

ALASKA'S AID TO FAMILIES WITH  
DEPENDENT CHILDREN PROGRAM:

AN INITIAL EVALUATION OF THE EFFECTS  
OF THE 1988 FAMILY SUPPORT ACT

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I. INTRODUCTION

Aid to Families with Dependent Children is one of the major public assistance programs in the United States. Last year the federal government adopted the Family Support Act of 1988 which was meant to reform the current program. This paper provides a portion of the information required under the Family Support Act for the Initial State Evaluation.

The Family Support Act was meant to address some of the major criticisms of AFDC. The goals of the reform were to strengthen the family and provide a mechanism to limit long-term welfare dependence. The Act expanded the eligibility requirements for AFDC to include two-parent families when one parent was unemployed. The Act also established the mandatory Job Opportunity and Basic Skills (JOBS) program, which is intended to provide training and education opportunities for AFDC recipients.

This paper will provide state planners with information necessary to adequately plan for the implementation of both the JOBS program and the Unemployed Parents program. We provide an assessment of the potential participants in the program. This includes not only an estimate of the number of participants but also their characteristics. The populations we examine include the potential unemployed parents. We also estimate the size and characteristics of the population in three target groups identified in the Act for immediate attention.

The JOBS program also requires information on the labor markets for its participants. This paper examines the size and potential growth of various labor markets in the state. In addition we provide information about the future occupational demands facing JOBS program planners.

The remainder of the paper is divided into five parts. The next section briefly defines the problem of poverty in Alaska. The following two sections describe the potential population affected by the AFDC reform. The fifth section examines the particular problems of poverty in the rural parts of the state. Finally, section six presents a description and forecast of the job markets relevant to participants in the AFDC program.



## II. POVERTY IN ALASKA

Poverty continues as a problem throughout the United States. Alaska shares this problem of persistent poverty with the other states. Periods of economic growth diminish but do not eliminate poverty in the state, while periods of recession make the problem worse. This section presents a brief overview of the poverty problem in Alaska.

Table 2.1 presents a description of the pattern of poverty in the state. Poverty rates (the share of a group in poverty) are presented for demographic groups. These rates are compared to rates in the United States. Poverty rates are also shown for rural Alaska. Rates are presented as found in the 1970 and 1980 Censuses. During this period, per capita social welfare expenditures increased by over 75 percent for the nation as a whole.

TABLE 2.1  
CHARACTERISTICS OF ALASKA'S POOR  
POVERTY RATES

	<u>ALASKA</u>		<u>RURAL ALASKA</u>		<u>UNITED STATES</u>	
	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>	<u>1970</u>	<u>1980</u>
Total	12.7%	10.7%	18.1%	16.4%	12.1%	11.7%
Native	39.4%	25.7%	*	28.7%	*	*
Non-Native	6.5%	7.7%	*	10.7%	*	*
Families	11.6%	9.4%	17.1%	14.9%	6.7%	5.3%
Female Headed	41.6%	28.0%	58.3%	36.5%	45.2%	39.4%
Elderly (65+)	24.6%	14.2%	31.0%	20.1%	25.3%	15.1%
Adults	12.0%	9.9%	15.1%	15.2%	8.2%	8.3%
Children (<16)	14.6%	12.5%	21.0%	18.5%	14.5%	17.2%

SOURCE: U.S. and Alaska Census of Population, 1970 AND 1980

The overall poverty rate of Alaska's population in 1980 was slightly lower than that of the United States. The overall rate in rural Alaska was higher than both the U.S. and Alaska's overall rate; the rural rate was more than 50 percent higher than the overall state rate. Between 1970 and 1980, Alaska's overall and rural rates fell and fell faster than the rate for the United States. In Alaska the rural rates did not fall as fast as the state rate.

Natives and female-headed households had the highest poverty rates in Alaska in 1980; this was also true for the rural regions of the state. For all the groups listed, rates in Alaska are less than the rates for the United States, except for families. For each demographic group poverty rates were higher in rural Alaska than for the whole state and, except for female-headed households, for the United States.

Between 1970 and 1980 the Alaska rural poverty rate fell, but it fell at a slower rate than for the entire state. This was true for all groups except female-headed households. In all other groups, rural poverty rates increased as a proportion of the statewide poverty rates. This suggests that poverty is a relatively more important problem in the rural regions of the state.

The JOBS program is predicated on an assumption that the lack of training and the inability to get jobs or well-paying jobs is an important cause of poverty and AFDC participation. Table 2.2 supports this assumption. In 1980 less than 40 percent of the family heads in poverty worked. Earnings made up only 64.5 percent of the total income of families in poverty while they made up over 92 percent of the income of other families. Fewer poverty families than nonpoverty families had earnings as a part of their income. Table 2.2 also suggests that income gaps of the poverty families are filled primarily with public assistance income.

TABLE 2.2  
THE ROLE OF ALASKA'S TRANSFER PAYMENTS  
1980

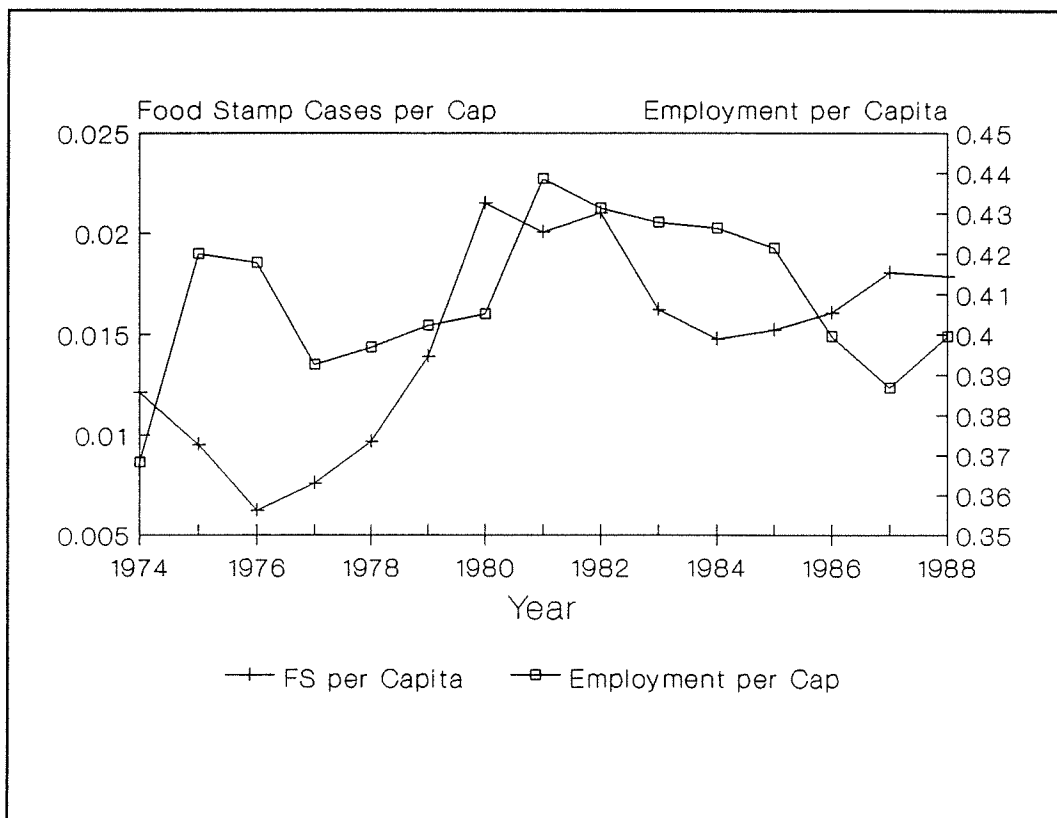
	<u>FAMILIES ABOVE THE POVERTY LEVEL</u>	<u>FAMILIES BELOW THE POVERTY LEVEL</u>
SHARE WITH		
Earnings	97.83%	73.75%
Social Security	7.15%	9.58%
Public Assistance	4.86%	24.46%
Interest, Dividend, etc.	36.25%	16.72%
Other	27.60%	19.76%
SOURCE OF INCOME		
Earnings	92.20%	64.50%
Social Security	0.70%	6.30%
Public Assistance	0.40%	17.40%
Interest, Dividend, etc.	3.00%	1.80%
Other	3.60%	10.00%
SHARE OF POVERTY FAMILIES		
Head Worked		37.59%
Female Head		32.08%

SOURCE: 1980 Census of Population, Alaska, Detailed Population Characteristics

Finally, has the poverty problem improved since 1980? The economy of Alaska experienced both dramatic ups and downs during the period between 1980 and 1989. Did these changes affect the poverty rate in Alaska? Unfortunately, detailed information on family incomes is available only during the census years. We can use the per capita number of food stamp recipients as a proxy for the poverty rate since there are income guidelines in this program but few other limitations on eligibility. Figure 2.1 provides a proxy for the poverty rate. This figure shows food stamp recipients in per capita amounts over the period 1974 to 1988.

FIGURE 2.1  
 FOOD STAMP PARTICIPATION AND EMPLOYMENT  
 1974-1988

(annual averages)



Source: Annual average food stamp participants, Alaska DHSS. Annual average employment and population, Alaska Department of Labor.

Over this period, per capita food stamps followed a pattern which reflected changes in the economy. Rates generally fell in periods of economic expansion and rose in periods of recession. Although changes in these rates may also reflect other changes in the program, such as the elimination of the cash contribution requirement in 1979, they provide a good proxy for changes in poverty. Per capita food stamp participation rates were slightly higher in 1988 than in 1979, suggesting that the poverty problem has not improved over this period.

Poverty continues to be a problem in Alaska. The poverty problem is relatively more important in rural Alaska and for certain groups, such as female-headed households. While the poverty problem improved slightly between 1970 and 1980, at least one indicator suggests that there has not been a similar improvement since 1980.

Poverty in Alaska seems associated with the inability to secure employment. This is suggested by two factors. First, the pattern of food stamp participation, which is our proxy for the poverty rate, follows closely the growth and decline in jobs. Secondly, income from earnings is significantly less important for poverty families than for others. Job training programs such as those provided by JOBS may reduce poverty in Alaska by improving the participants' ability to secure employment.

### III. AFDC AND PROGRAM REFORM

The Family Support Act of 1988 required the establishment of a Job Opportunity and Basic Skills program within the framework of AFDC. The JOBS program is meant to provide education, employment, and training to recipients of AFDC to break the long-term dependency of recipients on transfers. States are required to target long-term recipients and potential long-term recipients in the JOBS program. After a brief description of AFDC participants, this section provides estimates of the size of these target groups and of their age, education levels, and work experience.

#### A Description of AFDC Participants

The AFDC program in Alaska has experienced almost continual annual growth since 1974, as shown in Figures 3.1. and 3.2. This pattern was broken only in 1982 when average annual AFDC cases fell from the previous year. Per capita levels of AFDC cases show more clearly the link between participation and employment opportunities. Like Food Stamp participation, the per capita level of AFDC cases follows a pattern opposite to that of employment opportunities.

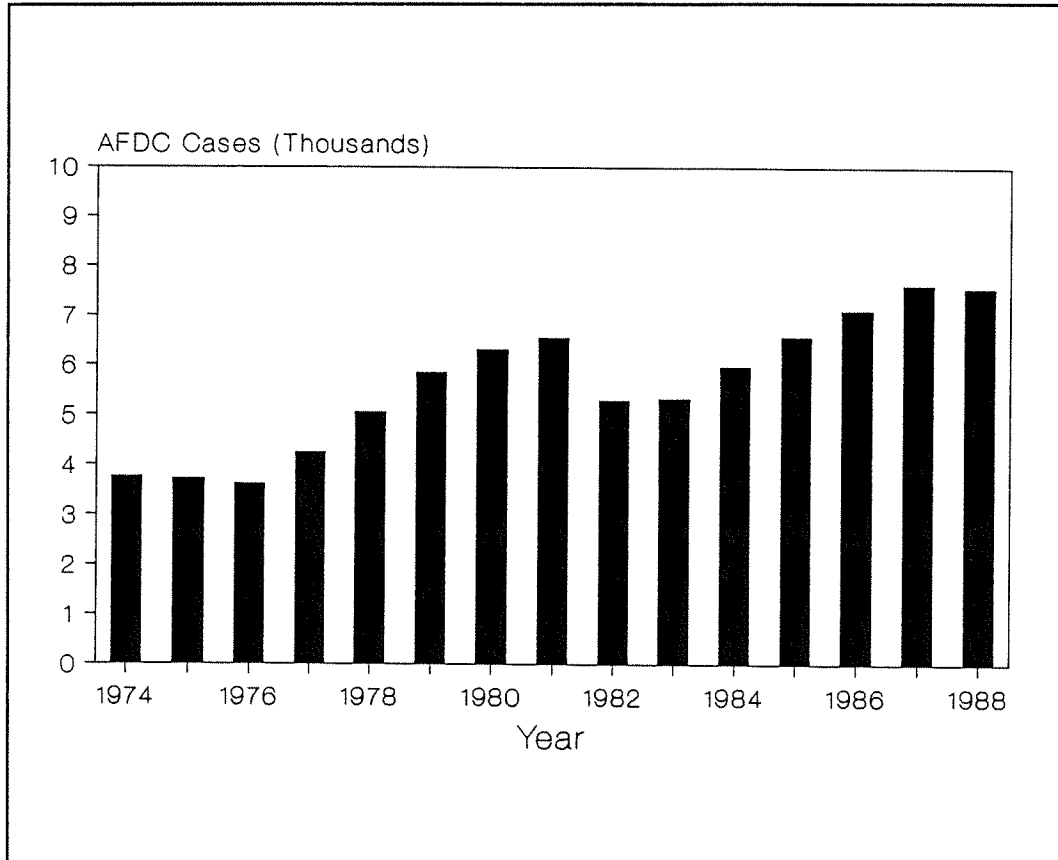
Table 3.2 compares Alaska AFDC recipients with recipients throughout the United States. This table is based on a sample of AFDC cases conducted by the U.S. Family Support Administration. Alaska's AFDC recipients are similar to recipients throughout the country in terms of most of the characteristics listed. The major differences are in the racial distribution and the share of families with the youngest child older than 16. Alaska has proportionally more white and native recipients. Alaska also has a much smaller share of recipients with older children. These differences are not surprising and reflect significant demographic differences between Alaska and other states, most importantly our younger population.

Table 3.2 provides us with a picture of the Alaska AFDC recipient. They are, for the most part, very young: over 37 percent are under 25; for comparison, in 1980 approximately 9 percent of all family householders were under age 24. They have limited work experience: only 6.3 percent of the population were working at the time of the survey in 1987, and the majority were working part time. Finally, if we assume the U.S. education distribution is similar to Alaska's, they are undereducated: almost half of the U.S. sample were not high school graduates.



FIGURE 3.1  
AFDC CASES, 1974-1988

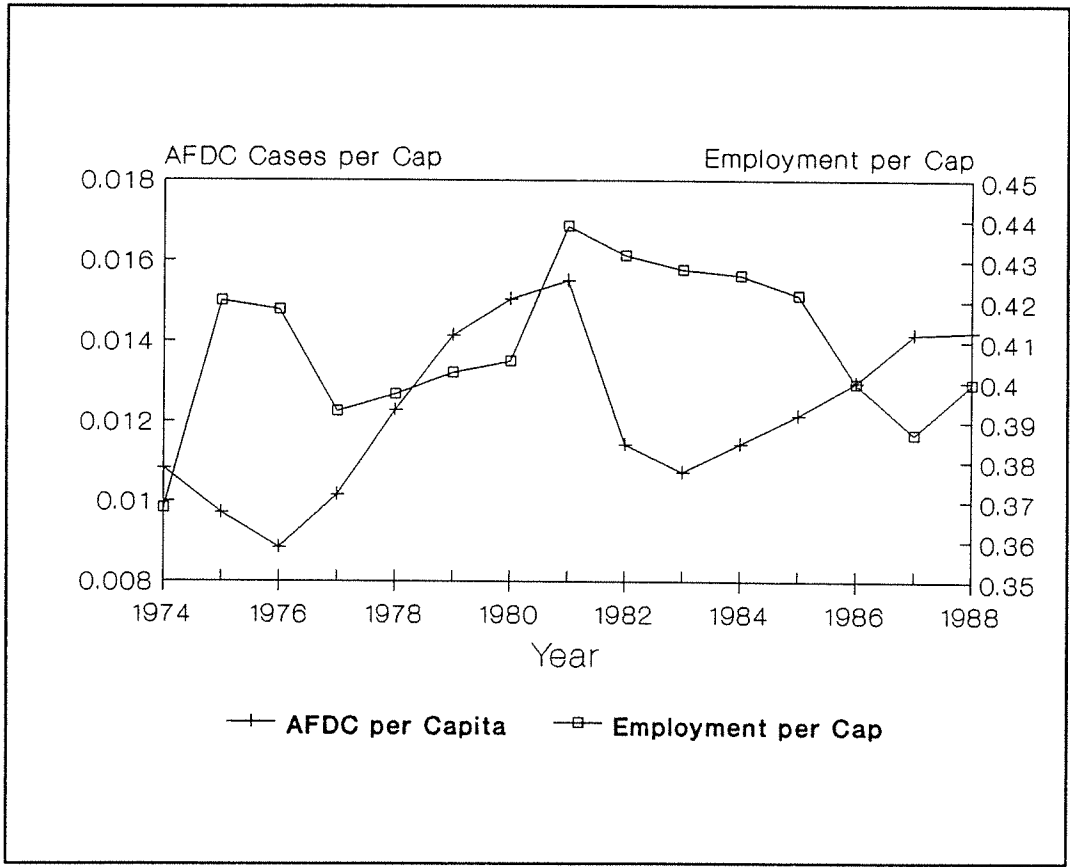
(average annual)



Source: Alaska DHSS.

FIGURE 3.2  
 AFDC PARTICIPATION AND EMPLOYMENT  
 1974-1988

(annual averages)



Source: Annual average AFDC participants, Alaska DHSS. Annual average employment, Alaska Department of Labor.

