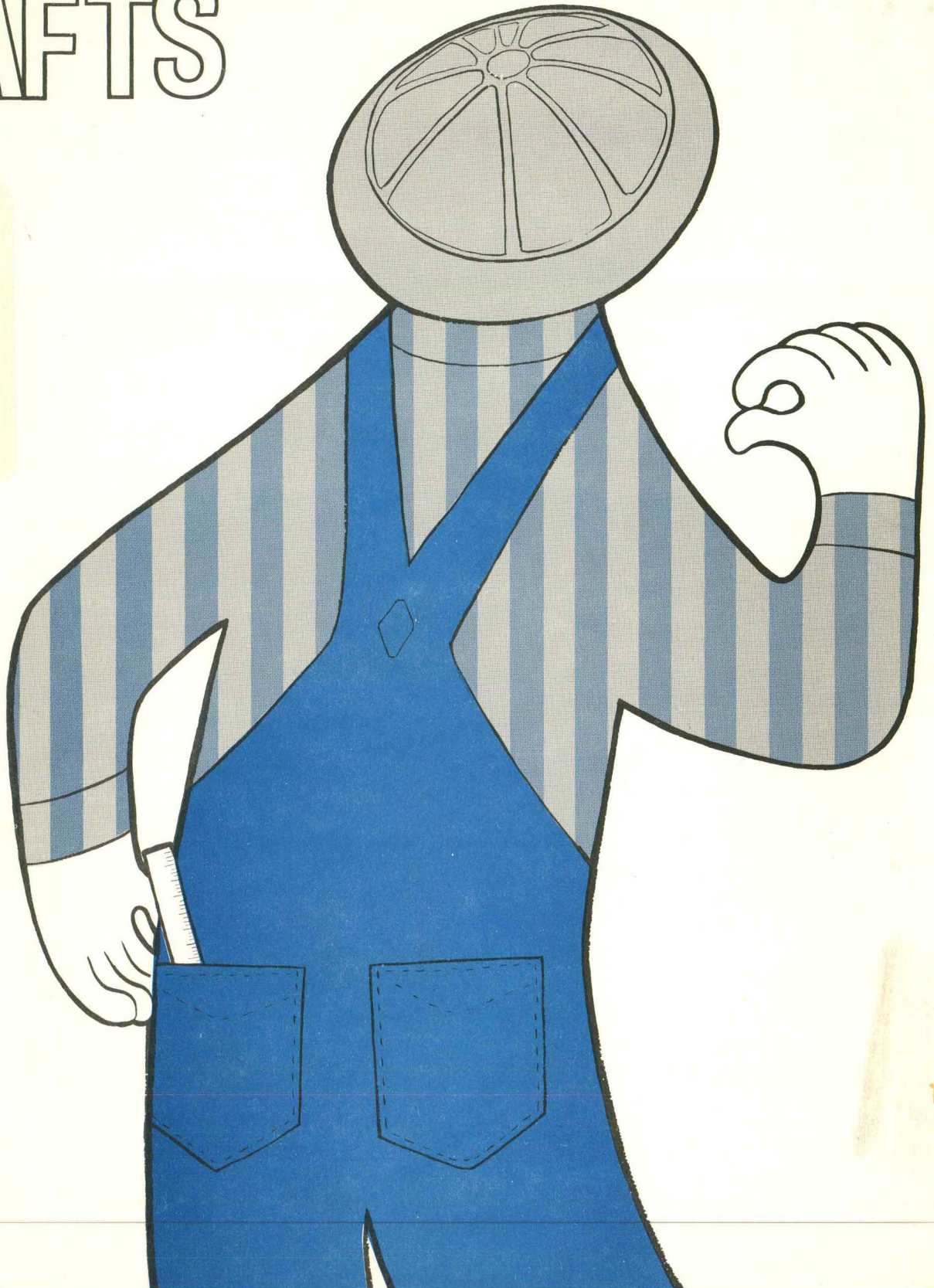


SELECTED CONSTRUCTION CRAFTS

LIBRARY

Iowa Employment Security Commission
1000 East Grand Avenue
Des Moines, Iowa 50319

HF
5382.5
.U6
18
1967



331.7
low

LIBRARY

Iowa Employment Security Commission
1000 East Grand Avenue
Des Moines, Iowa 50319

CAREERS IN
CONSTRUCTION
CRAFTS

Occupational Information Materials
Developed by
Iowa Employment Security Commission

The information contained in this booklet represents a slight departure from our previous Job Guide Series publications; since it includes a narrative report of the Manpower Survey of contractor-members of the Master Builders of Iowa. While this survey was conducted primarily to assess the feasibility of establishing training programs for construction crafts in Area Vocational-Technical schools; the survey results should be of interest to counselors and other individuals concerned with manpower and guidance problems.

Information for the individual Job Guides was obtained through the job analysis efforts of Occupational Analyst in the Cedar Rapids, Davenport and Dubuque local offices. Job variables and other localized data were furnished by local offices in Des Moines, Sioux City, and Waterloo.

We wish to acknowledge the valuable assistance and cooperation received from the offices and members of MBI, other cooperating contractors, Vocational Education officials, and Employment Service staff-members throughout the State.

Additional copies of the booklet and individual Job Guide leaflets may be requested from any local office of the Iowa State Employment Service.

March, 1967

NOTE TO COUNSELORS

These Job Guides have been prepared for the sole purpose of providing general job information about the occupations represented. Since the Guides are statewide in scope, they indicate a composite job picture, and do not represent any specific job with an individual employer. Also, the wages and hours indicated for the various areas represent an average or range of variance. Individual jobs may vary considerably from this range.

One of our main objectives in preparing these materials is to provide accurate information so that job-seekers can compare the short-run and long-run advantages of alternative work fields before choosing a specific occupational goal.

Each individual Guide indicates the Worker Trait Group (from the 3rd Edition of the Dictionary of Occupational Titles) into which this occupation falls. This will help the counselor in assessing the individual's qualifications, and in relating these to the Worker Trait requirements of various jobs. Each Worker Trait Group lists related jobs with the same level of trait requirements. The Training Manual for the 3rd Edition of the DOT thoroughly explains the Worker Trait Groupings, and discusses how this concept can be used in classification and counseling.

