Denver-Boulder, Colorado, Metropolitan Area December 1975
Bulletin 1850-82


MaY $28^{\prime} 76$

## Preface

This bulletin provides results of a December 1975 survey of occupational earnings in the Denver-Boulder, Colorado, Standard Metropolitan Statistical Area (Adams, Arapahoe, Boulder, Denver, Douglas, Gilpin, and Jefferson Counties). The survey was made as part of the Bureau of Labor Statistics' annual area wage survey program. The program is designed to yield data for individual metropolitan areas, as well as national and regional estimates for all Standard Metropolitan Statistical Areas in the United States, excluding Alaska and Hawaii.

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Currently, 83 areas are included in the program. (See list of areas on inside back cover.) In each area, occupational earnings data are collected annually. Information on establishment practices and supplementary wage benefits is obtained every third year.

Each year after all individual area wage surveys have been completed, two summary bulletins are issued. The first brings together data for each metropolitan area surveyed. The second summary bulletin presents national and regional estimates, projected from individual metropolitan area data.

The Denver-Boulder survey was conducted by the Bureau's regional office in Kansas City, Mo., under the general direction of Edward Chaiken, Assistant Regional Commissioner for Operations. The survey could not have been accomplished without the cooperation of the many firms whose wage and salary data provided the basis for the statistical information in this bulletin. The Bureau wishes to express sincere appreciation for the cooperation received.

## Note:

Reports on occupational earnings and supplementary wage provisions in the DenverBoulder area are also available for contract construction services (July 1974), and on occupational earnings only for the metalworking (December 1975), and laundry and dry cleaning (December 1975) industries. Also available are listings of union wage rates for building trades, printing trades, local-transit operating employees, local truckdrivers and helpers, and grocery store employees. Free copies of these are available from the Bureau's regional offices. (See back cover for addresses.)
U.S. DEPARTMENT OF LABOR, W. J. Usery, Jr., Secretary

## Denver-Boulder, Colorado, Metropolitan Area, December 1975

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## Introduction

This area is 1 of 83 in which the U.S. Department of Labor's Bureau of Labor Statistics conducts surveys of occupational earnings and related benefits on an areawide basis. In this area, data were obtained by a combination of personal visit, mail questionnaire, and telephone interview. Representative establishments within six broad industry divisions were contacted: Manufacturing; transportation, communication, and other other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Major industry groups excluded from these studies are government operations and the construction and extractive industries. Establishments having fewer than a prescribed number of workers are omitted because of insufficient employment in the occupations studied. Separate tabulations are provided for each of the broad industry divisions which meet publication criteria.

## A-series tables

Tables A-l through A-6 provide estimates of straight-time hourly or weekly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. Occupations were selected from the following categories: (a) Office clerical, (b) professional and technical, (c) maintenance and powerplant, and (d) custodial
and material movement. In the 31 largest survey areas, tables A-la through A-6a provide similar data for establishments employing 500 workers or more.

Following the occupational wage tables is table A-7 which provides percent changes in average earnings of office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance workers, and unskilled plant workers. This measure of wage trends eliminates changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. Where possible, data are presented for all industries, manufacturing, and nonmanufacturing. Appendix A discusses this wage trend measure.

## Appendixes

This bulletin has two appendixes. Appendix A describes the methods and concepts used in the area wage survey program and provides information on the scope of the survey. Appendix $B$ provides job descriptions used by Bureau field economists to classify workers in occupations for which straight-time earnings information is presented.

## A. Earnings

Table A-1. Weekly earnings of office workers in Denver-Boulder, Colo., December 1975


[^0]Table A-1. Weekly earnings of office workers in Denver-Boulder, Colo., December 1975—Continued


See footnotes at end of tablea.

Table A-1a. Weekly earnings of office workers-large establishments in Denver-Boulder, Colo., December 1975


See footnoter at end of tables

Table A-1a. Weekly earnings of office workers-large establishments in Denver-Boulder, Colo., December 1975—Continued


[^1]Table A-2. Weekly earnings of professional and technical workers in Denver-Boulder. Colo.. December 1975

| Occupation and industry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { worken } \end{aligned}$ | $\begin{gathered} \text { Average } \\ \text { weekly } \\ \text { houri } \\ \text { (icandard) } \end{gathered}$ | $\begin{gathered} \text { Weekly eaming! } \\ \text { (standard) } \end{gathered}$ |  |  | Number of workers receiving straight-time weekly earnings of- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | mean ${ }^{2}$ | Median ${ }^{2}$ | Midale range ${ }^{2}$ | $\begin{array}{r} 5 \\ 110 \\ \text { and } \\ \text { unde } \\ 12 \end{array}$ | $\$$$13$ | $\begin{gathered} 5130 \\ - \\ 140 \end{gathered}$ | $\begin{gathered} \$ 140 \\ - \\ 150 \end{gathered}$ | \$15-16 | $\begin{gathered} S_{160} \\ - \\ 170 \end{gathered}$ | $\begin{gathered} { }^{5} 170 \\ - \\ 180 \\ \hline \end{gathered}$ | 5180-190 |  | $\$ 200$-210 | $\begin{array}{ccc} \$_{210} & \$ 220 & \mathbf{5} 30 \\ - & - & - \\ 220 & 230 & 240 \\ \hline \end{array}$ |  |  | $240$$260$ | $\begin{gathered} 5 \\ 260 \\ - \\ 280 \\ \hline \end{gathered}$ |  | 5 |  | 300 <br> 320 | $\begin{array}{r} 5 \\ 320 \\ - \\ 340 \\ \hline \end{array}$ |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ALL WORKERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| COMPUTER OPERATORS, CLASS A ------- | 195 | 40.0 | \$53.50 | $\$ 260.50$ | $\left\|\begin{array}{cc} \$ \\ 232.53-292.00 \end{array}\right\|$ | - | - | 5 | - | 4 | 6 | 2 | 3 | 6 | 6 | 6 | 8 | 11 | 33 |  | 37 |  |  | 4 |  | 4 |  |  |  |
| NONMANUFACTURING ---------------- | 153 | 40.0 | 258.00 | 275.50 | 241.50-292.00 | - | - | 5 | - | 3 | 6 | 2 | 2 | 4 | 1 | 6 | 4 |  | 19 |  | 29 |  | 9 | 4 |  | 4 | - |  | - |
| PURLIC UTILIJIES | 80 | 40.0 | 273.50 | 275.50 | 257.00-292.00 | - | - | - | - | - | - | - | - |  |  | - | 1 | 3 | 17 |  | 23 |  | 2 | 4 |  | - | - | - |  |
| COMPUTER OPERATORS, CLASS B -------- | 390 | 40.0 | 187.50 | 190.00 | 15r.00-213.00 | - | 31 | 19 | 34 | 18 | 20 | 45 | 30 | 55 | 32 | 28 | 22 | 14 | 19 |  | 21 |  | 2 | - |  | - | - | - |  |
| MANUFACTURING ---------------------- | 92 | 40.0 | 190.50 | 192.50 | 175.50-202.00 | - |  | 3 | 2 | - | 2 | 20 | 17 | 23 | 7 | 10 | 4 | 3 | 1 |  | 21 |  | 2 | - |  | - | - |  |  |
| NONMANUFACTURING | 298 | 39.5 | 187.00 | 186.00 | 14.00-213.00 | - | 31 | 16 | 32 | 18 | 18 | 25 | 13 | 32 | 25 | 18 | 10 | 11 | 18 |  | 21 |  | 2 | - |  | - | - |  |  |
| PUBLIC UTILITIES ------------- | 66 | 40.0 | 224.00 | 224.50 | 211.00-245.50 | - | - | - | - | 1 | - | - | 6 | 7 | 1 | 14 | 7 | 8 | 18 |  | 3 |  | 1 | - |  | - | - | - |  |
| COMPUTER OPERATORS, CLASS C ------- | 137 | 39.5 | 145.00 | 138.00 | 117.50-161.00 | 38 | 17 | 18 | 3 | 23 | 21 | 4 | 5 | 2 | - |  | , | 1 | 1 |  | - |  | - | - |  | - | - | - | - |
| NONMANUFACIURING ----------------- | 120 | 39.5 | 141.03 | 132.50 | 117.50-156.00 | 37 | 17 | 18 | 3 | 23 | 14 | 1 | - | 1 | - | 2 | 2 | 1 | 1 |  | - |  | - | - |  | - | - |  |  |
| COMPUTER PROGRAMMERS, |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 158 | 39.5 | 299.00 | 301.50 | 2811.50-316.00 | - | - | - | - | - | - | - | - | - | 1 | 2 | - | 6 | 11 |  | 18 |  | 38 | 45 |  | 21 | 9 |  |  |
|  | 68 | 40.0 | 297.50 | 302.50 | 286.00-316.000 | - | - | - | - | - | - | - | - | - | 1 | 1 |  | 1 | 3 |  | 8 |  | 6 | 25 |  | 11 | 1 | 1 |  |
| NONMANUF ACTURING ------------------ | 90 | 39.0 | 300.00 | 295.00 | 278.50-322.00 | - | * | - | - | - | - | - | - | - | - | 1 | - | 5 | 8 |  | 10 |  | 2 | 20 |  | 10 | 8 |  |  |
| COMPUTER PROGRAMMERS, |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BUSINESS, CLASS d - | 298 | 39.5 | 269.50 | 264.50 | 241.50-297.00 | - | - | - | - | - | - | - | 5 | 4 | 10 | 24 | 16 | 12 | 56 |  | 55 |  | 7 | 28 |  | 21 | 11 | 7 |  |
| NONMANUFACTURING ------------------- | 264 | 39.5 | 272.00 | 272.50 | 241.50-300.00 | - | - | - | - | - | - | - | 5 | 3 | 10 | 20 | 14 | 9 | 46 |  | 47 |  | 4 | 27 |  | 21 | 11 |  | - |
| COMPUTER SYSTEMS ANALYSTS, |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BUSINESS, CLASS A ------------------0 | 258 | 40.0 | 381.00 | 379.50 | 347.00-418.50 | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |  | 5 |  | 7 | 17 |  | 29 | 38 | 80 | *101 |
| MANUFACTURING ------------------------ | 73 | 40.0 | 349.50 | 351.00 | 33c.00-379.50 | = | - | - | - | - | - | : | - | - | - | - | - | - | $\underline{1}$ |  | 2 |  | 6 | ${ }_{11}$ |  | 12 | 18 | 23 37 |  |
| NONMANUFACTURING -- | 185 | 40.0 | 393.50 408.50 | 403.00 413.50 | $354.50-434.00$ $38.50-437.00$ | - | - | - |  | - | - | - | - | - | - | - | - | - |  |  | 3 |  | 1 | 11 |  | 17 | 20 | 37 32 | 96 93 |
| Puplic utilities | 148 | 40.0 | 408.50 | 413.50 | 386.50-437.00 | - | - | - | - | - | - | - | - | - | - | - |  | - |  |  | - |  | - | - |  | 10 | 13 | 32 | 93 |
| computer systems analysts, <br> QUSINESS. CLASS B | 232 | 40.0 | 301.50 | 306. 50 | 277.50-322.00 | - | - | - | - | - | - | - | - | - | - | - | 18 | 2 | 10 |  | 35 |  | 41 | 51 |  | 41 | 16 | 18 |  |
|  | 54 | 40.0 | 287.00 | 282.50 | 267.50-309.00 | - | - | - | - | - | - | - | - |  | - | - | 1 | - | 4 |  | 19 |  | 13 | 11 |  | , | 3 |  | - |
| NONMANUFACTURING ---------------- | 178 | 40.0 | 306.00 | 309.00 | 282.00-334.50 | - | - | - | - | - | - | - | - |  | - | - | 17 | 2 | 6 |  | 16 |  | 28 | 40 |  | 38 | 13 | 18 |  |
| COMPUTER SYSTEMS ANALYSTS. <br> bUSINESS, CLASS C | 58 | 40.0 | 301.50 | 301.59 | 284.00-334.00 | - | - | - | - | - | - | - | - | 1 | - | - | 1 | 1 | 4 |  | 4 |  | 18 | 7 |  | 20 | 1 |  |  |
|  | 217 | 40.0 | 258.50 | 249.50 | 231.00-271.00 | - | - | - | = | - | - | - | - | - | 12 | 6 | 13 | 42 | 69 |  | 28 |  | 14 | 11 |  | 3 | 9 | 10 |  |
| MANUFACTURING ---------------------- | 101 | 40.0 | 270.00 | 256.00 | 251.03-280.00 | - | - | - | - | - | - | - | - | - | - | - | 7 | 4 | 43 |  | 20 |  | 11 | 2 |  | 2 | 6 |  |  |
| NONMANUFACTURING | 116 | 40.0 | 248.50 | 233.60 | 231.00-257.50 | - | - | - | - | - | - | - | - | - | 12 | 6 | $\bigcirc$ | 38 | 26 |  | - |  | 3 | 9 |  | 1 | 3 |  |  |
| DRAFTERS, CLASS 日 -------------------- | 313 | 40.0 | 222.50 | 214.50 | 18i.00-252.50 | - | = | - | - | = | 32 | 9 | 41 | 17 | 49 | 30 | 18 | 18 | 28 |  | 24 |  | 40 | 6 |  | 1 | - |  | - - |
| MANUFACTURING ------------------0 | 239 | 40.0 | 222.00 | 214.50 | 185.50-25c.00 | - | - | - | - | - | 25 | 5 | 41 | 16 | 23 | 24 | 16 | 15 | 23 |  | 13 |  | 30 | 6 |  | - | - |  |  |
| NONMANUFACTUR1NG ------------------- | 74 | 40.0 | 225.50 | 205.00 | 200-00-264.30 | - | - | - | - | - | 7 | 4 | - | 1 | 26 | 6 | - | 3 | 5 |  | 11 |  | 10 | - |  | 1 | - | - | - - |
| drafters, Class C ----- | 68 | 40.0 | 172.00 | 167.00 | 14i.00-205.50 | - | - | 13 | 13 | 6 | 3 | 14 | 1 | - | 2 | 4 | $b$ | 3 | 2 |  | 2 |  | - | - |  | - | - |  | - - |
| ELECTRONICS TECHNICIANS ----------- | 617 | 40.0 | 262.00 | 231.50 | 28.00-298. $0^{0}$ | - | = | - | - | 1 | 1 | - | - | 1 | - | 5 | 14 | 19 | 75 |  | 38 |  |  | 39 |  | 46 | 10 |  |  |
| MANUFACTURING ------------------0-0 | 162 | 40.0 | 271.00 | 259.00 | 246.50-296.50 | - | - | - | - | - | - | - | - | - | - | - | 4 | 13 | 66 |  | 26 |  | 13 | 29 |  | 11 | - |  |  |
| NONMANUF ACTUR ING ------------------- | 455 | 40.0 | 286.00 | 281.50 | 281.50-298, 50 | - | - | - | - | 1 | 1 | - | - | $\frac{1}{1}$ | - | 5 | 10 | 6 | 9 |  | 12 |  | 55 | 10 |  | 35 35 | 10 |  |  |
| PUALIC UTILITIES -------------- | 348 | 40.0 | 283.50 | 281.50 | 281.50-281.50 | - | - | - | - | 1 | 1 | - | - | 1 | - | 3 | 10 | 5 |  |  | 10 |  |  | 10 |  | 35 | 10 |  |  |
| electronics technicians, class a- | 200 | 40.0 | 301.00 | 294.59 | 282.00-314.50 | - | - | - | - | - | - | - | - | - | - | - | - | - | 14 |  | 6 |  | 46 | 38 |  | 46 | 10 |  | - - |
| MANUFACTURING ------------------ | 71 | 40.0 | 295.50 | 303.00 | 27.50-316.00 | - | - | - | - | - | - | - | - |  | - | - | - | - | 14 |  | 5 |  | 12 | 29 |  | 11 | - |  |  |
| NONMANUFACTURING ---------------------- | 189 | 40.0 | 303.00 | 298.50 | 294.50-314.00 | - | - | - | = | - | - | - | - |  | - | - | - | - |  |  | 1 |  | 35 | 9 |  | 35 | 10 |  | - |
| PUALIC UTILITIES ----------- | 89 | 40.0 | 308.50 | 322.00 | 281.00-324.50 | - | - | - | - | - | - | - | - |  | - | - | - | - |  |  | - |  | 35 | 9 |  | 35 | 10 |  |  |