TABLE 3.2  
CHARACTERISTICS OF ALASKA'S AFDC POPULATION, 1987

	<u>ALASKA</u>	<u>UNITED STATES</u>
Average Household Size	3.60	3.80
Average Family Size	2.80	3.00
Average Number of Children	1.70	2.00
Share by Race (%)		
White	53.00	38.80
Black	7.30	39.80
Native	37.90	1.30
Families with Youngest Child 16-18 (%)	2.70	4.30
Long-Term Recipients(%)	31.50   (20.0)	52.90   (40.8)
Female Recipient Age Distribution (%)		
25 or Less	37.10	35.50
26 through 39	49.30	51.20
40 through 49	8.30	9.80
Over 49	5.30	3.50
Female Recipient Employment Status(%)		
Full Time	2.10	1.90
Part Time	4.20	3.90
In School	1.70	2.00
Incapacitated	3.50	3.50
Education (%)		
Less than 12 Years	*	47.30
High School Grad	*	43.30
More than High School	*	9.50

NOTE: U.S. Education Distribution Estimate from Known Cases.

SOURCE: U.S. Department of Health and Human Services, Characteristics and Financial Circumstances of AFDC Recipients: FY 1987, 1988, 1989.

## AFDC Target Populations

The Family Support Act of 1988 recognized both the limitation of resources and the variation in training needs across the AFDC participant population by defining Target Groups for the JOBS program. Resources are to be directed toward these groups. There are three target groups identified by the JOBS component of the Family Support Act. These are:

**Group I: Long-term Recipients.** Persons who have received AFDC for at least 36 of the last 60 months.

**Group II: Young Parents.** Parents under the age of 24 who have not completed high school or have had little work experience.

**Group III: Terminal Recipients.** Persons whose youngest child is within 2 years of being ineligible for AFDC.

In this section we estimate the size of these target groups and their characteristics.

The members of the targets groups can be considered those most in need of job training. The target group population is different from the majority of AFDC participants who use transfers for a short period of time. The target groups were selected because they represent those who exhibit long-term dependency (Group I); those who are likely to experience long-term dependency because of limited skills (Group II); and those who will soon be unable to receive AFDC (Group III). These groups are most in need of job skills to break the cycle of AFDC dependency and to replace AFDC income.

Table 3.3 describes our estimates of the size of each target group. We provide both a range and midpoint estimate and compare these to counts made by the Department of Health and Social Services, Division of Public Assistance from their case files. These counts were made by isolating current AFDC cases with characteristics similar to those in the target groups. The counts were made as of a point in time, July 1989.

The other two estimates are made using historic information and extrapolating forward to 1989. Our other estimates are based on the 1987 survey of AFDC cases done by the U.S. Family Support Administration and the 1980 Alaska Census of Population. By assuming characteristics of AFDC participants have not changed since those periods we can estimate the 1989 population. Explanations of our estimating methodologies are found in the appendix in tables A3.1 through A3.3.

TABLE 3.3  
TARGET GROUP POPULATIONS  
1989

<u>TARGET GROUP</u>	<u>DHSS COUNT</u>	<u>CENSUS ESTIMATE</u>	<u>1987 SURVEY ESTIMATE</u>	<u>MIDPOINT</u>
I	2661	2671	2403	2537
II	634	935	1110	872
III	217	298	206	252
All Groups	3320			
All AFDC	7630			

NOTES: See Tables A3.1 through A3.3 for explanation. All Groups total is not the sum of the three groups because of double counting the AFDC participants in more than one group.

Our analysis suggests that the DHSS counts are relatively good estimates of the target populations. This is especially true for Groups I and III where the range of estimates is relatively narrow. This also suggests that the portion of these populations is relatively stable over time.

The widest variation is for Group II, young parents without a high school degree; the midpoint of the range is almost forty percent higher than the DHSS count. This wide variation may be easily explained. Both the Census estimate and the Survey estimate are based on information over the entire year, while the count is at one point of time. The higher numbers associated with the entire year estimates suggests that there is relatively more turn over (moving into and out of AFDC) among this group than among the others. If this is the case, the count will be a good estimate of the target group population at any point of time but not a good count of the potential population to be served.

If our assumptions are correct the DHSS counts are good estimate of the share of the total AFDC population in the Target Groups at any point in time. Comparing our estimates also suggest something about the dynamics of AFDC participation; the turnover among the Young Parents target group seems much greater than among the others. This may imply that for program planning purposes the real target group of Young Parents is much greater than the group on AFDC at any point in time.

### Age, Work Experience, and Education Levels

The Family Support Act allows states some flexibility in selecting the type of services it provides in its JOBS program. One element in designing a successful JOBS program would be to match the training and education opportunities offered with the level of skills, education, and experience which participants bring to the program. For example, if the majority of the participants have not graduated from High School a program requiring High School graduate skills will not be successful, however a program of remedial education may be.

In this section we provide some information about the characteristics of the potential JOBS participants which may be helpful in designing the program. We make estimates of the age, education, and work experience distribution for all AFDC participants and the population in each target group. This information will allow planners to select the appropriate types of job training programs.

Unfortunately there is not direct information on all of these characteristics for either the total AFDC population or the target groups. The estimates presented in Tables 3.4 through 3.6 are based on distributions found in many sources of information. These estimates are based on extrapolations from the 1980 Census, surveys, and national information for groups which were assumed to have similar characteristics. For example, since we have no direct information on the characteristics of parents whose youngest child is older than 16, we assumed this group's characteristics would be similar to the 1980 characteristics of Female Householders with children over 35. Our assumptions and data sources are explained on the tables. (Tables A3.4 through A3.7 in the appendix provide additional information.)

Table 3.4 describes the age distributions for the AFDC population and the three target groups. The majority of AFDC participants are between the ages of 25 and 44, and approximately 10 percent are above the age of 44. According to our assumptions the target group populations are significantly different from the total population. Group II by definition consist of only people less than 24, so it is on average much younger than the total population. The populations of Groups I and III are older than the average; almost 45 percent of the Long-term recipients and 34.2 percent of the Group III population is estimated to be over 44.

A similar pattern is found for the education distribution shown in Table 3.5. By definition none of the Group II population has a high school degree; 66 percent of this group have had some high school. While almost 60 percent of total AFDC population are high school graduates, only 35 percent of the Group I and 50 percent of the Group III populations have high school degrees.

The age and education distributions are related. The tables in Appendix 3 show a pattern of education which varies with age. With increasing age there is first an increase then a decrease in the proportion of the population with a high school degree. The opposite pattern occurs in the proportion of the population with low levels of schooling. The pattern

can be easily explained. As people age, they have more time to complete their degree, so the proportion of high school graduates increases. The low proportion of the older age groups may be explained by changes in tastes; when the population older than 54 was young there may have been less interest in graduating from high school. This may suggest that over time the proportion of high school graduates will increase in the older age groups.

Table 3.6 describes the work experience of the four groups. According to our assumptions, all of the target groups worked less than the total population. Only the young parents' group had work experience approaching the total. Except for Group II, the majority of those that worked at all in the previous year worked less than half the year. This suggests once again the important connection between limited job opportunities and poverty. The pattern may also be explained by referring to the age distribution. Groups I and II with relatively older populations may experience lower levels of work experience because of other limits to work such as health reasons.

TABLE 3.4  
AFDC TARGET GROUPS  
AGE DISTRIBUTION

	<u>AFDC TARGET GROUP</u>			
	Total	I	II	III
24 and under	31.8%	17.5%	100.0%	0.0%
25 - 44	58.8%	38.3%	0.0%	65.9%
45 - 64	9.2%	20.6%	0.0%	32.6%
65 and over	0.4%	23.6%	0.0%	1.6%

SOURCES:

Total--Distribution based on sample described in FY 87 Characteristics and Financial Circumstances of AFDC Recipients  
 I--Distribution based on sample of long-term (more than 25 months) transfer recipients over 18 in Characteristics of Persons Receiving Benefits from Major Assistance Programs  
 III--1980 Alaska Census of Population, Detailed Population Characteristics, proportion of female householders older than 35, with children, with incomes under \$10,000

TABLE 3.5  
AFDC TARGET GROUPS  
EDUCATION

	<u>AFDC TARGET GROUP</u>			
	Total	I	II	III
8 years or less	20.4%		34.0%	24.0%
Some High School	19.7%	64.2%	66.0%	25.0%
High School Grad.	59.9%	35.4%	0.0%	51.0%

SOURCES:

Total--1980 Census, Proportion of Female Householders in Poverty  
 I--From Characteristics of Persons Receiving Benefits from Major Assistance Programs, proportion of long-term recipients  
 II--Alaska Public Use Sample, distribution of Female Householders with Children, with Low Incomes or with Transfers  
 III--Poverty in the U.S., 1987, distribution of Females in Poverty aged 35-54

TABLE 3.6  
AFDC TARGET GROUPS  
WORK EXPERIENCE

	<u>AFDC TARGET GROUP</u>			
	Total	I	II	III
Worked Last Year	77%	28%	65%	41%
Worked < 6 Months	58%	13%	59%	26%

SOURCES:

Total--1980 Census, Proportion of Female Householders in Poverty  
 I--From Characteristics of Persons Receiving Benefits from Major Assistance Programs; based on distribution found for a 32-month period (see Table A3.7). Twenty-eight percent worked sometime during the period while 13 % worked at least half the period.  
 II--Public Use Sample, distribution of Female Householders with Children, with Low Incomes or with Transfers  
 III--Poverty in the U.S., 1987, distribution of Females in Poverty aged 35-54



The level of confidence placed in these estimates depends on our confidence in the assumptions which lie behind them. The most important assumption is that the groups we selected as similar to the target populations are similar. The information we used to estimate these distributions came from different points in time (the 1980 Alaska Census) and from outside of Alaska (national distributions). In addition, we used larger populations (female headed households in poverty), because there was no information specifically about the AFDC populations. The accuracy of our estimates depends on the similarity between these groups and the relevant AFDC population.

One final caveat should be mentioned. The distributions we used for the most part reflect the distribution of a population over a year and not at a point in time. This method may overestimate the importance of groups where there is high turnover, such as young adults, in the AFDC population.

#### IV. AFDC PARTICIPATION AND REFORM

The Family Support Act of 1988 modified AFDC. In this section we will project the effect of the most important of these changes on AFDC participation. We will estimate the level of additional current participation which would result if the Unemployed Parents (UP) program was in effect. We will also project the future levels of AFDC participation assuming both the UP program and JOBS.

Aid to Families with Dependent Children is a governmental transfer program. It is a means tested program, so the benefits received depend on the participants' level of income. Historically AFDC was designed to provide assistance to families with only one parent; the predominant group receiving AFDC payments have been female headed families. The size of the family determines the level of benefit the family receives. AFDC recipients were eligible to receive other benefits such as child care and Medicaid.

The Family Support Act of 1988 changed AFDC in a number of important ways. First, it expanded the eligibility to include two parent families when the primary wage earner is unemployed (defined as working less than 100 hours per month); AFDC will provide support when Unemployment Insurance is either insufficient to meet needs or exhausted. Secondly, AFDC participants will, in most cases, be required to either work or undertake training or education in return for their payment. Finally, certain benefits will continue beyond AFDC participation. These transitional benefits are designed to reduce the incentive for staying on AFDC.

These changes expand the population eligible for AFDC, and they may change the behavior of those currently eligible. There is a great deal of evidence that suggests that AFDC participants respond to changes in the program characteristics. For example, the duration of time on AFDC has been shown to be directly related to the level of benefit payment (O'Neil et al., 1987). It has been suggested that the extension of Medicaid and child care benefits beyond the time on AFDC may result in an important behavioral change; low income non-AFDC female headed households may reduce their work effort to get on AFDC in order to receive these benefits when they go back to work. This effect will be limited to the extent there are other systems of support which provide these service for the working poor, such as the Indian Health Service (IHS) for Native Alaskans and the state's child care assistance. The job training requirement may also discourage some current participants from continuing with AFDC. We ignore these behavioral effects in our projections. Estimating the magnitude of the potential effects is beyond the scope of this present study.

#### Participation in the Unemployed Parents Program

In all likelihood the change which will have the biggest impact on AFDC participation is the Unemployed Parents Program. In this section we will estimate the effect of this change on program participation. We will

estimate the change in current participation which would occur if the UP program was currently in effect.

Our estimates of the UP population are shown in Table 4.1. We present a series of estimates which reflect a number of assumptions about the determinants of UP participation. Our estimates are extrapolations of information from the 1980 Alaska Census of Population. From the Census we made an estimate of the number of unemployed parent families in 1980; these were married couple families with children. Using an income distribution for unemployed parents from the 1980 Public Use Sample, we estimated the share of these families with income below the current AFDC standards. (We used the current standard for a family of four discounted back to 1979 by the change in the cost of living since that time.) We estimated the size of the current UP population by assuming the UP share of the 1980 unemployed population would remain constant and applying this share to the State Department of Labor's estimate of the June 1989 unemployment.

We produced four separate estimates shown in Table 4.1. Each reflects different assumptions about the income limits or the size of the 1980 Unemployed Parents population. Scenario 1 includes only the currently unemployed and uses the AFDC net income limits; it produces the lowest estimate. In Scenario 2 we expand the income limits by using the AFDC gross income limits. In Scenarios 3 and 4 we expanded the population of Unemployed Parents to include first (Scenario 3) discouraged workers, those families whose head was out of the labor force because they couldn't find a job. Scenario 4 adds to these discouraged workers all those families with heads that worked less than 35 hours a week; while this probably overestimates the UP participation, it suggests that some households currently working with low incomes may stop working and enroll in AFDC.

TABLE 4.1  
CURRENT ELIGIBLE POPULATION  
UNEMPLOYED PARENTS PROGRAM

SCENARIO	
I: Unemployed/AFDC Net Income Limits	800
II: Unemployed/AFDC Gross Income Limits	1224
III: Unemployed plus Discouraged Worker/ AFDC Gross Income Limits	1460
IV: Unemployed plus Discouraged Workers plus Part-time Workers/AFDC Gross Income Limits	2288

SOURCE: 1980 Alaska Census, Detailed Population Characteristics; Unemployment from Alaska Department of Labor, 1989.

Our method presents a considerable range of estimates, from a low of 800 to a high of 2288. Of our four scenarios, Scenario 3 probably comes closest to describing the true population, the UP population would include not just those currently looking for work (the unemployed) but also those who aren't looking because they believe there is no work (the discouraged worker). This suggest that 1500 is the best estimate for the current number of families eligible for the Unemployed Parent program.

There is one warning about the size of the UP population. If UP population varies, as we have suggested, with unemployment, we can expect the population to experience seasonal fluctuation. We might expect June to be the low point for UP population since it is often the peak of the employment cycle. The fluctuation in UP population would not be as great as the overall fluctuation in unemployment. Limits to income or assets will limit UP participation.

The most important assumption in these estimates is that the characteristics of the unemployed in 1989 are similar to the characteristics of the unemployed in 1980. Alaska experienced both rapid population growth and decline during this period. This may have changed the demographic composition of the unemployed. Our method is accurate only to the extent any changes in demographic composition is small.

Age, Education, and Work Experience of the Unemployed Parents

Tables 4.2 through 4.4 contain our estimates of the age, education, and work experience distributions of the Unemployed Parent population. The method used to derive these estimates was similar to the methods used to derive the AFDC population distributions. Like those previous distributions, these are subject to the same caveats; since they are based mainly on census data, they will be less useful the more changes since 1980 may have changed the relationships.

TABLE 4.2  
UP POPULATION AGE DISTRIBUTION

<u>AGE</u>	<u>Share of Population</u>
15 - 24	18.3%
25 - 34	44.0%
35 - 44	21.9%
45 - 54	10.3%
55 - 64	4.0%
Over 65	1.5%

NOTE: Distribution is based on the age distribution of married couples with children and incomes below \$10,000 in 1979.

SOURCE: 1980 Alaska Census Detailed Population Characteristics

TABLE 4.3  
UP POPULATION  
EDUCATION

<u>YEARS OF SCHOOL COMPLETED</u>	<u>SHARE OF TOTAL POPULATION</u>	
	<u>Total</u>	<u>Age 15-24</u>
Less than 8	24.6%	0.2%
Some High School	11.5%	2.2%
High School Graduate	63.8%	9.8%

NOTE: Distribution is based on the education distribution of married couples with children and incomes below \$10,000 in 1979

SOURCE: 1980 Alaska Census Detailed Population Characteristics

TABLE 4.4  
UP POPULATION  
WORK EXPERIENCE

Worked Last Year	68.7%
Worked Less than 6 Months	37.5%

NOTE: Based on the distribution of Alaska nonfemale head households in poverty, 1980.

SOURCE: 1980 Alaska Census Detailed Population Characteristics

These tables suggest that in terms of age, education, and work experience the UP population will be similar to the overall AFDC population. The only important difference may be in work experience. Our results suggest that while similar proportions had worked during the previous year, a larger proportion of the UP population worked for longer than six months. Table 4.3 also estimates the share of the population in one of the target groups, parents under 24 without a high school degree, as 2.4 percent of the total UP population.

### Future AFDC Participation

The addition of the Unemployed Parents program will have a major positive effect on the participation in the AFDC program, but this is not the only change that should affect future participation. The JOBS program will also affect future participation by reducing the number of participants. This section presents a set of projections of the pattern of AFDC participation through the year 2000.

The pattern of AFDC participation will be a function of the skill and demographic characteristics of the population and the overall economic environment. We would expect that for any given set of population characteristics AFDC participation would rise in a recession and fall in an economic expansion. This would reflect AFDC primary role as a temporary means of support during economic emergencies.

In an attempt to explain the pattern of AFDC participation we estimated the following regression equation for the period 1974 to 1988:

$$\begin{aligned} \text{LN(per capita AFDC cases)} = & .108 - 1.732 * \text{LN(real per capita income)} \\ & (.363) \\ + .058 * \text{Time Trend} - & .280 * (\text{dummy for year 1982 or later}) \\ (.008) & (.069) \end{aligned} \quad R^2 = .917$$

(The numbers in the parentheses are the standard errors of the coefficients.) This equation uses real per capita income as the measure of state economic health. The coefficient on real per capita income captures the cyclical component of AFDC participation. The negative sign suggests that as real per capita income rises in an economic expansion per capita AFDC participation will fall. The opposite will occur in a recession. The equation also suggests that the changes in the AFDC income rules in 1981 had a significant negative effect on participation. Finally, the equation suggests that over time there has been an increase in the per capita AFDC participation independent of the level of overall economic activity. This positive time trend may reflect changes in the demographic composition of the population; for example, an increase in female-headed households might increase AFDC participation at any given level of real per capita income. The time trend may also suggest that the distribution of income is changing over time in Alaska; with income becoming more unevenly distributed.

Future AFDC participation will also be affected by the success of the job training programs run under JOBS. The more successful these programs the lower will be the rate of AFDC participation. The JOBS program will have limited impact on the cyclical component of AFDC participation; recession and expansion will continue to produce short-term participants in AFDC. The most important effect of the JOBS programs will be to reduce long-term dependency, so its biggest impact on future AFDC participation will come from reducing the participation among the target groups.

