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2025-17

# Area Wage Survey

San Antonio, Texas,  
Metropolitan Area, May 1978

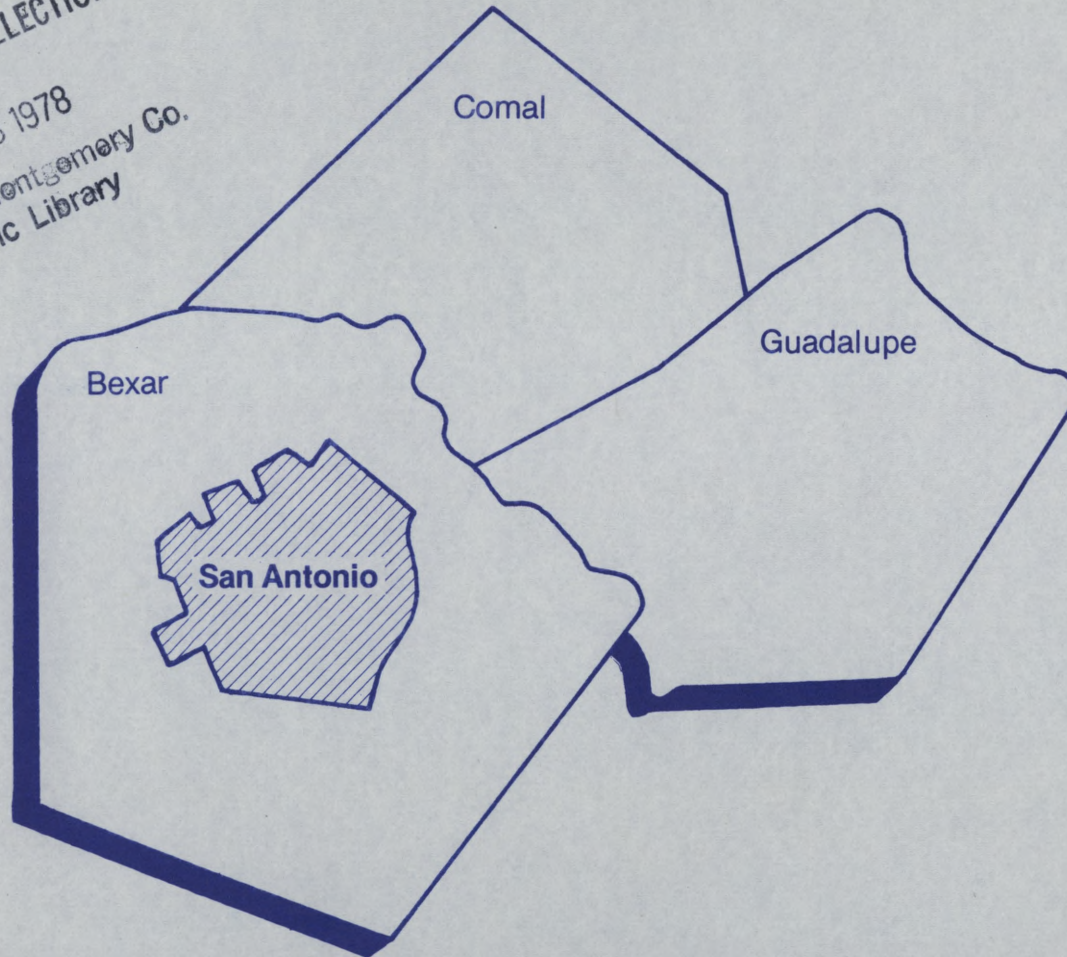


Bulletin 2025-17

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# Preface

This bulletin provides results of a May 1978 survey of occupational earnings in the San Antonio, Texas, Standard Metropolitan Statistical Area. The survey was made as part of the Bureau of Labor Statistics' annual area wage survey program. It was conducted by the Bureau's regional office in Dallas, Tex., under the general direction of Boyd B. O'Neal, 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.

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## Note:

Current reports on occupational earnings in the San Antonio area are available for the laundry and dry cleaning, moving and storage, and aircraft maintenance (May 1978) 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.)

# Area Wage Survey

## San Antonio, Texas, Metropolitan Area, May 1978



U.S. Department of Labor  
Ray Marshall, Secretary  
Bureau of Labor Statistics  
Julius Shiskin, Commissioner  
July 1978  
Bulletin 2025-17

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# Introduction

This area is 1 of 75 in which the U.S. Department of Labor's Bureau of Labor Statistics conducts surveys of occupational earnings and related benefits. (See list of areas on inside back cover.) In each area, occupational earnings data (A-series tables) are collected annually. Information on establishment practices and supplementary wage benefits (B-series tables) is obtained every third year. This report has no B-series tables.

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 presents national and regional estimates, projected from individual metropolitan area data, 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.

## A-series tables

Tables A-1 through A-6 provide estimates of straight-time weekly or hourly earnings for workers in occupations common to a variety of manufacturing and nonmanufacturing industries. For the 31 largest survey areas, tables A-8 through A-13 provide similar data for establishments employing 500 workers or more.

Table A-7 provides percent changes in average hourly earnings of office clerical workers, electronic data processing workers, industrial nurses, skilled maintenance trades workers, and unskilled plant workers. Where possible, data are presented for all industries and for manufacturing and nonmanufacturing separately. Data are not presented for skilled maintenance workers in nonmanufacturing because the number of workers employed in this occupational group in nonmanufacturing is too small to warrant separate presentation. This table provides a measure of wage trends after elimination of changes in average earnings caused by employment shifts among establishments as well as turnover of establishments included in survey samples. For further details, see appendix A.

## 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 by occupation.

**Table A-1. Weekly earnings of office workers in San Antonio, Tex., May 1978**

See footnotes at end of tables.

Table A-1. Weekly earnings of office workers in San Antonio, Tex., May 1978—Continued

| Occupation and industry division | Number of workers | Average weekly hour <sup>1</sup> (standard) | Weekly earnings <sup>1</sup> (standard) |                     |                           | Number of workers receiving straight-time weekly earnings of— |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   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See footnotes at end of tables.