* Workers were distributed as follows: 67 at $\$ 400$ to $\$ 440$; and 34 at $\$ 440$ to $\$ 480$.

See footnotes at end of tables.

Table A-2. Weekly earnings of professional and technical workers in, Denver-Boulder, Colo., December 1975—Continued


[^2]Table A-2a. Weekly earnings of professional and technical workers-large establishments in Denver-Boulder, Colo., December 1975


See footnotes at end of tables.

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Denver-Boulder, Colo., December 1975


[^3]Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in Denver-Boulder, Colo., December 1975-Continued


See footnotes at end of tables.

[^4]Table A-3a. Average weekly earnings of office, professional, and technical workers, by sexlarge establishments in Denver-Boulder, Colo., December 1975

| Sex, occupation, and induatry division | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { oosert } \end{gathered}$ | $\begin{gathered} \text { Average } \\ \left(\text { meanan }^{2}\right. \end{gathered}$ |  | Sex, occupation, and induatry diviaion | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { of } \end{gathered}$ | $\begin{aligned} & \text { Average } \\ & \left(\operatorname{megn}^{2}\right) \end{aligned}$ |  | Sex, occupation, and industry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { oither } \end{aligned}$ | $\begin{aligned} & \text { xvarage } \\ & (\text { mean } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\left\|\begin{array}{c} \text { Weekly } \\ \text { hours } \\ \text { hatandard) } \end{array}\right\|$ | We ekly ea mingal (rataderd) |  |  | Wechly (ran oderad) | $\left\|\begin{array}{c} \text { Weekly } \\ \left.\begin{array}{c} \text { en rin } \\ \text { (nt } \operatorname{tandard)~} \end{array} \right\rvert\, \end{array}\right\|$ |  |  | $\left\|\begin{array}{c} \text { Wreekly } \\ \text { boun } \\ \text { (rinamand) } \end{array}\right\|$ | $\begin{gathered} \text { Weekly } \\ \text { caraing11 } \\ \text { (asandarl) } \end{gathered}$ |
| OFFICE OCCUPATIONS - MEN | 58 | 40.0 | $\$ 10.00$ | ```office occupations - WOMEN--CONTINUED secretaries - continued SECRETARIES, CLASS C``` | $\begin{aligned} & 721 \\ & 412 \end{aligned}$ | 40.0 | 5 | PROFESSIONAL AND TECHNICAL OCCUPATIONS - MEN-CONTINUED <br> COMPUTER PROGRAMMERS, <br>  <br> MANUF ACTURING | $\begin{aligned} & 88 \\ & 58 \end{aligned}$ | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ | $\begin{aligned} & \$ 84.50 \\ & 298.50 \\ & 298.56 \end{aligned}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| Office occupations - WUMEN |  |  |  |  |  |  |  |  |  |  |  |
| CLERKS, ACCOUNTING, CLASS A -------- | 255 | 40.0 | 174.50 |  |  | 40.0 | 197.00 |  | 10885 |  |  |
|  | 109 | 40.0 | 168.50 |  | 309133 | 40.0 | 194.00220.50 |  |  | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ | $\begin{array}{r} 277.00 \\ 281.50 \end{array}$ |
| NONMANUF ACTURING | 146 | 40.0 | 179.00 | PUBLIC UTILITIES |  |  |  | COMPUTER PROGRAMMERS, <br> BUSINESS, CLASS B - <br> NONMAINUFACTUR ING |  |  |  |
| PUBLIC UTILITIES | 35 | 40.0 | 212.00 |  |  |  |  |  |  |  |  |
| RETAIL TRADE ------------------ | 62 | 40.0 | 155.58 | SECAETARIES: Clisss | 292 | 40.0 | 178.00 |  |  |  |  |
|  |  |  |  |  | 142 | 40.0 | 165.50 | COMPUTER SYSTEMS ANALYSTS, | 196 | 40.0 | 386.00 |
|  | 412 | $\begin{aligned} & 39.5 \\ & 39.5 \end{aligned}$ | $\begin{aligned} & 141.00 \\ & 143.00 \end{aligned}$ | NONMANUFACTURING --------------- |  |  |  |  |  |  |  |
| NONMANUFACTURING | 351 | 39.5 | 140.50 | STENOGRAPHERS, GENERAL ------------- | 143 | 40.0 | 186.00187.00196.00 | nONMANUFACTURING <br> PUBLIC UTILITIES | 56 140 | 40.0 | $\begin{aligned} & 344.50 \\ & 402.50 \end{aligned}$ |
| retail trade | 225 | 39.5 | 130.50 |  | 143 128 | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ |  |  | 119 | 40.0 | 402.50 414.00 |
| CLERKS, FILE, CLASS B $\qquad$ <br> NONMANUF ACTURING | 7963 | 40.0 | $\begin{aligned} & 138.00 \\ & 135.00 \end{aligned}$ | STENOGRAPHERS, SENIOR $\qquad$ NONMANUF ACTURING PURLIC UTILITIES $\qquad$ | 19713125 | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ | 180.00 | computer sysiems dualitsis. BUSINES5, CLASS B NONMANUF ACTURING $\qquad$ | 12988 | 40.040.0 | 310.00319.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  | 175.00 |  |  |  |  |
| LERKS, ORDER | $\begin{aligned} & 133 \\ & 125 \end{aligned}$ | 39.539.5 | 111.50108.50 |  |  | 40.0 | 232.00 | DRAVTERSS, CLASS 4 ------------------ | 56 | 40.0 | 280.00 |
| NONMANUF ACTUR |  |  |  |  | $\begin{aligned} & 134 \\ & 105 \end{aligned}$ |  |  |  |  |  |  |
| CLERKS, PAYROLL | 75 | 40.0 | 171.50 | SWITCHBOARD OPERATORS $\qquad$ <br> NONMANUF ACTURING $\qquad$ |  | 40.0 | $\begin{aligned} & 147.00 \\ & 141.000 \end{aligned}$ | DRAFTERS, CLASS B ---------------------- | 78 | 40.0 | 237.50 |
| KEYPUNCH OPERATORS, CLASS | 172 | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ | $\begin{aligned} & 171.50 \\ & 173.50 \\ & 225.50 \end{aligned}$ |  <br> NONMANUF ACTURING $\qquad$ | $\begin{array}{r} 185 \\ 58 \\ 127 \end{array}$ | $\begin{aligned} & 40.0 \\ & 40.0 \end{aligned}$ | 158.00157.00 | blectíunics technicians mANUFACTURING NONMANUF ACTURING $\qquad$ <br> puplic utilities | 4411373 | 40.040.0 | 283.00275.50 |
| NONMANUFACTURING -- | 126 |  |  |  |  |  |  |  |  |  |  |
| public utilities | 27 | 40.0 |  |  |  | 40.0 | 158.50 |  | $304$ | 40.0 40.0 | $\begin{aligned} & 286.50 \\ & 287.00 \end{aligned}$ |
| PUNCH OPERATOFS | 233 |  | 147.50157.50 |  |  |  |  |  |  | 40.0 |  |
| MANUFACTURING | 64 | 40.0 |  | NONMANUF ACTURING | $127$ |  |  | ELECTRONICS TECHMICIANS, CLASS A- | 32 | 40.0 | 304.00 |
| nonmanuF acturing | 169 | 40.0 | 143.50136.00 | PROFESSIONAL AND TECHNICAL OCCUPATIONS - MEN |  |  |  | MANUFACTURING | 71 | 40.0 | 295.50 |
| Retail traje | 61 | 40.0 |  |  |  |  |  | NONMANUFACTURING | 61 | 40.0 | 322.00 |
|  |  |  |  |  |  |  |  | public utilities | 54 | 40. | 326.00 |
|  | 1.332 671 | 40.0 | 199.50 | computer operators, class a NONMANUF ACTURING Pualic utilities$\qquad$ -------- |  | 40.0 | $\begin{aligned} & 251.00 \\ & 257.50 \end{aligned}$ | electronics technicians. Class a- | 305 | 40.0 |  |
| MANUF ACTURING ------------------------- | 671 | 40.0 | $\begin{aligned} & 197.00 \\ & 232.00 \end{aligned}$ |  | $\begin{aligned} & 77 \\ & 55 \end{aligned}$ |  |  |  |  |  | 273.00 |
| pualic utilities | 207 | 40.0 |  |  |  | 40.0 40.0 | $\begin{aligned} & 257.50 \\ & 271.00 \end{aligned}$ | PROFESSIONAL AND TECMNICAL occupations - women |  |  |  |
| RETAIL TRADE | 40 | 40. | 174.50 | COMPUTER OPERATOFS, CLASS y --me=-- | 2 | 40.0 |  |  |  |  |  |
