Alaska Department of Labor is participating in a research demonstration project with the U.S. Department of Labor's Office of Apprenticeship. The project was designed to gain a clearer understanding of the importance of apprenticeship programs in Alaska today by determining the number of participants and completion rates, and measuring the long-term employment and

earnings performance of registered apprentices in the state.

As part of the project, the U.S. Department of Labor provided the Alaska Department of Labor with characteristic data for people participating in registered apprenticeship programs in Alaska since 1996. That information was matched with Alaska unemployment insurance wage records and other administrative data to determine a wide variety of measures for the 1996 to 2007 period, including completion rates, employment, and the earnings, occupation and Alaska residency of the apprentices.

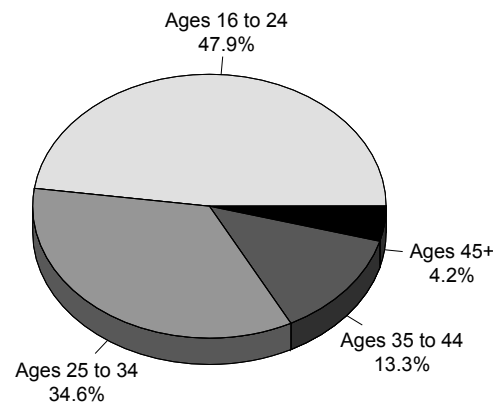
A registered apprenticeship recognized by the U.S. Department of Labor's Office of Apprenticeship combines paid learning while working on-the-job, along with technical instruction following industry standards. Although new, more flexible standards have just recently been adopted at the national level, registered apprenticeship programs generally consist of at least 2,000 hours of on-the-job training along with the classroom-related training. As the apprentices progress and gain additional experience and skills, their earnings increase. When they complete the program, they receive a nationally recognized certificate.

There are around 950 apprenticeable occupations in the U.S.; Alaska's apprentices are in about 80 different occupations. The state's roughly 2,200 apprentices can be found in virtually every industry, but primarily in construction, natural resources and mining, and trade, transportation and utilities.

More than half of Alaska's apprentices are in apprenticeship programs for electricians, carpenters, plumbers, construction laborers, building maintenance repairers, operating engineers, pipefitters or telephone maintenance mechanics.

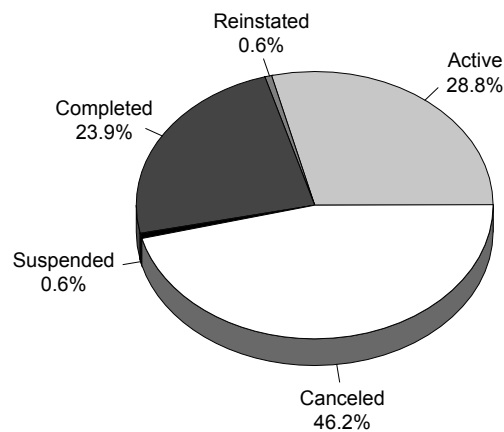
Construction industry apprenticeships are a good career choice due to the relatively high wages of construction occupations, large numbers of nonresident workers, aging Alaska construction work force and the prospect of an Alaska gasline using a large number of apprenticeable occupations.

Apprentices' Ages at Registration Alaska, 1996 to 2007 **2**



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

Most Recent Apprenticeship Status Apprentices in Alaska, 1996 to 2007 **3**



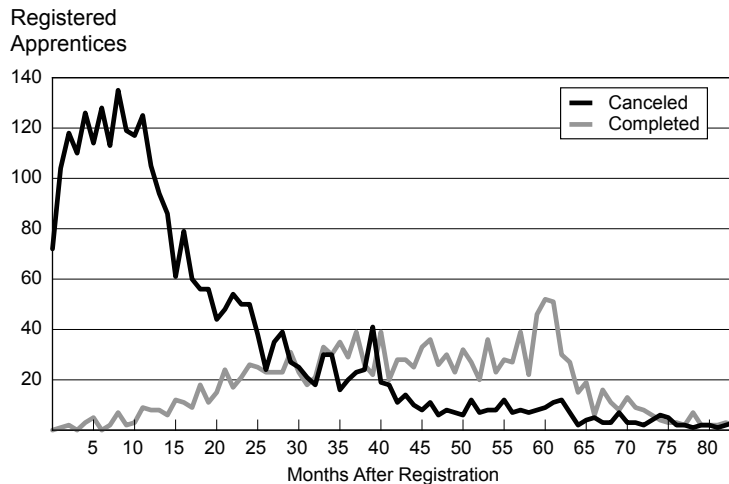
Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

While the vast majority of apprenticeships in Alaska are construction-related, the apprenticeship model is now being considered for a broader set of occupations, including a number of occupations in health care, retail trade and other industries.

Number and demographic characteristics of Alaska's apprentices

The number of new registered apprentices has shown an upward trend since 1996, with more than 700 new registrants embarking on apprenticeship programs in 2007 alone. That is more

4 Most Cancellations Occur Early Apprentices in Alaska, 1996 to 2007



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

apprenticeship programs last from three to five years. All electrical worker apprenticeships, for instance, take about five years to complete.

Just as with most education and training programs, the majority of Alaska's apprentices are young and just starting out on their career path. Apprentices had a median age of 24 at the time of registration with about 82.5 percent age 34 or younger. (See Exhibit 2.)

About 70 percent of the apprentices were white, while 23 percent were American Indian/Alaska Native, closely mirroring the working age-race profile for Alaska.

About 92 percent of apprentices were men, owing in part to the disproportionate percentage of men in Alaska's construction occupations that have historically been the focus of the apprenticeship programs in Alaska.

Seventy-four percent of Alaska's apprentices came from Anchorage, Fairbanks and Mat-Su but applicants were drawn from all over the state in numbers commensurate with the state's population. Rural areas were well-represented in the apprenticeship pool. (See Exhibit 12.)

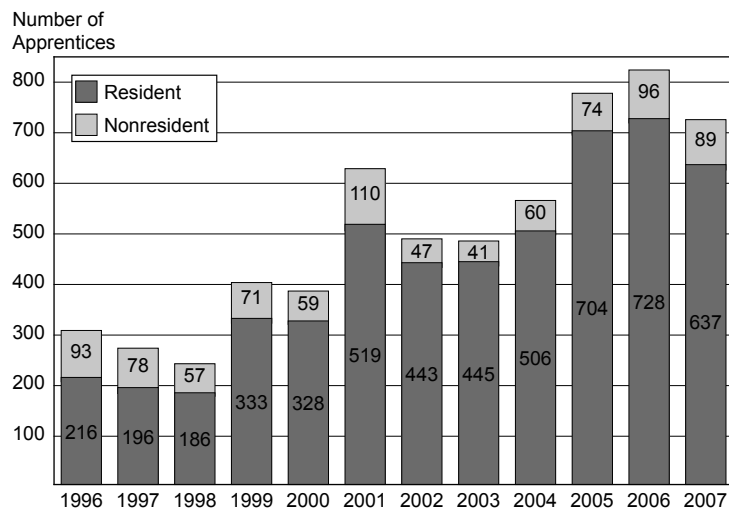
Apprenticeships are offered by "sponsors" that can be employers, unions or employer associations.¹ In Alaska, about two-thirds of apprentices in this study were registered through "joint" (union affiliated) programs while the remainder were registered with non-joint sponsors, typically construction-related contractors without union affiliation. Detailed information on Alaska apprenticeship programs may be found on the Web at jobs.alaska.gov/apprentice. (See box on Page 15.)

