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To determine the state and area impact of occupational shortages in the metal working skills in Idaho and to provide a basis for planning effective vocational education programs, the Idaho Department of Employment conducted a sample survey of 68 employers in the metal working occupations. The occupations were selected from a national list of hard-to-find metal workers and included machinists, welders, tool and die makers, turret and engine lathe operators, sheet metal workers, structural steel workers, and boilermakers. The study, conducted in April 1966, encompasses the nine most populous counties in Idaho including 55 percent of the population. Some general conclusions were: (1) The lack of qualified metal workers has not caused curtailment of operation, (2) More welders will be needed than any of the other survey occupations, (3) The demand for qualified machinists should remain at a high level and (4) Seasonality in the total employment of workers was implied by the survey for the occupations of welders, structural steel workers, sheet metal workers, machinists, and boilermakers. Statistical data is presented in table form and the interview questionnaire is included in the appendix. (DM)

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STATE OF IDAHO

A SURVEY OF DEMAND IN SELECTED METALWORKING OCCUPATIONS FOR MAJOR AREAS OF IDAHO

Department of Employment
H. Fred Garrett, Executive Director
October, 1966

A SURVEY OF DEMAND IN METALWORKING OCCUPATIONS FOR MAJOR AREAS OF IDAHO

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PREFACE

In March, 1966, the Bureau of Employment Security of the U. S. Department of Labor directed the attention of state employment security agencies to the fact that the nation's metalworking industries were experiencing difficulty in obtaining skilled craftsmen in a number of metal-working occupations. Included in the national list of hard-to-find metal workers were machinists, welders, tool-and-die makers, turret and engine lathe operators, structural steel workers, and boilermakers. In some areas of the U. S., the shortage of these workers had become quite serious.

To determine the state and area impact of occupational shortages, if any, in the metal-working skills in Idaho, the Research and Analysis section and local offices of the Idaho Department of Employment conducted a survey of sample employers of workers in the metal-working occupations.

This study was undertaken in an attempt to identify the occupations in which there is a continuing unmet and future anticipated shortage of qualified workers in the metal-working occupations. No attempt was made to offer solutions to present or potential problem areas, but to uncover these areas so that employers, educators, and government agencies might have a sounder basis for solving manpower problems in industries that employ persons in the metal-working occupations in Idaho. A principal objective of this type of research is to provide a basis for planning effective vocational education programs. We hope that the information developed as a result of this skill survey will be of value to those involved in providing qualified workers in metal-working occupations.

Some figures used in this report depend, to a certain degree, on the judgment of the persons making the estimates. Readers of this study should keep in mind that the numerical data in the tables A, B, and C, and the accompanying analysis are not exact values but estimates and calculations based upon the

results of data received from a sample of Idaho employers and from Department of Employment local office activities. The degree of preciseness of the estimates may also vary according to the particular area in the tables that accompany this report.

INTRODUCTION AND METHODOLOGY

The Research and Analysis section of the Department of Employment, State of Idaho prepared survey schedules and selected sample employers for this study. Employers included in the sample contacted by Department of Employment local office personnel were selected from area studies of occupations completed in previous years by the Department of Employment. Employers selected were interviewed in April of 1966 by area labor market analysts and, in some instances, local office representatives. The interviewers made the entries on the questionnaire schedules.

The sample employers were selected on the basis of their having shown significant employment in one or more of the selected occupations in area studies of occupations which had been conducted previously. The employer sample included the major employers of workers in the selected occupations in each area. Survey questionnaire schedules were completed for a total of 68 employers. In several instances, employers selected in the sample were no longer in operation in a specific area, in which case substitutions were made in the sample. Local office personnel in the areas surveyed made the substitutions whenever possible.

Local offices of the Department of Employment, State of Idaho, also were asked to include in the survey any employer omitted from the sample list who, in the opinion of the local office, should be included. In addition, local offices reported information not brought by the survey material that contributed to the knowledge of the current situation or outlook for the occupations selected for the survey.

In Bonneville County, a major employer of workers in the metal-working trades did not furnish survey information in time to be included in the results of this study. The estimates made in this study are less likely to be accurate

for this area, because this large employer was not included in sample responses.