**Table A-2. Weekly earnings of professional and technical workers in San Antonio, Tex., May 1978**

| Occupation and industry division                       | Number<br>of<br>workers | Average<br>weekly<br>hours <sup>1</sup><br>(standard) | Weekly earnings <sup>1</sup><br>(standard) |                     |                           | Number of workers receiving straight-time weekly earnings of— |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |
|--|-------------------------|---|--|---------------------|---------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|
|  |                         |   | Mean <sup>2</sup>                          | Median <sup>2</sup> | Middle range <sup>2</sup> | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$  | \$   | \$  |
|  |                         |   |  |                     |                           | 100<br>and<br>under   | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360  | 380 |
|  |                         |   |  |                     |                           | 110   | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360 | 380 | over |     |
| ALL WORKERS  |                         |   |  |                     |                           |   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |      |     |
| COMPUTER SYSTEMS ANALYSTS<br>(BUSINESS) -----          | 164                     | 39.0  | \$ 307.00                                  | \$ 299.00           | \$ 278.00-339.50          | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 8   | 5   | 30  | 39  | 25  | 16  | 20  | 17  | 4    |     |
| NONMANUFACTURING -----                                 | 143                     | 38.5  | 304.50                                     | 297.00              | 277.50-336.00             | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 8   | 5   | 25  | 35  | 24  | 13  | 16  | 16  | 1    |     |
| COMPUTER SYSTEMS ANALYSTS<br>(BUSINESS), CLASS B ----- | 84                      | 39.0  | 319.00                                     | 314.00              | 293.00-342.50             | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 1   | 10  | 15  | 17  | 14  | 19  | 6   | 2    |     |
| NONMANUFACTURING -----                                 | 72                      | 38.5  | 317.50                                     | 313.50              | 292.50-342.00             | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | 1   | 8   | 13  | 16  | 12  | 15  | 6   | 1    |     |
| COMPUTER PROGRAMMERS (BUSINESS) ---                    | 151                     | 39.5  | 228.00                                     | 218.50              | 195.50-253.00             | -   | -   | -   | -   | -   | 2   | 15  | 7   | 4   | 27  | 9   | 15  | 14  | 26  | 12  | 5   | 6   | 9   | -   | -   | -    |     |
| NONMANUFACTURING -----                                 | 134                     | 39.5  | 227.50                                     | 218.50              | 195.50-253.00             | -   | -   | -   | -   | -   | 2   | 14  | 7   | 4   | 26  | 8   | 12  | 8   | 25  | 10  | 4   | 6   | 8   | -   | -   | -    |     |
| COMPUTER PROGRAMMERS (BUSINESS),<br>CLASS B -----      | 73                      | 39.5  | 239.00                                     | 241.50              | 218.50-253.00             | -   | -   | -   | -   | -   | -   | 2   | 2   | -   | 1   | -   | 14  | 14  | 26  | 12  | 2   | -   | -   | -   | -   | -    |     |
| NONMANUFACTURING -----                                 | 60                      | 39.0  | 239.50                                     | 242.00              | 218.50-253.00             | -   | -   | -   | -   | -   | -   | 2   | 2   | -   | -   | -   | 12  | 8   | 25  | 10  | 1   | -   | -   | -   | -   | -    |     |
| COMPUTER PROGRAMMERS (BUSINESS),<br>CLASS C -----      | 60                      | 40.0  | 188.00                                     | 195.50              | 171.50-195.50             | -   | -   | -   | -   | -   | 2   | 13  | 5   | 4   | 26  | 9   | 1   | -   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| COMPUTER OPERATORS -----                               | 236                     | 39.5  | 160.50                                     | 155.50              | 131.00-180.00             | 1   | 3   | 42  | 33  | 32  | 23  | 21  | 14  | 25  | 12  | 9   | 2   | 15  | 3   | 1   | -   | -   | -   | -   | -   | -    |     |
| MANUFACTURING -----                                    | 46                      | 40.0  | 177.50                                     | 171.00              | 158.50-200.00             | -   | -   | 1   | 1   | 4   | 7   | 9   | 3   | 7   | 2   | 4   | 2   | 6   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| NONMANUFACTURING -----                                 | 190                     | 39.5  | 156.50                                     | 142.00              | 130.00-176.50             | 1   | 3   | 41  | 32  | 28  | 16  | 12  | 11  | 18  | 10  | 5   | -   | 9   | 3   | 1   | -   | -   | -   | -   | -   | -    |     |
| COMPUTER OPERATORS, CLASS A -----                      | 31                      | 39.5  | 205.50                                     | 195.50              | 174.00-237.50             | -   | -   | -   | -   | -   | 1   | 4   | 5   | 3   | 3   | 1   | 1   | 10  | 2   | 1   | -   | -   | -   | -   | -   | -    |     |
| COMPUTER OPERATORS, CLASS B -----                      | 125                     | 39.5  | 161.00                                     | 155.50              | 140.00-180.00             | -   | -   | 4   | 27  | 26  | 15  | 14  | 2   | 17  | 5   | 8   | 1   | 5   | 1   | -   | -   | -   | -   | -   | -   | -    |     |
| MANUFACTURING -----                                    | 32                      | 40.0  | 179.00                                     | 180.00              | 154.50-202.00             | -   | -   | -   | 1   | 4   | 5   | 5   | -   | 5   | 2   | 4   | 1   | 5   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| NONMANUFACTURING -----                                 | 93                      | 39.5  | 155.00                                     | 145.00              | 132.50-167.50             | -   | -   | 4   | 26  | 22  | 10  | 9   | 2   | 12  | 3   | 4   | -   | -   | 1   | -   | -   | -   | -   | -   | -   | -    |     |
| COMPUTER OPERATORS, CLASS C -----                      | 80                      | 39.5  | 142.00                                     | 127.00              | 126.50-158.00             | 1   | 3   | 38  | 6   | 6   | 7   | 3   | 7   | 5   | 4   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| NONMANUFACTURING -----                                 | 77                      | 39.5  | 141.50                                     | 126.50              | 126.50-158.00             | 1   | 3   | 37  | 6   | 6   | 6   | 2   | 7   | 5   | 4   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| DRAFTERS -----   | 282                     | 40.0  | 187.50                                     | 183.00              | 150.30-224.50             | -   | 9   | 21  | 15  | 23  | 15  | 21  | 22  | 32  | 25  | 6   | 8   | 40  | 31  | 9   | 3   | 2   | -   | -   | -   | -    |     |
| MANUFACTURING -----                                    | 255                     | 40.0  | 186.50                                     | 182.00              | 148.00-224.50             | -   | 9   | 21  | 15  | 21  | 14  | 17  | 19  | 29  | 19  | 5   | 8   | 38  | 28  | 7   | 3   | 2   | -   | -   | -   | -    |     |
| DRAFTERS, CLASS A -----                                | 43                      | 40.0  | 234.50                                     | 249.50              | 196.00-259.00             | -   | -   | -   | -   | -   | -   | -   | -   | 6   | 9   | 3   | -   | 1   | 17  | 2   | 3   | 2   | -   | -   | -   | -    |     |
| DRAFTERS, CLASS B -----                                | 102                     | 40.0  | 216.00                                     | 221.00              | 189.00-235.00             | -   | -   | -   | -   | -   | 3   | 6   | 8   | 9   | 5   | 3   | 8   | 39  | 14  | 7   | -   | -   | -   | -   | -   | -    |     |
| MANUFACTURING -----                                    | 92                      | 40.0  | 215.00                                     | 221.00              | 184.50-235.00             | -   | -   | -   | -   | -   | 3   | 6   | 8   | 8   | 2   | 2   | 8   | 37  | 13  | 5   | -   | -   | -   | -   | -   | -    |     |
| DRAFTERS, CLASS C -----                                | 113                     | 40.0  | 159.00                                     | 160.00              | 140.00-177.00             | -   | -   | 6   | 15  | 23  | 12  | 15  | 14  | 17  | 11  | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| MANUFACTURING -----                                    | 98                      | 40.0  | 157.00                                     | 150.00              | 140.00-170.00             | -   | -   | 6   | 15  | 21  | 11  | 11  | 11  | 15  | 8   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    |     |
| ELECTRONICS TECHNICIANS -----                          | 188                     | 40.0  | 216.00                                     | 215.00              | 179.00-260.00             | -   | -   | -   | -   | -   | 15  | 22  | 11  | 8   | 24  | 7   | 11  | 24  | 17  | 34  | 15  | -   | -   | -   | -   | -    |     |
| ELECTRONICS TECHNICIANS, CLASS B -----                 | 60                      | 40.0  | 212.50                                     | 211.00              | 197.00-226.50             | -   | -   | -   | -   | -   | -   | -   | -   | 2   | 19  | 6   | 10  | 19  | 4   | -   | -   | -   | -   | -   | -   | -    |     |

See footnotes at end of tables.

**Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, in San Antonio, Tex., May 1978**

| Sex, <sup>1</sup> occupation, and industry division | Number of workers | Average (mean <sup>2</sup> )         |   | Sex, <sup>1</sup> occupation, and industry division     | Number of workers          | Average (mean <sup>2</sup> )         |   | Sex, <sup>1</sup> occupation, and industry division | Number of workers      | Average (mean <sup>2</sup> )         |   |
|---|-------------------|--------------------------------------|---|---|----------------------------|--------------------------------------|---|---|------------------------|--------------------------------------|---|
|   |                   | Weekly hours <sup>3</sup> (standard) | Weekly earnings <sup>4</sup> (standard) |   |                            | Weekly hours <sup>3</sup> (standard) | Weekly earnings <sup>4</sup> (standard) |   |                        | Weekly hours <sup>3</sup> (standard) | Weekly earnings <sup>4</sup> (standard) |
| OFFICE OCCUPATIONS - MEN                            |                   |                                      |   | OFFICE OCCUPATIONS - WOMEN--CONTINUED                   |                            |                                      |   | PROFESSIONAL AND TECHNICAL OCCUPATIONS - MEN        |                        |                                      |   |
| MESSENGERS -----                                    | 44                | 39.0                                 | \$ 119.00                               | FILE CLERKS - CONTINUED                                 |                            |                                      |   | COMPUTER SYSTEMS ANALYSTS (BUSINESS) -----          | 141                    | 39.0                                 | \$ 306.50                               |
| NONMANUFACTURING -----                              | 39                | 39.0                                 | 118.00                                  |   | FILE CLERKS, CLASS B ----- | 214                                  | 39.0                                    | 118.00  | NONMANUFACTURING ----- | 124                                  | 39.0                                    |
| ACCOUNTING CLERKS -----                             | 54                | 40.0                                 | 166.50                                  | NONMANUFACTURING -----                                  | 214                        | 39.0                                 | 118.00                                  | COMPUTER SYSTEMS ANALYSTS (BUSINESS), CLASS B ----- | 74                     | 39.0                                 | 317.50                                  |
| NONMANUFACTURING -----                              | 38                | 40.0                                 | 162.00                                  | SWITCHBOARD OPERATORS -----                             | 145                        | 40.0                                 | 124.00                                  | COMPUTER PROGRAMMERS (BUSINESS) -----               | 116                    | 39.5                                 | 228.00                                  |
| KEY ENTRY OPERATORS -----                           | 32                | 40.0                                 | 207.00                                  | NONMANUFACTURING -----                                  | 134                        | 40.0                                 | 123.00                                  | NONMANUFACTURING -----                              | 103                    | 39.5                                 | 226.50                                  |
| NONMANUFACTURING -----                              | 29                | 40.0                                 | 211.50                                  | SWITCHBOARD OPERATOR-RECEPTIONISTS- MANUFACTURING ----- | 204                        | 39.5                                 | 136.00                                  | COMPUTER PROGRAMMERS (BUSINESS), CLASS B -----      | 41                     | 39.5                                 | 242.50                                  |
| OFFICE OCCUPATIONS - WOMEN                          |                   |                                      |   | NONMANUFACTURING -----                                  | 43                         | 40.0                                 | 143.00                                  | NONMANUFACTURING -----                              | 31                     | 39.5                                 | 244.50                                  |
| SECRETARIES -----                                   | 989               | 39.5                                 | 175.00                                  | ORDER CLERKS -----                                      | 211                        | 39.5                                 | 134.50                                  | COMPUTER OPERATORS -----                            | 166                    | 39.5                                 | 164.00                                  |
| MANUFACTURING -----                                 | 219               | 40.0                                 | 179.00                                  | MANUFACTURING -----                                     | 36                         | 40.0                                 | 151.50                                  | MANUFACTURING -----                                 | 30                     | 40.0                                 | 168.00                                  |
| NONMANUFACTURING -----                              | 770               | 39.5                                 | 173.50                                  | NONMANUFACTURING -----                                  | 175                        | 39.5                                 | 131.00                                  | NONMANUFACTURING -----                              | 136                    | 39.5                                 | 163.00                                  |
| PUBLIC UTILITIES -----                              | 94                | 40.0                                 | 209.50                                  | ORDER CLERKS, CLASS B -----                             | 183                        | 39.5                                 | 126.50                                  | COMPUTER OPERATORS, CLASS A -----                   | 29                     | 39.5                                 | 205.50                                  |
| SECRETARIES, CLASS B -----                          | 188               | 39.5                                 | 188.50                                  | NONMANUFACTURING -----                                  | 160                        | 39.5                                 | 124.50                                  | COMPUTER OPERATORS, CLASS B -----                   | 93                     | 39.5                                 | 158.00                                  |
| MANUFACTURING -----                                 | 33                | 40.0                                 | 213.00                                  | ACCOUNTING CLERKS -----                                 | 1,229                      | 40.0                                 | 157.00                                  | NONMANUFACTURING -----                              | 76                     | 39.5                                 | 157.00                                  |
| NONMANUFACTURING -----                              | 155               | 39.5                                 | 183.50                                  | MANUFACTURING -----                                     | 197                        | 40.0                                 | 151.00                                  | COMPUTER OPERATORS, CLASS C -----                   | 44                     | 39.5                                 | 149.50                                  |
| SECRETARIES, CLASS C -----                          | 219               | 39.5                                 | 197.00                                  | NONMANUFACTURING -----                                  | 1,032                      | 40.0                                 | 158.00                                  | NONMANUFACTURING -----                              | 41                     | 39.0                                 | 149.50                                  |
| MANUFACTURING -----                                 | 61                | 40.0                                 | 194.50                                  | ACCOUNTING CLERKS, CLASS A -----                        | 292                        | 39.5                                 | 173.00                                  | DRAFTERS -----                                      | 264                    | 40.0                                 | 185.50                                  |
| NONMANUFACTURING -----                              | 158               | 39.5                                 | 198.00                                  | MANUFACTURING -----                                     | 61                         | 40.0                                 | 174.50                                  | MANUFACTURING -----                                 | 237                    | 40.0                                 | 184.50                                  |
| PUBLIC UTILITIES -----                              | 34                | 40.0                                 | 241.00                                  | NONMANUFACTURING -----                                  | 231                        | 39.5                                 | 172.50                                  | DRAFTERS, CLASS A -----                             | 43                     | 40.0                                 | 234.50                                  |
| SECRETARIES, CLASS D -----                          | 251               | 39.5                                 | 171.00                                  | PUBLIC UTILITIES -----                                  | 35                         | 40.0                                 | 190.50                                  | DRAFTERS, CLASS B -----                             | 89                     | 40.0                                 | 213.00                                  |
| NONMANUFACTURING -----                              | 201               | 39.5                                 | 171.50                                  | ACCOUNTING CLERKS, CLASS B -----                        | 937                        | 40.0                                 | 152.00                                  | MANUFACTURING -----                                 | 79                     | 40.0                                 | 211.50                                  |
| SECRETARIES, CLASS E -----                          | 286               | 40.0                                 | 148.50                                  | MANUFACTURING -----                                     | 136                        | 40.0                                 | 140.50                                  | DRAFTERS, CLASS C -----                             | 108                    | 40.0                                 | 158.50                                  |
| MANUFACTURING -----                                 | 72                | 40.0                                 | 156.00                                  | NONMANUFACTURING -----                                  | 801                        | 40.0                                 | 154.00                                  | MANUFACTURING -----                                 | 93                     | 40.0                                 | 156.50                                  |
| NONMANUFACTURING -----                              | 214               | 39.5                                 | 146.50                                  | BOOKKEEPING-MACHINE OPERATORS -----                     | 29                         | 40.0                                 | 134.00                                  | ELECTRONICS TECHNICIANS -----                       | 187                    | 40.0                                 | 216.50                                  |
| PUBLIC UTILITIES -----                              | 28                | 40.0                                 | 148.50                                  | BOOKKEEPING-MACHINE OPERATORS, CLASS B -----            | 28                         | 40.0                                 | 132.00                                  | ELECTRONICS TECHNICIANS, CLASS B -----              | 60                     | 40.0                                 | 212.50                                  |
| STENOGRAPHERS -----                                 | 168               | 40.0                                 | 177.00                                  | PAYROLL CLERKS -----                                    | 122                        | 40.0                                 | 160.00                                  | PROFESSIONAL AND TECHNICAL OCCUPATIONS - WOMEN      |                        |                                      |   |
| NONMANUFACTURING -----                              | 159               | 40.0                                 | 177.50                                  | MANUFACTURING -----                                     | 68                         | 40.0                                 | 165.50                                  | COMPUTER PROGRAMMERS (BUSINESS) -----               | 35                     | 39.0                                 | 229.00                                  |
| STENOGRAPHERS, GENERAL -----                        | 88                | 39.5                                 | 158.00                                  | NONMANUFACTURING -----                                  | 54                         | 40.0                                 | 153.50                                  | COMPUTER PROGRAMMERS (BUSINESS), CLASS B -----      | 32                     | 39.0                                 | 234.00                                  |
| NONMANUFACTURING -----                              | 80                | 39.5                                 | 156.00                                  | KEY ENTRY OPERATORS -----                               | 347                        | 39.5                                 | 143.50                                  | COMPUTER OPERATORS -----                            | 70                     | 40.0                                 | 151.50                                  |
| TRANSCRIBING-MACHINE TYPISTS -----                  | 79                | 38.5                                 | 135.00                                  | MANUFACTURING -----                                     | 55                         | 40.0                                 | 149.50                                  | NONMANUFACTURING -----                              | 54                     | 40.0                                 | 138.50                                  |
| NONMANUFACTURING -----                              | 75                | 38.5                                 | 134.00                                  | NONMANUFACTURING -----                                  | 292                        | 39.5                                 | 142.00                                  | COMPUTER OPERATORS, CLASS B -----                   | 32                     | 40.0                                 | 169.50                                  |
| TYPISTS -----                                       | 250               | 39.0                                 | 133.00                                  | KEY ENTRY OPERATORS, CLASS A -----                      | 111                        | 39.0                                 | 155.00                                  | COMPUTER OPERATORS, CLASS C -----                   | 36                     | 40.0                                 | 132.50                                  |
| NONMANUFACTURING -----                              | 238               | 39.0                                 | 133.00                                  | NONMANUFACTURING -----                                  | 96                         | 39.0                                 | 153.00                                  | NONMANUFACTURING -----                              | 36                     | 40.0                                 | 132.50                                  |
| TYPISTS, CLASS A -----                              | 134               | 39.0                                 | 141.50                                  | KEY ENTRY OPERATORS, CLASS B -----                      | 236                        | 39.5                                 | 138.00                                  |   |                        |                                      |   |
| NONMANUFACTURING -----                              | 130               | 39.0                                 | 141.50                                  | MANUFACTURING -----                                     | 40                         | 40.0                                 | 143.50                                  |   |                        |                                      |   |
| TYPISTS, CLASS B -----                              | 116               | 39.0                                 | 123.00                                  | NONMANUFACTURING -----                                  | 196                        | 39.5                                 | 137.00                                  |   |                        |                                      |   |
| NONMANUFACTURING -----                              | 108               | 39.0                                 | 122.50                                  |   |                            |                                      |   |   |                        |                                      |   |
| FILE CLERKS -----                                   | 275               | 39.0                                 | 117.50                                  |   |                            |                                      |   |   |                        |                                      |   |
| NONMANUFACTURING -----                              | 275               | 39.0                                 | 117.50                                  |   |                            |                                      |   |   |                        |                                      |   |

See footnotes at end of tables.



**Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers in San Antonio, Tex., May 1978**

[illegible]

See footnotes at end of tables.

**Table A-5. Hourly earnings of material movement and custodial workers in San Antonio, Tex., May 1978**

[illegible]

See footnotes at end of tables.

Table A-5. Hourly earnings of material movement and custodial workers in San Antonio, Tex., May 1978—Continued