The top apprenticeable occupations for the 1996 to 2007 period were electrician, carpenter, plumber, construction craft laborer, building maintenance repairer, operating engineer, pipe fitter, telephone maintenance mechanic, maintenance mechanic and line maintainer.²

¹ Alaska now has about 285 sponsors.

² Operating engineers run heavy equipment such as bulldozers and front-end loaders. Maintenance mechanics maintain heavy equipment and industrial machinery. Line maintainers work on electrical lines and transmission towers.

5 Alaska Residency in 2007 By year of registration, 1996 to 2007



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

than twice as many apprentices as had registered in 1996. (See Exhibit 1.)

Of the 6,457 apprentices tracked for the 1996 to 2007 period, about 1,900 were still active in 2007. The remaining 4,557 have either canceled or completed their apprenticeship. (See Exhibits 1, 3 and 12.)

It takes years to know the ultimate outcome for many of the apprenticeship programs, as many

Where They Were in 2007 Apprentices in Alaska, 1996 to 2007 **6**

About 24 percent of the registrants have successfully completed their apprenticeship program, while about 29 percent are still actively registered.

About 46 percent of the registrants canceled their apprenticeship, or failed to complete it. Aside from demanding apprenticeship program requirements, employers also often have stringent work requirements, including drug testing, which leads to dismissal for some participants. (See Exhibit 3.) Although detailed reasons for failing to complete their apprenticeship are not available, top reasons for cancellation reported by sponsors include: discharged (29 percent), voluntary quit (27 percent), unsatisfactory performance (20 percent), transfer to another program (7 percent), or left for other employment (6 percent).

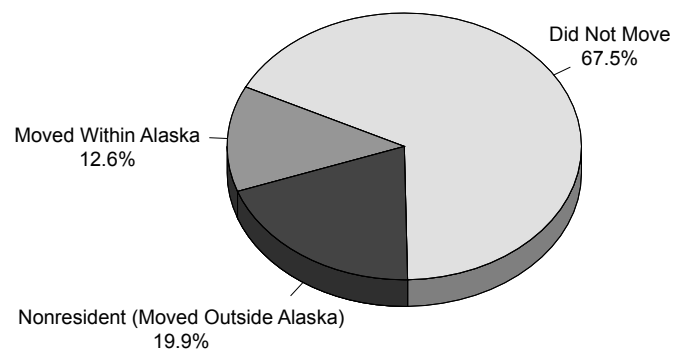
There is a high dropout rate for most education and training programs and there is no indication that the results from this study are different from that experienced in other education or training programs. For example, 28 percent of full-time freshmen at University of Alaska do not return for their second year, according to a study by the Institute of Social and Economic Research at the University of Alaska Anchorage.³

For those apprentices who leave or cancel out of an apprenticeship program, their departure from the program generally occurs within the first 12 months. For many apprenticeship programs, successful completion requires three to five years of training, so if an apprenticeship program is not a good fit for the participant, it is best to learn that early in the process. (See Exhibit 4.)

Cancellation rates varied considerably by apprenticeable occupation, type of program, and gender and race of the apprentice. For instance, non-joint program cancellation rates were higher than joint program cancellation rates. Pipefitters, plumbers and electricians had lower cancellation rates than did bakers, bricklayers

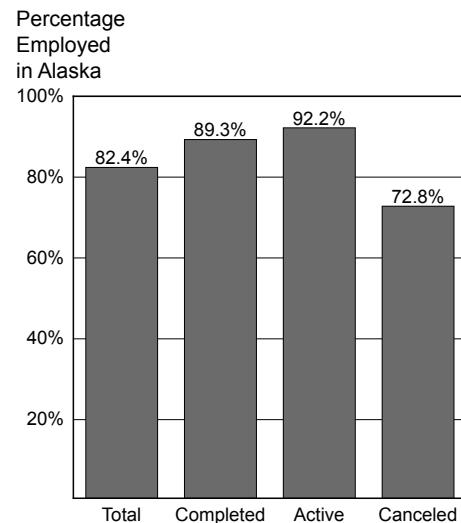
³ Similar studies have said that Alaska has a higher percentage of high school dropouts than other states, fewer high school graduates who go to college, fewer students who continue with college, and fewer students who obtain their college degrees within six years.

Where the apprentices lived in 2007 compared to where they registered.



Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

Employment in Alaska in 2007 By 2007 program status **7**



Note: This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period.

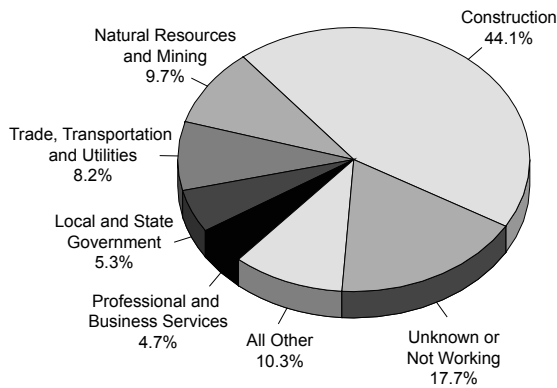
Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

and painters. Women had higher cancellation rates than men and whites had lower cancellation rates than racial minorities.

Residency

About 90 percent of all current and former apprentices were living or working in Alaska in 2007. More than 91 percent of the Alaska apprentices who are currently active or had suc-

8 Where Apprentices Are Employed By industry in 2007, Alaska



Note: This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period.
Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

least on an intermittent basis. In 2007, nearly 4 percent of former apprentices were nonresident workers. Not surprisingly, an apprenticeship program that leads to high-paying, year-round jobs in Alaska has high residency retention rates. (See Exhibit 5.)

Active apprentices and those who have completed their apprenticeship are much more likely to stay in the borough or census area where they resided at the time of registration than are those who canceled out of the program. (See Exhibit 6.) More than 39 percent of the former apprentices who canceled had moved to another borough or census area, or outside Alaska, by 2007 while only 23 percent of active apprentices and 29 percent of completers had moved.