This skill survey was divided into two parts: Part I of the employer interview schedule requested the information for each selected occupation on current employment, expected employment in 60 days and two years, estimated replacement needs for a 12 month period and the number of workers completing training programs in 60 days and two years. Part II of the employer interview schedule requested responses from employers which would yield facts and opinions based upon their past experiences relating to the job market for the selected occupations. Copies of Part I and Part II of the employer interview schedules are attached to this report as exhibit A and exhibit B.

In addition to the schedules mentioned above, the local offices of the Idaho Department of Employment involved in the study analyzed their closed orders in the selected occupations for the calendar year 1965. Part III of the skill survey was prepared by the local offices in Boise, Pocatello, Coeur d'Alene, Lewiston, Caldwell, Nampa, Twin Falls, and Idaho Falls.

In Part II of the survey schedule, employers were asked for the total number of replacements in each of the selected occupations expected to be needed in the next 12 months. Readers of this report should keep in mind that the term, "replacement needs," on the accompanying tables and in the narrative, does not mean the same as turnover. Replacement needs are defined as needs for workers to replace those who are promoted to another occupation, and those who leave the labor force for such reasons as death, retirement, disability, or entry into the Armed Forces. Workers not included in this category are those who leave to accept other jobs, workers separated from the establishment because of reduction in force, inadequate performance on the job, or misconduct.

The scope of this study encompasses the nine most populous counties in Idaho. Using 1960 census population counts, 55 percent of Idaho's population resides in the counties covered in the survey. Sample employers were selected

only in the more populated areas because the total number of Idaho workers in the selected occupations are concentrated in these areas. These nine counties are grouped in the tables accompanying this study in five areas in the state. While the data in this report is not all inclusive in that not all areas of the state are included, the information obtained in the research represents a large proportion of total employment in the occupations and industries studied in Idaho.

Sample data were inflated only for the following occupations: Machinist, welder, and sheet-metal worker. The numerical values given on the tables for structural steel worker, boilermaker, tool-and-die maker, and turret and engine lathe operator are actual totals of responses received from employers. As total employment is much less in these selected survey occupations, a more inclusive sample of employers of these workers was obtained.

An analysis of Part III of this study, which is a review of Department of Employment local office activity in the selected occupations is not included in this report. The reports of the local office order activity in the local office areas surveyed was used only as an aid in making estimates and in analyzing the results of information obtained from employers.

TABLE A
WELDER (D.O.T. CODE 4-85)
ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED, EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Shoshone & Kootenai Counties	40	50	55	9	3	--	--
Nez Perce County	40	40	45	--	1	--	3
Ada & Canyon Counties	240	275	315	5	9	--	14
Twin Falls County	60	70	90	1	4	--	14
Bonneville & Bannock Counties	220	295	295	45	13	--	9
Total All Areas	600	730	800	60	30	0	40

WELDER (4-85)

Of the seven occupations studied in this research, 38 percent of the estimated total number of survey metal workers who were currently employed were welders. This is the largest group of workers in any of the occupations studied. Table A gives a tabular presentation for each of the five areas and the total of all areas for welders.

As expected, the largest number of these workers are employed in the more populated areas of the state. About 40 percent are employed in the Boise, Caldwell, and Nampa areas, and about 36 percent work in the Pocatello, Idaho Falls areas. Ten percent are employed in the Twin Falls area.

Table A indicates a projected all-area total of 200 additional workers needed in this occupation in the next two years. This is an anticipated increase of 33 percent in the two year period and an approximate 16 percent annual increase; however, this estimate could be overstated. There is a possibility that in some instances, sample employers projected an increase based upon the figures that they gave in the "60 day" period of the survey questionnaire, which approaches the seasonal peak in employment of these workers, rather than basing projections on the date when the survey was made.

Survey results would appear to reveal that the employment in Idaho is seasonal for many welders. To a large extent, the estimated increase of 130 welders needed in 60 days from the date that the survey was taken is an indication of the seasonal nature in total employment of welders.

In the two areas of major employment of welders in Idaho, approximately like percentage increases of about 30 percent in projected employment in two years is noted. The largest percentage increase during the two year forecast period was in the South Central Idaho area. There was one employer in each of the three areas mentioned above who forecasts large percentage increases in the

employment of welders during the forecast period. These rather large percentage increases may be somewhat atypical of employers of these workers.