| Occupation and industry division    | Number of workers | Hourly earnings <sup>4</sup> |                     |                           | Number of workers receiving straight-time hourly earnings of— |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |    |
|-------------------------------------|-------------------|------------------------------|---------------------|---------------------------|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|----|
|                                     |                   | Mean <sup>2</sup>            | Median <sup>2</sup> | Middle range <sup>2</sup> | \$  | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$   | \$ | \$ |
|                                     |                   |                              |                     |                           | 2.60  | 2.80 | 3.00 | 3.20 | 3.40 | 3.60 | 3.80 | 4.00 | 4.20 | 4.40 | 4.60 | 4.80 | 5.00 | 5.20 | 5.40 | 5.60 | 6.00 | 6.40 | 6.80 | 7.20 | 7.60 | 8.00 | 8.40 | 8.80 |    |    |
| ALL WORKERS--<br>CONTINUED          |                   |                              |                     |                           | 2.80  | 3.00 | 3.20 | 3.40 | 3.60 | 3.80 | 4.00 | 4.20 | 4.40 | 4.60 | 4.80 | 5.00 | 5.20 | 5.40 | 5.60 | 6.00 | 6.40 | 6.80 | 7.20 | 7.60 | 8.00 | 8.40 | 8.80 |      |    |    |
| TRUCKDRIVERS - CONTINUED            |                   |                              |                     |                           |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |    |
| TRUCKDRIVERS, MEDIUM TRUCK -----    | 1,230             | \$ 5.47                      | \$ 3.88             | \$ 3.35- 8.41             | 43  | 68   | 47   | 310  | 75   | 61   | 29   | 34   | 6    | 4    | 3    | 20   | 2    | 16   | 2    | 14   | 10   | -    | -    | 15   | -    | -    | 471  |      |    |    |
| MANUFACTURING -----                 | 78                | 3.89                         | 3.79                | 3.78- 4.00                | -   | -    | -    | 11   | -    | 43   | -    | 16   | -    | -    | -    | 8    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 1,152             | 5.58                         | 3.95                | 3.35- 8.50                | 43  | 68   | 47   | 299  | 75   | 18   | 29   | 18   | 6    | 4    | 3    | 12   | 2    | 16   | 2    | 14   | 10   | -    | -    | 15   | -    | -    | 471  |      |    |    |
| PUBLIC UTILITIES -----              | 547               | 7.88                         | 8.50                | 8.41- 8.50                | -   | 3    | -    | 28   | 6    | 6    | 18   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 15   | -    | -    | 471  |      |    |    |
| TRUCKDRIVERS, HEAVY TRUCK -----     | 148               | 3.94                         | 3.78                | 3.39- 4.14                | -   | -    | -    | 53   | 6    | 30   | -    | 22   | 24   | -    | -    | -    | 1    | -    | -    | 12   | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 142               | 3.96                         | 3.78                | 3.39- 4.26                | -   | -    | -    | 53   | -    | 30   | -    | 22   | 24   | -    | -    | -    | 1    | -    | -    | 12   | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| TRUCKDRIVERS, TRACTOR-TRAILER ---   | 734               | 5.15                         | 4.00                | 3.40- 7.00                | 17  | 11   | 11   | 120  | 79   | 58   | 54   | 24   | 16   | 49   | 1    | 1    | 1    | 29   | 1    | 6    | 35   | 29   | 36   | 3    | -    | 45   | 108  |      |    |    |
| MANUFACTURING -----                 | 206               | 3.63                         | 3.60                | 3.39- 3.90                | 11  | 11   | 11   | 20   | 48   | 51   | 4    | 23   | 7    | 19   | 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 528               | 5.75                         | 5.39                | 3.40- 8.31                | 6   | -    | -    | 100  | 31   | 7    | 50   | 1    | 9    | 30   | -    | 1    | 1    | 29   | 1    | 6    | 35   | 29   | 36   | 3    | -    | 45   | 108  |      |    |    |
| PUBLIC UTILITIES -----              | 188               | 6.46                         | 8.50                | 3.90- 8.50                | -   | -    | -    | 31   | -    | 49   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| SHIPPERS -----                      | 68                | 4.24                         | 3.70                | 3.35- 4.50                | -   | 2    | 2    | 18   | 7    | 5    | 7    | 5    | 2    | 5    | -    | -    | -    | 2    | -    | -    | 4    | 7    | 2    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 25                | 3.87                         | 3.83                | 3.60- 4.15                | -   | -    | -    | 5    | 5    | 7    | 4    | -    | 4    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 43                | 4.45                         | 3.39                | 3.30- 6.15                | -   | 2    | 2    | 18   | 2    | -    | -    | 1    | 2    | 1    | -    | -    | -    | 2    | -    | -    | 4    | 7    | 2    | -    | -    | -    | -    | -    | -  |    |
| RECEIVERS -----                     | 82                | 4.31                         | 3.65                | 3.35- 5.20                | 1   | -    | 7    | 24   | 9    | 4    | 2    | 4    | 2    | 4    | 1    | 1    | 2    | 2    | 3    | -    | 4    | 12   | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 58                | 4.58                         | 4.18                | 3.35- 6.15                | 1   | -    | 4    | 18   | 4    | -    | 2    | -    | 2    | 4    | -    | -    | 2    | 2    | 3    | -    | 4    | 12   | -    | -    | -    | -    | -    | -    | -  |    |
| SHIPPERS AND RECEIVERS -----        | 120               | 3.70                         | 3.80                | 3.10- 4.07                | -   | 19   | 15   | 1    | 17   | 5    | 20   | 24   | 1    | 5    | 7    | 5    | -    | -    | 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 65                | 3.64                         | 3.91                | 2.96- 4.07                | -   | 19   | 9    | 1    | 1    | -    | 5    | 18   | -    | 5    | 7    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 55                | 3.78                         | 3.80                | 3.50- 3.80                | -   | -    | 6    | -    | 16   | 5    | 15   | 6    | 1    | -    | -    | 5    | -    | -    | 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| WAREHOUSEMEN -----                  | 207               | 3.61                         | 3.35                | 3.15- 3.63                | -   | 37   | 18   | 92   | 4    | 6    | 7    | 5    | 6    | -    | -    | 16   | 2    | 10   | -    | 4    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 185               | 3.52                         | 3.35                | 3.15- 3.35                | -   | 37   | 16   | 92   | 2    | -    | 7    | 3    | 6    | -    | -    | 16   | 2    | -    | -    | 4    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| ORDER FILLERS -----                 | 528               | 3.75                         | 3.00                | 2.75- 5.30                | 135   | 122  | 62   | 14   | 16   | 8    | 12   | 2    | -    | -    | -    | 1    | 7    | 26   | 32   | 78   | 13   | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 509               | 3.77                         | 3.00                | 2.75- 5.30                | 130   | 117  | 62   | 14   | 16   | 8    | 3    | 2    | -    | -    | -    | 1    | 7    | 26   | 32   | 78   | 13   | -    | -    | -    | -    | -    | -    | -    | -  |    |
| SHIPPING PACKERS -----              | 73                | 3.56                         | 3.50                | 3.10- 4.15                | 13  | 1    | 6    | 3    | 15   | 16   | -    | 12   | -    | -    | 7    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 61                | 3.68                         | 3.65                | 3.50- 4.15                | 5   | -    | 6    | 2    | 15   | 14   | -    | 12   | -    | -    | 7    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MATERIAL HANDLING LABORERS -----    | 671               | 3.67                         | 3.25                | 2.90- 4.20                | 87  | 105  | 122  | 92   | 43   | 10   | 21   | -    | 29   | 18   | 17   | 4    | 18   | 8    | 32   | 41   | 24   | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 202               | 3.29                         | 3.15                | 3.00- 3.45                | 19  | 21   | 75   | 25   | 23   | 5    | 17   | -    | -    | -    | 17   | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 469               | 3.84                         | 3.35                | 2.90- 5.00                | 68  | 84   | 47   | 67   | 20   | 5    | 4    | -    | 29   | 18   | -    | 4    | 18   | 8    | 32   | 41   | 24   | -    | -    | -    | -    | -    | -    | -    | -  |    |
| FORKLIFT OPERATORS -----            | 419               | 4.25                         | 4.65                | 3.25- 4.65                | 49  | 2    | 27   | 84   | 18   | 7    | 11   | -    | -    | 114  | 1    | 8    | -    | 8    | 23   | 56   | 4    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 265               | 4.02                         | 4.65                | 3.30- 4.65                | 33  | -    | 17   | 55   | 10   | 4    | 1    | 11   | -    | -    | 114  | 1    | -    | 8    | -    | 11   | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 154               | 4.63                         | 5.14                | 3.20- 6.21                | 16  | 2    | 10   | 29   | 8    | 3    | 6    | -    | -    | -    | -    | -    | 8    | -    | 23   | 45   | 4    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| GUARDS -----                        | 619               | 2.86                         | 2.65                | 2.65- 2.94                | 415   | 53   | 72   | 11   | 3    | 32   | 14   | 14   | 2    | 3    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 69                | 3.49                         | 3.62                | 3.10- 3.79                | 3   | 3    | 16   | 5    | 2    | 24   | 8    | 5    | 1    | 2    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 550               | 2.78                         | 2.65                | 2.65- 2.79                | 412   | 50   | 56   | 6    | 1    | 8    | 6    | 9    | 1    | 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| GUARDS, CLASS B -----               | 619               | 2.86                         | 2.65                | 2.65- 2.94                | 415   | 53   | 72   | 11   | 3    | 32   | 14   | 14   | 2    | 3    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 69                | 3.49                         | 3.62                | 3.10- 3.79                | 3   | 3    | 16   | 5    | 2    | 24   | 8    | 5    | 1    | 2    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 550               | 2.78                         | 2.65                | 2.65- 2.79                | 412   | 50   | 56   | 6    | 1    | 8    | 6    | 9    | 1    | 1    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| JANITORS, PORTERS, AND CLEANERS --- | 2,600             | 2.98                         | 2.65                | 2.65- 3.06                | 1514  | 129  | 463  | 57   | 217  | 17   | 14   | 16   | 8    | 128  | 4    | 3    | 6    | -    | 8    | 11   | 4    | 1    | -    | -    | -    | -    | -    | -    | -  |    |
| MANUFACTURING -----                 | 234               | 3.75                         | 3.59                | 2.96- 4.52                | 38  | 23   | 24   | 30   | 2    | 5    | 2    | 10   | -    | 92   | -    | 1    | -    | 7    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| NONMANUFACTURING -----              | 2,366             | 2.91                         | 2.65                | 2.65- 3.06                | 1476  | 106  | 439  | 27   | 215  | 12   | 6    | 8    | 36   | 4    | 2    | 6    | -    | 1    | 11   | 4    | 1    | -    | -    | -    | -    | -    | -    | -    | -  |    |
| PUBLIC UTILITIES -----              | 36                | 3.90                         | 3.90                | 2.85- 4.95                | 8   | 9    | -    | -    | -    | -    | 7    | 2    | -    | -    | -    | 1    | 4    | -    | -    | -    | 4    | 1    | -    | -    | -    | -    | -    | -    | -  |    |

See footnotes at end of tables.

**Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, in San Antonio, Tex., May 1978**

| Sex, <sup>3</sup> occupation, and industry division            | Number of workers | Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup> | Sex, <sup>3</sup> occupation, and industry division                 | Number of workers | Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup> |
|--|-------------------|---|---|-------------------|---|
| <b>MAINTENANCE, TOOLROOM, AND POWERPLANT OCCUPATIONS - MEN</b> |                   | \$  | <b>MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - MEN--CONTINUED</b> |                   | \$  |
| MAINTENANCE ELECTRICIANS -----                                 | 85                | 5.89  | SHIPPERS -----  | 52                | 4.38  |
| MANUFACTURING -----  | 66                | 6.00  | NONMANUFACTURING -----  | 41                | 4.50  |
| MAINTENANCE PAINTERS -----                                     | 37                | 4.17  | RECEIVERS -----   | 76                | 4.31  |
| MAINTENANCE MECHANICS (MACHINERY) -                            | 190               | 5.72  | NONMANUFACTURING -----  | 56                | 4.58  |
| MANUFACTURING -----  | 180               | 5.66  | SHIPPERS AND RECEIVERS -----  | 118               | 3.72  |
| MAINTENANCE MECHANICS (MOTOR VEHICLES) -----                   | 287               | 5.53  | MANUFACTURING -----   | 63                | 3.66  |
| MANUFACTURING -----  | 92                | 5.10  | NONMANUFACTURING -----  | 55                | 3.78  |
| NONMANUFACTURING -----   | 195               | 5.72  | WAREHOUSEMEN -----  | 201               | 3.62  |
| MAINTENANCE TRADES HELPERS -----                               | 54                | 4.89  | NONMANUFACTURING -----  | 179               | 3.53  |
| MANUFACTURING -----  | 47                | 5.01  | ORDER FILLERS -----   | 366               | 4.07  |
| STATIONARY ENGINEERS -----                                     | 66                | 5.66  | NONMANUFACTURING -----  | 347               | 4.11  |
| MANUFACTURING -----  | 36                | 5.58  | SHIPPING PACKERS -----  | 52                | 3.54  |
| NONMANUFACTURING -----   | 30                | 5.75  | MANUFACTURING -----   | 42                | 3.68  |
| BOILER TENDERS -----   | 25                | 4.00  | MATERIAL HANDLING LABORERS -----                                    | 653               | 3.61  |
|  |                   |   | MANUFACTURING -----   | 202               | 3.29  |
|  |                   |   | NONMANUFACTURING -----  | 451               | 3.76  |
| <b>MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - MEN</b>       |                   |   | FORKLIFT OPERATORS -----  | 419               | 4.25  |
|  |                   |   | MANUFACTURING -----   | 265               | 4.02  |
|  |                   |   | NONMANUFACTURING -----  | 154               | 4.63  |
| TRUCKDRIVERS -----   | 2+331             | 5.03  | GUARDS -----  | 614               | 2.86  |
| MANUFACTURING -----  | 501               | 3.74  | MANUFACTURING -----   | 69                | 3.49  |
| NONMANUFACTURING -----   | 1+830             | 5.38  | NONMANUFACTURING -----  | 545               | 2.78  |
| PUBLIC UTILITIES -----   | 728               | 7.46  | GUARDS, CLASS B -----   | 614               | 2.86  |
| TRUCKDRIVERS, LIGHT TRUCK -----                                | 202               | 3.21  | MANUFACTURING -----   | 69                | 3.49  |
| MANUFACTURING -----  | 41                | 3.63  | NONMANUFACTURING -----  | 545               | 2.78  |
| NONMANUFACTURING -----   | 161               | 3.10  | JANITORS, PORTERS, AND CLEANERS ---                                 | 1+630             | 3.04  |
| TRUCKDRIVERS, MEDIUM TRUCK -----                               | 1+213             | 5.44  | MANUFACTURING -----   | 208               | 3.81  |
| MANUFACTURING -----  | 78                | 3.89  | NONMANUFACTURING -----  | 1+422             | 2.93  |
| NONMANUFACTURING -----   | 1+135             | 5.54  | PUBLIC UTILITIES -----  | 35                | 3.87  |
| PUBLIC UTILITIES -----   | 532               | 7.87  |   |                   |   |
| TRUCKDRIVERS, HEAVY TRUCK -----                                | 148               | 3.94  | <b>MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - WOMEN</b>          |                   |   |
| MANUFACTURING -----  | 142               | 3.96  |   |                   |   |
| TRUCKDRIVERS, TRACTOR-TRAILER ---                              | 734               | 5.15  | JANITORS, PORTERS, AND CLEANERS ---                                 | 970               | 2.88  |
| MANUFACTURING -----  | 206               | 3.63  | MANUFACTURING -----   | 26                | 3.30  |
| NONMANUFACTURING -----   | 528               | 5.75  | NONMANUFACTURING -----  | 944               | 2.87  |
| PUBLIC UTILITIES -----   | 188               | 6.46  |   |                   |   |

See footnotes at end of tables.

**Table A-7. Percent increases in average hourly earnings, adjusted for employment shifts, for selected occupational groups in San Antonio, Tex., for selected periods**

| Industry and occupational group <sup>5</sup> | May 1972<br>to<br>May 1973 | May 1973<br>to<br>May 1974 | May 1974<br>to<br>May 1975 | May 1975<br>to<br>May 1976 | May 1976<br>to<br>May 1977 | May 1977<br>to<br>May 1978 |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| All industries:                              |                            |                            |                            |                            |                            |                            |
| Office clerical.....                         | 5.2                        | 9.9                        | 8.6                        | 8.3                        | 6.0                        | 7.8                        |
| Electronic data processing.....              | ( <sup>6</sup> )           | ( <sup>6</sup> )           | 2.6                        | 3.0                        | 7.3                        | 6.9                        |
| Industrial nurses.....                       | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Skilled maintenance trades.....              | 6.2                        | 9.1                        | 6.6                        | 8.3                        | 9.4                        | 6.5                        |
| Unskilled plant workers.....                 | 4.5                        | 10.9                       | 8.8                        | 9.2                        | 11.0                       | 9.9                        |
| Manufacturing:                               |                            |                            |                            |                            |                            |                            |
| Office clerical.....                         | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Electronic data processing.....              | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Industrial nurses.....                       | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Skilled maintenance trades.....              | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Unskilled plant workers.....                 | 5.7                        | 8.8                        | 9.2                        | 10.4                       | 8.9                        | 9.0                        |
| Nonmanufacturing:                            |                            |                            |                            |                            |                            |                            |
| Office clerical.....                         | 5.0                        | 10.5                       | 8.5                        | 8.5                        | 5.7                        | 7.9                        |
| Electronic data processing.....              | ( <sup>6</sup> )           | ( <sup>6</sup> )           | 2.8                        | 2.4                        | 6.8                        | 6.6                        |
| Industrial nurses.....                       | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           | ( <sup>6</sup> )           |
| Unskilled plant workers.....                 | 4.3                        | 11.8                       | 9.1                        | 8.9                        | 11.4                       | 10.0                       |

See footnotes at end of tables.

## Footnotes

<sup>1</sup> Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

<sup>2</sup> The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—half of the workers receive the same or more and half receive the same or less than the rate shown. The middle range is defined by two rates of pay; a fourth of the workers earn the same or less than the lower of these rates and a fourth earn the same or more than the higher rate.

<sup>3</sup> Earnings data relate only to workers whose sex identification was provided by the establishment.

<sup>4</sup> Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

<sup>5</sup> Estimates for periods ending prior to 1976 relate to men only for skilled maintenance and unskilled plant workers. All other estimates relate to men and women.

<sup>6</sup> Data do not meet publication criteria or data not available.

# Appendix A.

## Scope and Method of Survey

In each of the 75<sup>1</sup> areas currently surveyed, the Bureau obtains wages and related benefits data from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Government operations and the construction and extractive industries are excluded. Establishments having fewer than a prescribed number of workers are also excluded because of insufficient employment in the occupations studied. Appendix table 1 shows the number of establishments and workers estimated to be within the scope of this survey, as well as the number actually studied.

Bureau field representatives obtain data by personal visits at 3-year intervals. In each of the two intervening years, information on employment and occupational earnings only is collected by a combination of personal visit, mail questionnaire, and telephone interview from establishments participating in the previous survey.

A sample of the establishments in the scope of the survey is selected for study prior to each personal visit survey. This sample, less establishments which go out of business or are no longer within the industrial scope of the survey, is retained for the following two annual surveys. In most cases, establishments new to the area are not considered in the scope of the survey until the selection of a sample for a personal visit survey.

The sampling procedures involve detailed stratification of all establishments within the scope of an individual area survey by industry and number of employees. From this stratified universe a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of 4 to represent itself plus three others. An alternate of the same original probability is chosen in the same industry-size classification if data are not available from the original sample member. If no suitable substitute is available, additional weight is assigned to a sample member that is similar to the missing unit.