9 Comparing Apprentices to All Workers Employment and earnings by industry, Alaska 2007

Apprentices' employment and earnings

| | Alaska in 2007 | | | | | |
|-------------------------------------|----------------|---------------|-------------|------------------|---------------------------------|--|
| | Apprentices | | All Workers | | Percentage Who Were Apprentices | Apprentice Earnings as a Percentage of All Workers' Earnings |
| | Workers | Earnings | Workers | Earnings | | |
| Construction | 2,849 | \$127,170,366 | 28,155 | \$1,075,259,118 | 10.1% | 11.8% |
| Natural Resources and Mining | 625 | \$37,194,825 | 20,353 | \$1,536,698,190 | 3.1% | 2.4% |
| Trade, Transportation and Utilities | 532 | \$19,383,795 | 85,741 | \$2,434,389,444 | 0.6% | 0.8% |
| State and Local Government | 344 | \$10,785,161 | 75,844 | \$2,518,182,324 | 0.5% | 0.4% |
| Professional and Business Services | 305 | \$11,161,205 | 34,175 | \$1,168,438,293 | 0.9% | 1.0% |
| All other | 666 | \$20,010,219 | 156,761 | \$3,821,285,380 | 0.4% | 0.5% |
| Total | 5,321 | \$225,705,571 | 401,474 | \$12,561,037,591 | 1.3% | 1.8% |

Note: "Apprentices" refers to the apprentices who registered for their apprenticeship during the 1996 to 2007 period.
Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

Total Alaska wage and salary earnings⁴ for more than 5,300 employed Alaska apprentices who were registered during the 1996 to 2007 period reached \$225.7 million in 2007, an average of

successfully completed their apprenticeship were still Alaska residents in 2007.

Given Alaska's overall high migration and population turnover rate, apprentices exhibited a surprisingly high tendency to remain in the state. Even for apprentices who registered early in the study period, prior to the year 2000, about 75 percent were still in Alaska in 2007. And for those who canceled out of their apprenticeship during the 1996 to 2007 period, 83.6 percent were still Alaska residents in 2007.

Although some former apprentices have left the state, many continue to work in Alaska, at

\$42,418. More than 82 percent of current and former apprentices were employed in Alaska in 2007, with current apprentices having the highest employment rate. (See Exhibit 7.) Employment and active apprenticeship go hand-in-hand.

The majority of current and former apprentices were employed in construction (44.1 percent) or

⁴ Earnings data are derived from quarterly reports submitted by every employer subject to state unemployment insurance laws. Earnings include each employee's wages, commissions, bonuses and other gratuities when paid in connection with the job. Those who are not subject to unemployment insurance laws include self-employed workers, fishermen, uniformed military, and elected and appointed officials.

Largest Employers of Apprentices **10**

Alaska, 1996 to 2007

Norcon Inc.
 Alcan Electrical & Engineering Inc.
 ASRC Energy Services
 Davis Constructors & Engineers Inc.
 CH2MHill (formerly Veco)
 Neeser Construction Inc.
 Colaska Inc. (includes QAP, SECON, Exclusive Paving and others)
 City Electric Inc.
 Samson Electric Inc.
 ASRC Energy Services Pipeline Power & Communications
 Price Gregory Services Inc. (formerly HC Price Company)
 The Superior Group Inc.
 Wilder Construction Company
 Alaska Interstate Construction LLC
 Chugach Management Services Inc.

Udelhoven Oilfield System Services
 Alaska Communications Systems (ACS)
 Slayden Plumbing & Heating Inc.
 Teck Cominco Alaska (Red Dog)
 State of Alaska
 Fullford Electric Inc.
 Alaska Railroad Corporation
 Crowley Marine Services
 Redi Electric Inc.
 AVCP¹ Regional Housing Authority
 Municipality of Anchorage
 Nanuq Inc.
 Matanuska Telephone Association
 KLEBS Mechanical Inc.
 North Slope Borough

¹ AVCP is an acronym for Association of Village Council Presidents.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

natural resources and mining (9.7 percent) in 2007. (See Exhibit 8.) The apprentices employed in construction earned the most, bringing home a total of \$127.1 million in 2007, or more than 56 percent of all earnings paid to current and former apprentices. Although the majority of the total earnings appeared in the construction industry, apprentices' earnings were significant in all industries.

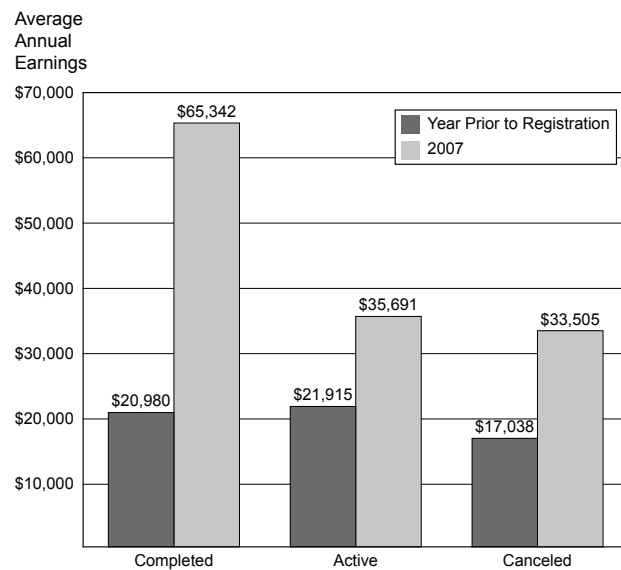
Apprentices are a major source of labor supply for the construction industry. More than 10 percent of all construction workers in 2007 had been an Alaska apprentice at some time since 1996. Apprenticeship programs also provided more than 3 percent of all workers employed in the natural resources and mining industry in 2007. (See Exhibit 9.)

The highest average earnings by industry sector for apprentices were in information services (\$62,183), owing to the large contingent of electrical and line maintainers employed by that industry. Detailed earnings by occupation for those industries cannot be released due to the small number of sponsors and the associated confidentiality restrictions.

Looking at average total Alaska earnings in 2007 for current and former apprentices, male ap-

Apprenticeship Earnings **11**

By 2007 program status, Alaska



Note: This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

prentices had average total earnings that were greater than female apprentices'. Whites earned more than minority groups, and employed apprentices age 35 to 44 in 2007 earned more than other age groups.