A survey of employers in the Panhandle area subsequent to the interviews conducted for this study has revealed the need for additional workers indicated in Table A in that area has been alleviated. The vacancies for welders shown in the Panhandle area have been filled, which reduced the demand for welders in that area.

As shown on Table A, the largest number of estimated vacancies was in the Bannock & Bonneville County area. The majority of these vacancies resulted from the expansion demands of five separate employers in the metal-worker industries in Southeastern Idaho. Two of these employers planned to double the number of welders that they employed in 60 days. This increase in employment was not seasonal, as the increase was carried through the entire forecast period of two years.

Employers' projected replacement needs are about five percent of the total number of welders employed. As might be expected, the higher replacement needs are in the areas that employ the majority of these workers.

Sixteen of 43 of the sample employers who employ welders in Idaho noted on Part II of the survey schedule that they had experienced difficulty in hiring qualified welders. In only a few instances, however, did employers attempt to recruit these workers in other areas. One Southeastern employer stated that he had recruited welders in Nebraska. A few sample employers declared that they had experienced the difficulty of hiring qualified welders only in the autumn months, which is the seasonal high level in employment in some of the industries covered in the sampling of employers in this study.

Twenty of the 43 sample employers listed welder as a metal-worker occupation in which the employer experience indicates training is most needed to provide better qualified workers. Fifteen of the twenty employers declared that

training in the employer's establishment was most desirable. The remaining five employers preferred training outside their establishments. One employer indicated a training need for heliarc welders only.

Among the occupations employers listed as being new to their establishments or were emerging due to changes in process, automation, or technical developments, included welders trained in special alloy welding, stainless steel welding, exotic metal welding, plastic welding, and heliarc welding.

TABLE B

MACHINIST (D.O.T. CODE 4-75)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Shoshone & Kootenai Counties	48	58	62	7	3	--	2
Nez Perce County	46	46	47	--	1	--	1
Ada & Canyon Counties	130	140	175	2	5	--	1
Twin Falls County	26	26	34	--	--	--	5
Bonneville & Bannock Counties	210	230	232	6	21	--	6
Total All Areas	460	500	550	15	30	0	15

MACHINIST (4-75)

The second largest number of metal workers reported in this study were machinists with about 29 percent of the survey labor force.

Based upon this survey of employers there are an estimated 460 machinists employed in the areas of Idaho surveyed. Approximately 45 percent of this estimated total number of workers were employed in the Idaho Falls, Pocatello area and about 30 percent worked in the Boise, Nampa, and Caldwell areas. The largest number of the remaining machinists are employed in Northern or North Central Idaho where few of the larger employers employ the majority of these workers.

Assements of expected additional needs for machinists in 60 days and two years resulting from the survey forecasts yields estimates of about 40 additional workers needed in 60 days and 90 additional workers needed in two years. The estimated 40 additional workers needed in 60 days appear to result primarily from seasonal employment patterns. Estimates of expansion needs for machinists over the two-year forecast period indicate an approximate ten percent increase per year in additional needs for these workers throughout areas surveyed.

In all areas surveyed, employers revealed needs for additional machinists during the two-year period of time covered in this study. The largest numerical and the largest percent increase forecast by reporting employers was in Boise. The Southwest Idaho increase on Table B could be overstated because of a possible atypical increase of a sample employer's reporting.

An estimated annual replacement need for machinists of 30 per year or seven percent of total estimated number of workers was indicated by this survey.

Thirteen of the 34 sample employers who reported employing machinists indicated on Part II of the survey schedule that they have had difficulty

hiring qualified machinists. Machinist was listed by 12 survey employers as being a metal-worker's occupation in which training is most needed to provide better qualified workers. Nine of these employers stated a preference for training outside the employer's establishments. The remaining four employers indicated a preference in training in their establishments.

Vacancies and projected future needs would appear to reveal a strong demand for machinists which should continue over the forecast period.

TABLE C

SHEET METAL WORKER (D.O.T. CODE 4-80 & 6-94)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED, EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Shoshone & Kootenai Counties	7	13	13	2	0	0	0
Ada & Canyon Counties	117	149	149	2	3	0	0
Twin Falls County	19	19	26	0	0	0	4
Bonneville & Bannock Counties	88	77	92	5	0	0	0
Total All Areas	231	258	280	9	3	0	4

SHEET METAL WORKER (4-80 and 6-94)

Table C gives a tabular presentation of estimated data for the third largest group of workers in this study - sheet metal workers. No estimates were made for the Nez Perce County, because the size of the sample of employers in that area was inadequate to base meaningful estimates.