### Occupations and earnings

Occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical; (3) maintenance, toolroom,

and powerplant; and (4) material movement and custodial. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. Occupations selected for study are listed and described in appendix B.

Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within the scope of the survey, are not presented in the A-series tables because either (1) employment in the occupation is too small to provide enough data to merit presentation, or (2) there is possibility of disclosure of individual establishment data. Separate men's and women's earnings data are not presented when 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 shown separately for industry divisions are included in data for all industries combined. Likewise, for occupations with more than one level, data are included in the overall classification when a subclassification is not shown or information to subclassify is not available.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Nonproduction bonuses are excluded, but cost-of-living allowances and incentive bonuses are included. Weekly hours for office clerical and professional and technical occupations refer to the standard workweek (rounded to the nearest half hour) for which employees 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. Vertical lines within the distribution of workers on some A-tables indicate a change in the size of the class intervals.

These surveys measure the level of occupational earnings in an area at a particular time. Comparisons of individual occupational averages over time may not reflect expected wage changes. The averages for individual jobs are affected by changes in wages and employment patterns. For example, proportions of workers employed by high- or low-wage firms may change, or high-wage workers may advance to better jobs and be replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increase wages during the year. Changes in earnings of occupational groups, shown in table A-7, are better indicators of wage trends than are earnings changes for individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

<sup>1</sup> Included in the 75 areas are 5 studies conducted by the Bureau under contract. These areas are Akron, Ohio; Birmingham, Ala.; Norfolk-Virginia Beach-Portsmouth and Newport News-Hampton, Va.—N.C.; Poughkeepsie-Kingston-Newburgh, N.Y.; and Utica-Rome, N.Y. In addition, the Bureau conducts more limited area studies in approximately 100 areas at the request of the Employment Standards Administration of the U. S. Department of Labor.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges (only the rates paid 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 establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

#### Wage trends for selected occupational groups

The percent increases presented in table A-7 are based on changes in average hourly earnings of men and women in establishments reporting the trend jobs in both the current and previous year (matched establishments). The data are adjusted to remove the effects on average earnings of employment shifts among establishments and turnover of establishments included in survey samples. The percent increases, however, are still affected by factors other than wage increases. Hirings, layoffs, and turnover may affect an establishment average for an occupation when workers are paid under plans providing a range of wage rates for individual jobs. In periods of increased hiring, for example, new employees may enter at the bottom of the range, depressing the average without a change in wage rates.

The percent changes relate to wage changes between the indicated dates. When the time span between surveys is other than 12 months, annual rates are shown. (It is assumed that wages increase at a constant rate between surveys.)

Occupations used to compute wage trends are:

#### Office clerical

Secretaries  
Stenographers, general  
Stenographers, senior  
Typists, classes  
A and B  
File clerks, classes A,  
B, and C  
Messengers  
Switchboard operators

#### Office clerical—Continued

Order clerks, classes  
A and B  
Accounting clerks,  
classes A and B  
Bookkeeping-machine  
operators, class B  
Payroll clerks  
Key entry operators,  
classes A and B

#### Electronic data processing

Computer systems  
analysts, classes  
A, B, and C  
Computer programmers,  
classes A, B, and C  
Computer operators,  
classes A, B, and C

#### Skilled maintenance

Carpenters  
Electricians  
Painters  
Machinists  
Mechanics (machinery)  
Mechanics (motor vehicle)  
Pipefitters  
Tool and die makers

#### Industrial nurses

Registered industrial  
nurses

#### Unskilled plant

Janitors, porters, and  
cleaners  
Material handling laborers

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

1. Average earnings are computed for each occupation for the 2 years being compared. The averages are derived from earnings in those establishments which are in the survey both years; it is assumed that employment remains unchanged.
2. Each occupation is assigned a weight based on its proportionate employment in the occupational group in the base year.
3. These weights are used to compute group averages. Each occupation's average earnings (computed in step 1) is multiplied by its weight. The products are totaled to obtain a group average.
4. The ratio of group averages for 2 consecutive years is computed by dividing the average for the current year by the average for the earlier year. The result—expressed as a percent—less 100 is the percent change.

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

#### Establishment practices and supplementary wage provisions

Tabulations on selected establishment practices and supplementary wage provisions (B-series tables) are not presented in this bulletin. Information for these tabulations is collected at 3-year intervals. These tabulations on minimum entrance salaries for inexperienced office workers; shift 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.



**Appendix table 1. Establishments and workers within scope of survey and number studied in San Antonio, Tex.,<sup>1</sup> May 1978**

| Industry division <sup>2</sup>   | Minimum employment in establishments in scope of study | Number of establishments           |         | Workers in establishments          |         |         |
|--|--|------------------------------------|---------|------------------------------------|---------|---------|
|  |  | Within scope of study <sup>3</sup> | Studied | Within scope of study <sup>4</sup> |         | Studied |
|  |  |                                    |         | Number                             | Percent |         |
| ALL DIVISIONS -----  | -  | 595                                | 150     | 114,548                            | 100     | 58,779  |
| MANUFACTURING -----  | 50   | 138                                | 41      | 33,178                             | 29      | 17,686  |
| NONMANUFACTURING -----   | -  | 457                                | 109     | 81,370                             | 71      | 41,093  |
| TRANSPORTATION, COMMUNICATION, AND OTHER PUBLIC UTILITIES <sup>5</sup> ----- | 50   | 49                                 | 19      | 11,297                             | 10      | 8,407   |
| WHOLESALE TRADE <sup>6</sup> -----   | 50   | 79                                 | 13      | 6,980                              | 6       | 1,508   |
| RETAIL TRADE <sup>6</sup> -----  | 50   | 174                                | 30      | 37,618                             | 33      | 16,615  |
| FINANCE, INSURANCE, AND REAL ESTATE <sup>6</sup> -----                       | 50   | 74                                 | 12      | 12,503                             | 11      | 7,285   |
| SERVICES <sup>6 7</sup> -----  | 50   | 81                                 | 35      | 12,972                             | 11      | 7,278   |

<sup>1</sup> The San Antonio Standard Metropolitan Statistical Area, as defined by the Office of Management and Budget through February 1974, consists of Bexar, Comal, and Guadalupe Counties. The "workers within scope of study" estimates shown in this table provide a reasonably accurate description of the size and composition of the labor force included in the survey. Estimates are not intended, however, for comparison with other employment indexes to measure employment trends or levels since (1) planning of wage surveys requires establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

<sup>2</sup> The 1972 edition of the Standard Industrial Classification Manual was used in classifying establishments by industry division. However, all government operations are excluded from the scope of the survey.

<sup>3</sup> Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of companies in industries such as trade, finance, auto repair service, and motion picture theaters are considered as one establishment.

<sup>4</sup> Includes all workers in all establishments with total employment (within the area) at or above the minimum limitation.

<sup>5</sup> Abbreviated to "public utilities" in the A-series tables. Taxicabs and services incidental to water transportation are excluded. San Antonio's electric, gas, and transit systems are municipally operated and are excluded by definition from the scope of the survey.

<sup>6</sup> Separate presentation of data is not made for this division.

<sup>7</sup> Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

# Appendix B. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field economists are instructed to exclude working supervisors; apprentices; and part-time, temporary, and probationary workers. Handicapped workers whose earnings are reduced because of their handicap are also excluded. Learners, beginners, and trainees, unless specifically included in the job descriptions, are excluded.

## Office

### SECRETARY

Assigned as a personal secretary, normally to one individual. Maintains a close and highly responsive relationship to the day-to-day activities of the supervisor. Works fairly independently receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties requiring a knowledge of office routine and understanding of the organization, programs, and procedures related to the work of the supervisor.

#### Exclusions

Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

- a. Positions which do not meet the "personal" secretary concept described above;
- b. Stenographers not fully trained in secretarial-type duties;
- c. Stenographers serving as office assistants to a group of professional, technical, or managerial persons;
- d. Assistant-type positions which entail more difficult or more responsible technical, administrative, or supervisory duties which are not typical of secretarial work, e.g., Administrative Assistant, or Executive Assistant;

### SECRETARY—Continued

#### Exclusions—Continued

- e. Positions which do not fit any of the situations listed in the sections below titled "Level of Supervisor," e.g., secretary to the president of a company that employs, in all, over 5,000 persons;
- f. Trainees.

#### Classification by Level

Secretary jobs which meet the above characteristics are matched at one of five levels according to (a) the level of the secretary's supervisor within the company's organizational structure and, (b) the level of the secretary's responsibility. The chart following the explanations of these two factors indicates the level of the secretary for each combination of the factors.

#### Level of Secretary's Supervisor (LS)

Secretaries should be matched at one of the four LS levels described below according to the level of the secretary's supervisor within the company organizational structure.