Figures 4.1 and 4.2 describe two projections of AFDC participation through the year 2000. Each of these projections is based on assumptions about the economic performance, the AFDC participation rate, and the success of the training programs. These two projections are intended to bracket the range of possible future levels of AFDC participation.

FIGURE 4.1  
COMPARISON OF SCENARIOS I AND II  
AFDC FAMILIES

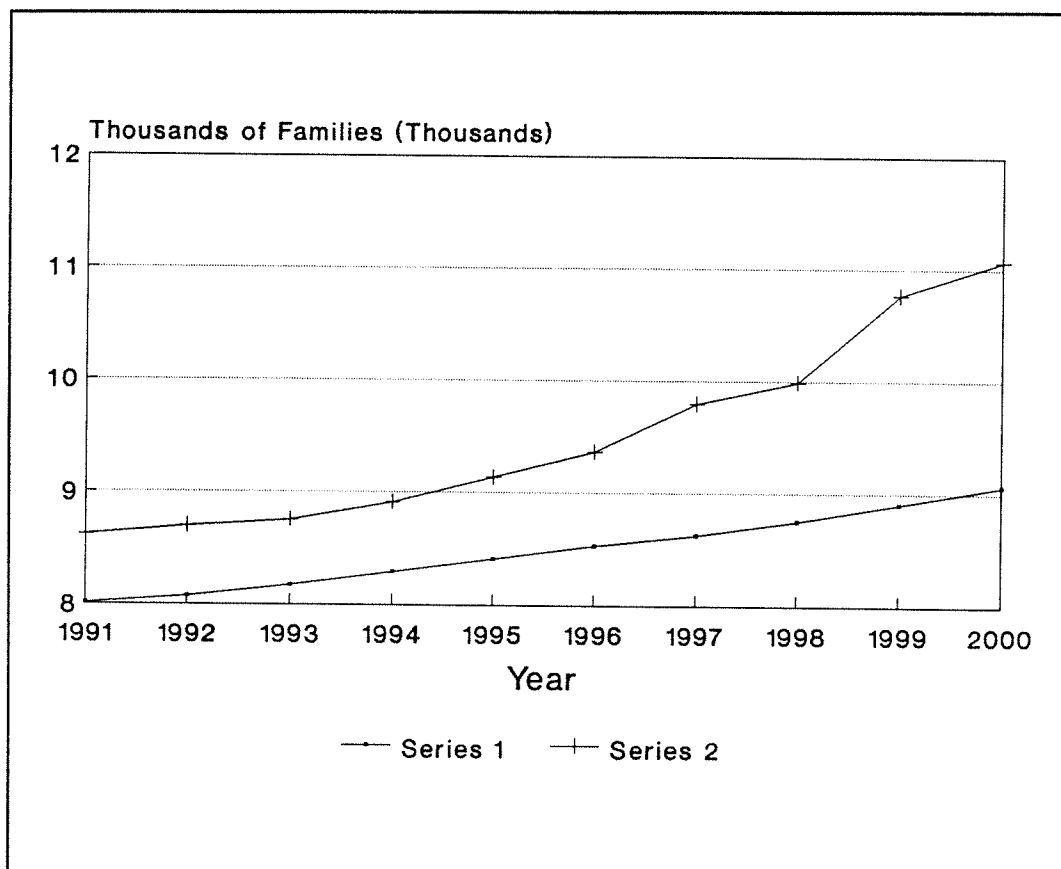
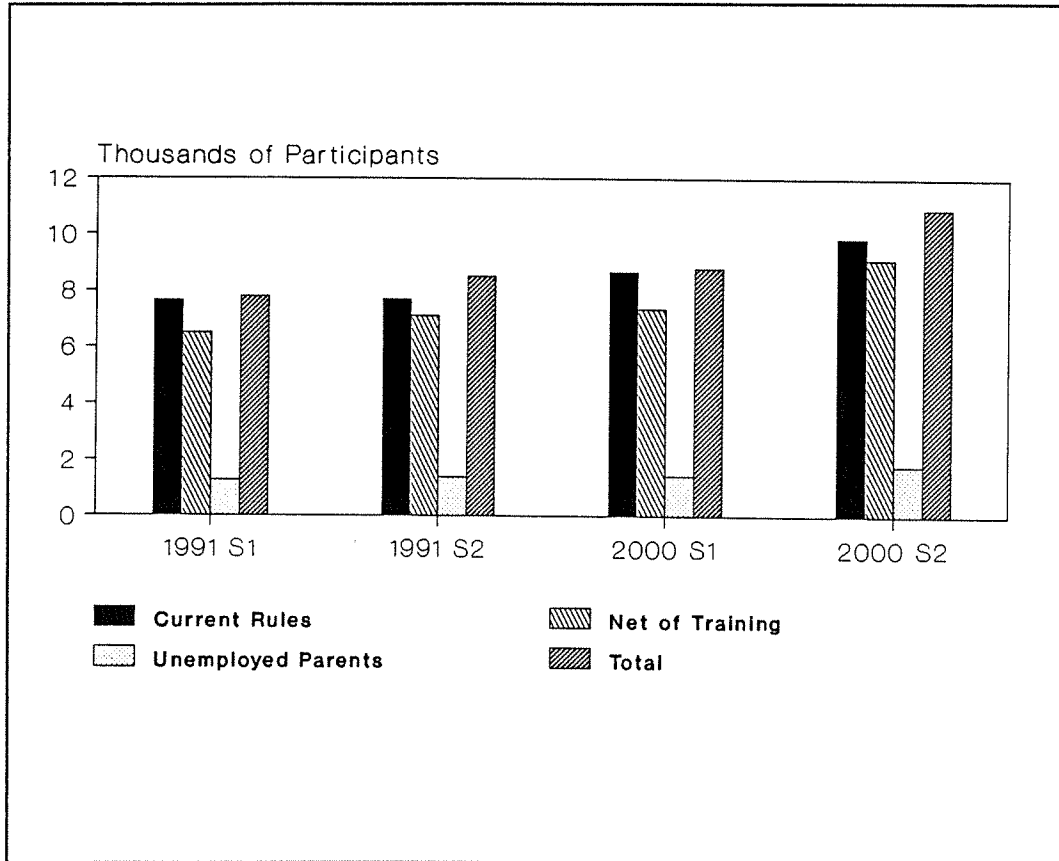


FIGURE 4.2  
 AFDC PARTICIPATION 1991 AND 2000  
 SCENARIOS I AND II  
 COMPONENTS OF CHANGE





These forecasts are based on projections of population and real per capita income produced by ISER for the Alaska Power Authority (Goldsmith and Hull, 1988). These projections represent a moderate increase in economic activity for the state over our forecast period. The period is projected to be one of continual although modest growth. In this scenario, both population and real per capita income increase modestly at an annual average rate of approximately one percent a year.

Scenarios I and II represent different assumptions about the pattern of growth of the rate of AFDC participation and the success of the job training programs. Scenario I assumes the AFDC participation rate remains constant at its 1987 rate (.0144). Scenario II assumes that the AFDC participation rate will change in the pattern described by the equation presented above. We assume that the time trend which accounts for increasing AFDC participation over time will moderate to half of its estimated 1974-88 rate; this reflects an assumption that the major demographic and income distribution trends will not continue into the 1990s.

Each scenario also assumes the JOBS program will have different levels of success in removing participants from their dependence on AFDC. There is wide variation in the success of various training programs in the U.S. (Burtless, 1984). Alaska JTPA experience suggests a success rate between 30 and 50 percent (JTPA Annual Status Report, 1989) while a review of national training programs suggest a similar range of success (Manpower Demonstration Research Corporation, 1987).

In each scenario we assume only the target group populations will be affected by training; this group is assumed to remain at its pre-reform share of 50.5 percent of the total. Sixty percent of this group is assumed to be eligible for training programs. Scenario I assumes that 50 percent of those trained successfully leave AFDC, and Scenario II assumes a success rate of only 25 percent. Training is also assumed to affect the UP population in a manner proportional to its effect on the regular AFDC population; UP population is assumed to maintain its estimated 1989 relation with the AFDC population after training. By assuming rapid growth of the participation rate and limited training success Scenario II presents a high-range forecast, while Scenario I provides the low-range forecast.

Given our assumptions, AFDC participation grows from its 1989 level of 7,630 (for June) at an average annual rate of 1.3 percent for Scenario I and 3.3 percent for Scenario II through the year 2000. The real growth is likely to lie between these two extremes; any change in the success of the JOBS program or pattern of AFDC participation will change the future pattern of AFDC growth. One likely difference from the scenarios we present is that training success will not be constant but will grow over time. (These actual forecasts are presented in appendix Table A4.5.)

Figure 4.2 examines the composition of this projected change. In all years the JOBS program reduces participation over that expected under the current rules. This reduction is countered by the expansion of participation because of the Unemployed Parents program. Under our

assumptions the expansion of AFDC population through the UP program is greater than the reduction because of the JOBS program.



V. THE GEOGRAPHY OF POVERTY IN ALASKA

Poverty is a relatively more important problem in the rural parts of the state. Table 5.1 compares the share of the poverty population in 1980 in rural Alaska with the share of the population by various demographic categories. In all cases the rural share of the poverty population exceeds its share of population by at least 10%.

TABLE 5.1  
RURAL SHARE OF POVERTY  
1979

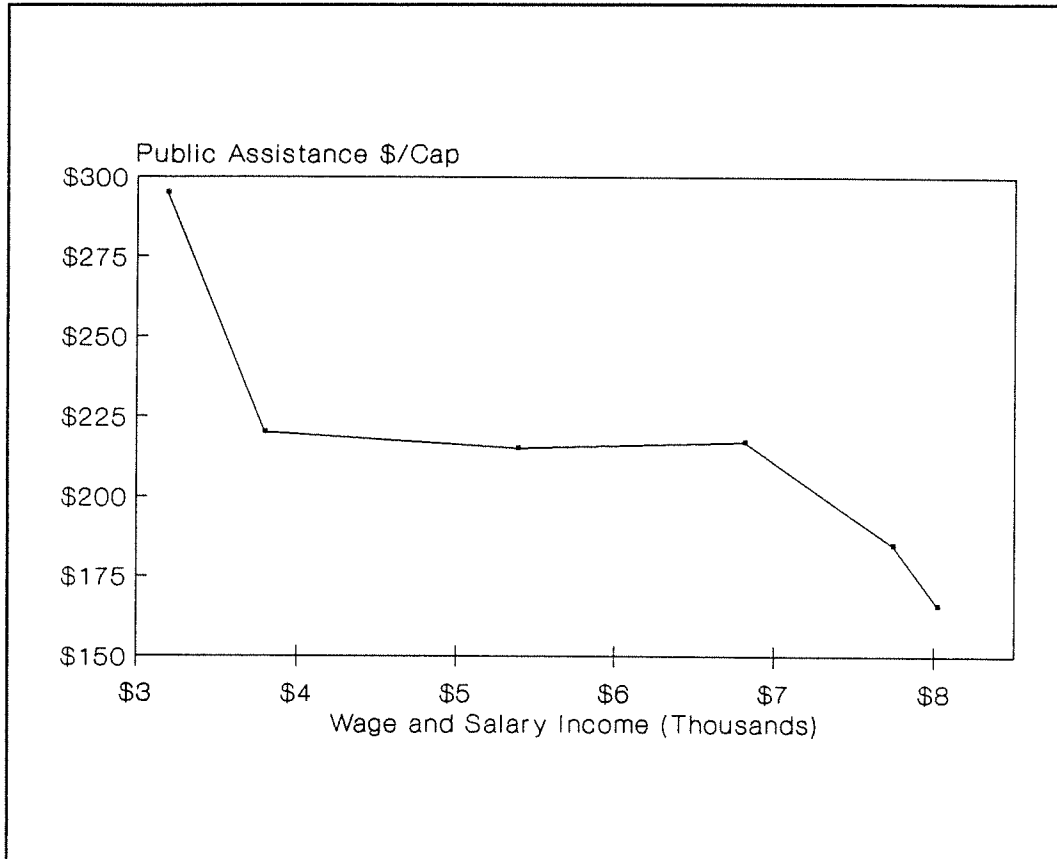
	Share of <u>Poor (%)</u>	<u>RURAL ALASKA</u> Share of <u>Population (%)</u>	<u>Ratio</u>
Total	54.9	35.9	1.53
Native	78.5	70.2	1.12
Non-native	42.6	30.6	1.39
Families	58.2	36.6	1.59
Female Headed	42.6	32.7	1.30
Unrelated			
Individuals	44.8	31.6	1.42
Elderly	63.0	44.4	1.42
Adults	53.4	34.7	1.54
Children	56.6	38.2	1.48

SOURCES: 1980 Census of Population. Alaska. Detailed Population Characteristics.

This distribution of the poor is important for the JOBS program, because the scattered rural poor will be harder to provide training for. Placing graduates from the JOBS program will also be relatively harder in rural areas of the state, because of the limited job opportunities. This section examines poverty in rural Alaska and provides estimates of the size of the target groups in these areas.

The most important reason for rural poverty and the participation of rural residents in public assistance programs, like AFDC, is the lack of employment opportunities. Figure 5.1 illustrates the relationship across rural villages between the amount of public assistance per person and the wage and salary income per person the village receives. This shows a definite negative relation; if wage and salary income rises public assistance income falls.

FIGURE 5.1  
PUBLIC ASSISTANCE INCOME PER CAPITA BY  
WAGE AND SALARY INCOME PER CAPITA, 1979  
FOR PLACES UNDER 5000



Source: 1980 Census

The pattern of poverty and public assistance participation varies throughout rural Alaska. Table 5.2 examines this variation by comparing measures of public assistance participation and wage and salary income across two large regions and various-sized villages. The regions, Village and Maritime Alaska, represent regions with similar economic bases; Appendix 6.1 describes the census divisions in each region. Per capita public assistance income and the share of households with public assistance generally declines as we move to larger villages and wage and salary income generally rises. More importantly, public assistance participation is generally lower in all villages in the Maritime region and wage and salary income is higher. Both the potential participants in any rural JOBS program and the success in placing graduates will vary by size of place and region.

TABLE 5.2  
PUBLIC ASSISTANCE AND WAGE INCOME  
IN RURAL ALASKA BY SIZE OF PLACE

<u>REGION/SIZE</u>	<u>PUBLIC ASSISTANCE \$ PER CAPITA</u>	<u>WAGE &amp; SALARY INCOME PER CAPITA</u>	<u>HOUSEHOLDS ON PUBLIC ASSISTANCE</u>
Village			
< 500	\$204	\$3,187	14.5%
500-1000	\$138	\$3,794	15.9%
1000-5000	\$97	\$7,742	9.8%
Maritime			
< 500	\$87	\$5,387	14.0%
500-1000	\$67	\$6,814	10.6%
1000-5000	\$40	\$8,026	8.5%

SOURCE: U.S. Census Public Use Sample, Aggregate Household Income by Income Type

Table 5.3 presents the actual AFDC cases in rural Alaska by region. The distribution across AFDC regions is roughly proportional to the population of the region. The distribution of AFDC cases within the regions between smaller villages and regional centers is not proportional. In all of the regions there is a greater proportion of AFDC cases outside of the regional centers than there is population. This may reflect the limited job opportunities in smaller villages.

TABLE 5.3  
AFDC PARTICIPATION IN RURAL ALASKA - 1989  
VILLAGES AND REGIONAL CENTERS

Region	AFDC CASES	CASES IN REGIONAL CENTER	PERCENT IN REGIONAL CENTER	TOTAL POPULATION	POPULATION IN REGIONAL CENTER	PERCENT IN REGIONAL CENTER
Kotzebue	186	30	16.1%	6077	3705	61.0%
Nome	224	45	20.1%	8158	5105	62.6%
Ft. Yukon/ N. Rural	356	20	5.6%	21805	5291	24.3%
Kenai	395	109	27.6%	39949	14234	35.6%
Southcentral	277	49	17.7%	38228	15198	39.8%
Southeast	755	194	25.7%	63703	53915	84.6%
Bethel	611	60	9.8%	19424	4980	25.6%
Total	2804	507	18.1%	197344	102428	51.9%

SOURCE: Alaska Department of Health and Social Services provided counts for regions and villages as of June. Population estimates are provided by the Alaska Department of Community and Regional Affairs.

The JOBS program might be considered simply an urban program if only the target group population was to be served. Table 5.4 shows the current estimate of the target group population by regions defined Native Regional Corporation boundaries. These estimates are based on the counts provided by Alaska Dept. of Health and Social Services. Almost three quarters of the target group population is located in urban dominated regions (CIRI, Doyon, and Sealaska). Of the rural regions only three (Calista, NANA, and Bering Straits) have target population over 100. These small and scattered populations may be hard to serve with a significant job training program.

In Section III we showed that the DHSS counts were good estimates of the size of the three AFDC target groups, however this is not true for the Unemployed Parent population. We estimated the UP population was likely to be over twice the count from DHSS. The rural UP population is also likely to be much higher than the count.

According to the Alaska Dept of Labor, rural regions of the state (everything out of the Anchorage, Mat-Su, Fairbanks, Juneau, and Ketchikan census divisions) accounted for 32 percent of the unemployed in June of 1989. If the rural region had the same proportion of the UP population, they would have from between 255 and 730 families in the program (see Table 4.1). Given our best guess estimate of 1460 UP families statewide,

this would suggest that the rural regions would have 470 UP families. In fact, the rural regions share of UP families may exceed their share of the statewide unemployed because they have a higher rate of family poverty (see Table 2.1) and a slightly higher proportion of families in which the household head worked less than half a year (Alaska Census, 1980).

TABLE 5.4  
TARGET GROUPS BY REGION - 1989  
NATIVE CORPORATION REGIONS

NATIVE CORP.	YOUNGEST			AFDC TOTAL	FOOD STAMP POTENTIALLY	
	CHILD >15	BENEFITS >36 MO	PARENT <24		AFDC-UP	TOTAL
Ahtna	2	18	2	20	5	25
Aleut	0	7	4	10	5	15
Arctic Slope	1	18	7	24	1	25
Bering Straits	14	123	36	155	90	245
Bristol Bay	4	31	9	41	17	58
Calista	41	309	72	378	283	661
Chugach	2	7	9	16	1	17
CIRI	89	1311	764	2007	264	2271
Doyon	36	431	215	628	215	843
Koniag	2	35	17	51	8	59
NANA	3	88	33	112	56	168
Sealaska	20	265	159	412	52	464
Alaska Total				3854	997	4851

NOTE: Overlap between target populations has been subtracted for AFDC totals.