Approximately 230 sheet metal workers are employed in the areas covered in table C. This total represents about 15 percent of the survey labor force, making sheet metal workers the third largest group of workers covered in this study.

The survey sample included 22 employers who reported employing sheet metal workers. An average of six sheet metal workers for each sample employer was manifested by survey results. The largest employer in the sample employed 20 workers.

A projected estimated need for 50 additional workers in the two-year forecast period was yielded by the survey. This is an approximate annual rate of expansion in this occupation of 11 percent. As mentioned in the previous narrative relating to other occupations, the additional need shown in chart C for the 60 day forecast period of 27 workers is primarily a result of seasonal influences in the employment of workers in some industries.

Only three of the sample employers reported a significant percentage increase in the number of sheet metal workers during the two-year forecast period. One Southwestern Idaho employer projected an increase from five to 15 workers and a Panhandle area employer forecast a rise in employment from five to ten workers in the same period of time. A Southwestern Idaho employer indicated a need to increase his employment of sheet metal workers from three to eight workers.

Employers forecast only a one percent per year replacement need for sheet metal workers.

Five of the 22 sample employers reported difficulty in hiring qualified sheet metal workers. Eight sample employers stated that training is needed to provide better qualified sheet metal workers. The eight employers were equally divided in their preference for training within their establishment and outside their establishment in a vocational school.

TABLE D

STRUCTURAL STEEL WORKER (D.O.T. CODE 4-84)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Ada & Canyon Counties	18	21	26	0	3	3	3
Bonneville & Bannock Counties	123	200	156	0	0	0	0
Total All Areas	141	221	182	0	3	3	3

STRUCTURAL STEEL WORKER (4-84)

The fourth largest number of workers in the survey labor force were structural steel workers. The total number of workers are employed by only five sample employers. Employment estimates and projections on table D for these workers were made only for Southwestern and Eastern Idaho, because the number of sample employers included in survey responses is inadequate to make valid or a meaningful estimate in the other areas of the state.

Much of the employment of these workers is involved in work that is done as a result of construction contracts. Any individual employer's workload and his need for structural steel workers depends upon his being a successful bidder on competitive bidding for construction work. This factor makes it difficult for employers of these workers to forecast their future needs over an extended period of time.

As is true with many occupations in the construction industries, seasonal factors play an important role in total employment of structural steel workers. As shown on table D, there is an increase in the survey labor force from 141 to 221 workers projected in 60 days from the date the survey was taken. This increase can be attributed to the anticipated need for additional structural steel workers resulting from increased seasonal activity in the construction industries that employ these workers. The "60 day" increase equals 57 percent of the total number of structural steel workers currently employed in the survey labor force. While all of the sample employers employing structural steel workers projected increases over the 60 day period, one large employer predicted a 97 percent increase in the 60 day period and a return to his current employment level in two years. All sample employers except this employer also projected increases over the entire forecast period. Responding employers forecast a 29 percent increase over the two-year period which is an

approximate rate of increase of 14 percent per year.

Only five sample employers of structural steel workers in Idaho were respondents in this study. One of these employers declared on part II of the survey that there was a training need for these workers in Idaho. His preference was for training in the employer's establishment.

TABLE E

BOILERMAKER (D.O.T. CODE 4-83)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Shoshone & Kootenai Counties	21	21	21	0	3	1	0
Ada & Canyon Counties	53	86	68	0	0	0	0
Bonneville & Bannock Counties	18	28	28	5	0	10	20
Total All Areas	92	135	117	5	3	11	20

BOILERMAKER (4-83)

Table E gives current employment and projection totals for boilermakers. Values were given only for the Panhandle, Southwestern, and Eastern Idaho areas, for the same reason given in previous narratives for not including all areas in the state.

Six employers in the survey sample reported employing boilermakers. Only two of these employers reported projected increases in employment of boilermakers over the two-year forecast period. One employer predicted a large proportional increase in the "60 day" forecast period and a level of employment equal to his current employment over the two-year forecast period. Responding firms predicted a 27 percent increase in total employment in the two-year forecast period. This represents a need for 25 additional workers in two years.