- LS-1    a. Secretary to the supervisor or head of a small organizational unit (e.g., fewer than about 25 or 30 persons); or

SECRETARY—Continued

Classification by Level—Continued

- b. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer or assistant, skilled technician or expert. (NOTE: Many companies assign stenographers, rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.)
- LS-2
  - a. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the definition for LS-3, but whose organizational unit normally numbers at least several dozen employees and is usually divided into organizational segments which are often, in turn, further subdivided. In some companies, this level includes a wide range of organizational echelons; in others, only one or two; or
  - b. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, fewer than 5,000 persons.
- LS-3
  - a. Secretary to the chairman of the board or president of a company that employs, in all, fewer than 100 persons; or
  - b. Secretary to a corporate officer (other than chairman of the board or president) of a company that employs, in all, over 100 but fewer than 5,000 persons; or
  - c. Secretary to the head (immediately below the officer level) over either a major corporatewide functional activity (e.g., marketing, research, operations, industrial relations, etc.) or a major geographic or organizational segment (e.g., a regional headquarters; a major division) of a company that employs, in all, over 5,000 but fewer than 25,000 employees; or
  - d. Secretary to the head of an individual plant, factory, etc., (or other equivalent level of official) that employs, in all, over 5,000 persons; or
  - e. 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) of a company that employs, in all, over 25,000 persons.
- LS-4
  - a. 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
  - b. 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
  - c. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a company that employs, in all, over 25,000 persons.

**NOTE:** The term "corporate officer" used in the above LS definition refers to those officials who have a significant corporatewide policymaking role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all cases identify such

SECRETARY—Continued

Classification by Level—Continued

positions. Vice presidents whose primary responsibility is to act personally on individual cases or transactions (e.g., approve or deny individual loan or credit actions; administer individual trust accounts; directly supervise a clerical staff) are not considered to be "corporate officers" for purposes of applying the definition.

Level of Secretary's Responsibility (LR)

This factor evaluates the nature of the work relationship between the secretary and the supervisor, and the extent to which the secretary is expected to exercise initiative and judgment. Secretaries should be matched at LR-1 or LR-2 described below according to their level of responsibility.

Level of Responsibility 1 (LR-1)

Performs varied secretarial duties including or comparable to most of the following:

- a. Answers telephones, greets personal callers, and opens incoming mail.
- b. Answers telephone requests which have standard answers. May reply to requests by sending a form letter.
- c. Reviews correspondence, memoranda, and reports prepared by others for the supervisor's signature to ensure procedural and typographical accuracy.
- d. Maintains supervisor's calendar and makes appointments as instructed.
- e. Types, takes and transcribes dictation, and files.

Level of Responsibility 2 (LR-2)

Performs duties described under LR-1 and, in addition performs tasks requiring greater judgment, initiative, and knowledge of office functions including or comparable to most of the following:

- a. Screens telephone and personal callers, determining which can be handled by the supervisor's subordinates or other offices.
- b. Answers requests which require a detailed knowledge of office procedures or collection of information from files or other offices. May sign routine correspondence in own or supervisor's name.
- c. Compiles or assists in compiling periodic reports on the basis of general instructions.

## SECRETARY—Continued

### Level of Responsibility 2 (LR-2)—Continued

- d. Schedules tentative appointments without prior clearance. Assembles necessary background material for scheduled meetings. Makes arrangements for meetings and conferences.
- e. Explains supervisor's requirements to other employees in supervisor's unit. (Also types, takes dictation, and files.)

The following tabulation shows the level of the secretary for each LS and LR combination.

| Level of secretary's supervisor | Level of secretary's responsibility |         |
|---------------------------------|-------------------------------------|---------|
|                                 | LR-1                                | LR-2    |
| LS-1-----                       | Class E                             | Class D |
| LS-2-----                       | Class D                             | Class C |
| LS-3-----                       | Class C                             | Class B |
| LS-4-----                       | Class B                             | Class A |

## STENOGRAPHER

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings (if primary duty is transcribing from recordings, see Transcribing-Machine Typist).

**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 performs more responsible and discretionary tasks as described in the secretary job definition.

### Stenographer, General

Dictation involves a normal routine vocabulary. May maintain files, keep simple records, or perform other relatively routine clerical tasks.

### Stenographer, Senior

Dictation involves a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research. May also set up and maintain files, keep records, etc.

OR

Performs stenographic duties requiring significantly greater independence and responsibility than stenographer, general, as evidenced by the following: Work requires a high degree of stenographic speed and accuracy; a thorough working knowledge of general business and office procedure; and

## STENOGRAPHER—Continued

of the specific business operations, organization, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining followup files; assembling material for reports, memoranda, and letters; composing simple letters from general instructions; reading and routing incoming mail; and answering routine questions, etc.

## TRANSCRIBING-MACHINE TYPIST

Primary duty is to type copy of voice recorded dictation which does not involve varied technical or specialized vocabulary such as that used in legal briefs or reports on scientific research. May also type from written copy. May maintain files, keep simple records, or perform other relatively routine clerical tasks. (See Stenographer definition for workers involved with shorthand dictation.)

## TYPIST

Uses a typewriter to make copies of various materials or to make out bills after calculations have been made by another person. May include typing of stencils, mats, or similar materials for use 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 it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. 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 drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

## FILE CLERK

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions.

Class A. Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

Class B. Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

## FILE CLERK—Continued

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

## MESSENGER

Performs 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 positions that require operation of a motor vehicle as a significant duty.

## SWITCHBOARD OPERATOR

Operates a telephone switchboard or console used with a private branch exchange (PBX) system to relay incoming, outgoing, and intrasystem calls. May provide information to callers, record and transmit messages, keep record of calls placed and toll charges. Besides operating a telephone switchboard or console, may also type or perform routine clerical work (typing or routine clerical work may occupy the major portion of the worker's time, and is usually performed while at the switchboard or console). Chief or lead operators in establishments employing more than one operator are excluded. For an operator who also acts as a receptionist, see Switchboard Operator-Receptionist.

## SWITCHBOARD OPERATOR-RECEPTIONIST

At a single-position telephone switchboard or console, acts both as an operator—see Switchboard Operator—and as a receptionist. Receptionist's work involves such duties as greeting visitors; determining nature of visitor's business and providing appropriate information; referring visitor to appropriate person in the organization or contacting that person by telephone and arranging an appointment; keeping a log of visitors.

## ORDER CLERK

Receives written or verbal customers' purchase orders for material or merchandise from customers or sales people. Work typically involves some combination of the following duties: Quoting prices; determining availability of ordered items and suggesting substitutes when necessary; advising expected delivery date and method of delivery; recording order and customer information on order sheets; checking order sheets for accuracy and adequacy of information recorded; ascertaining credit rating of customer; furnishing customer with acknowledgement of receipt of order; following up to see that order is delivered by the specified date or to let customer know of a delay in delivery; maintaining order file; checking shipping invoice against original order.

Exclude workers paid on a commission basis or whose duties include any of the following: Receiving orders for services rather than for material or merchandise; providing customers with consultative advice using knowledge gained from engineering or extensive technical training; emphasizing selling skills; handling material or merchandise as an integral part of the job.

## ORDER CLERK—Continued

Positions are classified into levels according to the following definitions:

Class A. Handles orders that involve making judgments such as choosing which specific product or material from the establishment's product lines will satisfy the customer's needs, or determining the price to be quoted when pricing involves more than merely referring to a price list or making some simple mathematical calculations.

Class B. Handles orders involving items which have readily identified uses and applications. May refer to a catalog, manufacturer's manual, or similar document to insure that proper item is supplied or to verify price of ordered item.

## ACCOUNTING CLERK

Performs one or more accounting clerical tasks such as posting to registers and ledgers; reconciling bank accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying for clerical accuracy various types of reports, lists, calculations, posting, etc.; or preparing simple or 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 experience, the worker typically becomes familiar with the bookkeeping and accounting terms and procedures used in the assigned work, but is not required to have a knowledge of the formal principles of bookkeeping and accounting.

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

Class A. Under general supervision, performs accounting clerical operations which require the application of experience and judgment, for example, clerically processing complicated or nonrepetitive accounting transactions, selecting among a substantial variety of prescribed accounting codes and classifications, or tracing transactions through previous accounting actions to determine source of discrepancies. May be assisted by one or more class B accounting clerks.

Class B. Under close supervision, following detailed instructions and standardized procedures, performs 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; checking accuracy and completeness of standardized and repetitive records or accounting documents; and coding documents using a few prescribed accounting codes.

## BOOKKEEPING-MACHINE OPERATOR

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

Class A. Keeps a set of records requiring a knowledge of and experience in basic bookkeeping principles, and familiarity with the structure of the particular accounting system used. Determines proper records and distribution of debit and credit items to be used in each phase of the work. May prepare consolidated reports, balance sheets, and other records by hand.

## BOOKKEEPING-MACHINE OPERATOR—Continued

Class B. Keeps a record of one or more phases or sections of a set of records usually requiring little knowledge of basic bookkeeping. Phases or sections include accounts payable, payroll, customers' accounts (not including a simple type of billing described under machine biller), cost distribution, expense distribution, inventory control, etc. May check or assist in preparation of trial balances and prepare control sheets for the accounting department.

### MACHINE BILLER

Prepares statements, bills, 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 incidental to billing operations. For wage study purposes, machine billers are classified by type of machine, as follows:

Billing-machine biller. Uses a special billing machine (combination typing and adding machine) to prepare bills and invoices from customers' purchase orders, internally prepared orders, shipping memoranda, etc. Usually involves application of predetermined discounts and shipping 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 copies of the bill being prepared and is often done on a fanfold machine.

Bookkeeping-machine biller. Uses a bookkeeping machine (with or without a typewriter keyboard) to prepare customers' bills as part of the accounts receivable operation. Generally involves the simultaneous entry of figures on customers' ledger record. The machine automatically accumulates figures on a number of vertical columns and computes and usually prints automatically the debit or credit balances. Does not involve a knowledge of bookkeeping. Works from uniform and standard types of sales and credit slips.