This series of Guides represents one step of a continuing occupational information project. All the Guides will be produced on an occupational series basis--with loose-leaf Guides available for individual distribution to counselees; while the complete booklet (including a narrative discussion of the industry and its trends) is designed for use by counselors.

The Guides will be reviewed periodically and revised to insure current, accurate information.

MANPOWER SURVEY FOR SELECTED CONSTRUCTION CRAFTS

NARRATIVE COMMENTS

I. Brief Description of Survey

- A. This survey was a cooperative effort, jointly planned and sponsored by the State Department of Public Instruction, Division of Vocational Education, Master Builders of Iowa, and the Iowa Employment Security Commission. Primarily, the survey was concerned with assessing the extent of need for additional workers in six construction crafts occupations (Brick Masons, Carpenters, Operating Engineers, Iron Workers, Cement Finishers, and Teamsters). Survey results were to be interpreted on an area basis, distributed according to the sixteen merged areas which were recently established as part of the Area Vocational-Technical School system in Iowa—in order to determine the feasibility of developing pre-apprenticeship training courses in these crafts at some of the area schools. Since Master Builders contractor-members comprise 80-90% of the hiring in these crafts in commercial construction in Iowa, their manpower situation should accurately reflect the total picture.

II. Methodology of Survey

- A. Type of Survey: Personal interview, using attached survey questionnaire. All interviews conducted by trained Employment Service personnel. Only five E.S. staff-members participated. Labor Market Economists from the Cedar Rapids, Davenport, and Dubuque local offices contacted Master Builder member-contractors in their respective areas. Contractors in the remainder of the state were contacted by Mr. George Lawry and Mr. Lee Crawford, staff specialists from the administrative office of the Iowa Employment Security Commission.
- B. Only those contractors who are members of Master Builders of Iowa were contacted.
- C. Each MBI member received an explanatory letter from Mr. Dick Toon, Administrative Assistant of the MBI organization, setting out the objectives of the survey, and soliciting member support. Each E.S. survey interviewer also carried a "bearer" letter, identifying him as official survey personnel.
- D. Whenever possible, owners or administrators of the firms were contacted. In the majority of cases, the survey form was completed on the spot. However, it was necessary to leave a few questionnaires with employers—to be completed at a more convenient time and subsequently returned by mail.
- E. Questions pertaining to manpower needs were restricted to current and immediate past labor supply conditions. Employers were not asked to predict future needs; since this would involve too many uncontrollable variables.

- F. After a reasonable length of time, follow-up letters were sent to firms where questionnaires had been left for subsequent completion, but had not been returned.
- G. In arriving at an estimate of additional workers needed, contractors were asked to consider only the manpower needs for the projects on which they actually worked—rather than to speculate on future needs, which would be influenced by factors beyond their knowledge or control.
- H. The "average strength" response represented the employer's normal workforce for each craft during the working season.

III. Limitations of Survey

- A. Only those contractors who were active members of the Master Builders of Iowa were contacted.
- B. No subcontractors were successfully contacted.
- C. Only a relatively few Homebuilder Members were contacted—since it was discovered that almost all Homebuilder contractors subcontracted all work, except for an occasional contractor with a very small crew of carpenters.

IV. Extent of Response

- A. From 111 active MBI members, 94 completed the questionnaire—comprising a total response of approximately 85% (although the official membership listing indicated 115 members; 2 had gone out of business; 1 operated in Nebraska; and 1 had no employment).
- B. Of the non-respondents, 9 contractors did not return survey forms which had been left with them; and 8 firms could not be contacted.

V. Comments on Specific Shortage Skills

- A. Of the 6 crafts surveyed, Brick Masons and Carpenters appeared to be in greatest demand.
- B. Many contractors (both union and non-union) report considerable difficulty in finding sufficient number of qualified Iron Workers. This situation is particularly evident in Southeast Iowa; where many permit holders and card-carrying Iron Workers have had almost no training or experience. Apparently, no Iron Worker apprenticeship program presently exists in most areas of the state.
- C. Many contractors reported that they had curtailed their bidding because of the severe shortage of skilled craftsmen.

- D. In addition to the crafts covered in the survey, contractors reported that shortages of related craftsmen, such as Plumbers and Sheet-Metal Workers, had substantially slowed progress on many building projects.
- E. Non-union contractors often use various combinations of skills. In some instances, Carpenters also work as Cement Finishers, Iron Workers, or Operating Engineers. Other contractors use their laborers as truck drivers, operators, and/or Iron Workers.
- F. In non-union areas, apprenticeship is often informal, and consists primarily of on-the-job training. In many of these establishments, practically all laborers are considered to be potential craftsmen, and are assigned widely diversified tasks to perform as part of the on-the-job training process.

VI. Interpretation of Survey Results

- A. Results were developed into two formats:
 - 1. Complete spreadsheets, distributing the results according to Merged Areas accompanied by statewide totals. These spreadsheets will be sent to the area vocational schools, and other parties directly concerned with training needs in specific areas.
 - 2. Statewide totals only, giving the composite picture revealed by the survey. This information, plus all narrative comments, will be distributed to guidance counselors and other involved parties interested in the overall construction crafts manpower picture.
- B. The total tabulation (spreadsheets and state totals) encompasses 5 pages, with 3 to 4 areas per page. Each area (and the statewide compilation) is further divided into union and non-union respondents. The total number of respondents and the number of non-union employers is shown for each area and for the state as a whole.
- C. Each page (as well as the state tabulation) is divided into four sections (Tables 1-4), corresponding with the questions on the survey form. Survey Questions No. 3 and No. 4 were combined in Table 3 of the tabulations.
- D. Explanation and discussion of each table:
 - 1. Table #1 - Indicates the average number of workers, by occupations, which responding firms employed during the 3-year period (1964, 1965, and 1966) covered by the survey. Statewide totals indicate a rather steady expansion in numbers of workers for most occupations. Some of the occupations, such as Brick Mason and Cement Finisher, show a very slight growth, or even a slight decline—due to the fact that an ever-increasing number of contractors are subcontracting all, or a major portion, of their brick masonry

and cement finishing work; since they could not find enough qualified workers to maintain their own crews. Thirty-three contractors reported that they had subcontracted all or most of their brick masonry work during 1966.