As shown on table E, employers in Bannock & Bonneville Counties predicted that 20 workers will complete boilermaker training in two years. The current demand for these workers appears to be greatest in Eastern Idaho, where one employer reported five vacancies and a "60 day" predicted increase of 55 percent in employment of boilermakers. His "60 day" level of employment was forecast to continue throughout the entire two-year period.

Two of the six responding employers revealed that they had experienced difficulty in hiring boilermakers, and two employers reported that training is most needed in this occupation to provide better qualified workers. Their preference was for training outside the employer's establishment.

TABLE F

TURRET & ENGINE LATHE OPERATOR (D.O.T. CODE 4-78)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED, EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Shoshone & Kootenai Counties	1	1	1	--	--	--	--
Ada & Canyon Counties	23	23	21	0	0	0	0
Twin Falls County	4	4	5	0	0	0	0
Bonneville & Bannock Counties	7	10	12	0	0	0	0
Total All Areas	35	38	39	0	0	0	0

TURRET AND ENGINE LATHE OPERATOR (4-78)

Table F gives a tabular presentation for data received from sample employers who employ turret and engine lathe operators. The 35 turret and engine lathe operators currently employed in the areas surveyed represent only two percent of the total survey labor force.

The demand for additional workers in this occupation is less than for any other occupation included in this survey. Only four additional workers were needed by sample employers in the two-year forecast period. An expansion need for three of these workers in Eastern Idaho is indicated by the survey. A reduction of two workers is revealed in the two-year forecast period in Southwestern Idaho.

The largest numbers of these workers are employed in Southwestern Idaho. Fourteen turret and engine lathe operators was the largest number of these workers that were employed by any individual employer in the total sample of eight employers. The next largest employer employed seven of these workers.

One of the responding employers reported that there was a training need for workers in this occupation, and that the training would best be held outside the employer's establishment.

TABLE G

TOOL & DIE MAKER (D.O.T. CODE 4-76)

ESTIMATES OF TOTAL EMPLOYMENT BY IDAHO AREA - NUMBER CURRENTLY EMPLOYED EXPECTED EMPLOYMENT IN 60 DAYS AND TWO YEARS, CURRENT VACANCIES, ANNUAL REPLACEMENT NEEDS, AND WORKERS COMPLETING COMPANY TRAINING IN 60 DAYS AND TWO YEARS - APRIL, 1966

AREA	CURRENT EMPLOYMENT	EXPECTED EMPLOYMENT IN		CURRENT VACANCIES	ANNUAL REPLACEMENT NEEDS	WORKERS COMPLETING COMPANY TRAINING	
		60 Days	2 Years			60 Days	2 Years
Total All Areas	17	22	24	6	0	0	1

TOOL AND DIE MAKERS (4-76)

Table G gives a tabular presentation of the results obtained from eleven sample employers who employ tool and die makers. All five areas are represented in the totals of all areas on table G. All areas' totals were not reduced to area values because the confidentiality of information supplied by individual employers might be revealed.

The survey occupation in which any current shortage of qualified workers is the most evident is tool and die maker. While total employment in this occupation in Idaho is very small, there were six vacancies listed by responding employers. In addition, seven additional tool and die makers needed in the two-year forecast period represent a projected increase in employment of these workers of 41 percent.

A total of 17 tool and die makers were currently employed by sample employers. The largest number of these workers employed by any single employer was five. Two employers employed two of these workers, and the remaining eight employers employed only one tool and die maker.

A rather large percentage increase in employment in the "60 day" forecast period was indicated in the survey with a need for five additional workers in that period of time. A total of six current vacancies were listed by employers. The increase from 17 to 24 of these workers needed in the two-year forecast period is a 41 percent increase over the total current employment.

Three of the 11 employers stated that they had had difficulty in the past in hiring qualified tool and die makers. Five of the 11 employers indicated that training was most needed in this occupation to provide better qualified workers. Three employers preferred training in a vocational school, and two employers preferred training in their establishment.

Survey results would appear to reveal that qualified tool and die makers were in short supply in Idaho and that the demand for trained workers should continue to be strong for the entire forecast period.

SUMMARY AND CONCLUSIONS

The objectives of this research have been to identify areas in which there is a shortage of qualified workers in certain metal-working occupations and to project future needs of employers of these workers. In general, we must conclude that while there are areas within Idaho where the demand for many metal-workers is strong, any shortage of workers in the selected metal-working occupations has not yet become critical. This Department of Employment survey did not disclose any situation in which production, output, or plans for future growth have been curtailed because of the lack of qualified metal workers in the survey occupations.