| SECRETARIES, CLASS | 277 | 40.0 | 224.00 | NONHANUF ACTURING | 59 | 40.0 | 197.50199.00224.00 |  |  |  |  |
| manufacturing | 81 | 40.0 | 229.00 | PURLIC UTILITIES | 25 | 40.0 |  |  |  |  |  |
| nonmanuF acturing | 196 | 40.0 | 221.50 |  |  |  |  | NURSES. INDUSTRIAL (REGISTEAED) --- | $71$ | $40.0$ | 223.50 |

[^5]Earnings data in table A-3a relate only to workers whose aex identification was provided by the establishment. Earnings data in tables A-la and A-2a, on the other hand, relate to all workers in an accupation. (See appendix A for publication criteria.)

Table A-4. Hourly earnings of maintenance and powerplant workers in Denver-Boulder, Colo., December 1975


* Workers were distributed as follows: 3 at $\$ 7.60$ to $\$ 8 ; 6$ at $\$ 9.20$ to $\$ 9.60$; and 1 at $\$ 10.40$ to $\$ 10.80$.
** Workers were distributed as follows: 18 at $\$ 7.60$ to $\$ 8$; and 5 at $\$ 8$ to $\$ 8.40$.

Workers were distributed as follows: 169 at $\$ 7.60$ to $\$ 8$; and 162 at $\$ 8$ to $\$ 8.40$

+ Workers were at $\$ 8$ to $\$ 8.40$,
See footnotes at end of tables.

Table A-4a. Hourly earnings of maintenance and powerplant workers-large establishments
in Denver-Boulder, Colo., December 1975


[^6]Table A-5. Hourly earnings of custodial and material movement workers
in Denver-Boulder, Colo., December 1975


[^7]Table A-5. Hourly earnings of custodial and material movement workers
in Denver-Boulder, Colo., December 1975-Continued


See footnotes at end of tables.

Table A-5a. Hourly earnings of custodial and material movement workers-large establishments in Denver-Boulder, Colo., December 1975


[^8]Table A-6. Average hourly earnings of maintenance, powerplant, custodial, and material movement workers, by sex, in Denver-Boulder, Colo., December 1975

| Sex, occupation, and induatry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { wither } \end{aligned}$ | $\left\|\begin{array}{c} \text { Average } \\ \text { (menen } \\ \text { bourly } \\ \text { earning } \end{array}\right\|$ | Sex, occupation, and industry diviston | $\begin{gathered} \text { Number } \\ \text { of } \\ \text { ooken } \end{gathered}$ | $\begin{aligned} & \text { Average } \\ & \text { (minem }{ }^{2} \text { ) } \\ & \text { hooury } \\ & \text { enamingal } \end{aligned}$ | Sex, occupation, and induatry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { worken } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| maintenance and powerplant occupations - men |  |  | CUSTODIAL ANO MAJERIAL MOVEMENT OCCUPATIONS - MEN--CONTINUED |  |  | CUSTODIAL AND MATERIAL MOVEMENT OCCUPATIONS - MEN--CONTINUED |  |  |
| CARPENTERS, MAINTENANCE ----------- | 82 | $\$$ | Janitors, porters, añ cleaners --- | 2,339 | \$ 3.26 | TRUCKDRIVERS - CONTINUED |  |  |
| MANUFACTURING | 54 | 5.75 | MANUFACTURING -------------------- | 432 | 4.27 |  |  |  |
|  |  |  | NONMANUF ACTURIN | 1,907 | 3.03 | TRUCKDRIVERS, HEAVY COVER 4 TONS, |  |  |
| ELECTRICIANS, MAINTE | 335 | 6.65 | PUBLIC UTILITIES | 96 | 5.17 | TRAILER TYPE) ----------------- | 966 | 6.56 |
| manufacturing --- | 280 | 6.53 | RETAIL TRADE ----------------- | 430 | 3.38 | NONMANUFACTURING | 885 | 6.62 |
| NONMANUF ACTUR1NG ------------ | 55 | 7.25 |  |  |  | public utilities | 485 | 6.76 |
|  |  |  | -ABORERS, MATERIAL HANDLING | 1,375 | 5.05 |  |  |  |
| ENGINEERS, STATIONARY | 322 | 6.20 | MANUFACTURING --------------------- | 165 | 4.48 | TRUCKDRIVERS, HEAVY COVEH 4 TONS, |  |  |
| MANUFACTURING --- | 178 | 6.44 | NONMANUF ACTURING | 1,210 | 5.13 | OTHER THAN THAILER TYPE) | 543 | 6.46 |
| NONMANUF ACTURING | 144 | 5.90 | RETAIL TRADE | 130 | 3.14 | MANUF ACTURING | 439 | 6.48 |
| HELPERS, MAINTENANCE TRADES ------* | 117 | 5.23 | ORDEH FILLERS | 1,670 | 4.95 | TRUCKERS, POWER (FORKLIFT) | 903 | 5.49 |
| NONMANUFACTURING ------------------ | 104 | 5.32 | MANUFACTURING | 415 | 4.85 | MANUFACTURING | 378 | 4.90 |
| Public utilities | 91 | 5.54 | NONMAFIUF ACTURING | 1,235 | 4.98 | NONMANUFACTURING <br> PUALIC UTILITIES | 525 100 | 5.91 7.04 |
| MACHINE-TOOL OPERATORS, TOULKOOM | 188 | 6.20 | PACKERS, SHIPPING | 376 | 5.14 |  |  |  |
| MANUFACTURING -- | 188 | 6.20 | NONMANUF ACTURING | 304 | 5.28 | Warehtousemen | 1,567 | 5.83 |
|  |  |  |  |  |  | MANUF ACTUKING | 420 | 4.61 |
| MACHINISTS, MAINTENANCE | 287 | 6.10 | PECEIVING CLERKS | 271 | 4.21 | NONMANUFACTUHING | 1,147 | 6.28 |
| manuFacturing - | 241 | 6.04 | MANUFACTURING | 86 | 4.39 | Public utilities | 783 | 7.01 |
|  |  |  | NONMANUF ACTUR ING | 185 | 4.12 | retail traje | 226 |  |
| MECHANICS, AUTOMOTIVE |  |  | RETAIL TRAOE | 98 | 3.89 |  |  |  |
| (MAINTEHANCE) | $\begin{aligned} & 725 \\ & 127 \end{aligned}$ | $\begin{aligned} & 7.13 \\ & 6.05 \end{aligned}$ | Shippinu Clerks |  |  |  |  |  |
| NONMANUF ACTUNING | 598 | 7.23 | mANUFACTURING | 95 | 4.62 |  |  |  |
| public utilities | 485 | 7.42 | NONMANUF ACTURIN | 115 | 5.00 | OCCIJPATIONS - WOMEN |  |  |
| MECHANICS, MAINTENAVCE | 667 | 6.15 | SHIPPING AND RECEIVING CLEHKS ----- | 162 | 4.76 |  |  |  |
| MANUFACTURING ---- | 615 | 6.14 |  | 58 | 4.98 | Janitors, porteos, and cleanelis --- | 2,002 |  |
| NONMAMUF ACTURING | 52 | 6.27 | NONMANUFACTURI' | 104 | 4.63 | NONMANIIF ACTURILG | 2,003 | 2.75 |
| PUALIC UTILITIES | 25 | 6.59 | METAIL TRADE | 6 | 5.33 |  |  |  |
| painters, Malimtenaice - | 57 | 6.07 | uckdrivers | 3,898 | 5.84 | NONMANUFACTUFING ----- | 59 | 5.13 5.13 |
|  |  |  | manuFacturing | 707 | 6.00 |  |  |  |
| PIPEFITTERS, MAINTENANCE | 150 | 6.06 | NONMANUF ACTURING | 3.191 | 5.85 | brdeh fillers | 295 | 3.55 |
|  |  |  | Pualic utilities | 1,680 | 6.82 | NONMANUF ACTURING | 159 | 4.01 |
| TOOL AND OIE MaKERS | 227 | 6.81 | RETAIL | 655 | 5.27 |  |  |  |
| MANUF ACTUEING | 227 | 6.81 |  |  |  | PACKENS, SHIPQING | 114 | 3.56 |
|  |  |  |  |  |  | NONMANUFACTULTM | 79 | 3.95 |
| custodial and material muvement OCCUPATIONS - IAEN |  |  | 1-1/? TOWS) nONMANUFACTURING -- | $\begin{aligned} & 467 \\ & 419 \end{aligned}$ | 3.66 3.51 | TRUCKORIVENS | 120 |  |
|  |  |  |  |  |  | NONMANUF ACTURING | 120 | 3.83 |
| GUAROS ANO WATCHMEN | 2,484 | 2.66 | TRUCKORIVERS, MEUIUM (I-b/C TO |  |  |  |  |  |
| MANUFACTURING | 249 | 4.97 | AND INCLUDING 4 TONS) ------- | 1,021 | 5.96 | TRUCKDRIVERS, LIGHT (UNLER |  |  |
| NONMANUFACTURING ----------------- | 2,235 | 2.40 | MANUFACTURING | 101 | 4.80 | 1-1/2 TO.N5 | 93 | 3.12 |
|  |  |  | NONMANUFACTUHING | 1.720 | 6.03 | NONMANUF ACTUMING ---- | 93 | 3.12 |
| GUARDS: <br> MANUF ACTURING | 245 | 4.99 | retail trade -- | $\begin{array}{r} 1,182 \\ 135 \end{array}$ | $\begin{aligned} & 6.86 \\ & 3.60 \end{aligned}$ |  |  |  |