2. Table #2 - Reflects the "yes" and "no" responses of employers who were asked whether they would have hired additional craftsmen in the listed trades (had they been available) during each of the three years. The definite trend toward more "yes" answers for 1965 and especially 1966 is readily evident from the tables—emphasizing the marked increase in the worker shortage during the past two years. Employers were also given the alternative response of "don't know" besides the direct affirmative and negative answers; but these responses were not tabulated, since they would make no difference in the final interpretation. Accordingly, the sum of "yes" and "no" answers do not necessarily coincide with the total number of respondents.
3. Table #3 - Encompasses three entries for each occupation: (a) the total number of craftsmen employed during 1966; (b) the number of full-time workers (10 months or more); and (c) the number of additional workers the employers would have hired if the workers had been available. As previously stated, this "additional need" figure was based solely on work which the employer actually performed—and did not involve speculations on other projects which might have been considered had sufficient workers been available. This table indicates that the two occupational areas of greatest shortage are Brick Masons and Carpenters (333 additional Brick Masons, 539 additional Carpenters needed). All other crafts indicate a definite need for a significant number of additional workers except the occupation of Teamster. With a statewide need for only 9 additional construction Teamsters, this occupational area would not seem conducive to any type of training program. One further comment—the relatively large number of less than full-time workers, reflects two significant factors: (a) There is presently a substantial number of "floater" craftsmen, drifting from job to job, seeking more overtime or longer work, and (2) construction work continually fluctuates as contracts terminate and workers shift. Most construction craftsmen now work full time, although they may work for several different employers.
4. Table #4 - Indicates the number of apprentices actually employed by firms covered by this survey, and the number of apprentices they would have employed had they been available. In most instances, the employers could have used many additional apprentices in most of the crafts involved. In non-union areas, as previously mentioned, this "apprenticeship" is often informal in nature, and refers principally to trainees in those crafts.

VII. Summary

Any interpretation of the survey results would indicate a marked shortage of workers in most of the occupations surveyed. This shortage affects both union and non-union employers, and occurs in varying degrees throughout the state. Since this survey was limited to contractors who were members of Master Builders of Iowa (primarily commercial projects contractors) it does not reflect shortages affecting subcontractors, other types of building contractors, or out-of-state contractors who are competing for the same short supply of craftsmen. An additional affecting factor is the increasingly large number of construction craftsmen who are going into manufacturing jobs—because of more stable employment in one locality, and attractive fringe benefits.

Obviously, a significant shortage of skilled craftsmen exists in at least 5 of the 6 occupations surveyed (excluding Teamsters). One alternative for alleviating the shortage would be the establishment of meaningful preparatory training programs—to impart basic skills and essential related training needed as a foundation to further experience and training in these crafts.

CONFIDENTIAL INTERVIEW SURVEY OF CONSTRUCTION INDUSTRY

BY IOWA STATE EMPLOYMENT SERVICE

Firm Name _____

City _____

Person Interviewed _____

Date of Interview _____

Interviewer _____

1. What was your average strength (number of employees) in each of the following occupations for each year shown?

	1964	1965	1966
Brick Masons	_____	_____	_____
Carpenters	_____	_____	_____
Operating Engineers	_____	_____	_____
Iron Workers	_____	_____	_____
Cement Finishers	_____	_____	_____
Teamsters	_____	_____	_____

2. Would you have employed more Craftsmen, if they had been available, to meet the construction work on which you were a successful bidder for each year shown?

	1964			1965			1966		
	Yes	No	D.K.	Yes	No	D.K.	Yes	No	D.K.
Brick Masons	___	___	___	___	___	___	___	___	___
Carpenters	___	___	___	___	___	___	___	___	___
Operating Engineers	___	___	___	___	___	___	___	___	___
Iron Workers	___	___	___	___	___	___	___	___	___
Cement Finishers	___	___	___	___	___	___	___	___	___
Teamsters	___	___	___	___	___	___	___	___	___

3. During 1966 how many Craftsmen did you employ in each of the following occupations? Indicate the number of Craftsmen employed for each of the periods shown.

	Total	10-12 Months	Less than 10 Months
Brick Masons	_____	_____	_____
Carpenters	_____	_____	_____
Operating Engineers	_____	_____	_____
Iron Workers	_____	_____	_____
Cement Finishers	_____	_____	_____
Teamsters	_____	_____	_____

Interviewer's Note: If the "Less than 10 Months" entry seems high in comparison with the "10-12 Months" entry, ask the employer for explanation, e.g., unusual contract, job floaters, etc.

4. If Craftsmen had been available in each of the listed occupations, how many additional workers would you have employed to meet construction work on which you were the successful bidder for 1966?

Additional Needed

Brick Masons	_____
Carpenters	_____
Operating Engineers	_____
Iron Workers	_____
Cement Finishers	_____
Teamsters	_____

5. For each of the occupations below indicate the number of apprentices you actually employed and the number you would have employed had they been available during 1966.

	Actually Employed	Would Have Employed
Brick Masons	_____	_____
Carpenters	_____	_____
Operating Engineers	_____	_____
Iron Workers	_____	_____
Cement Finishers	_____	_____
Teamsters	_____	_____

MANPOWER SURVEY FOR SELECTED CONSTRUCTION CRAFTS

M. B. I. Contractors

STATE TOTALS

TOTAL - 94

NON-UNION - 39

Table #1	64		65		66		64		65		66	
Brick Masons	485		490		526		172		160		162	
Carpenters	1,291		1,468		1,598		366		371		387	
Operating Engineers	178		186		202		37		38		38	
Iron Workers	342		397		398		39		31		29	
Cement Finishers	308		292		294		110		105		98	
Teamsters	118		129		147		25		27		25	

Table #2	64		65		66		64		65		66	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Brick Masons	33	42	42	40	58	28	13	20	19	16	24	13
Carpenters	34	40	52	30	68	18	17	12	25	8	31	5
Operating Engineers	11	66	13	67	15	68	4	29	4	29	6	28
Iron Workers	11	68	18	62	28	57	1	31	4	30	7	29
Cement Finishers	29	52	39	47	49	37	11	23	15	20	20	14
Teamsters	3	80	4	80	17	78	2	31	3	31	5	29

Table #3	Total Emply	Full Time	Plus Need	Total Emply	Full Time	Plus Need
Brick Masons	867	379	333	270	155	117
Carpenters	2,644	1,242	539	632	382	213
Operating Engineers	353	122	41	50	32	11
Iron Workers	976	167	131	72	30	11
Cement Finishers	516	175	131	141	96	44
Teamsters	180	143	9	32	27	4