This study has indicated, however, that there will be a continuing need for additional qualified metal workers to satisfy the expansion needs of employers and industries in many areas of Idaho. Employers' replacement needs are a factor in the total demand for workers in the metal-working trades, but the projected expansion of firms in the industries that hire these workers is the dominant factor in the forecasted need for additional metal workers.

During the forecast period survey results indicate that more welders will be needed than any of the other survey occupations. Current demand and replacement needs, as well as expansion needs, are comparatively high for this occupation. The results of part II of the survey strengthen the assumption that there is a shortage of qualified welders, particularly in Southern Idaho. The degree to which any current shortage is due to an insufficiency in the quality of workers, rather than the quantity of workers available, is undetermined by the study, but there does appear to be an indication of both in survey results. The survey was revealing in that there appeared to be a shortage of welders trained in the more specialized tasks included in the welding category, such as heliarc welding, stainless steel welding, and the welding of exotic metals. The extent of the shortage of welders trained in these

specialties was not covered in this survey. The survey does disclose, however, that the demand for workers trained in the specialized and more technical aspects of the occupation is high and additional training in these technical areas will be of significant value to employers in future months.

The demand for qualified machinists in Idaho should remain at a high level. Most additional needs for machinists result from employers' expansion plans. There is, however, a higher ratio of replacement needed for machinists than for other survey occupations. The future need for machinists is primarily in Southwestern and Southeastern Idaho. Expansion demands are also relatively high in the Panhandle area of Idaho. The fact that 34 percent of the survey employers who employ machinists reported that they have had difficulty in hiring qualified machinists indicates some current scarcity of these workers in Idaho. The number of current vacancies strengthens this assumption.

Some seasonality in the total employment of workers is implied by the survey in the following metal-working occupations: welder, structural steel worker, sheet-metal worker, machinist, and boilermaker. Seasonal factors do not appear to be as significant in the employment of turret and engine lathe operators and tool and die makers. Seasonal employment patterns are probably more pronounced for structural steel workers as their work is allied now with the construction industries which have seasonal peaks in employment in Idaho.

A P P E N D I X

CONFIDENTIAL

EXHIBIT A

CONFIDENTIAL

DEPARTMENT OF EMPLOYMENT, STATE OF IDAHO

EMPLOYER INTERVIEW SCHEDULE - METALWORKING OCCUPATIONS - SKILL SURVEY

PART I

Employer Name _____
Address _____
_____
_____
SIC _____ Date _____

Interviewer _____

DOT Code	Occupation	Current Employment	Expected Employment in		Current Vacancies	Estimated No. of Workers Needed for Replacement 1/ 12 Month Period	Workers Completing Company Training Programs or Promoted into Occupation in: 2/	
			60 Days	2 Years			60 Days	2 Years
1	2	3	4	5	6	7	8	9
4-75	Machinist							
4-76	Tool and Die Maker							
4-78	Turret Lathe & Engine Lathe							
4-83	Boilermakers							
4-84	Structural Steel Workers							
4-85	Welders							
4-80 6-94	Sheet Metal Workers							
	Other							

1/ Replacement needs are workers needed to replace those who are promoted to another occupation and those who leave the labor force for reasons such as death, retirement, disability, or entry into the Armed Forces. Enter in this column the number of such replacements which are expected to occur in the next 12 months. If this is not feasible, enter figure for those replacements occurring in the past 12 months. Do not include workers who leave to seek or accept other jobs, or workers separated from the establishment because of reduction in force, inadequate performance on the job, or misconduct.

2/ Combine the number of workers expected to complete company training programs and the number of workers expected to be promoted into the occupation from other jobs in the company in the 60 days and 2 years and enter in the appropriate columns.