12 A Detailed Profile of the Apprentices Alaska, 1996 to 2007

| | Alaska in 2007 | | | | | | | | | | |
|--|--|----------------------|--------------------------------|---------------------|-------------------------|-----------------|---------------------|----------------|------------------|---|--|
| | Number of All Current and Former Apprentices | Number of Completers | Percentage Who Were Completers | Number Who Canceled | Percentage Who Canceled | Number Employed | Percentage Employed | Total Earnings | Average Earnings | Number working in Alaska or who were residents ¹ | Number of employed working in an apprenticeship-related occupation |
| Total | 6,457 | 1,540 | 23.9% | 2,981 | 46.2% | 5,321 | 82.4% | \$225,705,571 | \$42,418 | 5,785 | 4,317 |
| Sex | | | | | | | | | | | |
| Female | 502 | 102 | 20.3% | 261 | 52.0% | 398 | 79.3% | \$12,531,065 | \$31,485 | 443 | 249 |
| Male | 5,955 | 1,438 | 24.1% | 2,720 | 45.7% | 4,923 | 82.7% | \$213,174,507 | \$43,302 | 5,342 | 4,068 |
| Race | | | | | | | | | | | |
| White | 4,520 | 1,173 | 26.0% | 1,920 | 42.5% | 3,739 | 82.7% | \$171,159,464 | \$45,777 | 4,042 | 3,097 |
| American Indian/Alaska Native | 1,457 | 292 | 20.0% | 800 | 54.9% | 1,232 | 84.6% | \$42,606,613 | \$34,583 | 1,350 | 973 |
| Asian | 128 | 23 | 18.0% | 70 | 54.7% | 98 | 76.6% | \$4,013,134 | \$40,950 | 108 | 72 |
| Black | 265 | 41 | 15.5% | 152 | 57.4% | 185 | 69.8% | \$5,942,438 | \$32,121 | 213 | 125 |
| Age in 2007 | | | | | | | | | | | |
| 16 to 24 | 1,600 | 140 | 8.8% | 611 | 38.2% | 1,451 | 90.7% | \$48,624,033 | \$33,511 | 1,516 | 1,177 |
| 25 to 34 | 2,864 | 796 | 27.8% | 1,342 | 46.9% | 2,399 | 83.8% | \$109,622,386 | \$45,695 | 2,596 | 1,954 |
| 35 to 44 | 1,373 | 436 | 31.8% | 683 | 49.7% | 1,057 | 77.0% | \$49,801,998 | \$47,116 | 1,164 | 857 |
| 45 to 54 | 523 | 148 | 28.3% | 280 | 53.5% | 361 | 69.0% | \$15,840,339 | \$43,879 | 433 | 289 |
| 65 to 74 | 81 | 19 | 23.5% | 54 | 66.7% | 41 | 50.6% | \$1,581,292 | \$38,568 | 60 | 31 |
| 75+ | 11 | 1 | 9.1% | 9 | 81.8% | 8 | 72.7% | \$143,691 | \$17,961 | 11 | 5 |
| Unknown | 5 | 0 | 0.0% | 2 | 40.0% | 4 | 80.0% | \$91,832 | \$22,958 | 5 | 4 |
| Where apprentices lived at the time of registration | | | | | | | | | | | |
| Aleutians East Borough | 15 | 1 | 6.7% | 14 | 93.3% | 12 | 80.0% | \$236,908 | \$19,742 | 13 | 10 |
| Aleutians West Census Area | 19 | 3 | 15.8% | 11 | 57.9% | 14 | 73.7% | \$635,346 | \$45,382 | 16 | 11 |
| Anchorage, Municipality of | 2,464 | 587 | 23.8% | 1,152 | 46.8% | 2,004 | 81.3% | \$84,332,669 | \$42,082 | 2,179 | 1,565 |
| Bethel Census Area | 124 | 11 | 8.9% | 62 | 50.0% | 111 | 89.5% | \$2,078,764 | \$18,728 | 119 | 87 |
| Bristol Bay Borough | 18 | 5 | 27.8% | 12 | 66.7% | 16 | 88.9% | \$467,322 | \$29,208 | 18 | 9 |
| Denali Borough | 22 | 8 | 36.4% | 8 | 36.4% | 20 | 90.9% | \$1,062,534 | \$53,127 | 20 | 18 |
| Dillingham Census Area | 25 | 4 | 16.0% | 12 | 48.0% | 22 | 88.0% | \$636,987 | \$28,954 | 25 | 18 |
| Fairbanks North Star Borough | 1,328 | 392 | 29.5% | 557 | 41.9% | 1,146 | 86.3% | \$52,699,274 | \$45,985 | 1,223 | 980 |
| Haines Borough | 16 | 2 | 12.5% | 8 | 50.0% | 13 | 81.3% | \$329,739 | \$25,365 | 14 | 9 |
| Juneau Borough | 235 | 68 | 28.9% | 85 | 36.2% | 202 | 86.0% | \$8,691,751 | \$43,028 | 217 | 173 |
| Kenai Peninsula Borough | 461 | 92 | 20.0% | 238 | 51.6% | 349 | 75.7% | \$16,494,029 | \$47,261 | 392 | 290 |
| Ketchikan Gateway Borough | 81 | 18 | 22.2% | 33 | 40.7% | 66 | 81.5% | \$2,539,790 | \$38,482 | 71 | 51 |
| Kodiak Island Borough | 45 | 11 | 24.4% | 18 | 40.0% | 38 | 84.4% | \$1,620,347 | \$42,641 | 41 | 35 |
| Lake and Peninsula Borough | 16 | 4 | 25.0% | 9 | 56.3% | 13 | 81.3% | \$648,5926 | \$49,892 | 14 | 12 |
| Matanuska-Susitna Borough | 984 | 227 | 23.1% | 441 | 44.8% | 804 | 81.7% | \$34,193,449 | \$42,529 | 882 | 666 |
| Nome Census Area | 85 | 10 | 11.8% | 60 | 70.6% | 72 | 84.7% | \$2,275,386 | \$31,603 | 81 | 59 |
| North Slope Borough | 79 | 1 | 1.3% | 64 | 81.0% | 64 | 81.0% | \$2,612,389 | \$40,819 | 72 | 42 |
| Northwest Arctic Borough | 63 | 14 | 22.2% | 38 | 60.3% | 54 | 85.7% | \$3,056,082 | \$56,594 | 60 | 45 |
| Prince of Wales-Outer Ketchikan Census Area | 18 | 2 | 11.1% | 7 | 38.9% | 13 | 72.2% | \$386,133 | \$29,703 | 16 | 9 |
| Sitka Borough | 41 | 6 | 14.6% | 15 | 36.6% | 34 | 82.9% | \$1,367,880 | \$40,232 | 38 | 25 |
| Skagway-Angoon Census Area | 4 | 1 | 25.0% | 2 | 50.0% | 4 | 100.0% | n/d | n/d | 4 | 2 |
| Southeast Fairbanks Census Area | 47 | 14 | 29.8% | 20 | 42.6% | 42 | 89.4% | \$1,966,240 | \$46,815 | 44 | 36 |
| Valdez-Cordova Census Area | 83 | 25 | 30.1% | 30 | 36.1% | 72 | 86.7% | \$3,169,923 | \$44,027 | 77 | 54 |
| Wade Hampton Census Area | 65 | 7 | 10.8% | 36 | 55.4% | 53 | 81.5% | \$966,788 | \$18,241 | 61 | 40 |
| Wrangell-Petersburg Census Area | 15 | 4 | 26.7% | 2 | 13.3% | 13 | 86.7% | \$430,107 | \$33,085 | 14 | 11 |
| Yakutat Borough | 4 | 1 | 25.0% | 1 | 25.0% | 3 | 75.0% | n/d | n/d | 3 | 3 |
| Yukon-Koyukuk Census Area | 62 | 16 | 25.8% | 37 | 59.7% | 58 | 93.5% | \$2,090,082 | \$36,036 | 60 | 48 |
| Unknown | 38 | 6 | 15.8% | 9 | 23.7% | 9 | 23.7% | \$460,475 | \$51,164 | 11 | 9 |
| Last reported status of apprentices | | | | | | | | | | | |
| Completed | 1,540 | 1,540 | 100.0% | 0 | 0.0% | 1,375 | 89.3% | \$89,845,277 | \$65,342 | 1,440 | 1,291 |
| Registered | 1,861 | 0 | 0.0% | 0 | 0.0% | 1,716 | 92.2% | \$61,246,140 | \$35,691 | 1,780 | 1,502 |