SOURCE: Alaska DHSS

### The Age, Education, and Work Experience of the Rural Poor

This section presents a description of the age, education, and work experience characteristics of the rural poor. The available data will not allow us to estimate these distributions for each target group. We examine the distributions of female headed and non female headed families as proxies for the existing AFDC and UP populations. Tables 5.5 through 5.7 present our estimates of the characteristics of these populations.

The age distributions (Table 5.5) are similar to those for the statewide populations. The majority of the AFDC and UP populations in the rural regions can be expected to be young (under 44). Compared with the entire state, there is a slightly smaller proportion of the very youngest households in the rural regions.



Differences in the levels of education between the rural and urban poor seem significant (see Table 5.6). The rural poverty population has a smaller proportion of high school graduates than the estimated state wide AFDC and UP populations. The share of the rural population with less than eight years of school is also larger than the statewide share; female headed householders in rural Alaska are almost twice as likely to have had less than eight years of school than the current AFDC participant statewide. This might suggest that remedial education may be an important component of the rural JOBS program. Remedial education offered in cooperation with the village schools may also be the best type to offer on a small scale.

Finally, the rural poverty population is less likely to have work experience in the previous year than either the statewide AFDC or UP populations. Only 44 percent of the rural female heads of poverty households had worked in the previous year in the 1980 census. For the same time period we estimated that over 77 percent of the statewide population of AFDC household heads had worked in the previous year. This variation may be the result of differences in skill levels or choice, but to the extent this is a result of limited job opportunities, training programs may be of limited help in rural regions.

Summary

The rural regions of Alaska provide JOBS program planners with two types of problems. First, poverty is relatively more important in rural areas, so job training programs may be more important there. Secondly, the potential JOBS participants are likely to be scattered over many regions and in numerous villages. This might mean that JOBS programs will have to be designed which are effective with limited enrollments.

TABLE 5.5  
AGE OF HOUSEHOLDER  
RURAL HOUSEHOLDS

<u>Age</u>	<u>ALL INCOMES</u>			<u>LOW INCOMES</u>		
	<u>All Hholds</u>	<u>Married Couple</u>	<u>Female Hhold Head</u>	<u>All Hhold</u>	<u>Married Couple</u>	<u>Female Hhold Head</u>
24 and under	7.5%	7.3%	9.7%	10.2%	9.5%	14.0%
25 - 44	69.6%	70.2%	66.6%	66.3%	72.9%	68.5%
45 - 64	21.5%	21.1%	22.1%	21.4%	15.2%	15.8%
65 and over	1.4%	1.3%	1.6%	2.1%	2.4%	1.8%

SOURCE: 1980 Census Detailed Population Characteristics - Alaska.

TABLE 5.6  
EDUCATION  
RURAL POPULATION  
ALASKA - 1980

	<u>ALL INCOMES</u>			<u>HOUSEHOLDS IN POVERTY</u>		
	<u>All Hhlds</u>	<u>Single Female</u>	<u>Other Hholds</u>	<u>All Hhold</u>	<u>Single Female</u>	<u>Other Hholds</u>
8 Years or Less	17.1%	30.6%	15.8%	36.9%	38.8%	36.3%
Some H.S.	9.5%	10.2%	9.5%	12.0%	14.1%	11.4%
H. S. Grad	36.8%	35.3%	37.0%	34.5%	33.5%	34.8%
More than H.S.	36.6%	23.9%	37.8%	16.6%	13.7%	17.5%
Percent H.S. Grad or more	73.4%	59.2%	74.7%	51.1%	47.1%	52.3%

SOURCE: 1980 Census Detailed Population Characteristics - Alaska

TABLE 5.7  
WORK EXPERIENCE OF RURAL HOUSEHOLDS  
ALASKA - 1980

	<u>ALL INCOME LEVELS</u>			<u>HOUSEHOLDS IN POVERTY</u>		
	<u>All Families</u>	<u>Single Female</u>	<u>Other Hholds</u>	<u>All Families</u>	<u>Single Female</u>	<u>Other Hholds</u>
Worked in 1979	86%	64%	89%	62%	44%	68%
Worked < 6 months	22%	22%	22%	41%	33%	43%

SOURCE: 1980 Census Detailed Population Characteristics - Alaska



## VI. JOB MARKET PROSPECTS FOR AFDC RECIPIENTS

The success of any job training program is dependent not only on the program and participants, but also on the job market where participants seek employment. An effective JOBS program will have to prepare participants for jobs which are available to them and will have to focus on jobs for which participants can be trained in a reasonably short period of time. Further, jobs should have the potential to pay enough to move a family off welfare.

In Alaska, this means a program must be able to respond to the different occupational and industrial opportunities across the State. Planners need information on where job opportunities will be abundant, and where scarce; on where there is more or less potential for Community Work Experience employment; on what skills and vocational preparation are necessary for successful employment, and how that may differ from place to place.

In Section VI, we look at the different job markets that exist across Alaska, discuss the projected growth of employment in those markets, and present a projection of Alaska's employment in the near term broken down by occupational education and skill requirements. These are not designed as detailed quantitative projections; rather they are based on projections made for other purposes and should provide qualitative guidance to decision makers about the design and location of JOBS training programs.

### Job Markets

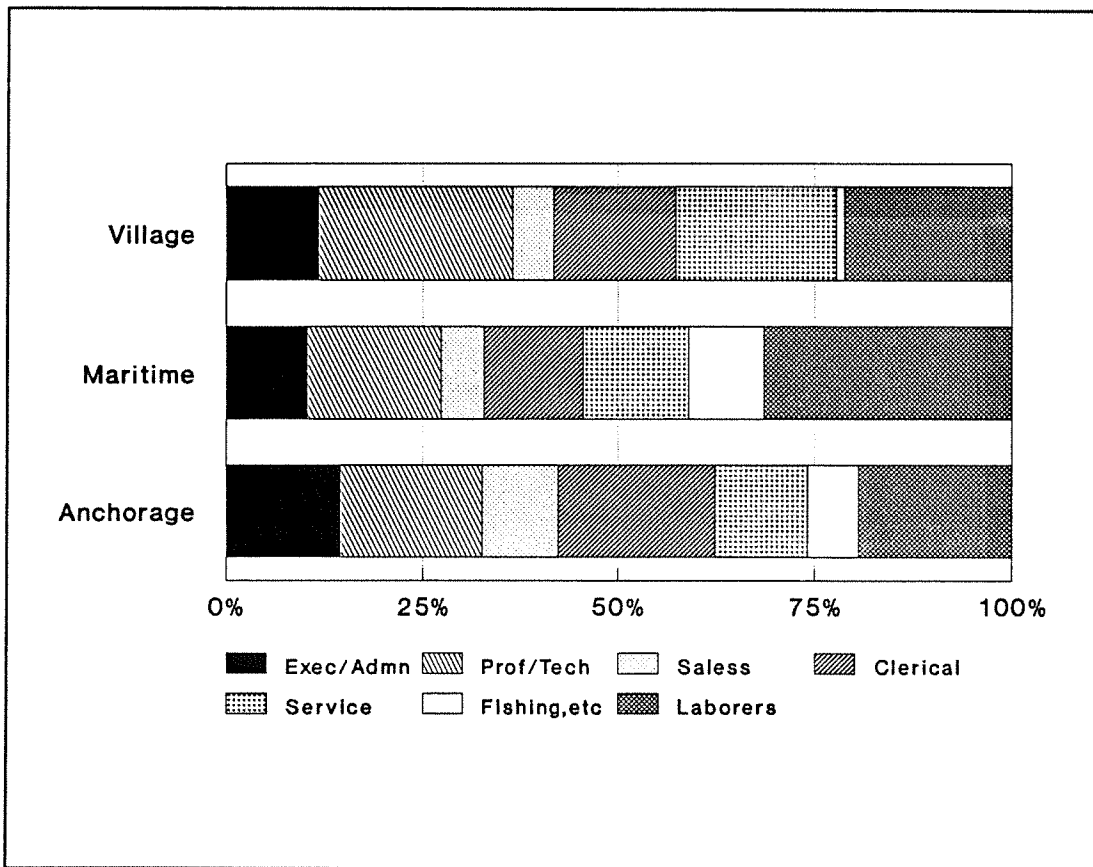
Alaska presents program planners with not one job market to respond to, but many. High transportation costs and long distances create separate markets with limited interaction. This geographic separation also means that smaller towns and villages often are not incorporated into their regional center's market, but have distinctive small job markets of their own. This section will identify the major differences between urban and rural, maritime and inland, and large and small job markets, and will highlight special problems of rural job markets.

We used a number of information sources in this section. We used occupational information from the 1980 census, since it was available for the very small locations we were interested in as well as larger areas. To look at regional differences in employment, we used 1987 employment data for the state and its census divisions (Goldsmith and Hull, 1988).

Regions examined are those defined in "The Economic Outlook for Rural Alaska" (ISER, 1988). In that paper, Gunnar Knapp divides Alaska's economy into four areas: Urban (Anchorage, Fairbanks, and Juneau), where most of the population lives, and which statewide projections tend to reflect; Maritime, rural coastal Alaska with a strong natural resource base; the North Slope, with its oil wealth, and Village, the rest of rural Alaska. A list of census divisions in each region is in the Appendix.

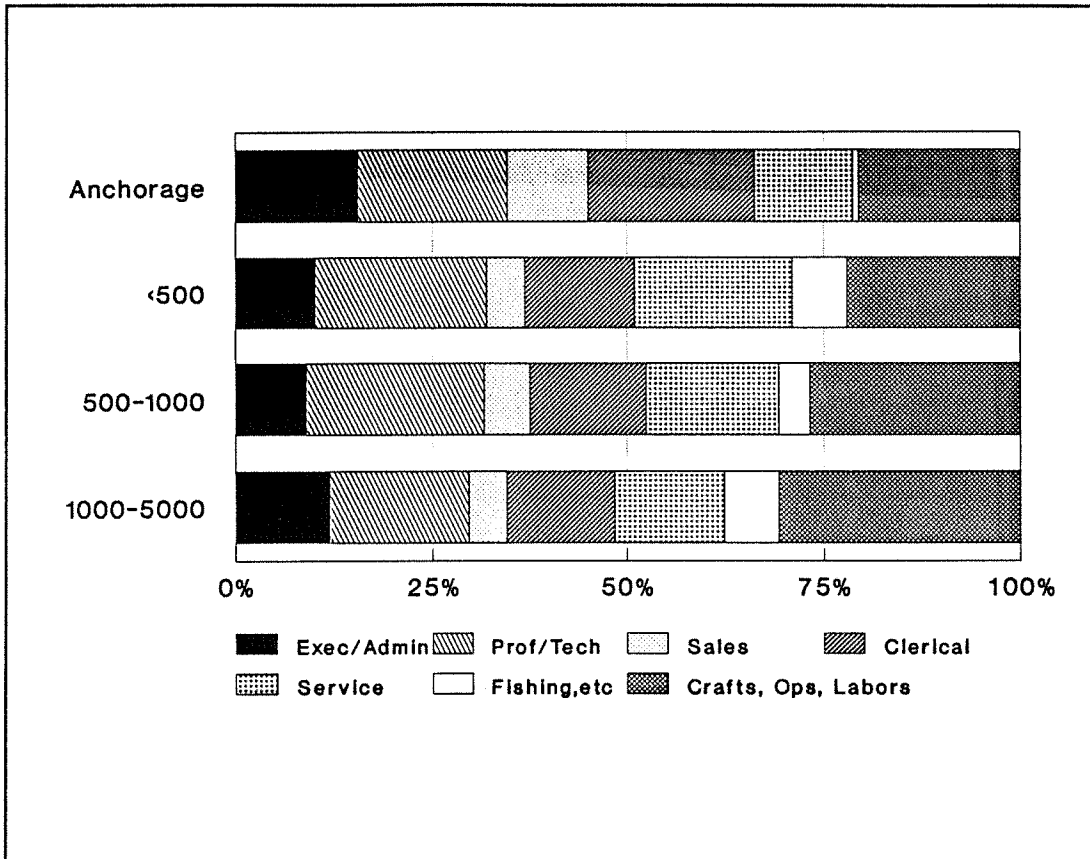
The differences in occupational mix across regions and by size of place are shown in Figures 6.1 and 6.2. These differences are most pronounced by region. Maritime Alaska has a higher proportion of Fisheries and Forestry employment and also more craftspeople and laborers. Village Alaska has a higher proportion of professional and technical occupations and clerical support, and service. Anchorage has more salespeople and slightly higher executive and administrative employment. There is some difference by size of place, as well. Larger towns have a slightly higher proportion of executives and administrators, and a slightly smaller proportion of services. These distributions suggest job markets for particular occupations will vary both by region and by size of place.

FIGURE 6.1  
REGIONAL EMPLOYMENT BY OCCUPATION, 1980



Source: 1980 Census

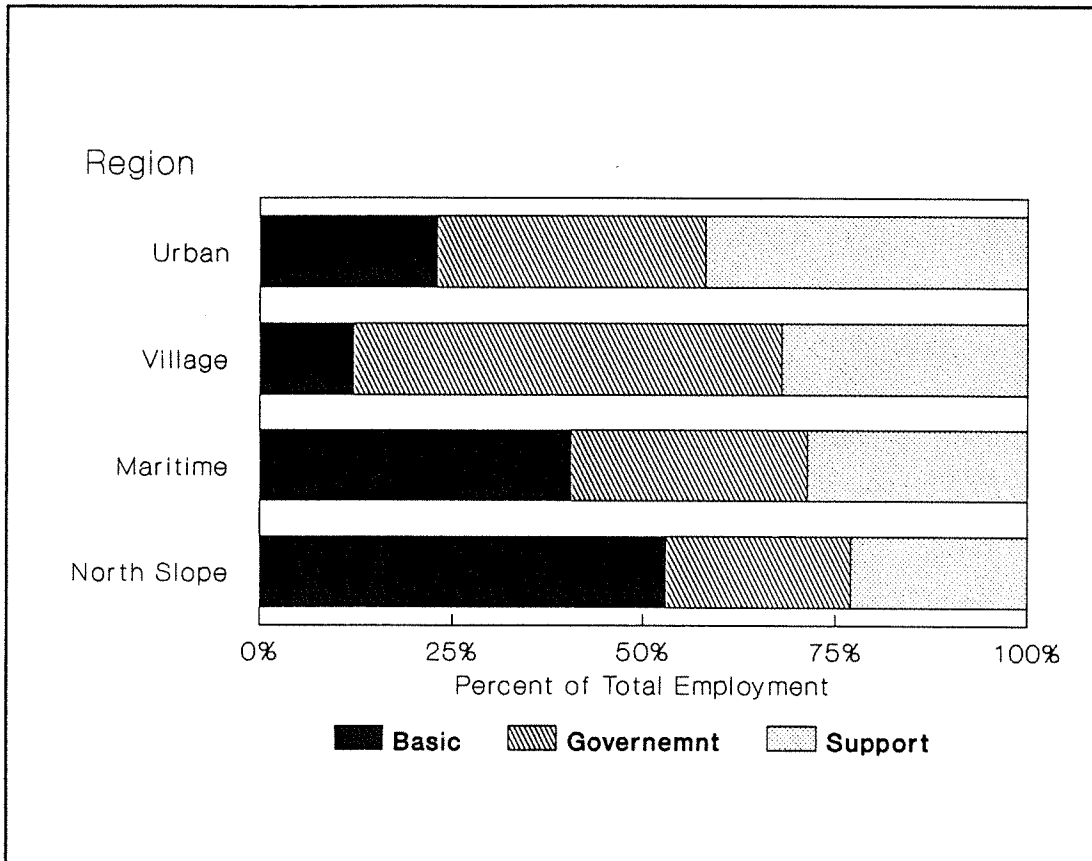
FIGURE 6.2  
OCCUPATIONAL MIX BY SIZE OF PLACE, 1980



Source: 1980 Census

The differences in industry mix as shown in Figure 6.3 are much clearer. The industries are grouped into Basic, Government, and Support sectors. The Basic sector includes agriculture, fisheries, forestry, construction, manufacturing, mining, transportation, tourism, and proprietorships. The government sector includes federal civilian and military employment and state and local employment. The Support sector includes all other employment. About half of Village Alaska's employment is in the government sector, as opposed to around one third statewide. Village Basic employment is well below other regions.

FIGURE 6.3  
REGIONAL EMPLOYMENT BY SECTOR, 1987



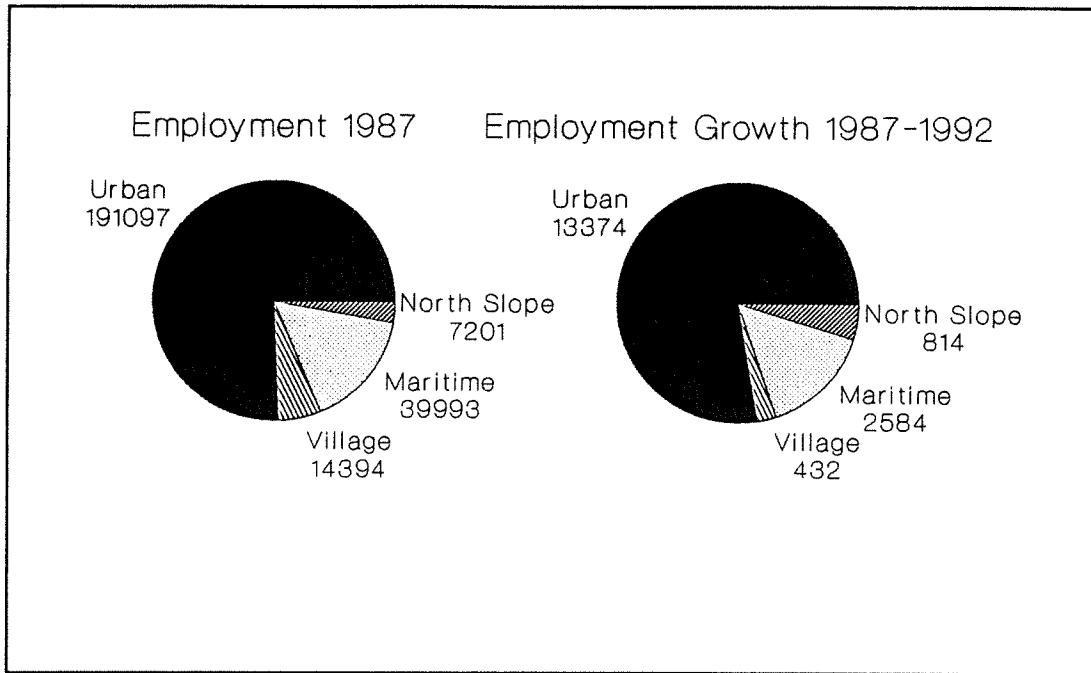
Source: MAP APA74R

Rural Job Markets

Rural Alaska job markets are not expected to grow as rapidly as those in the state's urban area. As Figure 6.4 shows, the bulk of employment and of job growth in the near future will be in urban areas and, to a lesser extent, in coastal areas with fish and timber resources. Limited expansion of job opportunities may limit the effectiveness of any rural JOBS program.