Table #4	Employed	Would Have Employed	Employed	Would Have Employed
Brick Masons	75	92	31	45
Carpenters	138	194	29	102
Operating Engineers	5	22	1	10
Iron Workers	22	29	1	6
Cement Finishers	24	68	6	29
Teamsters	2	3	1	0

BRICKLAYER

Worker Traits Group - CRAFTSMANSHIP AND RELATED WORK .381



Iowa job guide

IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

Constructs walls, partitions, fireplaces, chimneys, and other structures from brick or other masonry materials. In addition to brick, builds structures with concrete block, cinder block, structural tile, terra cotta, and gypsum block. First spreads a layer or "bed" of soft mortar. After applying mortar to one end of brick, places it on the bed of mortar and taps with trowel into desired position. Cuts or scrapes off the excess mortar. When necessary, breaks bricks with trowel or brick hammer to fit spaces too small for whole bricks. Constantly checks vertical and horizontal alignment of each course (row) with a gageline (tightly stretched cord) and mason's level. Using point of trowel or other finishing tools, finishes the mortar between bricks to achieve a neat appearance.

WORKING CONDITIONS

Much of the work is out-of-doors and dependent upon suitable weather conditions. The BRICKLAYER is constantly on his feet and does considerable stooping and bending. At times, work is done from scaffolding which may be a considerable distance above the ground.

ENTRY REQUIREMENTS

Although many learn the trade informally, a 3 or 4 year apprenticeship program is generally recommended by training authorities as the best way to learn this trade. Apprenticeship applicants are usually required to have a high school education and be between 17 and 24 years of age. Good physical condition and manual dexterity are important assets. Good eyesight is necessary to readily determine correct lines and levels.

INTEREST &
TEMPERAMENT

A person interested in this field should have a preference for jobs involving a variety of duties; requiring set tolerances, limits or standards; and resulting in tangible productive satisfaction. He should enjoy working with his hands and accept working outside under many different weather conditions.

EMPLOYMENT OUTLOOK

Although some technological construction developments are expected to reduce the amount of brick per structure, more homes constructed with brick and an increased use of structural lay tiles and glass blocks will result in continuing strong demand for BRICKLAYERS.

FOR MORE INFORMATION

Contact the local Iowa State Employment Service office or the Iowa Apprenticeship Council, Iowa Labor Bureau.



File Under: BRICKLAYER 861.381

THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEDAR RAPIDS

Wage Range: \$5.30 per hr.
Hours of Work: Usually 40 hrs. per week; may be laid off during winter.
No. Employed: 150
Location of Jobs: Construction projects

Promotion: to Foreman

Fringe Benefits: Sometimes travel pay or subsistence when job is away from home city

Job Outlook Locally: A strong demand exists for skilled Bricklayers. This is expected to continue indefinitely.

Other Comments:

DUBUQUE

Wage Range: Journeyman \$4.35 per hr. until April 1, 1967 apprentice start at 55% of journeymen
Hours of Work: wage 40 hrs. double time over 40 hrs.
No. Employed: 74 journeymen and 13 apprentices
Location of Jobs: Construction firms.

Promotion: Self-employment or possibly to Mason Foreman

Fringe Benefits: None at present

Job Outlook Locally: Possibility of a few more apprentices in next few years.

Other Comments: Apprentice pay moves to 60% of journey men after 6 months, to 65 after 1 year, etc. Apprenticeship lasts 4 years.

DAVENPORT

Wage Range: \$4.73 per hr.
Hours of Work: 8 hr. days, 5 days per week. All overtime is double time
No. Employed: 1,200 union, 200 non-union
Location of Jobs: Building construction, remodeling or repair sites.

Promotion: Union seniority Foreman, General Foreman, or even Superintendent

Fringe Benefits: 7 holidays

Job Outlook Locally: Demand pretty much equals the supply

Other Comments:

SIoux CITY

Wage Range: Union \$4.73 per hr. Non-union \$2.50-\$3
Hours of Work: 40 to 60 hrs. per week
No. Employed: 50
Location of Jobs:

Promotion:

Fringe Benefits:

Job Outlook Locally:

Other Comments:

DES MOINES

Wage Range: Union \$4.98 per hr.
Hours of Work: 40 hr. per week
No. Employed: 300 very few non-union
Location of Jobs: Contract construction

Promotion:

Fringe Benefits: (Union) 15¢ per hr. health & welfare. Wage includes 25¢ per hr. vacation non-union few or none.

Job Outlook Locally: Good

Other Comments:

WATERLOO

Wage Range: Union \$4.68 per hr. for journeyman Non-union \$3.50-\$4.00 per hr.
Hours of Work: 40 hrs. per week 8:00-4:30 Mon-Fri.
No. Employed: 60
Location of Jobs:

Promotion: Journeyman to Crafts Foreman

Fringe Benefits: Double time for over 40 hrs. Empl pays 10¢ per hr. to union for health & welfare fund. Provides hospitalization ins. & death benefit
Job Outlook Locally:

Good thru 1968

Other Comments: 4 year apprenticeship program. Must be high school graduate and pass physical examination to enter apprenticeship.

CARPENTER

Worker Traits Group - CRAFTSMANSHIP AND RELATED WORK .381



Iowa job guide IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

Using blueprints, sketches, or building plans as a guide; constructs, erects, installs, and repairs structures of wood, plywood, or wallboard with carpenter handtools and power tools. Selects type of materials; prepares layout; marks cutting lines; assembles, cuts, and shapes materials; and fastens them together with nails, dowel pins or glue. Verifies trueness of the structure with plumb bob and carpenter level. Fits and installs prefabricated window frames, doors, doorframes, weather stripping, interior and exterior trim, and finish hardware, such as locks, letter drops, and kick plates.

WORKING CONDITIONS

Since much of the work is done outdoors; working conditions are governed by the weather. CARPENTER does much standing, lifting, carrying and stooping--some climbing and balancing varying with the job and his particular assignment.

Many hazards exist, including possible severe cuts and the possibility of falls.

ENTRY REQUIREMENTS

To enter an apprenticeship program, worker must be between the ages of 17-24, be a high school graduate or equivalent, be physically able to perform the work of the trade, of good moral character, and demonstrate pronounced aptitude and interest as well as the proper attitude toward the trade.