A Detailed Profile of the Apprentices Alaska, 1996 to 2007 (Continued) **12**

Alaska in 2007

| | Number of All Current and Former Apprentices | Number of Com- pleters | Percentage Who Were Completers | Number Who Canceled | Percentage Who Canceled | Number Employed | Percentage Employed | Total Earnings | Average Earnings | Number working in Alaska or who were residents ¹ | Number of employed working in an appren- ticeship- related occupation |
|--|---|------------------------------|--------------------------------------|---------------------------|-------------------------------|--------------------|------------------------|----------------|---------------------|---|---|
| | | | | | | | | | | | |
| Last reported status of apprentices (Continued) | | | | | | | | | | | |
| Reinstated | 38 | 0 | 0.0% | 0 | 0.0% | 32 | 84.2% | \$1,080,452 | \$33,764 | 38 | 28 |
| Canceled | 2,981 | 0 | 0.0% | 2,981 | 100.0% | 2,171 | 72.8% | \$72,738,717 | \$33,505 | 2,492 | 1,475 |
| Suspended | 37 | 0 | 0.0% | 0 | 0.0% | 27 | 73.0% | \$794,985 | \$29,444 | 35 | 21 |
| Industry of employment in 2007 | | | | | | | | | | | |
| Unknown/Not Working | 1,136 | 165 | 14.5% | 810 | 71.3% | 0 | 0.0% | \$0 | \$0 | 464 | 0 |
| Construction | 2,849 | 876 | 30.7% | 814 | 28.6% | 2,849 | 100.0% | \$127,170,366 | \$44,637 | 2,849 | 2,746 |
| Educational and Health Services | 146 | 17 | 11.6% | 96 | 65.8% | 146 | 100.0% | \$4,196,863 | \$28,746 | 146 | 60 |
| Financial Activities | 112 | 12 | 10.7% | 59 | 52.7% | 112 | 100.0% | \$2,439,13 | \$21,778 | 112 | 81 |
| Information | 108 | 56 | 51.9% | 29 | 26.9% | 108 | 100.0% | \$6,715,767 | \$62,183 | 108 | 90 |
| Leisure and Hospitality | 137 | 10 | 7.3% | 97 | 70.8% | 137 | 100.0% | \$2,122,048 | \$15,489 | 137 | 26 |
| Local Government | 251 | 43 | 17.1% | 159 | 63.3% | 251 | 100.0% | \$7,173,704 | \$28,580 | 251 | 173 |
| Manufacturing | 97 | 8 | 8.2% | 58 | 59.8% | 97 | 100.0% | \$2,884,731 | \$29,739 | 97 | 64 |
| Natural Resources and Mining | 625 | 152 | 24.3% | 277 | 44.3% | 625 | 100.0% | \$37,194,825 | \$59,512 | 625 | 558 |
| Other Services | 60 | 12 | 20.0% | 39 | 65.0% | 60 | 100.0% | \$1,559,904 | \$25,998 | 60 | 24 |
| Professional and Business Services | 305 | 62 | 20.3% | 170 | 55.7% | 305 | 100.0% | \$11,161,205 | \$36,594 | 305 | 199 |
| State Government | 93 | 29 | 31.2% | 47 | 50.5% | 93 | 100.0% | \$3,611,458 | \$38,833 | 93 | 61 |
| Trade, Transportation and Utilities | 532 | 96 | 18.0% | 322 | 60.5% | 532 | 100.0% | \$19,383,795 | \$36,436 | 532 | 232 |
| Unassigned | 6 | 2 | 33.3% | 4 | 66.7% | 6 | 100.0% | \$91,767 | \$15,294 | 6 | 3 |
| Occupational work status | | | | | | | | | | | |
| Not working | 1,136 | 165 | 14.5% | 810 | 71.3% | 0 | 0.0% | \$0 | \$0 | 464 | 0 |
| Working in an unrelated occupation | 975 | 73 | 7.5% | 688 | 70.6% | 975 | 100.0% | \$25,026,387 | \$25,668 | 975 | 0 |
| Working in same occupation as apprenticeship | 4,346 | 1,302 | 30.0% | 1,483 | 34.1% | 4,346 | 100.0% | \$200,679,184 | \$46,176 | 4,346 | 4,317 |
| Apprentices in various selected occupations² | | | | | | | | | | | |
| Baker (bakery products) | 18 | 4 | 22.2% | 13 | 72.2% | 9 | 50.0% | \$132,844 | \$14,760 | 13 | 4 |
| Bricklayer (construction) | 9 | 1 | 11.1% | 6 | 66.7% | 4 | 44.4% | n/d | n/d | 4 | 4 |
| Carpenter | 748 | 184 | 24.6% | 351 | 46.9% | 622 | 83.2% | \$22,047,070 | \$35,445 | 683 | 490 |
| Optician, dispensing | 9 | 1 | 11.1% | 2 | 22.2% | 8 | 88.9% | \$282,719 | \$35,340 | 8 | 4 |
| Cook (any industry) | 54 | 9 | 16.7% | 30 | 55.6% | 20 | 37.0% | \$580,328 | \$29,016 | 31 | 10 |
| Cosmetologist | 7 | 2 | 28.6% | 3 | 42.9% | 7 | 100.0% | \$102,485 | \$14,641 | 7 | 4 |
| Electrician (construction) | 1,460 | 270 | 18.5% | 673 | 46.1% | 1,260 | 86.3% | \$57,970,431 | \$46,008 | 1,354 | 1,069 |
| Floor layer | 32 | 5 | 15.6% | 20 | 62.5% | 18 | 56.3% | \$519,996 | \$28,889 | 24 | 8 |
| Glazier | 105 | 27 | 25.7% | 47 | 44.8% | 84 | 80.0% | \$2,995,961 | \$35,666 | 97 | 66 |
| Line erector | 5 | 0 | 0.0% | 2 | 40.0% | 1 | 20.0% | n/d | n/d | 2 | 1 |
| Millwright | 50 | 12 | 24.0% | 30 | 60.0% | 43 | 86.0% | \$2,544,825 | \$59,182 | 46 | 40 |
| Painter | 164 | 31 | 18.9% | 104 | 63.4% | 113 | 68.9% | \$3,071,752n | \$27,184 | 134 | 76 |
| Pipe fitter | 241 | 61 | 25.3% | 85 | 35.3% | 210 | 87.1% | \$10,240,425 | \$48,764 | 220 | 188 |
| Pipe fitter (sprinkler systems) | 38 | 14 | 36.8% | 13 | 34.2% | 35 | 92.1% | \$1,822,766 | \$52,079 | 35 | 0 |
| Plumber | 569 | 82 | 14.4% | 240 | 42.2% | 484 | 85.1% | \$20,173,975 | \$41,682 | 517 | 392 |
| Sheet-metal worker | 161 | 50 | 31.1% | 67 | 41.6% | 138 | 85.7% | \$6,318,844 | \$45,789 | 144 | 116 |
| Heating and air conditioning installer and servicer | 14 | 1 | 7.1% | 8 | 57.1% | 12 | 85.7% | \$479,240 | \$39,937 | 12 | 12 |
| Material coordinator | 31 | 6 | 19.4% | 25 | 80.6% | 17 | 54.8% | \$690,997 | \$40,647 | 22 | 16 |
| Residential wireman | 84 | 3 | 3.6% | 43 | 51.2% | 65 | 77.4% | \$1,845,400 | \$28,391 | 74 | 46 |
| Surgical technologist | 8 | 1 | 12.5% | 1 | 12.5% | 8 | 100.0% | \$341,598 | \$42,700 | 8 | 0 |