NOTE: Earnings data in table A-6 relate only to workers whose sex identification was provided by the establishment. Earnings data in tables A-4 and A-5, on the other hand, relate to all workers in an occupation. (See appendix A for publication criteria.)

See footnotes at end of tables.

Table A-6a. Average hourly earnings of maintenance, powerplant,
custodial, and material movement workers, by sex-large establishments in Denver-Boulder, Colo., December 1975

| Sex, occupation, and industry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { workers } \end{aligned}$ | Average (mean ${ }^{2}$ ) earnings ${ }^{3}$ | Sex, occupation, and industry division | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { woikers } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| maintenance and powerplant OCCUPATIONS - MEN |  |  | CUSTODIAL AND MATERIAL MOVEMENT OCCUPATIONS - MEN--CONTINUEO |  |  |
| CARPENTERS, MAINTENANCE ------- | 66 | $\$ .26$ | Janttors, Porters, and cleaners --- | 744 | \$. 23 |
|  |  |  | MANUFACTURING --------- | 306 | 4.80 |
| ELECTRICIANS, MAINTENANCE | 306 | 6.71 | NONMANUF ACTURING | 438 | 3.63 |
| MANUFACTURING ------- | 258 | 6.58 | Public utilities | 89 | 5.04 |
|  |  |  | retail traue | 279 | 3.72 |
| ENGINEERS. STATIONAETY | 249 | 6.10 |  |  |  |
| MANUFACTURING -- | 149 | 6.27 | LABORERS, MATERIAL HANOLING ------- | 378 | 4.79 |
| NONMANUFACTUATIVG | 100 | 5.86 | NONMANUFACTURING -- | 267 | 4.73 |
|  |  |  | retail trade | 123 | 3.12 |
| helpers, maintenance traves ------- | 91 | 5.46 |  |  |  |
|  | 88 | 5.48 | ORDER FILLERS ---*-------- | 783 | 5.75 |
| PUBLIC UTILITIES -----------*--- | 86 | 5.54 | NONMANUF ACTURING | 543 | 6.14 |
| MACHINE-TOOL OPE PATORS, TOULHOOM -- | 96 | 0.48 | RECEIVING CLERKS - | 88 | 4.58 |
| MANUFACTURING -------------------- | 96. | 0.48 | NONMANUF ACTURING | 72 | 4.43 |
|  |  |  | RETAIL TRADE | 06 | 4.32 |
| MACHINISTS, MAINTEMANCE ----------- | 232 | 6.14 |  |  |  |
| MANUFACTURING ----------------------- | 191 | 6.06 | SHIPPING AND RECEIVING CLENKS ----- |  | 5.49 |
|  |  |  |  | 55 | 5.50 |
| mechanics, autcmative |  |  | retail trade | 50 | 5.50 |
| (MAINTENAMCE) - | 243 | 6.98 |  |  |  |
| NONMAHUF ACTURING | 206 | 7.07 | TRUCKORIVERS | 887 | 6.28 |
| PUBLIC UTILITIES | 153 | 6.83 | MANUFACTURING | 46 | 5.43 |
|  |  |  | NOHMANUF ACTUQ ING | 791 | 6.39 |
| MECHANICS, MAINTENANCE ------------- | 443 | 6.38 |  |  |  |
| manuF acturing | 420 | 6.38 | TRUCKERS, POWER (FORKLIFT) | 397 | 5.56 |
|  | 51 | 6.18 | NONMANUF ACTUHING | 125 | 5.29 6.19 |
|  |  |  |  |  |  |
| TOOL AND DIE MakERS ----------------- | 190 | 6.92 | WAREHOUSEMEN --- | 440 | 5.36 |
| manuFacturivg - | 190 | 6.92 | MANUFACTURING | 160 | 5.02 |
|  |  |  | NONMANUF ACTURING | 280 | 5.56 |
|  |  |  | public uthlities | 104 | 6.43 |
|  |  |  |  | 104 | 5.12 |
| custodial and material muvement occupations - men |  |  |  |  |  |
|  |  |  | CUSTODIAL ANO MATERIAL MOVEMENT OCCUPATIOHS - WOMEN |  |  |
| GUARDS AND WATCHMEN | 314 | 4.70 |  |  |  |
| MANUFACTURING | 201 | 5.13 |  |  |  |
| nonmalulfactuaing | 113 | 3.95 | JANITORS, PORTERS, AND CL | 117 |  |
|  |  |  |  | 84 |  |
| GUARDS: <br> MANUFACTURING | 199 | 5.14 | orden fillers | 44 | 4.39 |

NOTE: Earnings data in table A-6a relate to workers whose sex identification was provided by the
eatablishment. Earning data in tables A-4a and A-5a, on the other hand, relate to all workers in an occupation. (See appendix A for publication criteria.)

See footnotes at end of tables.

Table A-7. Percent increases in average hourly earnings for selected occupational groups, adjusted for emplovment shifts, in DenverBoulder, Colo., December 1975, for selected periods

| Induatry and occupational group | $\begin{gathered} \text { December } 1972 \\ \text { to } \begin{array}{c} \text { Decer } \\ \text { Der } \end{array} 1973 . \end{gathered}$ | $\begin{aligned} & \text { December } 1973 \\ & \text { December } 1974 \end{aligned}$ | $\begin{aligned} & \text { December } 1974 \\ & \text { to } \\ & \text { December } 1975 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| All induatries: |  |  |  |
|  | ${ }^{7.2}$ | ${ }_{110}^{10.5}$ | 9.0 6.6 |
|  | 6.6 | 10.4 | 7.8 |
| Skilled maintenance trados (men) ------------------------- - - - | 7.5 | 9.2 | 8.7 |
|  | 7.6 | 10.9 | 8.6 |
| Manufacturing: |  |  |  |
| Office clerical (men and women) --.-.-.-------- | ${ }^{6.7}$ | 11.2 | ${ }_{\text {\% }} 9.2$ |
| Induatrial nurses (men and women) ------------------ -- - - | 6.0 | 12.2 | 5.8 |
|  | 6.5 | 9.3 | 8.9 |
|  | 7.8 | 12.6 | 6.2 |
| Nonmanufacturing: |  |  |  |
|  | ${ }^{7} \times$ | ${ }_{11.1}^{10.3}$ | 8.8 6.4 |
| Industrial nurses (men and women) -------------->-> | ${ }_{4}^{8.2}$ | *** | ** |
| Skillod maintenance trades (men) -------------------------------- | ${ }_{7.6}^{* *}$ | **** | 9.5 |

* Data not available.

Data do not meet publication criteria.

NOTE: The percent increasea presented in this table are based on changea in average hourly earning for establighment reporting the trend jobs in both the current and previous
year (matched eatablishmenta). They are not affected by changes in average arnings year (matched eatablishmenta). They are not affected by changes in average eamings
resulting from employment shifta among atablishmenta or turnover of establishments included in aurvey samples. The percent increases, however, are atill affected by factora other than wage increases. Hirings, layoffa, and turnover may affect an eatabliahment average for an occupation when workera are paid under plans providing a range of wage ratea for individual jobs. In periods of increased hiring, for example, new emplay
bottom of the range, depressing the average without a change in wage rates.