Table 6.1 shows the jobs per person for villages of different sizes, as of the 1980 Census. For comparison, the 1980 jobs per person in urban Alaska was .5. Overall, employment opportunities are better in Maritime Alaska than in Village Alaska; but in both cases, employment opportunities drop sharply when village size drops below 1000.

FIGURE 6.4  
ALASKA REGIONAL EMPLOYMENT



Source: MAP APA74R

TABLE 6.1  
JOBS PER PERSON BY SIZE OF PLACE  
VILLAGE AND MARITIME ALASKA - 1980

	<u>TOTAL EMPLOYMENT</u>	<u>POPULATION</u>	<u>JOBS PER PERSON</u>
<b>Village Alaska</b>			
0 - 500	4796	21596	0.22
500 - 1000	1478	6559	0.23
1000 - 5000	4465	11148	0.40
<b>Maritime Alaska</b>			
0 - 500	4337	13432	0.32
500 - 1000	2004	6190	0.32
1000 - 5000	11793	23763	0.50

Source: 1980 Census



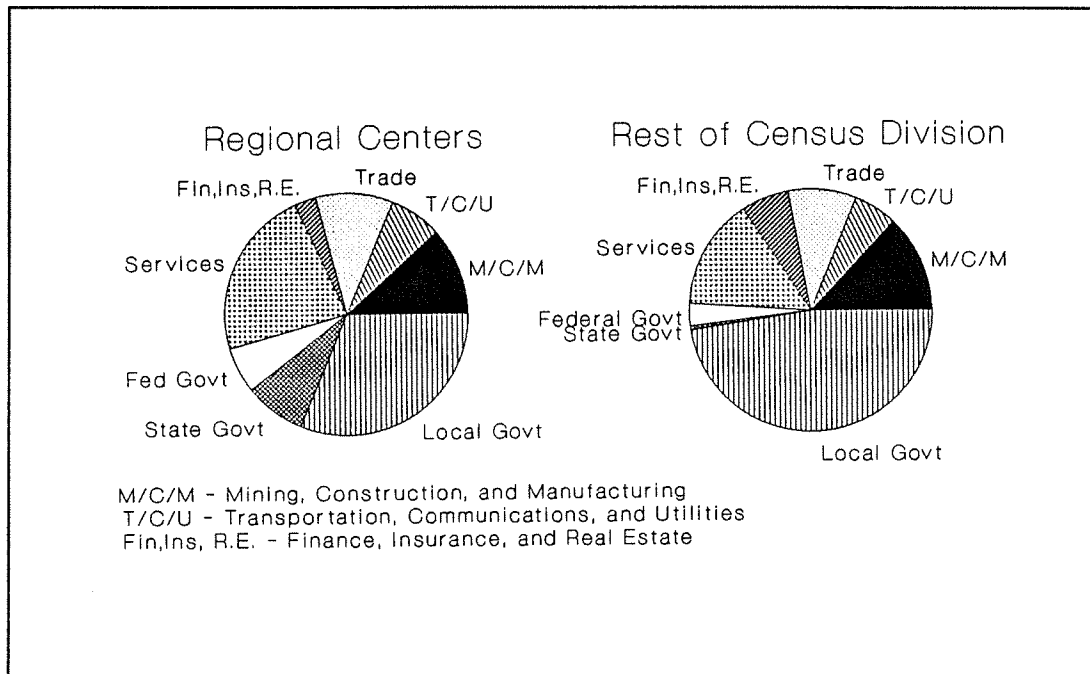




Small villages show some of the same differences in industry mix relative to their regional centers that the rural areas as a whole do to the state. Figure 6.5 shows that total government employment is even more important in outlying villages than in regional centers, and that one segment, local government, is responsible for almost half of these areas' employment. State government and services employment is greater in regional centers than outside them, and there is virtually no federal government presence outside regional centers.

Rural Alaska will present special challenges for JOBS program designers. High unemployment and limited job growth will put JOBS participants in competition with non-AFDC unemployed for what employment opportunities exist. Job opportunities may be especially hard to find in small villages outside of regional centers, and long distances, high costs, and family ties may make it difficult for families to move to locations with employment.

FIGURE 6.5  
EMPLOYMENT BY INDUSTRY, 1980  
WESTERN ALASKA



Source: Alaska Department of Labor

### Future Growth in Regional Employment

Economic trends in different regions vary because of the differing resource bases for those regions. Urban Alaska is highly dependent on oil production and prices; Maritime Alaska relies on fisheries and timber. These markets are not only geographically separate, but also have differing economies which will demand different approaches to job preparation.

Goldsmith and Hull (1988) project employment for different parts of Alaska based on a number of critical assumptions. They assume oil prices rise from \$14 to about \$16 per barrel (by 1995); oil production declines; federal government employment remains constant while state government employment declines; local government spending does not increase to make up for lost state assistance; tourism grows steadily; mining grows rapidly; timber production in Southcentral Alaska expands, and the bottomfish industry in Southwestern Alaska expands; other timber and fisheries activities do not grow after the early 1990s, constrained by their resource bases.

They predict employment and population growth across the state, with employment growing faster than population. The greatest increase in employment occurs in Alaska's urban areas followed by Maritime Alaska. Village Alaska's growth is small, in both numerical and percentage terms. Although the percentage growth of employment in the North Slope Borough is the highest of the four areas (11.3%), the total number of jobs represented is still small.

TABLE 6.2  
REGIONAL POPULATION AND EMPLOYMENT GROWTH, 1987 - 1995

	POPULATION		PERCENT <u>GROWTH</u>	EMPLOYMENT		PERCENT <u>GROWTH</u>
	<u>1987</u>	<u>1995</u>		<u>1987</u>	<u>1995</u>	
Urban	405112	422586	4.31%	191097	204471	7.00%
Village	45415	45682	0.59%	14394	14826	3.00%
Maritime	78475	81483	3.35%	39993	42577	6.46%
North Slope	5922	6419	8.39%	7201	8015	11.30%
Alaska Total	537857	558912	3.91%	252685	269889	6.81%

SOURCE: MAP APA74R, Goldsmith and Hull, 1988.

TABLE 6.3  
REGIONAL EMPLOYMENT GROWTH BY SECTOR, 1987-1995

	<u>URBAN</u>	<u>VILLAGE</u>	<u>MARITIME</u>	<u>NORTH SLOPE</u>	<u>ALASKA TOTAL</u>
1987 Basic	43234	1796	16229	3786	65045
1995 Basic	49570	2336	18240	4481	74636
Percent Growth	14.66%	30.07%	12.39%	18.36%	14.75%
1987 Government	67055	8015	12302	1731	89103
1995 Government	66757	7633	11855	1621	87865
Percent Growth	-0.44%	-4.77%	-3.63%	-6.35%	-1.39%
1987 Support	80808	4583	11462	1685	98537
1995 Support	88144	4859	12474	1913	107389
Percent Growth	9.08%	6.02%	8.83%	13.53%	8.98%

SOURCE: MAP APA74R, Goldsmith and Hull, 1988.

Sectoral trends are qualitatively the same across the state; in each region the greatest percentage growth is in basic employment, followed by services. Consistent with model assumptions, government employment declines in all regions. The quantitative effects, however, will be quite different. The decline in government employment will be felt much more in Village than in Urban areas. Not only is the percentage decline greater (4.77 percent as opposed to .44 percent), but also, government's share of Village employment is greater than its share of Urban employment (55 percent and 35 percent). Decreases in government employment total less than two tenths of one percent of all Urban employment, but 2.7 percent of Village employment. Increases in basic employment in the Village region will tend to be concentrated in large projects (for example, the Red Dog Mine, which will employ about 400 people).

#### Employment Growth for Occupations

JOBS program designers need to know not only where employment will grow, but also what types of jobs will be created. Specifically, they need projected employment opportunities for which JOBS participants are qualified or for which they will not require lengthy training. In a broader sense, they need to know what job opportunities will be across a broad range of skills and educational levels to provide long range vocational guidance to program participants. Also, knowledge of

occupational wage rates are important, since the pay in many entry-level jobs is insufficient to remove a family from AFDC.

The Alaska Department of Labor makes employment projections by industry, and translates those into occupational employment forecasts through an industry-occupation matrix. The matrix is based on employer surveys by industry and change factors which account for the expected changes in the occupational mix of an industry's employment in the forecast period due to technological change, structural changes in the industry, and other factors. (These projections are presented in ADOL, Occupational Supply and Demand Information, 1988. These projections, for 1987-1992, are the basis for the specific occupations and occupational group projections in this section. In addition, the state projects average annual openings for each occupation, including openings from growth in the occupation and from replacement of workers leaving the occupation. The regional breakdown provides information for Anchorage, Fairbanks, and all of Alaska.

While the State Department of Labor's employment projections are not the same as the ISER projections, they are quite similar. The State assumes a slightly higher oil price range (\$15 to \$18 per barrel) than ISER, but both assume oil production declines, and that ANWR is not developed in the forecast period. Both assume growth in mining and a decline in state government. The State assumes a new Navy homeport and a new ski resort. Unlike ISER, the state does not include uniformed military personnel or fish harvesters in its projections; when this difference is accounted for, employment totals are similar. Table 6.4 presents the Department of Labor's projections of job openings for major occupational groups.

TABLE 6.4  
AVERAGE ANNUAL JOB OPENINGS, 1987-1992  
ALASKA

<u>OCCUPATIONAL CATEGORY</u>	<u>STATEWIDE</u>	<u>ANCHORAGE</u>	<u>FAIRBANKS</u>
Managers and Officers	544	270	54
Professional and Technical	1488	687	181
Sales	689	412	75
Clerical	822	438	100
Services	1138	540	148
Agriculture and Forestry	92	12	6
Crafts, Operators, and Laborers	1852	534	168
Total	6625	2893	732

SOURCE: Alaska Department of Labor

Program planners should note the absence of fish harvesters from the occupational forecasts used here. Fishing is a major industry from Southeast Alaska through Bristol Bay. Because of its seasonal nature and because living quarters are often provided, many of the geographic barriers to employment for remote village residents are less strong. The fishing industry might provide a significant number of jobs (although they would be seasonal ones) in areas of otherwise sparse employment prospects.

#### Employment Projections by Occupational Characteristics

The State Department of Labor projections by occupations in Table 6.4, grouped into occupational clusters, are useful in a general sense. However, there is no information on employment growth in occupations accessible to JOBS participants. We present information on all projected job openings, and look in greater detail at entry level jobs and at jobs without extensive training or education requirements. Previous analysis of education and work experience of the AFDC population suggests these types of jobs would be appropriate for the JOBS program. The projections provide information on relative employment opportunities for workers of different skill levels, and on the differences between urban (Anchorage and Fairbanks) and non urban (the rest of Alaska) areas.

The State's forecasts can be modified by categorizing the occupations for their education and training requirements. The Department of Labor categorized about 300 of the 466 occupations included in their employment projection according to the GOE System, which rates occupations for general educational development, the length of time for "specific vocational preparation", and physical demands. We added the same information to about 130 more occupations, so that characterized occupations accounted for 95 percent of total wage and salary employment in 1988. We have used these characterizations to group the employment projections by "skill level", to give some idea of the projected growth of employment in occupations relevant to JOBS participants.

In order to produce workable categories for occupational employment projections, we have combined the 18 educational ratings into 4; the nine specific vocational preparation ratings into 5, and the 5 physical demand ratings into 2. In doing this, we evaluated the likely educational and vocational preparation of AFDC recipients and tried to preserve detail in those ranges, while combining categories for which AFDC recipients were unlikely to be qualified. Physical demands were grouped for simplicity into light (sedentary and light) and heavy (medium, heavy and very heavy). Specific criteria for educational ratings are in the Appendix.

The "general educational development" category lists mathematical, linguistic, and reasoning skills needed for successful performance in each occupation. While these skills could be mastered in a variety of ways, the levels used roughly correspond to educational level. We rated each occupation according to its mathematical or linguistic skill rating, whichever was higher, and divided occupations into those requiring less than a high school education, a "basic" high school education, an "academic" high school education, or more than high school. While the

census data does not make a distinction between academic and basic tracks, generally, students who are not planning to go on to college do not take an academic track. Thus, virtually all AFDC recipients will meet the first education category; a substantial number will meet the second; a few the third, and almost none, the highest.

Specific Vocational Preparation reflects the time necessary to master skills specific to an occupation. This time may be spent in vocational education, employer-provided classroom education, apprentice training, or on-the-job training. Occupations were divided into those requiring one month or less preparation; from one to six months; from 6 months to one year; from one year to two years; and more than two years. The first group, 'less than one month', are entry level occupations for which employers often expect to provide the limited training necessary. General jobs skills programs (appearance, punctuality, etc.) can prepare first time workers for these occupations. The next two groups (1 - 6 months and 6 months - 1 year) would require job specific training for most workers with little previous experience. The last two groups (1 - 2 years and more than 2 years) might be appropriate on an individual basis, but would require too much training time to be included in most JOBS training programs.

As Table 6.5 shows, more than half the total job openings are expected in the top two educational and training categories. Nonetheless, there is job growth at lower skilled levels, and lengthy training or educational programs may not be necessary to prepare JOBS participants for a wide variety of openings. One-sixth of all openings need less than a high school education or less than one month's preparation. Two-thirds of anticipated job openings for those with a basic High School education or less, also require less than 6 months training. Fairbanks and Anchorage combined have just over half the total job openings in the state, they have under half the low-skilled job openings. Over 60 percent of the jobs for those without a high school education are located outside of Anchorage and Fairbanks, and over 70 percent of jobs needing no high school and less than 1 month's training. The full list of occupations which meet these criteria are listed in the Appendix 6.3.

JOBS program planners should be aware that not all the openings represent jobs which would pay enough to allow a family to move off of AFDC; many of the occupations requiring minimum education or training receive the minimum wage, are less than full-time, or are seasonal. There are 7 occupations which have more than 100 anticipated openings per year: Fast Food Preparation and Service Workers, General Office Clerks, Laborers, Waiters and Waitresses, Janitors and Cleaners, Teacher Aides, and Cannery Workers. In a report on low wage occupations in the August 1988 edition of Alaska Economic Trends, the Alaska Department of Labor listed all of these jobs except Teacher Aides as paying under \$6 per hour. In 1989, a single parent of two children, working full time, could make \$9.35 per hour before exceeding the gross income standard for AFDC; if this parent's only income disregards were the standard \$75 and \$160 per month for each child's day care expenses, then an hourly wage below \$7.52 would qualify the family for AFDC benefits. Low paying jobs will still reduce AFDC costs by reducing a family's benefit amount; and they may be



worthwhile if they provide the worker with training or experience which enables him or her to move on to a higher paying job.

TABLE 6.5  
AVERAGE ANNUAL JOB OPENINGS BY JOB CHARACTERISTICS, 1988-1992

<u>EDUCATION</u>	<u>LESS THAN H. S.</u>	<u>H. S. BASIC</u>	<u>H. S. ACADEMIC</u>	<u>MORE THAN H. S.</u>	<u>TOTAL</u>
<b>ALASKA</b>					
Training: < 1 month	542	461	0	0	1003
1 - 6 months	281	667	550	0	1498
6 months - 1 year	88	115	239	24	466
1 - 2 years	119	217	246	101	683
more than 2 years	15	456	637	1576	2684
Alaska Total	1045	1916	1672	1701	6334
<b>ANCHORAGE</b>					
Training: < 1 month	119	224	0	0	343
1 - 6 months	110	261	298	0	669
6 months - 1 year	31	54	134	17	236
1 - 2 years	21	68	133	45	267
more than 2 years	5	174	256	794	1229
Anchorage Total	286	781	821	856	2744
<b>FAIRBANKS</b>					
Training: < 1 month	35	57	0	0	92
1 - 6 months	28	68	74	0	170
6 months - 1 year	9	12	27	1	49
1 - 2 years	11	23	33	14	81
more than 2 years	0	50	67	181	298
Fairbanks Total	83	210	201	196	690

NOTE: Includes only those occupations which could be classified.

SOURCE: Alaska Department of Labor Micro OIS

## Community Work Experience

Community Work Experience may be an important part of the JOBS program, especially in areas where jobs are scarce. By putting AFDC recipients to work in community service jobs, the community can receive some value for benefits paid, and the worker can receive a variety of benefits. These include practice in general work skills (such as being on time, and learning to work with co-workers and supervisors), on the job training in a variety of skills and job references when seeking further employment. It is required that CWEP workers not displace regular workers, and it's important that they have worthwhile work to do.

As Alaska's government spending decreases with decreasing oil revenues, the resulting loss of public and semi-public employment may result in a growing potential for a variety of community service jobs throughout the state. Jobs which can no longer be funded by state and local government may still be needed and valuable. The current demand level for these workers would be reflected in the drop in government sector employment from its peak in 1985. Also, the reduction in funding for semi-public agencies which depend on public money for support provides a demand for workers in the Community Work Experience Program; these job cuts would be reflected in declining service sector employment since 1985. Table 6.6 shows the change in employment by census district for government and service sectors between 1985 and 1988.

Negative numbers (employment was higher in 1985) indicate a possible demand for Community Work Experience workers. When there was money available, people in those jobs provided services that are no longer provided; those services could be provided 'free' by JOBS participants. Negative numbers (employment was higher in 1988) mean that government and services continued to grow despite public spending cutbacks. There may still be demand for services not being provided in the current budgets, but it is not evident in these figures.

Most of the public service job demand is in urban areas, and most of that, in Anchorage. The timber and commercial fishing industries have sheltered Maritime Alaska from much of the effects of declining oil revenues, and service and government employment has continued to grow. Village Alaska varies, with some communities having increased and some decreased employment; across the region, employment increased by some 260 jobs.