Notes:

This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period.

The abbreviation "n/d" means the data is not disclosable due to confidentiality restrictions.

¹ "Resident" is defined as someone who applied for an Alaska Permanent Fund dividend in 2007 or 2008.

² Occupation titles are from the List of Officially Recognized Apprenticeship Occupations from the U.S. Department of Labor's Office of Apprenticeship.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

13 Comparing Apprentices with All Workers

Alaska, 2007

Employment and Earnings in 2007

| | All Workers | | | | Apprentices | | | | |
|---|-------------------|------------------|---|---------------------------------------|-----------------------|------------------|---|---------------------------------|--|
| | Number of Workers | Average Earnings | Average Earnings for Year-Round Workers | Number of Workers Employed Year-Round | Number of Apprentices | Average Earnings | Average Earnings for Year-Round Workers | Apprentice Completers' Earnings | Apprentice Completers' Earnings for Year-Round Workers |
| Top occupations for the employment of apprentices¹ | | | | | | | | | |
| Electricians | 2,795 | \$53,255 | \$68,778 | 1,776 | 840 | \$49,531 | \$50,830 | \$59,472 | \$68,977 |
| Plumbers, pipefitters and steamfitters | 2,229 | \$48,394 | \$63,549 | 1,415 | 447 | \$48,861 | \$58,269 | \$63,540 | \$72,732 |
| Carpenters | 5,012 | \$33,047 | \$51,436 | 2,332 | 375 | \$39,816 | \$51,472 | \$59,702 | \$61,973 |
| Electrical power-line installers and repairers | 506 | \$75,373 | \$89,247 | 371 | 143 | \$76,942 | \$41,636 | \$42,465 | \$49,543 |
| Laborers and freight, stock and material movers | 6,434 | \$16,725 | \$31,327 | 2,628 | 100 | \$22,468 | \$54,801 | \$70,537 | \$76,223 |
| Sheet metal workers | 442 | \$48,168 | \$59,741 | 323 | 97 | \$52,153 | \$57,911 | \$65,129 | \$67,410 |
| Telecommunications equipment installers and repairers, except line installers | 926 | \$62,829 | \$72,614 | 748 | 85 | \$65,215 | \$47,958 | \$53,820 | \$60,951 |
| Based on required education and experience | | | | | | | | | |
| Short-term training ² or experience | 141,521 | \$16,307 | \$26,539 | 70,548 | 866 | \$25,929 | \$36,796 | \$54,415 | \$61,848 |
| Moderate-term or long-term training ² or experience | 101,149 | \$35,085 | \$48,809 | 61,280 | 3,713 | \$46,013 | \$55,375 | \$65,878 | \$73,295 |
| Work experience in a related occupation | 17,977 | \$50,021 | \$60,645 | 13,211 | 88 | \$52,255 | \$60,538 | \$75,930 | \$82,690 |
| Associate degree or postsecondary vocational training | 27,675 | \$42,965 | \$54,563 | 19,283 | 233 | \$54,757 | \$62,742 | \$79,262 | \$83,299 |
| Bachelor's degree and above | 58,198 | \$59,127 | \$68,908 | 45,569 | 126 | \$42,988 | \$51,283 | \$62,051 | \$65,316 |
| Unknown | 54,953 | \$21,393 | \$38,756 | 22,882 | 295 | \$32,652 | \$43,883 | \$48,231 | \$61,197 |
| Based on age in 2007 | | | | | | | | | |
| Age 16 to 24 | 70,802 | \$12,659 | \$22,342 | 29,818 | 1,451 | \$33,511 | \$42,040 | \$65,541 | \$69,645 |
| Age 25 to 34 | 69,347 | \$30,821 | \$40,209 | 47,068 | 2,399 | \$45,695 | \$55,349 | \$67,203 | \$74,705 |
| Age 35 to 44 | 69,578 | \$40,068 | \$49,225 | 51,765 | 1,057 | \$47,116 | \$58,132 | \$64,085 | \$71,271 |
| Age 45 to 54 | 77,258 | \$46,288 | \$55,178 | 59,683 | 361 | \$43,879 | \$59,771 | \$59,398 | \$71,656 |
| Age 55 to 64 | 39,584 | \$44,108 | \$53,619 | 29,199 | 41 | \$38,568 | \$48,077 | \$46,609 | \$51,098 |
| Age 65 to 74 | 6,743 | \$26,735 | \$36,905 | 4,043 | 8 | \$17,961 | n/d | n/d | n/d |
| Age 75 and over | 888 | \$15,018 | \$24,375 | 442 | n/a | n/a | n/a | n/a | n/a |
| Based on gender | | | | | | | | | |
| Male | 175,477 | \$40,239 | \$55,012 | 113,932 | 4,923 | \$43,302 | \$53,539 | \$66,416 | \$73,661 |
| Female | 162,430 | \$26,239 | \$35,501 | 108,248 | 398 | \$31,485 | \$39,646 | \$49,827 | \$57,285 |
| Total | 401,473 | \$31,289 | \$46,154 | 232,773 | 5,321 | \$42,418 | \$52,612 | \$65,342 | \$72,778 |

Notes:

"Apprentices" refers to the apprentices who registered for their apprenticeship during the 1996 to 2007 period.

All earnings listed are for average annual earnings.

The abbreviation "n/d" means the data is not disclosable due to confidentiality restrictions; "n/a" means the data is not available.

Occupation, age and gender information was not available for all workers, so group totals may not add to the overall total.

¹ Occupation titles are from the federal Standard Occupational Classification Manual.