These wage trenda are not linked to the wage inderes previously published for thit area because the wage indexes measured changes in area averages, wherean the ma wage trends measure changes in matched establinhment averages. Other characteriatics of these clerical workera and induatrial nurses are converted to an hourly basis (2) trend eatimates are provided for nonmanufacturing establiahments, where possible, and (3) trend eatimates are provided for electronic data procesaing jobs.

For a more detailed description of the methad used to compute these wage trends, see "Improving Area Wage Survey Indoxes," Monthly Labor Review. January 1973, pp. 52-57.

## Footnotes

[^9]
## Appendix A

Area wage and related benefits data are obtained by personal vioite of Bureau field represontatives at 3-year intervals. ${ }^{1}$ In each of the intervening yeara, information on employment and interview from eatablighmenta participating in the previous survey.

In each of the $83^{2}$ areas currently surveyed, data are obtained from representative establishmente within six broad industry divisions: Manufacturing; tranaportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real entate; and services. Majo industry groups excluded from these atudies are government operations and the construction and
extractive industries. Establishments having fewer than a prescribed number of workers are omitted oxtractin each of the broad industry division which meet publication criteria.

These surveys are conducted on a sample basis. The sampling procedures involve detailed atratification of all establiohments within the scope of an individual area survey by industry and number of employees. From this stratified universe a probability ample is aelected, with each eatablishment having a predetermined chance of eelection. To obtain optimum accuracy at minimum coat, a greate proportion of large than srnall establishments is selected. When data are combined, each eatabliahmen examplo, if one out of four entabliehments is elected, it is given a weight of four to represent itgel plus three othera. An alternate of the bame original probability is chonen in the same industry-size claasification if data are not available for the original sample member. If no suitable subatitute is vailable, additional weight is assigned to a sample member that is similar to the misaing unit

## Occupations and Earninge

Occupations solected for study are common to a variety of manufacturing and nonmanufacturin induatries, and are of the following typer: (1) Office clerical; (2) profes sional and technical; (3) ased on uniform set of job deacriptiona designed to take account of interestablishment variation in duties within the ame job. Occupations selected for study are listed and dencribed in appendix B Unless otherwise indicated, the earning data following the job titles are for all industries combined Earninge data for some of the occupations listed and described, or for some industry divisions within occupations, are not presentod in the A-series tables, because either (1) employment in the occupation too small to provide enough data to merit presentation, or (2) there is possibility of discloaure the number of workers not identified by sex is 20 percent or more of the men or women identified in an occupation. Earnings data not ahown separately for industry divisiona are included in all industrie combined data, where shown. Likewise, data are included in the overall classification when a ab lassification of electronice technicians, secretaries, or truckdrivers is not shown or information $t$ ubclaseify is not available

Occupational employment and earnings data are ahown for full-time workers, i.e., those hired o work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holdays, and incentive bonuses are included. Weekly hours for office clerical and professional and technica occupations refer to the atandard workweak (rounded to the nearest half hour) for which omployees receive regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). average weekly earnings for these occupations are rounded to the nearest half dollar.

These surveys measure the level of oscupational earnings in an area at a particular time Comparisont of individual occupational averages over time may not reflect expected wage changes, The averages for individual jobs are affected by changea in wages and omployment patterna. Fo example, proportions of workers employed by high- or low-wage firms may change, or high-wage orkers may advance to better jobs and be replaced by new workers at lower rates. Such shifta in increase wages during the year. Trends in carnings of occupational groupa, shown in table A-7 are better indicatora of wage trends than individual jobs within the groups.





Average earnings reflect composite, areawide eatimaten. Industries and establishments diffur in pay level and job staffing, and thus contribute differently to the eotimatea for oach job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishmenta. reflect Average pay levels for men and women in selected occupations should not be assumed to to differences include progression within established rate ranges, aince only the rates pald incumbents are collected, and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishmenta in specific duties performed.

Occupational omployment estimates represent the total in all eatablithments within the scope of the atudy and not the number actually surveyed. Because occupational structures among eatablishaerve only to indicate the relative importance of the jobs studied. These differences in occupational atructure do not affect materially the accuracy of the earnings data.
Wage trende for selected occupational group:
The percents of change in table A-7 relate to wage changes between the indicated daten. Annual rates of increase, where shown, reflect the amount of increase for 12 montha when the time span between surveys was other than 12 months. Annual rates are based on the assumption that wages oreased at a constant rate between surveys.
Occupations used to compute wage trends are:

```
Office clerical (men and women):
Bookkeeping-machine operatore,
class B
Clerks, accounting, classes A and
Clerks, order
Clerks, payroll
Keypunch operators, clasaes A and B
Mesaengers
Stenographora,general
tenographers, menior
Switchboard operators
Tabulating-machine operators,
clage B
Typists, clages A and B
Electronic data proceativg
(men and women):
Computer operators, clanses A, B, and C
Computer operators, clarses A, B, and,
```


## $\frac{\text { Electronic data procesbing (men }}{\text { and woment }}$

```
Computer syatems analysts, classea \(A\)
\(B\), and C
Industrial nuraes (men and women)
Nurses, industrial (registered)
Skilled maintenance (men):
Carpenters
Electricians
Machinists
Mechanics (automotive)
Paintera
Pipefitters
Tool and die maker
Unakilled plant (men):
Janitora, portera, and cleanern
Laborers, material handling
```

Percent changes for individual areas in the program are computed as follows

1. Each occupation is assigned a weight based on its proportionate employment in the aelected group of occupations in the base year
earning 2. These weight are used to compute group averages. Each occupation's average (mean) earnings is multiplied by its weight. The producta are totaled to obtain a group average
for the current yatio of group avorages 2 consecutive years in computed by dividing the average is the percent change. Establishment p

Tabulations on selected establishment practices and supplementary wage provisions (B-series tables) are not presented in this bulletin, Information for these tabulationa is collected at 3 -year differentials; scheduled weekly hours and days; paid holidays; paid vacations; and health insurance and pension plans are presented (in the B-series tables) in previous bulletins for this area.

Establishments and workers within scope of survey and number studied in Denver-Boulder, Colo.,' December 1975


1 The Denver-Boulder Standard Matropolitan Statiatical Area, as defined by the Office of Management and Budget through February 1974 , consista of Adams, Arapahoe, Boulder, Denver, Douglan, Gilpin, and Jefferson Counties. The "workers within ecope of study" estimatea shown in thia table provide a reasonably accurate to meapure employment trends or levelf since (1) planning of wage surveys requires establishment data compiled conslderably in advance of the payroll period studied, and (2) small establiohments are excluded from the scope of the survey.
${ }_{3}$ The 1967 edition of the Standard adustrial Clasilication Manual was used in clasifying eatabilahmenta by induatry division.
隹 finance, auto repair service, and motion plcture theaters are considered as lestablishment
s Abchaves all workers to "public utilities" in the A-series tables. Taxicabs and services incidental to water transportation were excluded.

- This division is represented in estimates for "all induatries" and "nonmanufacturing" in the A-series tables. Separate presentation of data is not made for one or more of the following reasons: (1) Employment is too amall to provide enough data to merlt separate atudy, (2) the ample was not designed initially to permit eparate presentation, ( rganizations (excluding religious and charitable organizations); and engirearing and architectural ervices.


## Appendix B. Occupational Descriptions

The primary purpose of proparing job descriptions for the Bureau's wage surveys is to assint ita field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangementa from eatablishment to eatablishment and rom area to area. This permits the grouping of occupational wage rates representing comparable job content. Becauae of thin emphasia on Intereatablimhment and interarea comparabili'y of occupational content, the Bureau's job descriptions may diffor ignificantly from those in use in adividual establiehments or those prepared for other purposes. In applying these job descriptions, the Bureaus field economists are inetructed to exclude working supervisors; apprentices; learnera; beginners; trainees; and handicapped, part-time, temporary, and probationary workers,

## OFFICE.,

## Biller, machine

Prepares atatements, bllla, and invoices on a machine other than an ordinary or electromatic typewriter. May also keep records as to billings or shipping charges or perform other clerical work operations. For wage study purposes, billers, machine, are classified by type of machine, as follows:
dding Biller, machine (billing machine). Uses a apecial billing machine (combination typing and addin machina) to prepare billa and invoices from customersi purchase orders, internally prepared orders, shipping memorandums, etc. charges and entry of necessary extensions, which may or may not be computed on the billing machine, and totals which are automatically accumulated by machine. The operation usually involves a large number of carbon coptea of the bill being prepared and is often done on a fanfold machine.

Biller, machine (bookkeepine machine). Uses a bookkeeping machine (with or without a typowriter keyboard) to propare customers' bills as part of the account s receivable operation. automatically accumulatea figurea on a number of vertical cohumns and computes and usually prints automaticolly the debit or credit balancea. Does not involve a knowledge of bookkeeping. Work: from uniform and standard types of ales and credit alips.

## BOOKKEEPING-MACHINE OPERATOR

Operates a bookkeeping machine (with or without a typewriter keyboard) to keep a record of buainese tranastions.

Clans A. Keeps a eet of recorde requiring a knowlodge of and experience in basic bookkeeping principles, and familiarity with the structure of the particular accounting system used. Determines proper racords and diatribution of debit and credit iteml to be used in each phase of the work. May propare connolidated reports, balance ohects, and other records by hand.

Clase B. Keaps a record of one or more phases or sections of a set of recorda usually requiring little knowledge of basic bookkeeping. Phases or sections include accounts payable, payroll. cuatomerg' accounts (not including a simple type of billing deacribed under biller, machine), cost dietribution, expense distribution, inventory control, etc. May check or aseiat in preparation of trial balances and propare control sheets for the accounting department.

CLERKS, ACCOUNTING
Performs one or more accounting clerical taske such as posting to registers and ledgere; reconciling bank accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying assisting in preparing more complicated journal vouchers. May work in either a manual or automated accounting system

The work requires a knowledge of clerical methods and office practices and procedures which relates to the clerical processing and recording of transactions and accounting information. With procedures used in the assigned work, but is not required to have a knowledge of the formal principle of bookkeeping and accounting.