INTEREST & TEMPERAMENT

Should enjoy doing precision work; should have pride of craftsmanship; must be able to work without close supervision and be able to adapt to a wide variety of working conditions.

EMPLOYMENT OUTLOOK

The total number of CARPENTERS is expected to increase slightly during the next few years. This increase is in addition to the large number of workers normally transferred to other jobs or retire. Thus, there should be a fairly large number of apprentice openings within the next few years.

FOR MORE INFORMATION

Contact your local carpentry contractors, local carpenters union, or the local office of the Iowa State Employment Service.



File Under : CARPENTER 860.381

THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEDAR RAPIDS

Wage Range: \$4.25 per hr. (union) \$3.50-\$4.00 (non-union)
Hours of Work: Depends on weather and amount of work to be completed

No. Employed: 700

Location of Jobs: Construction projects of all types

Promotion: Usually only to Foreman

Fringe Benefits: Usually none. Travel pay and subsistence sometimes paid for out-of-town work.

Job Outlook Locally: Demand is great during construction season. Many laid-off during winter.

Other Comments:

DUBUQUE

Wage Range: Journeyman \$3.95 per hr. to May 1, 1967
Hours of Work: 40 hrs. per week. Time & $\frac{1}{2}$ over 40 hrs.

No. Employed: 290

Location of Jobs: Primarily construction firms

Promotion: To self-employment; Foreman; or Construction Superintendent

Fringe Benefits:

Job Outlook Locally: Slight increase anticipated.

Other Comments: Apprenticeship begins at 55% of journeyman and increase each 6 months during 4 years of apprenticeship.

DAVENPORT

Wage Range: \$4.27 per hr. union \$2.00-\$3.50 per hr. non-union
Hours of Work: 8 hrs./day, 5 days per week, all overtime is double time.

No. Employed: 1200 union, 200 non-union

Location of Jobs: Building construction, remodeling or repair sites.

Promotion: Union seniority—Foreman, General Foreman, or even Superintendent

Fringe Benefits: 7 holidays

Job Outlook Locally: Demand pretty much equals the supply

Other Comments:

SIOUX CITY

Wage Range: Union \$4.10 per hr. Non-union \$1.50-\$2.50 per hr.
Hours of Work: 40 to 60 hrs. per week

No. Employed: 300

Location of Jobs:

Promotion:

Fringe Benefits:

Job Outlook Locally:

Other Comments:

DES MOINES

Wage Range: Union \$4.30 per hr. Non-union \$2.75-\$3.25 per hr.
Hours of Work: 40 hrs. per week

No. Employed: 1100

Location of Jobs: Contract construction firms

Promotion:

Fringe Benefits: (union) 7 $\frac{1}{2}$ ¢ per hr. health and welfare 15¢ per hr. pension, double time for all overtime. (non-union) few or none.

Job Outlook Locally: Good

Other Comments:

WATERLOO

Wage Range: Union \$3.75 per hr. for beginning apprentice \$4.05 for journeyman. non-union \$1.40-\$4.00 per hr.
Hours of Work: 40 hr. week 8:00-5:00 Monday-Friday

No. Employed: 375

Location of Jobs:

Promotion: To Foreman, Superintendent, or Contractor (union) Employer pays 10¢ per hr. to union health & insurance and death benefit (non-union) Varies with employer but includes group ins. paid by employer or participating & bonus plans

Fringe Benefits: welfare plan. Provides hospitaliz

Job Outlook Locally: Good thru mid-1968.

Other Comments:

C E M E N T M A S O N

Worker Traits Group - CRAFTS, MANIPULATION .884



Iowa job guide

IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

Smooths and finishes surfaces of poured concrete floors, walls, sidewalks, highways or curbs to specific textures using handtools, including floats, trowels, and screeds. Spreads concrete to specified depth and workable consistency, using float to bring water to the surface and produce soft topping. Levels, smooths, and shapes surfaces of freshly poured concrete, using straightedge and float. Finishes vertical surfaces by wetting concrete and rubbing with abrasive stone.

WORKING CONDITIONS

Since much of the work is done outdoors; working conditions are governed by the weather. The work is active and strenuous. With most of the work done on floors or at ground level, the worker is required to stoop, bend or kneel.

ENTRY REQUIREMENTS

Apprentices are normally required to be between the ages of 18-25. Good physical condition and manual dexterity are important assets. A high school education is desirable but not normally required because all training is done on-the-job.

INTEREST &
TEMPERAMENT

Persons entering this occupation should receive satisfaction from tangible results from a job well done. Must be able to work without close supervision and be able to adapt to a wide variety of working conditions.

EMPLOYMENT OUTLOOK

The total number of CEMENT MASONS is expected to increase rapidly during the next few years. This anticipated increase, plus the normal amount of transfers to other jobs and retirees, should account for a large number of apprentice openings.

FOR MORE INFORMATION

Contact local cement finishing contractors, the area cement mason union, or the local office of the Iowa State Employment Service.

File Under: CEMENT MASON 844.884



THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEDAR RAPIDS

Wage Range: \$4.40 per hr.
Hours of Work: Varies according to weather and/or availability of work
No. Employed: 75
Location of Jobs: Construction projects

Promotion: To Foreman

Fringe Benefits: Usually none

Job Outlook Locally: Good demand now and in the future for qualified workers.

Other Comments:

DUBUQUE

Journeyman-\$3.91 per hr. until June 1, 1967

Wage Range: Apprentice start at 80% of journeyman
Hours of Work: increase 4% each 6 months of 3 yr. apprenticeship
No. Employed: 13 journeymen and 2 apprentices
Location of Jobs: Cement finishing firms.

Promotion: To self-employment; supervisory capacities such as Superintendent or Inspector

Fringe Benefits:

Job Outlook Locally: Additional hiring is expected

Other Comments: Any work done before 8:00AM or after 4:30 PM is paid at double time.

DAVENPORT

Wage Range: Union \$4.16 per hr.
Hours of Work: 8 hr. day, 5 days/week. First 3 hrs. overtime are 1½ all other double time.
No. Employed: 170-180 union members.
Location of Jobs: Building construction, remodeling and repair and bridge construction sites.

Promotion: Union seniority-Foreman

Fringe Benefits: 7 holidays

Job Outlook Locally: Supply equals demand.