² For occupations requiring on-the-job training, which may include classroom time: short-term training is a month or less, moderate-term training is one to 12 months, and long-term training is more than 12 months.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

Many factors impact apprentices' overall earnings: the choice of apprenticeship, attachment to the Alaska labor force, level of experience after their apprenticeship and whether they successfully completed their apprenticeship program.

The top employers of apprentices

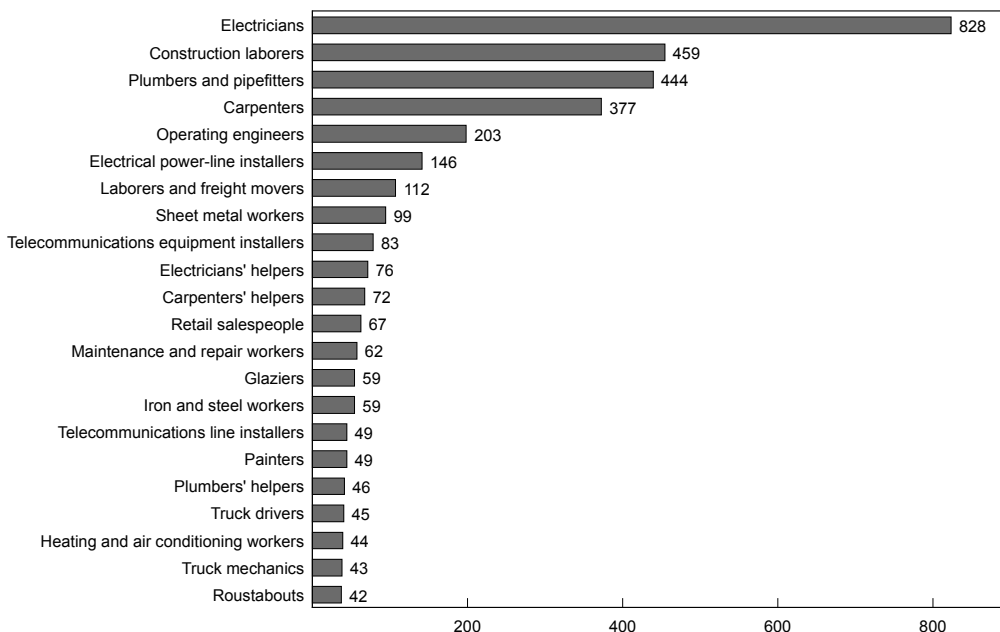
Employers are an integral part of apprenticeship programs. Alaska's largest construction, oil field service and transportation companies hire and utilize apprentices. The top employ-

Apprentices by Occupation in 2007 **14** Alaska

ers of apprentices in 2007 were Norcon, Alcan Electrical & Engineering, ASRC Energy Services and Davis Constructors. (See Exhibit 10.)

Other measures

How do apprentices fare when comparing their earnings in the year before they registered for an apprenticeship with their earnings in the most recent full year? In 2007, those who had completed an apprenticeship earned three times as much as they earned in the year before they registered.



Notes:

This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period. The occupational titles are from the federal Standard Occupational Classification Manual.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

Not surprisingly, apprentices who had completed their apprenticeship had the highest average earnings (\$65,342) – much higher than the overall average for all current and former apprentices (\$42,418). Completers also had the highest total earnings, with \$89.8 million in 2007.

Apprentices who did not complete their program or canceled out had modest average earnings of \$33,505 in 2007, about half as much as completers. However, former apprentices who canceled still showed a significant jump in earnings from their pre-apprenticeship period, with average earnings nearly doubling between the two time periods. (See Exhibit 11.)

Current and former apprentices earn more than Alaska workers overall

Current and former apprentices earned nearly 36 percent more than the Alaska worker average earnings of \$31,289. For workers employed year-round in 2007 – all four calendar quarters – the year-round apprentices earned about 14 percent more than all year-round workers. Apprenticeship completers working year-round

earned an average of \$72,778 in 2007, nearly 58 percent more than all Alaska workers employed in all four quarters that year. (See Exhibit 13.)

Nearly 40 percent of the 5,321 current and former apprentices employed in 2007 were working in the top seven occupations reported by employers on their quarterly unemployment insurance wage records. Those occupations are not the occupations reported on their apprenticeship registration, but they closely align with apprenticeship occupations and are the occupations in which the apprentice generally is employed. For those seven selected occupations, apprentices working year-round made more than all workers in the state employed year-round in two of the occupations: carpenters and laborers, and freight, stock and material movers.

Apprentices who completed their apprenticeship and worked year-round had the highest earnings.

Among the top seven occupations, the highest earnings went to two occupations – laborers,

and freight, stock and material movers. The completers in the seven occupations earned more than all workers employed year-round in each occupational group, with the exception of those employed as electrical power-line installers and repairers; the general worker population of year-round workers had higher earnings in those occupations.

Comparing the earnings of current and former apprentices to all Alaska workers categorized by the education and training required for the occupation in which they were employed, current and former apprentices employed year-round earned \$52,612, more than workers in jobs requiring moderate- to long-term training and experience (\$48,809), and considerably more than workers in jobs requiring short-term training or experience (\$26,539).

Apprenticeship completers working year-round had earnings that exceeded the average earnings of workers employed in year-round jobs requiring anything less than a bachelor's degree.

Current and former apprentices working year-round generally earned more than all workers in their same age group. Male apprentices employed year-round earned slightly less on average than all year-round male workers in Alaska,

while female apprentices earned more than all female workers in the state.

Apprentices working in an occupation related to their apprenticeship

For all current and former apprentices employed in Alaska, 81.7 percent were employed in an occupation related to their apprenticeship. Nearly 95 percent of employed apprenticeship completers could be matched directly to an occupation related to their apprenticeship.

The majority of those former apprentices who had canceled out of an apprenticeship continued in the same occupational field as their apprenticeship, with 68.3 percent reported as working in a related occupation. If they were employed in a related occupation, they made an average of \$46,176, compared to the \$25,668 that canceled apprentices made working in a totally unrelated occupation.

When looking at the importance of apprenticeship programs as a source of labor supply to particular industries and occupational groups, a few occupations stand out. For instance, looking at all workers employed in Alaska by occupation, more than 50 percent of workers em-

Methodology Notes

In 2008, the Office of Apprenticeship, within the U.S. Department of Labor's Employment and Training Administration, provided the Alaska Department of Labor and Workforce Development with a data file of information for roughly 7,500 current and former registered Alaska apprentices that had been active since 1996.

After cleaning the data file, removing duplicate participant records and records with incomplete data and missing social security numbers, 6,457 participants were identified, matched with administrative data and tracked over the 1996 to 2007 period. Due

to the removal of participant records with incomplete information, the apprentice counts in this report represent about 90 percent of the total active apprentices during that period.

Registered apprenticeship records were matched with Alaska unemployment insurance wage records to determine historical earnings, employment, industry, occupation, place of work and attachment to the labor force over the years.