Ponitions are clansified into levels on the banis of the following definitions.
Class A. Under general aupervision, performa accounting clerical operations which require the application of experience and judgment, for example, clerically processing complicated o nonrepetitive accounting transactions, selecting among a substantial variety of prescribed accounting codes and classifications, or tracing transactions though previous accounting act

Class B. Under close aupervision, following detailed instructions and standardized procedures perform one or more routine accounting clerical operations, such as posting to ledgers, cards, or worksheets where identification of items and locations of postings are clearly indicated; checkin ccuracy and completeneas of standardized and repetitive records or accounting documents; and coding ocument using a few prescribed accounting codes.
clerk, file
Files, classifies, and retrieves material in ar eatablished filing system. May perform lerical and manual tasks required to maintain files. Ponitions are classified intolevels on the basi f the following definitions.

Clase A. Classifies and indexes file material such as correspondence, reports, technica documents, etc, in an established filing syatem containing a number of varied aubject matter files, May also file thia material. May keep recordall group of lowar level file clerks.

## CLERKS, FILE-Continued

Class B. Sorts, codes, and files unclasaified material by simple (subject matter) headings or partly clasaified material by finer subheadinga. Prepares simple related index and crosa-reference aid. As requested, locate clearly identified material in files and forwarda material, May perform

Class C. Performs routine filing of material that has already been classified or which is easily clasified in a simple ancial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in filea and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual taske required to maintain and arna

CLERK, ORDER
Receives customers' orders for material or merchandise by mail, phone, or personally, Duties involve any combination of the following: Quoting prices to customers; making out an order and diatributing order sheetato reapective departmenta to be filled. May check with credit department to determine credit rating of customer, acknowledge receipt of orders from customers, follow up orders to see that they have been filled, keep file of ordera received, and check ahipping invoices with original order
CLERK. PAYROLL
Computes wages of company employees and enters the necesaary data on the payroll sheets. Duties involve: Calculating workers' earnings based on time or production records; and posting calculated data on payroll sheet, showing information such as worker's name, working days, time, rate, deductions for insurance, and total wages due. May make out paychecks

KEYPUNGH OPERATOR
Operates a keypunch machine to record or verify alphabetic and/or numeric data on tabulating cards or on tape

Positions are clasaified into levels on the basis of the following definitiona. to be follames A. Work requires the application of experience and judgment in selecting procedures variety of nource documents. On occasion may also perform some routine keypunch work. May train

Clasa B. Work is routine and repetitive. Under close supervision or following apecific procedures or ingtructions, works from various atandardized source documenta which have been coded,
and follows apecified procedures which have been preacribed in detail and require little or no selecting, and follows apecified procedures which have been prescribed in detail and require little or no selacting. coding, or interpreting of data to be reco

MESSENGER
Performa various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening and distributing mail, and other minor clerical work. Exclude

SEGRETARY
Ansigned an personal aecretary, normally to one individual. Maintaine a close and highly reaponsive relationship to the day-to-day work of the supervisor. Works fairly independently receiving a minimum of detailed upervision and guidance. Performat varied clerical and secretarial a. Receives telephone calls, personal caller
and routes technical inquiries to the proper persons;
b. Establishes, maintains, and revies the upervisor's files;
c. Maintaina the aupervisor's calendar and makes appointmenta as ingtructed;
d. Relays message from supervisor to subordinates;
e. Reviewn correspondence, memorandums, and reports prepared by othere for the auparvisorle nignature to correspondence, ment typographic accuracy

## f. Performs atenographic and typing work

May also perform other clerical and aecratarial task of comparable nature and difficulty. The work typically requires knowledge of office routine and underatanding of the organization, programa, and procedurea related to the work of the supervisor.

## SECRETARY-Continued

## Excluaion:

Not all positions that are titled "secretary" possean the above characteriatics. Examples of positions which are excluded from the definition are as follows:
a. Positions which do not meet the "personal" secretary concept deacribed above
b. Stenographera not fully trained in aecretarial type duties;
c. Stenographers serving as office assistants to a group of profestional, technical, o managerial perions
d. Secretary poaitions in which the duties are either substantially more routine or subantially more complex and responsible than those characterized in the definition;

## admini work.

e. Assiatant type positiona which involve more difficult or more reaponable technical

NOTE: Theterm "corporate officer," used in the level definitions following, refers to those officials who have a significant corporate-wide policymaking role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all case identify such positions. Vice presidents whose primary responsibility is to act personally on individual trust accounts; directly supervise a clerical ataff) are not considered to be "corporate officera" for purposes of applying the following level definition

## Clage A

1. Secretary to the chairman of the board or president of a company that employs, in all over 100 but fewer than 5,000 persons; or
2. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, over 5,000 but fewer than 25,000 persons; or
3. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a compary that employs in all bela 25,000 perane

## Class_B

1. Secretary to the chairman of the board or president of a company that employs, in all fewer than 100 persons or
2. Secretary to a corporate officer (other than the chairman of the board or president) of company that employs, in all, over 100 but fewer than 5, 000 persons; or
3. Secretary to the head, immediately below the officer level, over either a major corporate wide functional activity (e.g., marketing, research, operations, industrial relations, etc.) or a majo geographic or organizational segment fewer than 25,000 employees; or major division) of a company 4. Secretary to the head of an individual
official) that employs, in all, over 5,000 persons: or
4. Secretary to the head of a large and important organizational segment (e.g., a middle management supervisor of an organizational segment often involving as many as several hundred persons) or a company that employs, in all, over 25,000 persons.

## Clase C

1. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the definition for class B, but whose organizational unit normally numbers at least several dozen employees and is usually divided into organizational segment organizational echelons; in others, only one or two; or
2. Secretary to the head of an individual plant, factory, etc. (or other equivalent level of official) that employa, in all, fewer than 5,000 persona.

## Clas: D

1. Secretary to the supervisor or head of a amall organizational unit (e.g., fewer than
2. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer, or assiatant, akilled technician or expert. (NOTE: Many companies asign atenographers
rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.

Primary duty is to take dictation using ahorthand, and to transcribe the dictation. May also ype from written copy. May operate from a stenographic pool. May ocenaionally transcribe from
vice recordings (if primary duty is tranecribing from recordinge, aee Transcribing-Machine oice recordings

NOTE: This job is distinguished from that of a secretary in that a secretary normally works in a confidential relationship with only one manager or executive and performa more reaponaible and discretionary tank as deacribed in the eecretary job definition.

## Stenographer, General

Dictation involves a normal routine vocabulary. May maintain files, keep imple records porform other relatively routine clerical taska.

## Stenographer, Senior

Dictation involves a varied technical or apecialized vocabulary ouch an in legal briefa or eports on scientific research. May also set up and maintain files, keep record etc

## OR

Performa stenagraphic dutien requiring significantly greater independence and reaponsibility han atenographer, general, as evidenced by the following: Work requires a high degree of stenographic he opecific businesa operationa, orgonisation, policies, procedurea, files, warkflaw, etc. Useas this knowledge in performing stenograptic dutien and rasponable clerical taska auch as maintaining followup iles; assombling material for reporta, memorandums, and letters; composing aimple letters from general instructions; reading and routing incoming mail; and answering routine queations, etc.

SWITCHBOARD OPERATOR
Operates a telephone switchboard or console used with a private branch exchange (PBX)
ystern to relay incoming, outgoing, and intra-syatem calls. May provice ayotern to relay incoming, outgoing, and intra-syatem calla. May provide information to callers,
record and tranamit messages, keep record of calla placed and toll chargeas. Besides operating a telephone witchboard or console, may aleo type or perform routine clerical work (typing or routine clericel work may occupy the major portion of the worker's time, and ia uaually performed while at the switchboard or console). Chief or lead operators in establishment employing more than one operator are excluded. For an operator who also acts as a receptioniat, see Switchboard OperatorReceptionist.

## WITCHBOARD OPERATOR-RECEPTIONST

At a single-position telephone awitchboard or console, acta both an an operator-see Switchboard Operator-and as a receptionist. Receptionist's work involves such duties as greeting vigitors eterming naturo in the appointment; keeping a log of vibitora.

## TABULATING-MACHINE OPERATOR (Electric Accounting Machine Operator)

Oparates one or a varisty of machinea much as the tabulator, calculator, collator, interproter sorter, reproducing punch, etc. Excluded from this definition are working supervisors, Also oxcluded
are operators of electronic digital computera, oven though they may aleo operate EAM equipment. Positions are clasaified into levels on the basis of the following dofinitions.
Clasa A. Performs complete reporting and tabulating aesignmente including devising difficult control panel wiring under general supervision. Absignments typically involve a variety of long ant equencing of operations, and the use of or nonreeurring, requiring aically involved in training now operator in machine operations or training lower level operatora in wiring from diagrams and in the operating sequences of long and complex reports. Does not include positions in which wiring responsibility is limited to velection and insertion of prewired boards.

Clase B. Performs work according to establimhed procedures and under apecific instructions. Asaignmente typically involve complete but routine and recurring reports or parts of larger and more comples reports. Operates more difficult tabulating or electrical accounting machines auch as the tabulator and calculator, in addition to the simpler machines used by clans C operators. May be Clas: C. Under specific inatructions, operates simple tabulating or electrical accounting machines such as the sorter, interpreter, reproducing punch, collator, etc. Ansignments typically molvo portions of a work unit, for example, individual sorting or collating runs, or repetitive perations. May perform iimple wiring from diagrams, and do some filing work
TRANSCRIBING-MACHINE OPERATOR, GENERAL Primary duty is to tranacribe dictation involving a normal routine vocabulary from tran-
scribing-machine recorda. May also type from written copy and do simple clerical work. Workers ranscribing dictation involving a varied technical or specialized vocabulary such as legal briefa or Stenotype or similar machine is clasaified as a stenographer.
TYPIST
Usea a typewriter to make copien of various materials or to make out bills after calculation have been made by another person. May include typing of stencils, mata, or similar materials for e in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Class A. Performs one or more of the following: Typing material in final form when : involves combining material from several sources; or responsibility for correct spelling, syllabication yping of complicated atatistical tables to maintain uniformity and balance in apacing. May type routine form letters, varying details to suit circumstances.