Other Comments:

SIOUX CITY

Wage Range: Union \$4.10 per hr. Non-union \$2.50-\$3.
Hours of Work: 40 hrs. per week per hr.
No. Employed: 35
Location of Jobs:

Promotion:

Fringe Benefits:

Job Outlook Locally:

Other Comments:

DES MOINES

Wage Range: Union \$4.50 per hr. Non-union \$3.00-\$3.75
Hours of Work: 40 hrs. per week per hr.
No. Employed: 100
Location of Jobs: Contract construction firms.

Promotion:

Fringe Benefits: (union) double time for all overtime. (non-union) few or none

Job Outlook Locally: Good

Other Comments:

WATERLOO

Wage Range: Union \$3.90 per hr. Non-union \$2.50-\$3.
Hours of Work: 40 hrs. per week 8:00-4:30 Monday-Friday per hr.
No. Employed: 30
Location of Jobs:

Promotion: None

Fringe Benefits: 10¢ per hr. paid by employer to union for health & welfare. Provides hospitalization & death benefit ins. No pension plan.

Job Outlook Locally: hrs. Apprenticeship program approved by the contractors

Other Comments: Good thru 1968. the cement mason international but not approved by the State Bureau of Apprenticeship

IRON WORKERS

STRUCTURAL STEEL WORKER	801.781	MACHINE MOVER	921.280
REINFORCING IRON WORKER	801.884	RIGGER II	921.280
ORNAMENTAL IRON WORKER	809.381		



Iowa job guide

IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

IRON WORKERS erect, assemble, or install fabricated metal products mainly in the construction of industrial, commercial and large residential buildings and bridges. They also do some alteration and remodeling of existing structures and some repair work. Prepare heavy construction machinery for moving with the proper lines, cables and accessories. Move machinery to new construction site and reassemble it there. IRON WORKERS also set steel bars or steel mesh in concrete forms to reinforce concrete in buildings and bridges. Many IRON WORKERS specialize in one or two of the above-mentioned areas or as riveters or welders; depending on the size of the construction project, etc.

WORKING CONDITIONS

With the exception of some ornamental iron work, remodeling and repair work, and the incidents where temporary enclosures can be erected; most of the work is done out of doors. Most iron work can be carried on year round and has to be shut down only during inclement weather. Because IRON WORKERS risk injury from falls from great heights; safety devices such as nets, safety belts and scaffolding are used.

ENTRY REQUIREMENTS

Since the materials used in the iron working trades are heavy and bulky; above average physical strength is necessary. Agility and a good sense of balance are also required. High school graduation is a requirement for acceptance into most apprenticeship program.

INTEREST & TEMPERAMENT

IRON WORKERS must receive satisfaction from tangible, productive results. They must be able to work to prescribed tolerances and rigid standards. Naturally, a person cannot be plagued with fear of height.

ADVANCEMENT OPPORTUNITIES

Financial advancement and job security are the results of seniority in a union, i.e., having first chance at the longer, more stable positions. Other forms of advancement occur as new labor contracts are negotiated. Also, contractors promote IRON WORKERS to positions of Foreman, General Foreman, or even Superintendent.

HOW TO PREPARE

Usually, IRON WORKERS start by going through a three-year apprentice program. Apprentices are generally required to be recent high school graduates and in good health. IRON WORKERS are also promoted from construction laborers.

FOR MORE INFORMATION

Contact the Iowa State Employment Service, a local of the International Association of Bridge, Structural and Ornamental Iron Workers, a local contractor, the Occupational Outlook Handbook, or other Job Guides.



THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEL. R RAPIDS

Wage Range: \$4.53 per hr.
Hours of Work: Varies due to weather conditions and availability of work
No. Employed: 150
Location of Jobs: Construction projects

Promotion: Usually none

Fringe Benefits: Union members receive 13¢ per hr. for health & welfare.

Job Outlook Locally: Very strong demand for qualified Iron Workers during the summer months. Demand

Other Comments: tapers off during winter.

DUBUQUE

Journeyman-\$4.41 per hr. to May 1, 1968.
Wage Range: than to \$4.54 to May 1, 1968. Apprenti
Hours of Work: starts at 70% of journeyman's wage.
 40 hrs. a week. Double time over 40 hrs.
No. Employed: 30
Location of Jobs: Construction

Promotion: To Foreman, which is 25¢ per hr. more.

Fringe Benefits: None at present time.

Job Outlook Locally: A few openings are expected to be available.

Other Comments: Apprentice attends school every S in Waterloo during school year. Apprenticeship last 3 yrs.

DAVENPORT

Wage Range: \$4.96 per hr. anything over 8 hrs. a day
Hours of Work: 5 days a week is double time.

No. Employed: 200 union members, no non-union
Location of Jobs: Building construction sites, bridge construction sites.

Promotion: Union seniority, may be promoted to Foreman, General Foreman, or Superintendent

Fringe Benefits: 21¢ per hr. is deducted for welfare pension, and apprentice program.

Job Outlook Locally: Good demand for well-qualified Iron Workers.

Other Comments: Usually work about 10 months out of the year.

SIOUX CITY

Wage Range: Union \$4.23 per hr.
Hours of Work: 40 hrs. per week

No. Employed: 55
Location of Jobs:

Promotion:

Fringe Benefits:

Job Outlook Locally:

Other Comments:

DES MOINES

Union \$4.33 per hr. Very few non-union
Wage Range:
Hours of Work: 40 hrs. per week. Double time for all overtime.
No. Employed: 150
Location of Jobs: Contract construction, metal fabricating firms.

Promotion:

Fringe Benefits: (Union) 12¹/₂¢ per hr. health and welfare, 15¢ per hr. pension.

Job Outlook Locally: Good

Other Comments:

WATERLOO

Union \$4.41 per hr.
Wage Range:
Hours of Work: 40 hr. week, 8:00-4:30 Monday-Frid
No. Employed: 60
Location of Jobs:

Promotion: Craft Foreman

Employer pays 10¢ per hr. union
Fringe Benefits: health and welfare, provides hospitalization ins., death benefit, no pension pla
Job Outlook Locally: Good thru 1968

Formal 3 year apprenticeship progr
Other Comments: Double time paid over 40 hrs. No j classification structure within the crafts.