EXHIBIT B

DEPARTMENT OF EMPLOYMENT, STATE OF IDAHO

EMPLOYER INTERVIEW SCHEDULE - METALWORKING OCCUPATIONS - SKILL SURVEY

PART II

Employer Name _____
Address _____
_____
_____
SIC _____ Date _____

1. How does this employer generally fill vacancies in these occupations?
   A. Hiring experienced workers _____
   B. Training new inexperienced workers _____
   C. Upgrading present employees by training _____
   D. Other _____ Explain _____
   _____

2. What are employer minimum hiring requirements, if any?
   A. Age _____
   B. Education _____
   C. Experience _____
   D. Other _____
   _____

3. Are these occupations covered by labor agreements in employer establishment?
   Yes _____ No _____

4. Please list metalworking occupations for which employer experience indicates training is most needed to provide better qualified workers:

In employer establishment (on-the-job-training including apprenticeship)	Outside employer establishment (Vocational and other schools)
_____	_____
_____	_____
_____	_____

5. For which occupations has this employer had difficulty in hiring qualified workers? To what extent has it been necessary to recruit workers from outside the area for surveyed occupations? _____
   _____
   _____
   _____
   _____

6. What occupations that are new to employer establishment or area are emerging due to changes in process, automation, or technological developments? Current employment in such occupations may be insignificant, or non-existent, but growth potential is important. _____
   _____
   _____
   _____

ADDENDUM - A SURVEY OF DEMAND IN SELECTED METALWORKING OCCUPATIONS FOR MAJOR AREAS OF IDAHO

Department of Employment
October, 1966

COMPARISON OF DATA IN THE SURVEY OF METALWORKING OCCUPATIONS AND AREA SURVEYS OF OCCUPATIONS

The area survey of occupations, which was the basis for selection of the sample, covers all occupations of nonagricultural employers in an area, except for domestic workers. In these surveys the employer enters on a blank form the occupational titles of his workers and the number employed. These forms are coded by Employment Security personnel, based upon the information available from the employer schedule. The form used in this survey of metalworking occupations asks information for only selected occupations which are pre-listed.

Comparisons of employment in an occupation as shown in the previous survey of occupations and in this metalworking survey are made difficult because of differences in reporting under the two methods. Also, in some areas, the occupational surveys occurred in different months of the year.

In the welder occupation, the April, 1965 survey of Ada and Canyon counties showed 196 workers in the occupation, whereas the metalworking survey in April, 1966 when expanded gives an estimated 240 in the occupation. The one-year increase prorating the three-year projection in 1965 would yield an estimated 221 for the date of the survey. The expected projected increase in the two surveys is very close. The 1965 survey gives a 25 per year increase, whereas the 1966 survey gives 38 per year over a two-year period. The 1963 area occupational surveys in Bonneville and Bannock counties showed 144 welders. The 1966 survey shows 220. If employment had increased in the occupation at the projected rate of increase in the 196 survey, it would have increased to 198. Results from both surveys are very close in other areas of the state for this occupation.

In looking at machinists we find 92 machinists in Ada and Canyon counties in 1965, whereas the 1966 survey shows 130. Several firms included in the sample showed employment of machinists in 1966 that did not report machinists in the occupational survey of 1965. The fact that none were reported in the 1965 survey may have been due to a difference in the terminology in plant title and the Dictionary of Occupational Titles code structure. The metalworking survey where occupations are listed specifically probably results in more complete reporting and in some cases where a job consists of working in two or more occupations, employment may be shown in the listed occupation when it is really a minor part of the employee's work. A comparison of machinists reported in Bonneville and Bannock counties would indicate considerable decline between 1963 and 1966. The 1965 reported 327 and this year's survey 210. As indicated in the methodology section of this report, the sample for Eastern Idaho was handicapped by non-response of one of the major employers. However, decreases have evidently occurred in this occupation in this area. Two major employers reported almost 100 fewer in the most recent survey. In addition, in working with the sample employers it was evident that almost 50 mechanics were erroneously reported in the machinist occupation in the Bannock County occupational survey in 1963.

A decline is indicated by a comparison of sheet metal workers reported in Ada and Canyon counties from 1965 to 1966. A review of sample employers discloses that some overall decline actually occurred. This may be due to different seasonal patterns in the two years or a decline in construction levels. The projected rate of employment expansion, however, is almost the same in both surveys.

It should be emphasized that the sample was not expanded for the structural steel worker, table D of the survey of metalworking occupations. Fifty-five workers in these occupations were shown for Ada and Canyon counties in

the occupational survey of 1965 and only 18 in 1966 in the sample employers. There had been a decline of employment in the firm sample. However, since the table is not expanded the decline is not the magnitude of the comparison for the two years.