TABLE 6.6  
REGIONAL SERVICE AND GOVERNMENT EMPLOYMENT  
1985 AND 1988

<u>CENSUS DISTRICT</u>	<u>1985</u>	<u>1988</u>	<u>CHANGE*</u> <u>1985-1988</u>
Urban			
Anchorage	50595	48097	-2498
Fairbanks	14891	14709	-182
Mat - Su	3359	3445	87
Juneau	9010	8504	-506
Ketchikan	2897	2985	88
SE Fairbanks	1028	1020	-8
Urban Total	81780	78760	-3020
Maritime			
Kenai	4726	4944	218
Aleutian	1635	1722	87
Bristol Bay	449	466	17
Dillingham	1028	1073	45
Haines	262	310	49
Kodiak	1815	1938	123
Pr. of Wales	905	820	-85
Sitka	1707	1835	128
Skagway	715	726	10
Valdez	1828	1809	-19
Wrangell	1005	1063	58
Maritime Total	16075	16706	631
Village (+North Slope)			
Bethel	2905	3181	276
NW Arctic	1381	1286	-95
Nome	2006	1900	-106
North Slope	2627	2682	55
Wade Hampton	955	1000	45
Yukon-Koyukuk	1785	1740	-45
Village Total	11659	11789	130

\* Negative changes imply potential for Community Work Experience employment.

SOURCE: Alaska Department of Labor

## Summary

In section 6 we have considered many of the factors to which JOBS program planners will need to respond in their program designs. Most important are the differences in job markets across the state; a statewide program must have sufficient flexibility to respond to these different markets. Urban, Village, and Maritime Alaska differ in their occupational and industry mixes, and in their prospects for the near future. Further, even within these regions, employment opportunities vary enormously according to the size of the village or town. Although much of the total anticipated job growth lies in high skill occupations, there are significant opportunities in occupations requiring only limited education and training. These low skill occupations are in demand in many non-urban areas. In many cases, they may not pay enough to immediately remove a family from AFDC, but they could still decrease AFDC expenditures and provide valuable work experience. Finally, Community Work Experience programs could place AFDC recipients in jobs which are no longer funded as state revenues decline; these potential positions seem to be located largely in urban settings, especially Anchorage.

## VII. CONCLUSION

The previous sections of this paper have presented a description of the current and potential participants in Alaska's AFDC program. The change in the eligibility requirements will expand the program participants by approximately 20 percent. The potential for reducing participation overtime also exists as a result of the JOBS program. The major impact of the JOBS program is most likely to be in reducing the participation of the long-term dependent population.

The type of job training programs established will be influenced by a number of factors. First, all of the major populations we examined are likely to be generally poorly educated and have only limited work experience. This is true of the unemployed parents as well as the target groups. Secondly, the future availability of jobs with low levels of training required will be limited. The skills or levels of training required may place many future jobs outside of the training possibility of the JOBS program. Jobs for which training can be easily provided may not pay enough to remove a family from AFDC. Finally, the lack of job opportunities may be as important for creating long-term dependency as the lack of skills or work experience. This may be especially true in the rural areas of the state. In many cases JOBS program may have to consider relocation incentives to complement the training.

JOBS program training must also be based on the number of participants. Current AFDC population is a good estimate for most groups, however our analysis does suggest that there is considerable turnover in the Young Parent target group. If this is true, the size of this population may be much greater than the number on AFDC at any time. Numbers of participants are also important for the scale of the training program. The target groups are primarily in urban areas. Smaller populations are available for training in the rural regions of the state and participants are scattered through regions and villages within the regions. This spatial distribution provides a challenge for planners.

The success of the Jobs program will depend on the ability of program planners to meet the challenges provided by Alaska's separate job markets. Skills, training, and job opportunities must be matched not only statewide but also on a regional or local level.



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## APPENDIX



TABLE A3.1  
 ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES  
 ESTIMATED SIZE OF TARGET GROUPS 1989

		LONG-TERM RECIPIENTS
TOTAL AFDC POPULATION	7630	
GROUP I: LONG TERM RECIPIENTS	2661	2661
GROUP II: PARENTS LESS THAN 24, NO HIGH SCHOOL	664	108
GROUP III: YOUNGEST CHILD OLDER THAN 16	217	114
TOTAL TARGET POPULATION (NO DOUBLE COUNTING)	3320	

NOTE: GROUP II TOTAL LESS THAN 24 YEARS ADJUSTED BY SHARE OF ALASKA NON-HIGH SCHOOL GRADUATES (50%) FROM TABLE A3.4.

SOURCE: DIVISION OF PUBLIC ASSISTANCE, DEPT. OF HEALTH AND SOCIAL SERVICES, ALASKA, JUNE 1989

TABLE A3.2  
TARGET GROUPS BASED ON FY1987 SAMPLE

	FY 1987	1989
TOTAL AFDC POPULATION	7446	7630
GROUP I	2345	2403
GROUP II	1083	1110
GROUP III	201	206

NOTES: GROUP I DEFINED AS SHARE OF FAMILIES WITH 25 OR MORE MONTHS SINCE  
LAST OPENING.

GROUP II DEFINED AS SHARE OF FEMALE RECIPIENTS UNDER 24 TIMES AK SHARE OF  
NON-HIGH SCHOOL GRADS (50.0%).

GROUP III DEFINED AS SHARE WITH YOUNGEST CHILD 16-18.

ALL BASED ON CHARACTERISTICS AND FINANCIAL CIRCUMSTANCES OF AFDC RECIPIENTS:  
FY 1987.

SOURCE: U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, CHARACTERISTICS AND  
FINANCIAL CIRCUMSTANCES OF AFDC RECIPIENTS FY 1987

TABLE A3.3  
TARGET GROUPS BASED ON CENSUS, 1980

	SHARE OF POPULATION 1980	TARGET POPULATION 1980	ESTIMATED TARGET POPULATION 1989
AFDC POPULATION		6196	7630
GROUP I	19.3%-49.8%	2169	2671
GROUP II	9%-15.5%	759	935
GROUP III	3.9%	242	298

NOTES: GROUP I LOW RANGE: SAMPLE PROPORTION OF LOW-INCOME, FEMALE-HEADED HOUSEHOLDS WITH CHILDREN WHICH HADN'T WORKED SINCE BEFORE 1977;  
HIGH RANGE: PROPORTION WHICH DIDN'T WORK IN 1979.

GROUP II LOW RANGE: SAMPLE PROPORTION OF FEMALE-HEADED HOUSEHOLDS WITH CHILDREN AND HEAD LESS THAN 25 WITHOUT A HIGH SCHOOL DEGREE;  
HIGH RANGE: SHARE FEMALE-HEADED HOUSEHOLDS IN POVERTY WITHOUT HIGH SCHOOL DEGREE

GROUP III: SAMPLE PROPORTION OF FEMALE-HEADED HOUSEHOLDS WITH CHILDREN, IN POVERTY OR WITH TRANSFERS, WITH YOUNGEST CHILD 16-18

SOURCES: 1980 CENSUS OF POPULATION, DETAILED POPULATION CHARACTERISTICS AND ALASKA PUBLIC USE SAMPLE.

TABLE A3.4  
ESTIMATES OF THE EDUCATION LEVEL OF THE TARGET POPULATION

1987  
FEMALES IN POVERTY (%)  
UNITED STATES

	AGE: 15-17	18-21	22-34	35-54	54+
EDUCATION DISTRIBUTION					
LESS THAN 8 YEARS	33	07	13	24	47
SOME HIGH SCHOOL	67	38	25	25	20
HIGH SCHOOL GRAD	01	55	62	51	33

1980  
FEMALE HOUSEHOLDER IN POVERTY (%)  
ALASKA

	AGE: 15-24	25-64	65+
LESS THAN 8 YEARS	05	21	96
SOME HIGH SCHOOL	32	17	00
HIGH SCHOOL GRAD	62	62	04

1980  
FEMALE HOUSEHOLDER WITH TRANSFERS OR LOW INCOME (%)  
ALASKA

AGE:	23 AND UNDER	24 AND OVER
LESS THAN 8 YEARS	17	19
SOME HIGH SCHOOL	33	18
HIGH SCHOOL GRAD	50	64

SOURCES: BUREAU OF THE CENSUS, POVERTY IN THE U.S.: 1987, 1989. ALASKA CENSUS OF POPULATION, 1980, DETAILED POPULATION CHARACTERISTICS. 1980 CENSUS PUBLIC USE SAMPLE, ALASKA.

TABLE A3.5  
WORK EXPERIENCE

1987  
U.S. FEMALES IN POVERTY (%)

AGE:	15-17	18-21	22-34	35-54	54+
WORKED LAST YEAR	25	54	45	41	09
WORKED FULL TIME	04	34	26	23	04
LESS THAN 26 WEEKS	04	19	13	07	01
WORKED PART TIME	21	44	19	18	06
LESS THAN 26 WEEKS	17	27	10	08	02

1980  
ALASKA FEMALE HOUSEHOLDERS  
IN POVERTY (%)

WORKED LAST YEAR	77
WORKED FULL TIME	65
LESS THAN 26 WEEKS	14
WORKED PART TIME	12
LESS THAN 26 WEEKS	05

1980  
ALASKA FEMALE HOUSEHOLDERS WITH  
TRANSFERS OR POVERTY INCOMES (%)

AGE:	24 OR LESS	OLDER THAN 24
WORKED LAST YEAR	65	64
WORKED MORE THAN 26 WEEKS	06	18
WORKED LESS THAN 26 WEEKS	59	46

SOURCES: BUREAU OF THE CENSUS, POVERTY IN THE U.S.: 1987, 1989. ALASKA CENSUS OF POPULATION, 1980, DETAILED POPULATION CHARACTERISTICS. 1980 CENSUS PUBLIC USE SAMPLE, ALASKA.

TABLE A3.6  
 EDUCATION LEVEL BY TIME WITH ASSISTANCE (%)

	MONTHS ON ASSISTANCE		
	1-6	7-24	25+
<b>AGE DISTRIBUTION</b>			
18-24	28	36	37
25-44	28	28	44
45-64	22	27	51
65+	12	20	68
<b>EDUCATION DISTRIBUTION</b>			
LESS THAN 12 YEARS	16	25	59
12 TO 15 YEARS	32	31	38
MORE THAN 15 YEARS	45	24	30

SOURCE: U.S. BUREAU OF CENSUS, CURRENT POPULATION REPORTS, CHARACTERISTICS OF PERSONS RECEIVING BENEFITS FROM MAJOR ASSISTANCE PROGRAMS, 1989



TABLE A3.7  
 WORK EXPERIENCE OF PEOPLE  
 WHO RECEIVED PUBLIC ASSISTANCE  
 OVER A THIRTY TWO MONTH PERIOD (%)

MONTHS WORKED AT FULL TIME JOB	MONTHS RECEIVED PUBLIC ASSISTANCE		
	1-6	7-24	25+
0	34	31	72
1-15	27	36	16
16-31	30	24	10
32	09	09	03

SOURCE: U.S. BUREAU OF CENSUS, CURRENT POPULATION REPORTS, CHARACTERISTICS OF PERSONS RECEIVING BENEFITS FROM MAJOR ASSISTANCE PROGRAMS, 1989

TABLE A4.5  
AFDC PARTICIPATION  
1990 - 2000

SCENARIO I

YEAR	REAL PER					
	CAPITA INCOME	STATE POPULATION	CURRENT RULES	NET OF TRAINING	UNEMPLOYED PARENTS	TOTAL
1989	16499	531332				
1990	16753	530121	7634	0	0	0
1991	17002	531937	7660	6499	1280	7780
1992	17283	536143	7720	6551	1291	7841
1993	17643	542812	7816	6632	1307	7939
1994	17911	550995	7934	6732	1326	8059
1995	18100	558912	8048	6829	1345	8174
1996	18294	566456	8157	6921	1363	8285
1997	18250	573105	8253	7002	1379	8382
1998	18503	581309	8371	7103	1399	8502
1999	18201	591404	8516	7226	1424	8650
2000	18402	601938	8668	7355	1449	8804

SCENARIO II

YEAR	REAL PER					
	CAPITA INCOME	STATE POPULATION	CURRENT RULES	NET OF TRAINING	UNEMPLOYED PARENTS	TOTAL
1989	16499	531332	7630			
1990	16753	530121	7634	7056	0	7056
1991	17002	531937	7689	7107	1400	8507
1992	17283	536143	7757	7169	1412	8582
1993	17643	542812	7803	7212	1421	8633
1994	17911	550995	7946	7344	1447	8791
1995	18100	558912	8150	7533	1484	9017
1996	18294	566456	8350	7718	1520	9238
1997	18250	573105	8736	8074	1591	9665
1998	18503	581309	8909	8235	1622	9857
1999	18201	591404	9604	8876	1749	10625
2000	18402	601938	9876	9128	1798	10926

NOTES: Scenario I assumes a constant AFDC participation rate of .0144, a 60% participation of the Target Groups in training and a success rate of 50%. UP population is assumed to be a constant share of the AFDC population net of training success.

Scenario II uses equation to estimate current rules AFDC participation. It assumes a 60% participation of the Target Groups in training with a success rate of 25%. UP population is assumed to be a constant share of the AFDC population net of training.

Projections of per capita income and state population are from Goldsmith and Hull, 1988.

APPENDIX 6.1

ALASKA'S REGIONS

Region

Census Division

Urban

Anchorage Borough  
Matanuska - Susitna Borough  
Fairbanks North Star Borough  
Southeast Fairbanks  
Juneau Borough  
Ketchikan Gateway Borough

Maritime

Aleutians East Borough  
Aleutian Islands West  
Bristol Bay Borough  
Dillingham  
Kodiak Island Borough  
Kenai Peninsula Borough  
Valdez - Cordova  
Skagway - Yakutat - Angoon  
Haines Borough  
Sitka Borough  
Wrangell - Petersburg  
Prince of Wales - Outer Ketchikan

Village

Bethel Census Area  
Wade Hampton  
Nome  
Northwest Arctic Borough  
Yukon - Koyukuk

North Slope

North Slope Borough

## APPENDIX 6.2

Appendix 6.2 lists the detailed standards for education, specific vocational preparation, and physical demands used to characterize the occupations in part 6.

Each occupation carries a rating of 1 to 6 in Reasoning, Mathematical, and Language Development. Because the Reasoning Development skills do not correspond well to school curricular levels, the educational grouping was based only on Mathematics and Language.

The education categories were defined as follows:

<u>Education Category</u>	<u>"Scale of General Education Development" Level</u>
0	Mathematical and Language Development levels no higher than 2
1	Mathematical and Language Development levels no higher than 3
2	Mathematical and Language Development levels no higher than 4
3	Mathematical or Language Development levels higher than 4

The Following Pages are from the "micro-OIS User's Guide", put out by the Alaska Department of Labor. Further information is also available in a supplement to the Dictionary of Occupational Titles, "Selected Characteristics of Occupations Defined in the Dictionary of Occupational Titles", U.S. Department of Labor, 1981.

## SCALE OF GENERAL EDUCATION DEVELOPMENT (GED)

NUMBER	REASONING DEVELOPMENT	MATHEMATICS DEVELOPMENT	LANGUAGE DEVELOPMENT
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6	<p>Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.</p>	<p><b>Advanced Calculus:</b> Work with limits, continuity, real number systems, mean value theorems, and implicit function theorems.</p> <p><b>Modern Algebra:</b> Apply fundamental concepts of theories of groups, rings, and fields. Work with differential equations, linear algebra, infinite series, advance operations methods, and functions of real and complex variables.</p> <p><b>Statistics:</b> Work with mathematical statistics, mathematical probability and applications, experimental design, statistical inference, and econometrics.</p>	<p><b>Reading:</b> Read literature, book and play reviews, scientific and technical journals, abstracts, financial reports, and legal documents.</p> <p><b>Writing:</b> Write novels, plays, editorials, journals, speeches, manuals, critiques, poetry, and songs.</p> <p><b>Speaking:</b> Conversant in the theory, principles, and methods of effective and persuasive speaking, voice and diction, phonetics, and discussion and debate.</p>
5	<p>Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions in mathematical or diagrammatic form. Deal with several abstract and concrete variables.</p>	<p><b>Algebra:</b> Work with exponents and logarithms, linear equations, quadratic equations, mathematical induction and binomial theorem, and permutations.</p> <p><b>Calculus:</b> Apply concepts of analytic geometry, differentiations and integration of algebraic functions with applications.</p> <p><b>Statistics:</b> Apply mathematical operations to frequency distributions, reliability and validity of tests, normal curve, analysis variance, correlation techniques, chisquare application and sampling theory, and factor analysis.</p>	<p>Same as Level 6.</p>
4	<p>Apply principles of rational systems* to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form.</p>	<p><b>Algebra:</b> Deal with system or real numbers; linear, quadratic, rational, exponential, logarithms, angle and circular functions, and inverse functions; related algebraic solution of equations and inequalities; limits and continuity, and probability and statistical inference.</p> <p><b>Geometry:</b> Deductive axiomatic geometry, plane and solid; and rectangular coordinates.</p> <p><b>Shop Math:</b> Practical application of fractions, percentages, ratio and proportion, mensuration, logarithms, slide rule, practical algebra, geometric construction, and essentials of trigonometry.</p>	<p><b>Reading:</b> Read novels, poems, newspapers, periodicals, journals, manuals, dictionaries, thesauruses, and encyclopedias.</p> <p><b>Writing:</b> Prepare business letters, expositions, summaries, and reports, using prescribe format and conforming to all rules of punctuation, grammar, diction, and style.</p> <p><b>Speaking:</b> Participate in panel discussions, dramatizations, and debates. Speak extemporaneously on a variety of subjects.</p>

\* Examples of rational systems are: bookkeeping, internal combustion engines, electric wiring systems, house building, nursing, farm management, and navigation.

3

Apply commonsense understanding to carry out instructions furnished in written, oral or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.

Compute discount, interest, profit, and loss; commission, markup, and selling price; ratio and proportion, and percentage. Calculate surfaces, volumes, weights, and measures.

**Algebra:**  
Calculate variables and formulas; monomials and polynomials; ration and proportion variables; and square roots and radicals.

**Geometry:**  
Calculate plane and solid figures; circumference, area, and volume. Understand kinds of angles, and properties of pairs of angles.

**Reading:**

Read a variety of novels, magazines, atlases, and encyclopedias. Read safety rules, instructions in the use and maintenance of shop tools and equipment, and methods and procedures in mechanical drawing and layout work.

**Writing:**

Write reports and essays with proper format, punctuation, spelling, and grammar, using all parts of speech.

**Speaking:**

Speak before an audience with poise, voice control, and confidence, using correct English and well-modulated voice.

2

Apply commonsense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables in or from standardized situations.