Class B. Performs one or more of the following: Copy typing from rough or clear drafte routine typing of forms, insurance policies, etc; or setting up simple standard tabulations; or or routine typing of forms, insurance policies, etc; or setting

## PROFESSIONAL AND TECHNICAL

## GOMPUTER OPERATOR

Monitors and operates the control console of a digital computer to process data according to perating instructions, usually prepared by a programmer. Work includes most of the following: Studies instructions to determine equipment setup and operations; loads equipment with required items (tape reels, cards, etc.); switches necessary auxiliary equipmont into circuit, and starts and
operates computer; makes adjustments to computer to correct operating problems and meet special onditions; reviews errors made during operation and determines cause or refers problem to upervisor or programmer; and maintaing operating records. May test and assist in correcting program.

For wage study purposes, computer operators are classified as follows:

Clase A. Operatea independently, or under only general diraction, a computer running programs with most of the following characteristica: New programs are frequently tested and introduced; echeduling requiremente are of critical importance to minimize downtime; the programss total program, and alternate programs may not be available. May give direction and guidance to lower level operators.

COMPUTER OPERATOR-Continued
Class B. Operates independently, or under only general direction, a computer running programs with most of the following characteristics: Most of the programs are established production runs, typically run on a regularly recurring basis; there is little or no testing of new programs requirod; alternate programs are provided in case original program needs major change or cannot be action. This usually involves applying previously programmed corrective ateps, or uaing standard correction techniques.

OR
Operates under direct supervision a computer running programs or segments of programs with the characteristics described for class A. May performing less difficult task astigned, and perio
knowlodge of the computer equipment uned and ability to detect problerns invected to develop working knowledge of the computer equipment unad and ability to detect problern involved in running routine programe. Usualy has received

Converts atatements of busineas probleme, typically prepared by a eystems analyat, into a esquence of detailed in etructione which are required to solve the problems by automatic date procesaing
equipment. Working from charte or diagrams, the programmer develops the precise instructions which whon entered into the computer system in coded language, cause the manipulation of data to achiove deaired reaults. Work involves mont of the following: Applies knowlodge of computer capabilitios, mathematice, logic employed by computers, and particular subject matter involved to analyse charta and diagrams of the problem to be programmed; develops sequence of program iteps; writes detalled for machine to follow; teate and corrects programe; prepares instructions for operating personnel during production run; andyzes, reviews, and altere programe to increase oporating efficiency of adapt to new requirementa; maintains recorda of program development and revisions. (NOTE: Workers performing both syatems analyai and programming should be clasaified as aystems analyate if this is
the ekill uged to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other ongineoring problema

For wage study purposes, programmeri are clanaified an follow:
Cleas A. Works independently or under only general direction on complex problems which require competence in all phaser of programming concepts and practices, Working from diagrams and chart, which identify the nature of desired results, major procensing steps to be accomplished,
and the relationships between various stepe of the problem solving routine; plans the full range and the relationships between various steps of the problem aolving routine; plans the full range
of programing actiona needed to efficiently utilize the computer aystem in achieving deaired of programmi

At this level, programming is difficult because computer equipment must be organized to produce neveral interrolated but diverae product, from numerous and diverie data elemente. A wide verioty and oxtenaive number of internal processing actions must occur. This requireis buch actions as development of common operationa which can be reused, eatablishment of linkage point a between ubetatial manipulation and resequencing of dat eloments to highly integrated program

May provide functional direction to lower level programmers who are asaignod to asaist.
Clase B. Worka independently or under only general direction on relatively aimple programa or on simple segments of complex programs. Programa (or segmente) usually process information to refining, adapting, arraying, or making minor additions to or deletions from input data which are readily available. While numerou: records may be processed, the data have been refined in prior actionaso that the accuracy and eequencing of data can be tested by using a few routine checks. Typically, the program deala with routine record-keeping type operationa.

## OR

Worki on complex programs (as described for clans A) under close direction of a higher level programmer or supervisor. May ansist higher level programmer by independently performing

May guide or inatruct lowor level programmers.
Clans C. Makes practical applications of programming practices and concopt usually learned formal training courses. Absignments are deaigned to develop competonce in the application of atandard procedures to routine problems. Receives close upervision on now aspects of assignments COMPUTER SYSTEMS ANALYST, BUSINESS

Analyzes business problems to formulate procedures for solving them by use of olectronic data proceaning equipment. Develops a complete deacription of all upecification needed to enable programmers to prepare required digital computer programs. Work involves most of the following: achieve atinfactory resulta; specifies number and typen of records, files, and documents to bo used outlines actione to be performed by personnel and computers in sufficient datail for presentation to mangernent and for programming (typically this involves proparation of work and data flow charts); coordinates the development of tent problems and participater in trial runs of now and revised syatems performing both aystems analysits and programming ahould be classified ae aystoms analysts if this is the ekill used to determine thelir pay.)

Dosen ot include employoes primarily responaible for the management or suporvision of other electronic data procenaing employoe日, or aystem, analyat primarily concomed with aciontific or electronic data proce

## COMPUTER SYSTEMS ANALYST, BUSINESS-Continued

## For wage atudy purposes, eyatoms analyets are claesified as followa:

Clans A. Work independently or under only general direction an complex probleme iavolving all phasios of ayatem analyais. Problems are comploz becaune of diverae nources of input data and multiple-use requirements of output data. (For example, develope an integrated production cheduling, inventory control, cost analysia, and asles analyais record in which overy itom of anch type is automatically procesed through the full symom of record and appropriate followap action are ins and advisea nubject-matter personnel on the implications of now or revied syatems of dita procensing operations. Makea recommendations, if needed, for approval of major eyateme inatallations or changee and for obtedning equipment.

May provide functional direction to lower leval syatema analyst who are asaigned to anaint.
Clases. Works independently or under only general direction on problema that are relatively uncomplicated to analyze, plan, program, and operate. Problems are of limited complexity because sources of input data are homogeneous and the output data are closely related. (For example, developa ay aterme for maintaining depositor accounts in a bank, maintaining account receivable in a retail
 matter pertonnel on the implications of the data processing systems to be applied.

OR
Worka on a segment of a complox data processing acheme or systern, as described for clans A. Works independently on routine arsignments and receivea instruction and guidance on complex assignments. Work proper alignment with the overall syntem.

Clant C. Works under immediate apervision, carrying out analyses an assigned, ugually of a single activity. As ignments are designed to develop and expand practical experience in the application of procedures and skill required for systom analy sis work. For example, may assiat a information developed by the higher level analyet.

## DRAFTER

Clase A. Plans the graphic presentation of complex items having distinctive design features that differ significantly from eatablished drafting precedents. Works in close support with the design originator, and may recommend minor design changes. Analyzea the effect of each change on the details of form, function, and positional relationships of components and parts. Worka with a minimum of supervisory assistance. Completed work is reviewed by design originator for consistency with prior engineering determinatione. May either prepare drawinga, or direct their preparation by Of most of the B. Performe nonroutine and complex drafting as signment that roquire the application Prepares working drawings of subassemblies with irregular shapes, multiple functions, and precise
positional rolationships between components; prepares architectural drawings for construction of a positional relationships between components; preparea architectural drawinge for construction of a formulas and manuals in making neceasary computations to determine quantities of materiala to be used, load capacities, strengtha, stresses, etc. Receives initial inatructions, requirements, and advice from supervisor, Completed work is checked for technical adequacy

Clana C. Prepares detail drawings of single units or parts for ongineering, construction, manufacturing, or repair purposan. Types of drawing prepared includ isometric projectiona (depicting three dimensions convey needed information. Consolidates details from a number of pources and amponent ransposes acale as required. Suggested methods of approach, applicable precedenta, and advice on ourco matorials are given with initial assignments. Tnatructiona are lese complete when assignmenta recur Work may be spot-checked during progreas.

DRAFTER-TRACER Copies plane and drawings prepared by others by placing tracing cloth or paper over drawings
and tracing with pen or pencil. (Does not include tracing limited to plans primarily consiating of otraight lines and a large scale not requiring clome delineation.)

## AND/OR

Prepares aimple or repetitive drawinga of eamily visualized itema. Work it closely supervised during progresa.

Works on various types of electronic equipment and related devices by performing one or a combination of the following: Installing, maintaining, repairing, overhauling, troubleshooting, modifying, constructing, and testing. Work requires practical application of technical knowledge of electronics
principles, ability to determine malfunctions, and skill to put equipment in required operating condition.

The equipment-consisting of either many different kinds of circuits or multiple repetition of the same kind of circuit-includes, but is not limited to, the following: (a) Electronic tranamitting
and receiving equipment (e.g., radar, radio, television, telephone, sonar, favigational aids), (b)


This classification excludes repairers of such standard electronic equipment as common office machines and household radio and television sets; production assemblers and testers; workers whose supervisory responsibility; and drafters, designers, and professional engineers.

Positions are classified into levels on the basis of the following definitions.

Class A. Applies advanced technical knowledge to solve unusually complex problems (i.e.. those that typically cannot be solved solely by reference to manufacturers' manuals or similar documents) in working on electronic equipment. Examples of such problems include location and
density of circuitry, electro-magnetic radiation, isolating malfunctions and frequent engineering density of circuitry, electro-magnetic radiation, isolating malfunctions, and frequent engineering independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test inatruments' (e.g., dual trace oscilloscopes, $Q$-meters, deviation meters, pulse generators) Work may be reviewed by supervisor (frequentiy an engineer or designer) for general
compliance with accepted practices. May provide technical guidance to lower level technicians.
hat typically $\frac{\text { Clas }}{}$. Applies comprehensive technical knowledge to soive complex problems (i.e., thase documenta) in working on electronic equipment. Work involves; A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in aelecting tools and testing
instruments, usually less complex than those used by the class A technician.

Receives technical guidance, as required, from supervisor or higher level technician, and work is reviewed for specific compliance with accepted practices and work assignments. May provide echnical guidance to lower level technicians

Class C. Applies working technical knowledge to perform simple or routine takk in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work replacing components, wiring circuits, and taking test readings; repairing simple electronic equipment; and using tools and common test instruments (e.g., multimeters, audio signal generators, tube testers, oscilloscopes). Is not required to be familiar with the interrelationships of circuits. This knowledge. however, may be acquired through assignments designed to increase competence (including classroom
training ) so that worker can advance to higher level technician.