Employment and earnings information for apprentices employed by the federal government (both military

and civilian), those that are self-employed and those currently employed outside Alaska were not available.

Apprenticeship records were matched with other administrative data – including Alaska Permanent Fund dividend applicant files to determine current residency – and unemployment insurance records to find out if an apprentice was receiving unemployment insurance benefits.

played as electrician's helpers in 2007 had been apprentices since 1996 and about 30 percent of all electricians employed in Alaska that year came out of the same apprenticeship pool. (See Exhibits 14 and 15.)

In summary

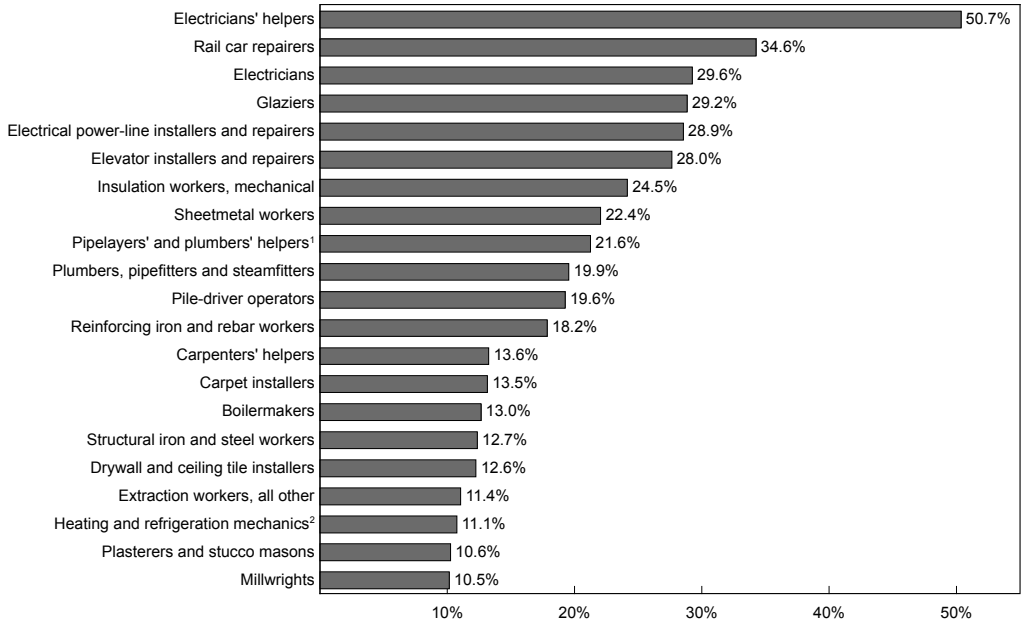
Overall, the research findings demonstrate that the successful completion of an apprenticeship program leads to high-wage, long-term, stable, year-round employment in Alaska, especially when comparing the outcomes of successful completers with those who dropped out of the program.

Although the measureable success of apprenticeship programs in Alaska is due in part to high-wage construction occupations that currently represent the vast majority of participants, the apprenticeship model appears to be successful in occupations unrelated to construction as well.

Obviously, any significant decline in construction activity would impact the success of the apprenticeship programs.

Although total construction employment is expected to decline slightly over the next few years,⁵ total construction employment is expected to grow by nearly 18 percent from 2006 through 2016 due in part to major project development, including preliminary work associated with an Alaska gasline.⁶

Apprentices as a Percentage of All Workers For selected occupations, Alaska **15**



Notes:
 This exhibit represents the apprentices who registered for their apprenticeship during the 1996 to 2007 period. The occupational titles are from the federal Standard Occupational Classification Manual.
¹ The occupation's full title is pipelayers', plumbers', pipefitters' and steamfitters' helpers.
² The occupation's full title is heating, air conditioning and refrigeration mechanics and installers.
 Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section; U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship

For More About Alaska's Apprenticeship Programs

For more information about Alaska's apprenticeship programs, go to the Alaska Department of Labor and Workforce Development's Web site at jobs.alaska.gov/apprentice.

The Web site has a whole host of information, including current apprenticeship openings (employers can have their openings added to the list), Alaska's apprenticeable occupations, "Hot Jobs in Alaska," and links to programs throughout the state.

People can contact the Alaska Department of Labor's Apprenticeship Office by emailing apprenticeship@alaska.gov, or by calling Gerry Andrews, the state's apprenticeship coordinator, in Anchorage at (907) 269-4675.

People can also get more information about apprenticeships through one of the state's 23 Alaska Job Centers. Call (877) 724-2539 or go to jobs.alaska.gov and click on "Alaska Job Centers" on the left for a list of job centers.

⁵ See last month's *Trends* issue for more detail on Alaska's employment forecast for 2009.
⁶ See last month's *Trends* issue for more detail on the state's 10-year occupational forecast (2006 to 2016).

In addition, the national emphasis on public works projects as a remedy for the economic downturn in the national economy bodes well for the demand for the majority of apprenticeship occupations. Just as important in terms of jobs are the employment opportunities in the construction industry due to the replacement of aging workers and turnover.

But apprenticeships will also provide an important alternate education and career path for youth seeking employment in the new industries where the apprenticeship model will be imple-

mented or expanded – including health care, transportation and trade.

□ □ □

The Alaska Department of Labor's Research and Analysis Section would like to thank two people in particular for their technical assistance in the preparation of this article: Jim Conley and John Hakala. Jim Conley, based in Washington, D.C., is a lead program analyst within the U.S. Department of Labor's Division of Program Administration and Management Systems. John Hakala, based in Anchorage, is the state director for Alaska for the U.S. Department of Labor's Office of Apprenticeship.

Governor's Health and Safety Conference is March 17-19

Workplace safety and health performance is emerging as a key area for businesses to reduce costs and maintain competitive advantages. The 28th Annual Alaska Governor's Safety and Health Conference will be March 17-19, 2009, at the Sheraton Anchorage. The agenda covers training subjects to help businesses reach the next level in workplace safety and health performance in areas such as:

- Employer resources
- The transportation and warehousing industry
- The hospitality industry
- The oil and gas industry
- Youth safety and health
- An OSHA¹ 10-hour construction standards course
- An OSHA 10-hour general industry standards course
- A Voluntary Protection Program application workshop

The conference attracts numerous vendors to display the latest safety and health products and services. The conference courses range from "What Causes Accidental Injuries?," "Arc Flash Safety Talk" and "What's on Your Shoulders?" to "Working in Cold Weather" and "Bear and Moose as Public Safety Risks."

The Governor's Office will recognize companies, organizations and individuals for their achievements in workplace safety and health. Nominate your company or someone you know today!

To register, or for more information about the conference, award applications and sponsorship opportunities, visit the conference's Web site at www.regonline.com/gshc2009, call (907) 276-6060 or email gshc09@logisticsllc.com.

¹ OSHA is an acronym for the U.S. Department of Labor's Occupational Safety & Health Administration.