Add, subtract, multiply, and divide all units of measure. Perform the four operations with like common and decimal fractions. Draw and interpret bar graphs. Perform arithmetic operations involving all American monetary units.

**Reading:**

Passive vocabulary of 5,000-6,000 words. Read at rate of 190-215 words per minute. Read adventure stories and comic books, looking up unfamiliar words in dictionary for meaning, spelling, and pronunciation. Read instructions for assembling model cars and airplanes.

**Writing:**

Write compound and complex sentences, using cursive style, proper end punctuation, and employing adjectives and adverbs.

**Speaking:**

Speak clearly and distinctly with appropriate pauses and emphasis, correct pronunciation, variations in word order, using present, perfect, and future tenses.

1

Apply commonsense understanding to carry out simple one-or-two step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.

Add and subtract two digit numbers. Multiply and divide 10's and 100's by 2, 3, 4, and 5 with coins as part of a dollar. Perform the four basic arithmetic operations with units such as cup, pint, and quart; inch, foot, and yard; and ounce and pound.

**Reading:**

Recognize meaning of 2,500 (two-or-three syllable) words. Read at rate of 95-120 words per minute. Compare similarities and differences between words and between series of numbers.

**Writing:**

Print simple sentences containing subject, verb, and object, and series of numbers, names, and addresses.

**Speaking:**

Speak simple sentences using normal word order, and present and past tenses.

## SPECIFIC VOCATIONAL PREPARATION (SVP)

The idea underlying Specific Vocational Preparation (SVP) is that some amount of time is required to learn the techniques, develop the facility, and acquire the knowledge for acceptable performance in a specific occupation.

Specific Vocational Preparation is defined as follows:

The amount of time required to learn the techniques, acquire the information, and develop the facility needed for average performance in a specific job-worker situation. This training may be acquired in a school, work, military, institutional, or vocational environment. It does not include orientation training required of a fully qualified worker to become accustomed to the special conditions of any new job.

Specific vocational preparation can include:

- a. Vocational education (high school, commercial, or shop technical school, area school, art school, and that part of college training which is organized around a specific vocational objective);
- b. Apprenticeship training (obtained in those jobs offering apprenticeship);
- c. In-plant training (instruction given by the employer in the form of organized classroom study);
- d. On-the-job training (instruction given to learner or trainee on the job by a qualified worker);
- e. Essential experience in other jobs (received in less responsible jobs or other jobs which qualify the individual for a higher grade job).

To express the amount of Specific Vocational Preparation (SVP) required by various jobs, the following scale of time periods has been established.

### Level

- 1 Short demonstration only
- 2 Anything beyond short demonstration up to and including 30 days
- 3 Over 30 days up to and including 3 months
- 4 Over 3 months up to and including 6 months
- 5 Over 6 months up to and including 1 year
- 6 Over 1 year up to and including 2 years
- 7 Over 2 years up to and including 4 years
- 8 Over 4 years up to and including 10 years
- 9 Over 10 years

SVP does not represent just the amount of time required to learn a job. It also involves any amount of practice time needed to apply the learning in order to reach a level of average performance. This driver may "learn how" to operate a bus within a few days but it will take some weeks, perhaps months, before the person develops the competence of average bus driving. It is important to note that SVP is always measured by performance.

## PHYSICAL DEMANDS

Physical Demands are concerned with those physical capacities required of a worker to perform a job. Physical requirements of a job are defined in terms of six physical demand factors. The first factor, strength, is listed for all occupations and has an alphabetic scale as follows:

1. Strength
  - S Sedentary
  - L Light
  - M Medium
  - H Heavy
  - V Very Heavy

The remaining five factors appear only when appropriate for that occupation.

2. Climbing and/or balancing: For climbing, emphasis is placed on agility; for balancing, it is placed on equilibrium.
3. Stooping, kneeling, crouching and/or crawling: The activities in this factor involve full use of lower extremities as well as back muscles.
4. Reaching, handling, fingering and/or feeling.
5. Talking and/or hearing: Talking is important for those activities in which the worker must impart oral information to clients or to the public and in those activities in which they must convey detailed or important spoken instructions to other employees accurately, loudly or quickly. Hearing is important for those activities which require the ability to receive information through oral communication and to make fine discriminations in sound such as when making fine adjustments on running engines.

This factor is not important in activities in which the worker may receive oral instructions only a few times daily and does not give any instructions or engage in other than short conversation.

6. Seeing: Obtaining impressions through the eyes of the shape, size, distance, motion, color or other characteristics of objects. Seeing is important for those activities in which good eyesight is required for production and/or safety of self and others. There are two kinds of activities in which seeing is important: (1) hazardous jobs in which defective seeing would result in injury to self and others; and (2) jobs in which special minute accuracy, such as inspecting and sorting is demanded. When a high degree of visual efficiency is necessary, this factor is important.



### APPENDIX 6.3

Appendix 6.3 lists all the occupations used in the Job Openings projections in part 6. Each occupation is listed by its SOC (Standard Occupational Classification) title and its Cluster Number. The cluster number is the same used by the Alaska Department of Labor for grouping occupations in "Alaska Occupational Supply and Demand - 1988". This listing also shows the average annual openings projected for each occupation through 1992 (the Ann. Openings column) and the educational level required.

As in the text, the educational levels are:

- 0 - Less than High School
- 1 - High School Basic Track
- 2 - High School Academic Track
- 3 - More than High School

The specific skills which were combined into these levels are given in Appendix 6.2.

The occupations are grouped first by the length of Specific Vocational Preparation necessary. Within each of these five groups, they are grouped by the average annual openings expected:

- Expected Annual Openings Group 1: up to 10
- Expected Annual Openings Group 2: between 10 and 50
- Expected Annual Openings Group 3: more than 50

Within each grouping by expected openings, occupations are arranged by cluster number.



Occupations Requiring Less than One Month Training

Cluster	Occupation	Ann. Openings	Educ
<b>** EXPECTED ANNUAL OPENINGS 1</b>			
4660	ORDER CLERKS	7	0
5210	FOOD SERVERS: EX RESTAURANT	1	1
5210	COUNTER ATTENDANTS: LUNCHRM/COFFEE SHOP	5	1
5250	USHERS, LOBBY ATTENDANTS, TICKET TAKERS	2	0
5250	BAGGAGE PORTERS & BELLHOPS	5	1
5250	FLIGHT ATTENDANTS	0	1
5700	CHOKE SETTERS	8	0
5700	FOREST & CONSERVATION WORKERS	10	0
6440	HELPERS: PAINTERS/PAPERHANGERS/PLASTERS	0	0
6500	HELPERS: EXTRACTIVE WORKERS	1	0
6850	LAUNDRY/DRYCLEANING MACH OPERS, EX PRESS	7	1
7400	PACKAGING/FILLING MACH OPERATORS/TENDERS	2	0
8210	DRIVER/SALES WORKERS	0	0
8210	ALL OTHER MOTOR VEHICLE OPERATORS	5	0
8210	BUS DRIVERS	9	0
8720	REFUSE COLLECTORS	10	0
8720	ALL OTHER FREIGHT/STOCK/MTL MOVERS: HAND	9	0
8730	VEHICLE WASHERS & EQUIPMENT CLEANERS	4	0
8730	PARKING LOT ATTENDANTS	3	0
8730	ALL OTHER HAND WORKERS	9	0
8730	HAND PACKERS & PACKAGERS	6	0
9999	ALL OTHER METAL/PLASTIC MCH OPRS/TENDERS	2	1
<b>** Subtotal **</b>			105
<b>** EXPECTED ANNUAL OPENINGS 2</b>			
4740	MESSENGERS	16	1
5210	DINING ROOM/CAFETERIA ATTENDANTS/BAR HLP	11	1
5210	ALL OTHER FOOD SERVICE WORKERS	41	1
5240	ALL OTHER CLEAN/BLDG SVC WKR, EX PRIVATE	14	0
5240	MAIDS & HOUSEKEEPING CLEANERS	49	1
5500	GARDENERS & GROUNDSKEEPERS, EX FARM	12	1
8210	BUS DRIVERS: SCHOOL	16	0
8210	TRUCK DRIVERS: LIGHT--INCL DEL/ROUTE WKR	26	0
8720	STEVEDORES, EX EQUIPMENT OPERATORS	12	0
<b>** Subtotal **</b>			197

** EXPECTED ANNUAL OPENINGS 3		
4630	GENERAL OFFICE CLERKS	103 1
5210	WAITERS & WAITRESSES	114 1
5210	FOOD PREPARATION WORKERS	95 1
5500	CANNERY WORKERS	283 0
8730	AD HELPRS/LABORERS/MATERIAL MOVRS: HAND	106 0

\*\* Subtotal \*\*

701

\*\*\* Total \*\*\*

1003

Occupations Requiring One to Six Months Training

Cluster	Occupation	Ann. Openings	Educ
** EXPECTED ANNUAL OPENINGS 1			
2200	TEACHER AIDES/EDUC ASSISTANTS: CLERICAL	8	1
4300	NEWSPAPER/PHONE/DOOR-TO-DOOR/RELATD SALE	6	1
4300	ALL OTHER SALES REPS/PERSONS: SERVICE	2	2
4690	STATEMENT CLERKS	3	1
4690	LIBRARY ASSISTANTS & BOOKMOBILE DRIVERS	4	1
4710	BILLING, COST & RATE CLERKS	10	1
4710	PAYROLL & TIMEKEEPING CLERKS	9	2
4720	DUPLICATING MACHINE OPERATORS	1	0
4720	ALL OTHER OFFICE MACHINE OPERATORS	2	1
4730	ALL OTHER COMMUNICATIONS EQUIP OPERATORS	1	1
4730	CENTRAL OFFICE OPERATORS	10	1
4730	SWITCHBOARD OPERATORS	10	1
4730	TELEGRAPH & TELETYPE OPERATORS	2	1
4740	POSTAL MAIL CARRIERS	9	1
4740	POSTAL SERVICE CLERKS	10	2
4740	MAIL CLERKS, EX MAIL MACHINE/POSTAL SVC	10	2
4750	ORDER FILLERS: WHOLESALE/RETAIL SALES	4	0
4750	ALL OTHER MATERIAL RECORD/SCHEDUL/DISTR	10	0
4750	METER READERS: UTILITIES	1	0
4750	PROCUREMENT CLERKS	2	1
4750	WEIGHRS/MEASURERS/CHECKERS: RECORDKEEPG	3	1
4750	PRODUCTION CLERKS	7	2
4780	CLAIMS CLERKS: INSURANCE	3	1
4780	ADJUSTMENT CLERKS	3	1
4780	LICENSE CLERKS	1	1
4790	STATISTICAL CLERKS	2	1
4790	DATA ENTRY KEYERS	-7	2
4790	LOAN & CREDIT CLERKS	1	2
5100	BAILIFFS	0	0
5210	COOKS: SHORT ORDER	6	1
5230	ALL OTHER HEALTH SERVICE WORKERS	7	1
5230	AMBUL DRIV/ATTEND, EX EMERG MEDICAL TECH	0	1
5230	PSYCHIATRIC AIDES	2	1
5250	MANICURISTS	1	0
5250	AMUSEMENT & RECREATION ATTENDANTS	9	1
5250	GUIDES	7	2
5500	NURSERY WORKERS	3	1
5500	ANIMAL CARETAKERS, EX FARM	1	1
5700	LOG HANDLING EQUIPMENT OPERATORS	5	0
6130	MACHINERY MAINTENANCE WORKERS	10	1
6150	ELECT HOME APPLIANCE/POWER TOOL REPAIRS	2	1
6170	TIRE REPAIRERS & CHANGERS	4	1
6170	BICYCLE REPAIRERS	2	1
6420	HELPERS: CARPENTERS & RELATED	2	1
6460	HIGHWAY MAINTENANCE WORKERS	1	0
6460	ALL OTHER CONSTRUCTION WKRS, EX HELPERS	9	0
6460	PIPELAYERS	2	1
6500	ROUSTABOUTS	6	0
6840	BINDERY MACHINE OPERATORS	1	1

7400	CRUSHING/GRINDING/BLENDING MACHINE OPERS	5 0
7400	ALL OTHER MACHINE OPERATORS & TENDERS	5 1
7400	COOLING/FREEZING EQUIP OPERATORS/TENDERS	1 1
7720	ASSEMBLRS/FABRICATR, EX MACH/ELEC/PRECIS	3 1
7800	PRODUCTION TESTERS, GRADERS, SORTERS, WEIGH	3 0
8210	TAXI DRIVERS & CHAUFFEURS	2 0
8240	ORDINARY SEAMEN & MARINE OILERS	5 1
8310	HOIST & WINCH OPERATORS	7 0
8310	INDUSTRIAL TRUCK & TRACTOR OPERATORS	8 0
8310	CONVEYOR OPERATORS/TENDERS	3 0
8730	SERVICE STATION ATTENDANTS	8 0
** Subtotal **		258
** EXPECTED ANNUAL OPENINGS 2		
4300	STOCK CLERKS: SALES FLOOR	32 1
4400	ALL OTHER SALES WORKERS	36 2
4620	TYPISTS	35 1
4640	HOTEL DESK CLERKS	39 1
4750	STOCK CLERKS: STOCKRM/WAREHSE/STG YARD	22 1
4780	BILL & ACCOUNT COLLECTORS	11 2
4790	ALL OTHER CLERICAL/ADMIN SUPPORT WORKERS	24 2
5100	CORRECTION OFFICERS & JAILERS	25 0
5210	BARTENDERS	42 1
5230	NURSING AIDES, ORDERLIES & ATTENDANTS	14 1
5250	CHILD CARE WORKERS	30 2
5500	GRADERS & SORTERS: AGRICULTURL PRODUCTS	11 0
5700	FALLERS & BUCKERS	16 0
6460	HELPERS: ALL OTHER CONSTRUCTION TRADES	20 0
8310	EXCAVATING & LOADING MACHINE OPERATORS	33 0
** Subtotal **		390
** EXPECTED ANNUAL OPENINGS 3		
4300	SALESPERSONS: RETAIL	222 2
4300	CASHIERS	114 2
4790	TEACHER AIDES: PARAPROFESSIONAL	141 1
5100	GUARDS & WATCH GUARDS	74 2
5210	COMB FOOD PREP/SERVICE WORKRS: FAST FOOD	101 0
5240	JANITORS/CLEANERS, EX MAIDS/HOUSE CLEANR	130 1
8210	TRUCK DRIVERS: HEAVY OR TRACTOR TRAILER	68 1
** Subtotal **		850
*** Total ***		1498

Occupations Requiring 6 Months to One Year Training

Cluster	Occupation	Ann. Openings	Educ
<b>** EXPECTED ANNUAL OPENINGS 1</b>			
1430	CLAIMS TAKERS: UNEMPLOYMENT BENEFITS	1	2
2500	TECHNICAL ASSISTANTS: LIBRARY	6	1
3970	COMPUTER PROGRAMMER AIDES	1	2
4100	SALES AGENTS: SELECTED BUSINESS SERVICES	9	3
4100	SALES AGENTS: REAL ESTATE	3	3
4620	STENOGRAPHERS	1	2
4630	REAL ESTATE CLERKS	3	1
4640	NEW ACCOUNTS CLERKS	1	2
4660	ADVERTISING CLERKS	1	1
4660	CUSTOMER SERVICE REPS: UTILITIES	6	1
4690	BROKERAGE CLERKS	4	1
4690	FILE CLERKS	-2	2
4690	INSURANCE EXAMINING CLERKS	1	2
4690	INSURANCE POLICY PROCESSING CLERKS	2	2
4710	BILLING, POSTING, CALCULATING MACH OPERS	2	2
4750	TRANSPORTATION AGENTS	5	1
4790	MUNICIPAL CLERKS	1	2
4790	TELLERS	-10	2
5100	ALL OTHER PROTECTIVE SERVICE WORKERS	4	1
5100	DETECTIVES & INVESTIGATORS, EX PUBLIC	1	2
6170	COIN & VENDING MACH SERVICERS/REPAIRERS	2	1
6460	PAVING/SURFACING/TAMPING EQUIP OPERATORS	9	0
6460	PILE DRIVING OPERATORS	1	0
6460	ALL OTHER CONSTRUCTION TRADES WORKERS	3	0
6460	FENCE ERECTORS	0	0
6500	DERRICK OPERATORS: OIL & GAS EXTRACTION	3	0
6840	TYPESETTING/COMPOSING MACHINE OPERATORS	1	0
7400	ALL OTHER MACHINE SETTERS & SET-UP OPERS	2	1
8310	CRANE & TOWER OPERATORS	3	0
<b>** Subtotal **</b>			<b>64</b>
<b>** EXPECTED ANNUAL OPENINGS 2</b>			
2000	SOCIAL SERVICE TECHNICIANS	13	2
4100	SALES AGENTS: ADVERTISING	12	3
4200	SALES REPS, EX SCIENTIFIC PROD & RETAIL	35	2
4300	COUNTER & RENTAL CLERKS	42	2
4300	TRAVEL AGENTS	24	2
4620	TYPISTS: WORD PROCESSING EQUIPMENT	23	2
4640	RECEPTIONISTS	27	1
4640	RESERVATION/TRANSPORTATION TICKET AGENTS	13	2
4690	PERSONNEL CLERKS	11	2
4750	TRAFFIC, SHIPPING & RECEIVING CLERKS	30	1
5210	COOKS: SPECIALTY FAST FOOD	24	0
6500	ALL OTHER EXTRACTIVE WORKERS, EX HELPERS	18	0
7710	WELDERS & CUTTERS	25	1

8310	ALL OTHER TRANS/MTERIAL MOVING EQUIP OPS	15 0
8310	GRADER, DOZER & SCRAPER OPERATORS	11 0
** Subtotal **		323
** EXPECTED ANNUAL OPENINGS 3		
4710	BOOKKEEPING, ACCTG & AUDITING CLERKS	79 2
** Subtotal **		79
*** Total ***		466