OPERATING ENGINEER

Worker Traits Group - DRIVING-OPERATING .883



Iowa job guide

IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

OPERATING ENGINEERS operate any of several types of power driven equipment to excavate and grade earth, erect structural and reinforcing steel and pour concrete. Operators generally specialize by operating only a few machines and do not diversify enough to obtain steady employment. Some machines may require that the operator start and stop the machine once a day with only minor adjustments throughout the day such as pumps or air compressors. Other machines such as cranes, require the constant use of both hands and both feet. OPERATING ENGINEERS may also be required to service their machines and move the machine from one construction site to another.

WORKING CONDITIONS

All the work is performed in the open except for a few machines equipped with cabs. Earth-excavating and grading-equipment operators and building equipment operators generally work from the time the earth thaws in the spring until it freezes again in the fall and shut down only when it rains. Normally the work is dusty and dirty. OPERATING ENGINEERS working in the building and bridge construction industry may work the year round and shut down only during inclement weather.

PHYSICAL REQUIREMENTS

OPERATING ENGINEERS must be well-coordinated. In order to get into an apprenticeship program, must be a high school graduate. To operate some of the equipment, must be in above average physical condition to withstand the jolting and vibration. Must also demonstrate interest in and ability to learn correct methods of operating equipment, and be able to recognize hazards that must be avoided.

INTEREST & PERSONALITY

OPERATING ENGINEERS should enjoy working with machines and equipment, and receive satisfaction from tangible, productive results. Must be able to adapt to routine, repetitive work and work either as a team on large projects or work alone, e.g., building small dams or terraces for farmers.

ADVANCEMENT OPPORTUNITIES

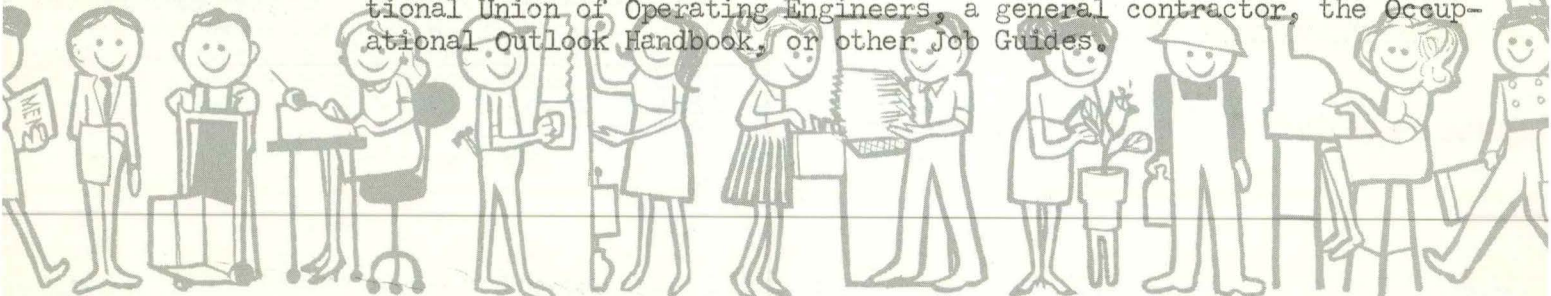
Usually start as Operator Helpers or Oilers and then advance to operating simple machines. May advance further to more complex machines. Contractors promote OPERATING ENGINEERS to Foreman, General Foreman or Superintendent positions. Also, union seniority provides job security and financial advancement by giving persons with seniority first chance at the longer and more stable positions.

HOW TO PREPARE

The best way to prepare is go through a three year apprenticeship program. However, since these aren't always available to everyone who wants to become an OPERATING ENGINEER; many enter this occupation by starting as a Machine Operator Helper or an Oiler-using past qualifying work experiences such as service station work or farm work. A few technical schools offer training in this field, which shortens the period required to become proficient.

WHERE TO GET MORE INFORMATION

Contact the local Iowa State Employment office, a local of the International Union of Operating Engineers, a general contractor, the Occupational Outlook Handbook, or other Job Guides.



File Under: OPERATING ENGINEER 859.883

THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEDAR RAPIDS

Wage Range: \$4.70 per hr.
Hours of Work: Varies due to weather conditions and amount of work
No. Employed: 100
Location of Jobs: Excavating, grading, and building construction projects

Promotion: Usually none

Fringe Benefits: Sometimes travel pay or subsistence for out-of-town projects.

Job Outlook Locally: Moderate to good demand for

Operating Engineers in this area.

Other Comments:

DUBUQUE

Wage Range: \$4.55 per hr. to May 1, 1967, then \$4.
Hours of Work: to May 1, 1968
 40 hrs. and time and $\frac{1}{2}$ over 40

No. Employed: Approximately 50

Location of Jobs: Heavy construction firms, such as road building and excavating companies

Promotion: Possibly to self-employment

Fringe Benefits: 10¢ per hr. of wage is actually health and welfare payment.

Job Outlook Locally: There is great demand and situation is not expected to change.

Other Comments:

DAVENPORT

Wage Range: Non-union \$2.00-\$3.50 per hr.
Hours of Work: Union \$3.50-\$4.63 per hr.
 8 hr. days, 5 days per week. All over-time is double time
No. Employed: 600 union; 200 non-union
Location of Jobs: Building and road construction sites. Conservation projects.

Promotion: Union seniority. May be promoted to Foreman, General Foreman, or Superintendent

Fringe Benefits: 10¢ per hr. is withheld for health & welfare

Job Outlook Locally: Supply is pretty much equal to demand

Other Comments: Usually work about 9 months out of the year.

SIOUX CITY

Wage Range: Union \$3.43-\$4.23 per hr. Non-union
Hours of Work: \$2.00-\$2.75 per hr.
 40 to 60 hrs. per week

No. Employed: 100

Location of Jobs:

Promotion:

Fringe Benefits:

Job Outlook Locally:

Other Comments:

DES MOINES

Wage Range: Union \$3.83-\$4.48 per hr. Non-union
Hours of Work: \$3.23-\$3.75
 40 hrs. per week

No. Employed: 225

Location of Jobs: Contract construction

Promotion:

Fringe Benefits: (union) 10¢ per hr. health & welfare (non-union) few or none

Job Outlook Locally: Good

Other Comments:

WATERLOO

Wage Range: Union \$3.73-\$4.48 per hr. Non-union
Hours of Work: \$2.25-\$3.75 per hr.
 40 hr. week 8:00-4:30 Monday-Friday

No. Employed: 40

Location of Jobs:

Promotion: to self-employment

Fringe Benefits: Employer pays 10¢ per hr. to union health & welfare fund. Provides hospitalization ins. and death benefit. No pension

Job Outlook Locally: Good thru 1968 (union) if working with a craft that

Other Comments: draws double time for overtime, time and $\frac{1}{2}$ over 40. No apprentice program. Those working "highway & heavy" have various wage classifications within the class, with a wage scale from \$2.85 to \$3.40 per hr.