Receives technical guidance, as required, from supervisor or higher level technician. Work is typically spot checked, but is given detailed review when new or advanced assignments are involved.
NURSE, INDUSTRIAL (Registered)
A registered nurse who gives nursing service under general medical direction to ill or injured mployees or other persons who become ill or suffer an accident on the premises of a factory or injured; attending to subsequent dressing of employees injuries; keeping records of patients treated preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employess; and planning and carrying out programs involving health ducation, accident prevention, evaluation of pland more than one nurse are excluded

MAINTENANCE AND POWERPLANT
boiler tender
Fires stationary boilers to furnish the establishment in which employed with heat, power or steam, Feeds fuels to fire by hand or operates a mechanical stoker, gas, or oil burner; and CARPENTER, MAINTENANCE

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves most of the following: Planning and laying out of work from blueprints, drawings, models, or verbal instructions: using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In
general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## Elegtrician, maintenance

Performs a variety of electrical trade functions sach as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. such as generators, transformers, Inatalling or repairing any of a variety of electrical equip units condurt systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical syatem or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handrools and measuring and testing instruments. In general, the work of the apprenticeship or equivalent training and experience.

## ENGINEER, STATIONARY

Operates and maintains and may also supervise the operation of stationary engines and equipment (mechanical or electrical) to supply the establishment in which employed with power, heat steam engines, air compressors, generators, motors, turbines, ventilating and refrigerating equipment ateam boilers and boiler-fed water pumps; making equipment repairs; and keeping a record of operation of machinery, temperature, and fuel consumption. May also aupervise these operations. Head or chief engineers in establishments emplofing more than one engineer are excluded.
helper, maintenance trades
Assists one or more workers in the skilled maintenance trades, by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; an performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted o perform varies from trade to trade: In some trades the helper is confined to supplying, lifting and hling makernans ull-time basis.

## MACHINE-TOOL OPERATOR, TOOLROOM

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetanic difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other oneration sequence or select those prescribed in drawings, blueprints, or layouts); using a variety a precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimenaions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work
 on-the-job training and experience

For cross-industry wage study purposes, this classification does not include machine-too perators, toolroom, employed in tool-and-die jobbing shops

## MACHINST, MAINTENANCE

Produces replacement parts and new parts in making repairs of metal parts of mechanica equipment operated in an establishment. Work involves most of the following: interpreting writte inatructions and specifications; planning and laying out or work; using a variety of machinist's handtool

## MACHINIST, MAINTENANCE-Continued

parts to close tolerances; making standard shop computations relating to dimensions of work, tooling eeds, and speeds of machining; knowledge of the working properties of the common metals; selecting nechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeahip or equivalent training and experience.
MECHANIC, AUTOMOTIVE (Maintenance)
Repairs automobiles, buses, motortrucks, and tractors of an establishment. Work involves most of the following: Examining automotive equipment to diagnose source of trauble; disassembling equipment and performing repairs that involve the use of such handtools as wrenches, gauges, drills or specialized equipment in disassembling or fitting parts; replacing broken of defective parts from
stock; grinding and adjusting valves; reassembling and installing the various assemblies in the vehicle and making necestary adjustments; and aligning wheels, adjusting brakes and lights, or tightening body bolts. In general, the work of the automotive mechanic requires rounded training and experience usually acquired through a formal apprenticeahip or equivalent training and experience

This classification does not include mechanics who repair customers' vehicles in automobile repair shops.

MECHANIC, MAINTENANGE
Repairs machinery or mechanical equipment of an establishment. Work involves most of the following: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering
he production of a replacement part by a machine shop or sending of the machine to a machine shop for major repairs; preparing written gpecifications for major repairs or for the production of part ored from machine shops; reassembling machines; and making all necessary adjustments fo unually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose primary duties involve setting up or adjusting machines.

MILLWRIGHT
Installs new machines or heavy equipment, and dismarties and installs machines or heavy equipment when changes in the plant layout are required. Work involves most of the following Planning and laying out of the work; interpreting blueprints or other specifications; using a variety o handtools and rigging; making standard shop computations relating to atresses, atrength of materials, arts to be used; and installing and maintaining in good order power transmission equipment such a drives and speed reducers. In general, the millwright's work normally requiret a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience,

PAINTER, MAINTENANGE
Paints and redecorates walls, woodwork, and fixtures of an establishment. Work involves the following: Knowledge of surface peculiarities and types of paint required for different applications interatices; and applying paint with spray gun or brush. May mix colors, oila, white lead, and othe paint ingredients to obtain proper color or conaiatency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship of equivalent training and experience.

PIPEFITTER, MANTENANCE
Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves most of the following: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct length With chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks an des; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making at andard shop computations relating to pressures, flow, and size of general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent $t$ taining and experience. Workers primarily engaged in ingtalling and repairing building sanitation or heating systemg are excluded.
SHEET-METAL WORKER, MAINTENANCE
Fabricates, installe, and maintains in good repair the sheet-metal equipment and fixtures (such as machine guards, grease pans, shelves, lockers, tanks, ventilators, chutes, ducts, metal roofing of an establishment. Work involves most of the following: Planning and laying out all types of sheetavailable types of sheet-metal working machines: using a variety of handtools in cutting, bending forming, shaping, fitting, and assembling; and installing sheet-metal articles as required. In general the work of the maintenance sheet-metal worker requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.
TOOL AND DIE MAKER
Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or non-metallic material (e.g., plastic, plaster, rubber, glasa). Work typically involves: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys;
selecting appropriate materials, tools, and processes required to complete task; making necessary selecting appropriate materials, soops, and processes required to complete task; making necessary tool and die maker's handtools and precision measuring instruments; working to very close tolerances heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal pprenticeship or equivalent training and experience. For cross-industry wage study purposes, this classification does not include tool and die
makers who (1) are employed in tool and die jobbing ahops or (2) produce forging dies (die sinkers).

## GUARD AND WATCHMEN

Guard. Performa routine police duties, either at fixed poat or on tour maintaining order uing. arms or force where necessary. Includes guards who are stationed at gate and check on dentity of employees and other persons entering.

Watchman. Makes rounds of premises periodically in protecting property against fire, thef and ill
gal entry.

JANITOR, PORTER, OR CLEANE

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establighment. Duties involve a combination of the following: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing
supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. Workers upplies and minor maintenance services; and

## CUSTODIAL AND MATERIAL MOVEMENT

LABORER, MATERIAL HANDLING
A worker employed in a warehouse, manufacturing plant, store, or other establishment whose duties involve one or more of the following: Loading and unloading various materials and merchandise on or from freight cars, trucks, or other transporting devices; unpacking, shelving, or placing
materials or merchandise in proper storage location; and transporting materials or merchandise by handtruck, car, or wheelbarrow. Longshore workers, who load and unload ships are excluded.

## ORDER FILLER

Fills shipping or tranafer orders for finished goods from stored merchandise in accordance with specifications on ales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional atock or report short aupplies to supervisor, and perform other related duties.
PACKER, SHIPPING
Prepares finished products for shipment or storage by placing them in shipping containers the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of item in shipping containers and may involve one or more of the following: Knowledge of various items of

## PACKER, SHIPPING-Continued

stock in order to verify content; solection of appropriate type and aize of container; inserting nclosures in container; uning excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labele o
wooden boxes or crates are excluded.
SHIPPING AND REGEIVING CLERK
Prepares merchandise for shipment, or receives and is responsible for incorning shipments of morchandise or other materials. Shipping work involves: A knowledge of shipping procedures practices, routes, available means of transportation, and rates; and preparing records of the goods shipped, making up bille of lading, posting weight and shipping charges, and keeping a file of shipping ecorda, May direct or assist in preparing the merchandise for shipment. Receiving work involves: other records; checking for shortages and rejecting damaged goods; routing merchandise o materiale to propor departmenta; and maintaining necesary records and files.

For wage atudy purposes, workers are classified as followa:
Receiving clerk
Shipping clerk
Shipping and receiving clerk

## TRUCKDRIVER

Drives a truck within a city or industrial area to transport materials, merchandiae, equipment or workers between various types of establishments such as: Manufacturing plants, freight depots, arehouses, wholesale and retail establishments, or between retail establishments and custorners ouses or places of business. May also load or unload truck with or without helpers, make mino excluded.

## TRUCKDRIVER-Continued

For wage study purposes, truckdrivers are clasaified by size and type of equipment, as For wage study purposes, truckdrivers are clasaified by size a
(Tractor-trailer should be rated on the basia of trailer capacity.)

Truckdriver (combination of aizes listed separately)
Truckdriver, light (under $1 / 2$ tons)
Truckdriver, medium ( $11 / 2$ to and including 4 tons)
Truckdriver, heavy (over 4 tons, trailer type)
Truckdriver, heavy (over 4 tons, other than trailer type)
TRUCKER, POWER
Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establiahment.

For wage study purposes, workers are classified by type of truck, as follows
Trucker, power (forklift)
Trucker, power (other than forklift)
WAREHOUSEMAN
As directed, performs a variety of warehousing duties which require an underatanding of the establishment's storage plan, Work involves most of the following : Verifying materials (or merchandise) against receiving documents, noting and reporting diacrepancies and obvious darnages;
routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of atored materials; examining atored materials and reporting deterioration and damage; removing material from storage and preparing it for shipment. May operate hand or power trucks in performing warehousing duties.

Exclude workers whose primary duties involve shipping and receiving work (see shipping and receiving clerk and packer, shipping), order filling (see order filler), or operating power truck (see trucker, power).

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[^0]:    See foctnotes at end of tables.

[^1]:    See footnotes at end of tables.

[^2]:    See footnotes at end of tables.

[^3]:    See footnotes at end of tables.

[^4]:    Earnings data in table A-3 relate only to workers whose sex identification was provided by the establishment. Earnings data in tables $A-1$ and $A-2$, on the other hand, relate to all workers in an occupation. (See appendix A for publication criteria.)

[^5]:    See footnotes at end of tables

[^6]:    *Workers were distributed as follows: 3 at $\$ 8.60$ to $\$ 8.80 ; 1$ at $\$ 8.80$ to $\$ 9 ; 1$ at $\$ 9$ to $\$ 9.20$; and 2 at $\$ 9.60$ to $\$ 9.80$
    Workers were at $\$ 8.20$ to $\$ 8.40$.
    See footnotes at end of tables.

[^7]:    See footnotes at end of tables.

[^8]:    See footnoter at end of tables.

[^9]:     to thene weekly hours
     alf receive leas than the rate shown. The middle range ia defined by 2 rates of pay: a fo
    13 Excludes premium pay for overtime and for work on weekends, holidays, and late ahift

[^10]:    - Pricea are determined by the Covermment Printing Office and aze iubject to change.

    1 Date on erreblishm
    2 No longer turvered.
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    3 No longer uiver