Occupations Requiring One to Two Years Training

Cluster	Occupation	Ann. Openings	Educ
** EXPECTED ANNUAL OPENINGS 1			
1640	SURVEYING & MAPPING TECHNICIANS/TECHNOLS	4	3
3030	RESPIRATORY THERAPISTS	1	1
3200	MERCHANDISE DISPLAYERS & WINDOW TRIMMERS	1	1
3260	PHOTOGRAPHIC PROCESSING MACHINE OPERS	-2	2
3600	RADIOLOGIC TECHNICIANS	1	2
3600	EMERGENCY MEDICAL TECHNICIANS	2	2
3600	MEDICAL LAB TECHNICIANS	2	2
3600	DENTAL HYGIENISTS	4	2
3600	RADIOLOGIC TECHNOLOGISTS	1	3
3600	MEDICAL RECORDS TECHNICIANS/TECHNOLS	7	3
3930	BROADCAST TECHNICIANS	1	2
4400	OPTICIANS: DISPENSING & MEASURING	3	2
4610	COMPUTER OPERATORS, EX PERIPHERAL EQUIP	8	1
4610	PERIPHERAL EDP EQUIPMENT OPERATORS	2	1
4620	SECRETARIES: MEDICAL	4	2
4640	INTERVIEWING CLKS, EX PERSONNEL/SOC WELF	2	2
4780	WELFARE ELIGIBILITY WORKERS/INTERVIEWERS	1	2
4790	COURT CLERKS	7	2
5210	HOSTS/HOSTESS: REST/LOUNGE/COFFEE SHOP	7	2
5230	MEDICAL ASSISTANTS	3	2
5230	HOME HEALTH AIDES	6	2
5230	PHYSICAL/CORRECTIVE THERAPY ASSIST/AIDES	2	2
5230	DENTAL ASSISTANTS	4	2
5230	PHARMACY ASSISTANTS	1	2
5500	BUTCHERS & MEAT CUTTERS	3	0
5700	ALL OTHER TIMBER CUTTING & RELATED OCCS	4	1
6110	SMALL ENGINE SPECIALISTS	5	1
6150	ELECTRONIC HOME ENTERTAIN EQUIP REPAIRS	0	1
6170	ELECTRIC METER INSTALLERS/REPAIRERS	4	1
6170	LOCKSMITHS & SAFE REPAIRERS	2	1
6420	TAPERS	1	0
6420	DRYWALL INSTALLERS	3	2
6440	PAINTERS: TRANSPORTATION EQUIPMENT	1	0
6460	INSULATION WORKERS	4	1
6500	EARTH DRILLERS, EX OIL & GAS	6	0
6500	ROTARY DRILL OPERATORS: OIL/GAS EXTRACT	4	1
6830	MACHINISTS: WOOD	1	1
6830	CABINETMAKERS & BENCH CARPENTERS	3	2
6850	CUSTOM TAILORS & SEWERS	4	1
6900	POWR GENRATNG PLANT OPER, EX AUX EQP OPRS	6	1
6900	PETROLEUM PUMP SYSTEM OPERATORS	4	1
6900	POWER DISTRIBUTORS/DISPATCHERS	4	1
6900	ALL OTHER PLANT & SYSTEM OPERATORS	9	1
7400	MOTION PICTURE PROJECTIONISTS	1	0
7800	PRECISION INSPECTORS, TESTERS & GRADERS	1	1

\*\* Subtotal \*\*

142

\*\* EXPECTED ANNUAL OPENINGS 2

1470	CONSTRUCTION & BUILDING INSPECTORS	12	3
1470	COMPLIANCE OFFICRS/ENFORCE INSP,EX CONST	19	3
2900	NURSES: LICENSED PRACTICAL	19	2
3600	ALL OTHER HLTH PROFESSNLS/TECHS/PARAPROF	12	2
4100	SALES AGENTS & PLACERS: INSURANCE	33	2
4300	SALESPERSONS: PARTS	22	2
4780	INSURANCE ADJUSTRS/EXAMINRS/INVESTIGATRS	11	3
5100	FIRE FIGHTERS	11	1
5210	COOKS: INSTITUTIONAL & CAFETERIA	22	0
5240	HOUSEKEEPERS	17	1
5250	BARBERS	15	1
5250	SOCIAL WELFARE SERVICE AIDES	29	3
5500	MEAT/POULTRY/FISH CUTTERS/TRIMERS: HAND	29	1
5500	FIRST LINE SUPV: AG,FOREST,FISH/REL OCCS	12	1
6900	PETROLEUM REFINERY & CONTROL PANEL OPERS	31	0
6900	WATER/LIQUID WASTE TREATMENT PLANT OPERS	11	1
8250	AIRCRAFT PILOTS & FLIGHT ENGINEERS	18	3

\*\* Subtotal \*\*

323

\*\* EXPECTED ANNUAL OPENINGS 3

4620	SECRETARIES	106	2
5250	HAIRDRESSERS/HAIRSTYLISTS/COSMETOLOGIST S	58	1
8310	OPERATING ENGINEERS	54	0

\*\* Subtotal \*\*

218

\*\*\* Total \*\*\*

683

Occupations Requiring More than Two Years Training

Cluster	Occupation	Ann. Openings	Educ
** EXPECTED ANNUAL OPENINGS 1			
1100	INDUSTRIAL PRODUCTION MANAGER	4	2
1100	ENGINEERING/MATH/NATURAL SCIENCE MGRS	10	3
1100	MEDICINE & HEALTH SERVICES MANAGERS	8	3
1100	PUBLIC ADMIN CHIEF EXECES/LEGISLATRS/GEN	6	3
1100	MINING, QUARRYING & OIL/GAS WELL MANAGERS	8	3
1100	PERSONNEL, TRAINING, LABOR REL MANAGERS	10	3
1410	UNDERWRITERS	5	3
1410	CREDIT ANALYSTS	0	3
1410	BUDGET ANALYSTS	5	3
1410	LOAN OFFICERS & COUNSELORS	5	3
1410	ALL OTHER FINANCIAL SPECIALISTS	4	3
1430	EMPLOYMENT INTERVIEWERS	6	3
1440	WHOLESALE & RETAIL BUYERS, EX FARM	10	2
1610	LANDSCAPE ARCHITECTS	0	3
1610	ARCHITECTS, EX LANDSCAPE & MARINE	3	3
1620	MINING ENGINEERS, INCLUDING MINE SAFETY	6	3
1620	INDUSTRIAL ENGINEERS, EX SAFETY	1	3
1620	CHEMICAL ENGINEERS	5	3
1620	SAFETY ENGINEERS, EX MINING	5	3
1640	SURVEYING & MAPPING SCIENTISTS	4	3
1700	ALL OTHER MATHEMATICAL SCIENTISTS	3	3
1700	OPERATIONS/SYS RESEARCHERS, EX COMPUTER	1	3
1700	STATISTICIANS	1	3
1840	ALL OTHER PHYSICAL SCIENTISTS	7	3
1840	CHEMISTS, EX BIOCHEMISTS	1	3
1850	ALL OTHER LIFE SCIENTISTS	2	3
1850	FORESTERS & CONSERVATION SCIENTISTS	4	3
1850	AGRICULTURAL & FOOD SCIENTISTS	3	3
1900	PSYCHOLOGISTS	4	3
1900	ECONOMISTS, INCL MARKET RESEARCH ANALYST	2	3
1900	ALL OTHER SOCIAL SCIENTISTS	5	3
1900	URBAN & REGIONAL PLANNERS	4	3
2000	SOCIAL WORKERS: MEDICAL & PSYCHIATRIC	10	3
2000	CLERGY	9	3
2000	DIRECTORS: RELIGIOUS ACTIVITY & EDUCATN	3	3
2100	ADJUDICATORS/HEARING OFFICRS/JUDICAL REV	1	3
2200	INSTRUCTIONAL COORDINATORS	8	3
2200	TEACHERS: PHYSICS	1	3
2200	TEACHERS: ENGINEERING	1	3
2200	TEACHERS: ART, DRAMA & MUSIC	1	3
2200	TEACHERS: MATHEMATICAL SCIENCES	1	3
2200	TEACHERS: HEALTH SPECIALTIES	1	3
2200	NURSING INSTRUCTORS	1	3
2200	TEACHERS: ENGLISH & FOREIGN LANGUAGE	4	3
2200	GRADUATE ASSISTANTS: TEACHING	8	3
2200	TEACHERS: LIFE SCIENCES	3	3
2200	ALL OTHER POSTSECONDARY TEACHERS	10	3
2200	TEACHERS: COMPUTER SCIENCE	1	3
2200	TEACHERS: SOCIAL SCIENCE	3	3

2400	VOCATIONAL & EDUCATIONAL COUNSELORS	5 3
2500	AUDIO-VISUAL SPECIALISTS	1 1
2500	CURATORS/ARCHIVISTS/MUSEUM TECHS/RESTORS	3 3
2500	LIBRARIANS: PROFESSIONAL	10 3
2800	OPTOMETRISTS	3 3
2900	PHYSICIAN'S ASSISTANTS	1 3
3010	PHARMACISTS	10 3
3020	DIETICIANS & NUTRITIONISTS	2 3
3030	ALL OTHER THERAPISTS	0 3
3030	PHYSICAL THERAPISTS	4 3
3030	OCCUPATIONAL THERAPISTS	2 3
3030	SPEECH PATHOLOGISTS & AUDIOLOGISTS	1 3
3200	JEWELERS & SILVERSMITHS	5 2
3200	INTERIOR DESIGNERS	2 3
3200	DESIGNERS, EX INTERIOR	5 3
3200	PRODUCERS/DIRECTORS/ACTORS/OTH ENTERTAIN	5 3
3200	MUSICIANS: INSTRUMENTAL	2 3
3260	PHOTOGRAPHERS	6 2
3300	REPORTERS & CORRESPONDENTS	5 3
3300	WRITERS & EDITORS	6 3
3300	PUBLIC REL SPECIALISTS/PUBLICITY WRITERS	4 3
3300	BROADCAST NEWS ANALYSTS	0 3
3300	ANNOUNCERS: RADIO & TELEVISION	2 3
3600	MEDICAL LAB TECHNOLOGISTS	4 3
3710	CIVIL ENGINEERING TECHNICIANS/TECHNOLSTS	2 2
3720	DRAFTERS	8 3
3800	ALL OTHER PHYS/LIFE SCI TECHS/TECHNOLS	5 2
3800	CHEMICAL TECHNS/TECHNOLS, EX HEALTH	6 3
3800	PETROLEUM TECHNICIANS/TECHNOLOGISTS	1 3
3960	TITLE EXAMINERS & ABSTRACTORS	2 2
3960	LAW CLERKS	2 3
3970	COMPUTER PROGRAMMERS	4 3
4100	APPRAISERS: REAL ESTATE	6 3
4200	SALES ENGINEERS	3 3
4620	SECRETARIES: LEGAL	8 2
4750	DISPATCHERS: POLICE, FIRE & AMBULANCE	8 2
4780	LOAN INTERVIEWERS	1 3
4780	CREDIT CHECKERS	0 3
5100	FIRE INSPECTORS	1 2
5100	POLICE DETECTIVES	0 2
5100	POLICE PATROL OFFICERS	7 2
5100	FIRE FIGHTING & PREVENTION SUPERVISORS	5 2
5100	POLICE & DETECTIVE SUPERVISORS	7 2
5100	CRIMINAL INVESTIGATORS: FEDERAL	0 3
5220	BAKERS: MANUFACTURING	2 1
6110	MOTORCYCLE REPAIRERS	1 1
6110	AUTOMOTIVE BODY REPAIRERS	4 1
6110	AIRCRAFT ENGINE SPECIALISTS	2 2
6130	MECHS, MACHINRY MAINT: WATER/POWER GENER	5 1
6150	TEL/CABLE TV LINE INSTALLERS & REPAIRERS	0 1
6150	MECHANICS: RADIO	0 1
6150	ELECTRIC MOTOR/TRANSFORMER/REL REPAIRERS	1 1

6150	STATION INSTALLERS/REPAIRERS: TELEPHONE	0	1
6150	CENTRAL OFFICE & PBX	1	1
	INSTALLRS/REPAIRERS		
6150	POWERHOUSE/SUBSTATION/RELAY	0	1
	ELECTRICIANS		
6150	ELECTRONIC REPAIRERS: COMMERCIAL/INDUST	7	2
6160	HEATING, AIR COND & REFRIG MECHS/INSTAL	6	1
6170	OFFICE MACHINE & CASH REGISTER	6	1
	SERVICERS		
6170	MILLWRIGHTS	1	2
6170	ELEVATOR INSTALLERS & REPAIRERS	2	2
6410	BRICK MASONS	1	1
6420	ROOFERS	4	0
6430	ELECTRICAL POWERLINE	7	2
	INSTALLRS/REPAIRERS		
6460	GLAZIERS	3	0
6460	CARPET INSTALLERS	0	1
6460	CONCRETE & TERRAZZO FINISHERS	4	1
6480	STRUCTURAL METAL WORKERS	2	1
6480	SHEET METAL WORKERS	6	2
6500	SERVICE UNIT OPERATORS	8	0
6810	BOILERMAKERS	1	2
6840	LITHOGRAPHY & PHOTOENGRAVING WORKERS	2	1
6840	ALL OTHER PRINTING PRESS OPERATORS	1	1
6850	UPHOLSTERERS	1	1
6900	STATIONARY ENGINEERS	7	1
7300	MACHINISTS	10	1
7300	METAL FABRICATRS: STRUCTURL METAL PRODS	0	1
7400	BOILER OPERATORS: LOW PRESSURE	0	1
8240	CAPTAINS: WATER VESSEL	4	2
8240	MATES: SHIP, BOAT & BARGE	3	2
9000	SUPERVISORS: HELPRS/LABORERS/MATERAL	3	1
	MOV		
9999	PREC DETAIL DESIGN DECORATORS/PAINTERS	0	1
9999	RIGGERS	4	1
9999	VETERINARIANS & VETERINARY INSPECTORS	1	3

\*\* Subtotal \*\*

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\*\* EXPECTED ANNUAL OPENINGS 2

1100	CONSTRUCTION MANAGERS	13	1
1100	POSTMASTERS & MAIL SUPERINTENDENTS	13	2
1100	PURCHASING MANAGERS	12	2
1100	PROPERTY & REAL ESTATE MANAGERS &	46	3
	ADMINS		
1100	COMMUNICATION/TRANSPORTA/UTILITIES MGRS	20	3
1100	EDUCATION ADMINISTRATORS	15	3
1100	ADMINISTRATIVE SERVICES MANAGERS	16	3
1100	MARKETING, ADVERTISING & P R MANAGERS	11	3
1100	FINANCIAL MANAGERS	49	3
1420	MANAGEMENT ANALYSTS	14	3
1430	PERSONNEL/TRAINING/LABOR REL	16	3
	SPECIALISTS		
1440	PURCHASING AGENTS, EX	17	2
	WHOLESALE/RETAI/FARM		
1470	TAX EXAMINERS/COLLECTORS/REVENUE AGENTS	12	3
1620	MECHANICAL ENGINEERS	23	3
1620	ALL OTHER ENGINEERS	13	3

1620	ELECTRICAL & ELECTRONIC ENGINEERS	19	3
1620	CIVIL ENGINEERS	20	3
1620	PETROLEUM ENGINEERS	22	3
1840	GEOLOGISTS/GEOPHYSICISTS/OCEANOGRAPHERS	45	3
1850	BIOLOGICAL SCIENTISTS	29	3
2000	RECREATION WORKERS	19	3
2000	SOCIAL WORKERS, EX MEDICAL/PSYCHIATRIC	16	3
2100	LAWYERS	15	3
2100	JUDGES & MAGISTRATES	15	3
2200	INSTRUCTRS/COACHES: SPORTS/PHYS TRAINING	23	3
2200	INSTRUCTORS: NONVOCATIONAL EDUCATION	25	3
2200	TEACHERS: PRESCHOOL & KINDERGARTEN	16	3
2200	TEACHERS: ELEMENTARY SCHOOL	33	3
2200	TEACHERS: SPECIAL EDUCATION	22	3
2200	TEACHERS: SECONDARY SCHOOL	41	3
2200	TEACHERS: VOCATIONAL EDUCATION/TRAINING	27	3
2600	PHYSICIANS & SURGEONS	17	3
2600	DENTISTS	16	3
3710	ALL OTHER ENGINEERING TECHNICIANS/TECHNOL	11	2
3710	ELECTRICAL/ELECTRONIC ENGINEERING TECHS	22	3
3800	BIOLOGIC/AG/FOOD TECH/TECHNOLS, EX HLTH	13	2
3920	AIRPLANE DISPATCHER/AIR TRAFFIC CONTROLR	15	2
3960	ALL OTHER LEGAL ASSTS/TECHS, EX CLERICAL	11	3
3960	PARALEGAL PERSONNEL	15	3
3970	SYSTEMS ANALYSTS, EDP	12	3
4000	SUPERVISORS & MANAGERS: SALES	45	2
4100	SALES AGENTS: SECURITIES & COMMODITIES	32	3
4200	SALES REPS: SCIENTIFIC PROD EX RETAIL	11	3
4750	DISPATCHERS, EX POLICE/FIRE/AMBULANCE	14	2
5210	FOOD SERVICE & LODGING MANAGERS	33	2
5220	BAKERS: BREAD & PASTRY	11	1
6110	MECHANICS: AUTOMOTIVE	26	1
6110	MECHANICS: MOBILE HEAVY EQUIP, EX ENGINE	30	1
6110	MECHANICS: BUS/TRUCK & DIESEL ENG SPEC	16	1
6110	MECHANICS: AIRCRAFT	28	2
6130	ALL OTHER MACHINERY MAINTENANCE MECHANIC	41	1
6170	INSTRUMENT REPAIRERS	44	2
6420	CARPENTERS	48	2
6430	ELECTRICIANS	42	2
6440	PAINTERS/PAPERHANGERS: CONSTRUCTN/MAINT	39	1
6450	PLUMBERS, PIPEFITTERS & STEAMFITTERS	33	1
9000	SUPERVISORS: MECHANICS/INSTALLERS/REPAIR	32	1
9000	SUPERVISORS: CONSTRUCTIVE WORKERS	35	1
9000	SUPERVISORS: TRANS/MATERIAL MOVING MACHNS	14	1
9000	SUPERVISORS: PRODUCTION/OPERATING WORKRS	18	1
9000	ALL OTHER SUPERVISORS: PROD/CONSTR/MAINT	22	1



** Subtotal **		1423
** EXPECTED ANNUAL OPENINGS 3		
1100	ALL OTHER MANAGERS & ADMINISTRATORS	61 3
1100	GENERAL MANAGERS & TOP EXECUTIVES	209 3
1410	ACCOUNTANTS & AUDITORS	66 3
2200	ALL OTHER TEACHERS & INSTRUCTORS	57 3
2900	NURSES: REGISTERED	63 3
3200	ARTISTS & RELATED WORKERS	60 3
4790	SUPERVISRS/MANAGERS: CLERICAL/ADMIN SUP	76 2
5210	COOKS: RESTAURANT	64 1
6170	MAINTENANCE REPAIRERS: GENERAL UTILITY	123 2
** Subtotal **		779
*** Total ***		2684