PLUMBER

Worker Traits Group - CRAFTSMANSHIP AND RELATED WORK .381



Iowa job guide

IOWA STATE EMPLOYMENT SERVICE

NATURE OF WORK

Assembles, installs, and repairs pipes, fittings, and fixtures for sanitary, heating, and drainage systems within and around buildings, according to specifications and building codes. Studies blueprints and other sketches to determine kind and size of pipe to use and special fittings necessary. Inspects structure to determine obstructions to be avoided and to prevent weakening of structure resulting from installation of pipe. Cuts holes through walls and floors to pass pipe, using handtools and power tools. Cuts and threads pipe, using pipe cutters, cutting torches, and pipe-threading machine. Bends pipe to produce desired curvature. Fits valves, coupling, and other specified parts and fittings to pipe sections by screwing bolting, soldering, or wiping, and calks joints. Assembles and installs pipe sections to walls and ceilings using handtools and power tools. Fills pipe system with water or air and reads pressure gauges to determine whether system is leaking. Installs plumbing fixtures, such as sinks, commodes, bathtubs, water heaters, and dishwashers. Repairs plumbing by cutting, bending, threading, and assembling pipe as described above.

WORKING CONDITIONS

Work is active and sometimes strenuous; it requires physical strength and stamina. Work is usually indoors but sometimes outside, sometimes on a ladder or scaffold, in trenches, and in unfinished portions of new buildings. Often work is done in cramped, wet, or dirty locations. Frequently it is necessary to stand for long periods and occasionally work in uncomfortable positions because of working in relatively inaccessible places. Danger is risked from falls from ladders, cuts from sharp tools, or burns from hot pipes or steam.

ENTRY REQUIREMENTS

Most training authorities recommend the five year apprenticeship program, although some plumbers have learned this trade informally. Apprentices are required to have a high school education or its equivalent. Courses in mathematics and elementary physics are desirable. Good physical condition and manual dexterity are important assets.

INTEREST & TEMPERAMENT

A person wishing to enter this type of work should have the ability to understand detailed written and verbal instructions and the ability to plan ahead and visualize completed projects. He should enjoy working with his hands and accept working outside, sometimes under adverse weather conditions.

EMPLOYMENT OUTLOOK

With the substantial increase expected in construction expenditures and the increased use of appliances and plumbing fixtures in residential housing, the strong demand for PLUMBERS is expected to continue indefinitely.

FOR MORE INFORMATION

Contact the local Iowa State Employment Service office or the Iowa Apprenticeship Council.



File Under: PLUMBER 862.381

THE JOB AS IT APPEARS IN IOWA'S LARGER CITIES

CEDAR RAPIDS

Wage Range: \$4.60 per hr. union
Hours of Work: Usually 40 hrs. per week, but often more during the construction season
No. Employed: 350
Location of Jobs: Construction projects

Promotion: Usually only to Foreman
Fringe Benefits: Travel pay or subsistence when work is out of town

Job Outlook Locally: Excellent demand for Plumbers and this is expected to continue indefinitely
Other Comments: This is one of the few construction occupations where layoffs do not normally occur during the winter months.

DAVENPORT

Wage Range: \$5.45 per hr. union
Hours of Work: 8 hr. days, 5 days per week time & 1/2 weekdays for overtime & Sat. & Sun. Holidays is double time.
No. Employed: 300 union members
Location of Jobs: Building construction, remodeling or repair sites.

Promotion: Union seniority. May be promoted to Foreman.
Fringe Benefits: 7 days vacation. 40¢ withheld for health & welfare pension, industrial endowment and opportunity program.
Job Outlook Locally: Good demand for qualified Plumbers

Other Comments:

DES MOINES

Wage Range: Union \$5.00 per hr. Non-union \$3.50-\$4.50
Hours of Work: 40hrs. per week
No. Employed: 500, few non-union
Location of Jobs: Contract construction

Promotion:

Fringe Benefits: (union) 12 1/2¢ per hr. pension, 20¢ per hr. health & welfare, 2¢ per hr. education wage includes 20¢ per hr. vacation (non-union few or none)

Job Outlook Locally: Good

Other Comments:

DUBUQUE

Wage Range: Journeyman \$4.37 per hr. to May 1, 1967
 \$4.62 to May 1, 1968 and \$4.87 to May 1 1969
Hours of Work: 40 hrs. per week
No. Employed: 57 journeymen and 25 apprentices
Location of Jobs: Both large and small plumbing shops

Promotion: Possibly to self-employment
Fringe Benefits: Employer furnished all tools and equipment necessary

Job Outlook Locally: No large change anticipated.
Other Comments: Apprenticeship begins at 50% of journeyman and increases 4% each 6 months. Apprenticeship lasts 5 years.

SIOUX CITY

Wage Range: Union \$4.40 per hr.
Hours of Work: 40 hrs. per week
No. Employed: 117
Location of Jobs:

Promotion:
Fringe Benefits:
Job Outlook Locally:
Other Comments:

WATERLOO

Wage Range: Union \$4.37 per hr. Non-union \$2.50-\$4.00 per hr.
Hours of Work: 40 hrs. per week
No. Employed: 120 approximately Mon.-Fri. 8:00-4:30
Location of Jobs: including apprentices and steamfitters

Promotion: To Foreman, Superintendent, and Contract (union) employer pays 3¢ per hr. for education fund for apprentice and journeyman; 25¢ per hr. to vacation, 15 1/2¢ per hr. to health & welfare fund.
Job Outlook Locally: Provides hospitalization and death benefit. Good thru mid 1968
Other Comments: Plumbers must be licensed but no Steamfitters. Licensing done by city where employed thru examining boards. Exception to this is Cedar Rapids and D. M. who have reciprocal agreements with Waterloo & Waterloo license is good in these cities.

STATE LIBRARY OF IOWA



3 1723 02117 0709