### PAYROLL CLERK

Performs the clerical tasks necessary to process payrolls and to maintain payroll records. Work involves most of the following: Processing workers' time or production records; adjusting workers' records for changes in wage rates, supplementary benefits, or tax deductions; editing payroll listings against source records; tracing and correcting errors in listings; and assisting in preparation of periodic summary payroll reports. In a non-automated payroll system, computes wages. Work may require a practical knowledge of governmental regulations, company payroll policy, or the computer system for processing payrolls.

### KEY ENTRY OPERATOR

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

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

Class A. Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be keypunched from a variety of source documents. On occasion may also perform some routine keypunch work. May train inexperienced keypunch operators.

## KEY ENTRY OPERATOR—Continued

Class B. Work is routine and repetitive. Under close supervision or following specific procedures or instructions, works from various standardized source documents which have been coded, and follows specified procedures which have been prescribed in detail and require little or no selecting, coding, or interpreting of data to be recorded. Refers to supervisor problems arising from erroneous items or codes or missing information.

## Professional and Technical

### COMPUTER SYSTEMS ANALYST, BUSINESS

Analyzes business problems to formulate procedures for solving them by use of electronic data processing equipment. Develops a complete description of all specifications needed to enable programmers to prepare required digital computer programs. Work involves most of the following: Analyzes subject-matter operations to be automated and identifies conditions and criteria required to achieve satisfactory results; specifies number and types of records, files, and documents to be used; outlines actions to be performed by personnel and computers in sufficient detail for presentation to management and for programming (typically this involves preparation of work and data flow charts); coordinates the development of test problems and participates in trial runs of new and revised systems; and recommends equipment changes to obtain more effective overall operations. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or systems analysts primarily concerned with scientific or engineering problems.

For wage study purposes, systems analysts are classified as follows:

Class A. Works independently or under only general direction on complex problems involving all phases of systems analysis. Problems are complex because of diverse sources of input data and multiple-use requirements of output data. (For example, develops an integrated production scheduling, inventory control, cost analysis, and sales analysis record in which every item of each type is automatically processed through the full system of records and appropriate followup actions are initiated by the computer.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of new or revised systems of data processing operations. Makes recommendations, if needed, for approval of major systems installations or changes and for obtaining equipment.

May provide functional direction to lower level systems analysts who are assigned to assist.

Class B. Works independently or under only general direction on problems 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,



#### COMPUTER SYSTEMS ANALYST, BUSINESS—Continued

develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, or maintaining inventory accounts in a manufacturing or wholesale establishment.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of the data processing systems to be applied.

OR

Works on a segment of a complex data processing scheme or system, as described for class A. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system.

Class C. Works under immediate supervision, carrying out analyses as assigned, usually of a single activity. Assignments are designed to develop and expand practical experience in the application of procedures and skills required for systems analysis work. For example, may assist a higher level systems analyst by preparing the detailed specifications required by programmers from information developed by the higher level analyst.

#### COMPUTER PROGRAMMER, BUSINESS

Converts statements of business problems, typically prepared by a systems analyst, into a sequence of detailed instructions which are required to solve the problems by automatic data processing equipment. Working from charts or diagrams, the programmer develops the precise instructions which, when entered into the computer system in coded language, cause the manipulation of data to achieve desired results. Work involves most of the following: Applies knowledge of computer capabilities, mathematics, logic employed by computers, and particular subject matter involved to analyze charts and diagrams of the problem to be programmed; develops sequence of program steps; writes detailed flow charts to show order in which data will be processed; converts these charts to coded instructions for machine to follow; tests and corrects programs; prepares instructions for operating personnel during production run; analyzes, reviews, and alters programs to increase operating efficiency or adapt to new requirements; maintains records of program development and revisions. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or programmers primarily concerned with scientific and/or engineering problems.

For wage study purposes, programmers are classified as follows:

Class A. Works independently or under only general direction on complex problems which require competence in all phases of programming concepts and practices. Working from diagrams and charts which identify the nature of desired results, major processing steps to be accomplished, and the relationships between various steps of the problem solving routine; plans the full range of programming actions needed to efficiently utilize the computer system in achieving desired end products.

#### COMPUTER PROGRAMMER, BUSINESS—Continued

At this level, programming is difficult because computer equipment must be organized to produce several interrelated but diverse products from numerous and diverse data elements. A wide variety and extensive number of internal processing actions must occur. This requires such actions as development of common operations which can be reused, establishment of linkage points between operations, adjustments to data when program requirements exceed computer storage capacity, and substantial manipulation and resequencing of data elements to form a highly integrated program.

May provide functional direction to lower level programmers who are assigned to assist.

Class B. Works independently or under only general direction on relatively simple programs, or on simple segments of complex programs. Programs (or segments) usually process information to produce data in two or three varied sequences or formats. Reports and listings are produced by refining, adapting, arraying, or making minor additions to or deletions from input data which are readily available. While numerous records may be processed, the data have been refined in prior actions so that the accuracy and sequencing of data can be tested by using a few routine checks. Typically, the program deals with routine recordkeeping operations.

OR

Works on complex programs (as described for class A) under close direction of a higher level programmer or supervisor. May assist higher level programmer by independently performing less difficult tasks assigned, and performing more difficult tasks under fairly close direction.

May guide or instruct lower level programmers.

Class C. Makes practical applications of programming practices and concepts usually learned in formal training courses. Assignments are designed to develop competence in the application of standard procedures to routine problems. Receives close supervision on new aspects of assignments; and work is reviewed to verify its accuracy and conformance with required procedures.

#### COMPUTER OPERATOR

Monitors and operates the control console of a digital computer to process data according to operating 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 equipment into circuit, and starts and operates computer; makes adjustments to computer to correct operating problems and meet special conditions; reviews errors made during operation and determines cause or refers problem to supervisor or programmer; and maintains operating records. May test and assist in correcting program.

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

Class A. Operates independently, or under only general direction, a computer running programs with most of the following characteristics: New programs are frequently tested and introduced; scheduling requirements

## COMPUTER OPERATOR—Continued

are of critical importance to minimize downtime; the programs are of complex design so that identification of error source often requires a working knowledge of the total program, and alternate programs may not be available. May give direction and guidance to lower level operators.

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 required; alternate programs are provided in case original program needs major change or cannot be corrected within a reasonably short time. In common error situations, diagnoses cause and takes corrective action. This usually involves applying previously programmed corrective steps, or using standard correction techniques.

OR

Operates under direct supervision a computer running programs or segments of programs with the characteristics described for class A. May assist a higher level operator by independently performing less difficult tasks assigned, and performing difficult tasks following detailed instructions and with frequent review of operations performed.

Class C. Works on routine programs under close supervision. Is expected to develop working knowledge of the computer equipment used and ability to detect problems involved in running routine programs. Usually has received some formal training in computer operation. May assist higher level operator on complex programs.

## DRAFTER

Class A. Plans the graphic presentation of complex items having distinctive design features that differ significantly from established drafting precedents. Works in close support with the design originator, and may recommend minor design changes. Analyzes the effect of each change on the details of form, function, and positional relationships of components and parts. Works with a minimum of supervisory assistance. Completed work is reviewed by design originator for consistency with prior engineering determinations. May either prepare drawings or direct their preparation by lower level drafters.

Class B. Performs nonroutine and complex drafting assignments that require the application of most of the standardized drawing techniques regularly used. Duties typically involve such work as: Prepares working drawings of subassemblies with irregular shapes, multiple functions, and precise positional relationships between components; prepares architectural drawings for construction of a building including detail drawings of foundations, wall sections, floor plans, and roof. Uses accepted formulas and manuals in making necessary computations to determine quantities of materials to be used, load capacities, strengths, stresses, etc. Receives initial instructions, requirements, and advice from supervisor. Completed work is checked for technical adequacy.

## DRAFTER—Continued

Class C. Prepares detail drawings of single units or parts for engineering, construction, manufacturing, or repair purposes. Types of drawings prepared include isometric projections (depicting three dimensions in accurate scale) and sectional views to clarify positioning of components and convey needed information. Consolidates details from a number of sources and adjusts or transposes scale as required. Suggested methods of approach, applicable precedents, and advice on source materials are given with initial assignments. Instructions are less complete when assignments recur. Work may be spot-checked during progress.

## DRAFTER-TRACER

Copies plans 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 consisting of straight lines and a large scale not requiring close delineation.)

AND/OR

Prepares simple or repetitive drawings of easily visualized items. Work is closely supervised during progress.

## ELECTRONICS TECHNICIAN

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 transmitting and receiving equipment (e.g., radar, radio, television, telephone, sonar, navigational aids), (b) digital and analog computers, and (c) industrial and medical measuring and controlling equipment.

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 primary duty is servicing electronic test instruments; technicians who have administrative or 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, electromagnetic radiation, isolating malfunctions, and frequent engineering changes. Work involves: A detailed understanding of the interrelationships of circuits; exercising independent judgment in performing such tasks as making circuit analyses, calculating wave forms, tracing relationships in signal flow; and regularly using complex test instruments (e.g., dual trace oscilloscopes, Q-meters, deviation meters, pulse generators).

## ELECTRONICS TECHNICIAN—Continued

Work may be reviewed by supervisor (frequently an engineer or designer) for general compliance with accepted practices. May provide technical guidance to lower level technicians.

**Class B.** Applies comprehensive technical knowledge to solve complex problems (i.e., those that typically can be solved solely by properly interpreting manufacturers' manuals or similar documents) in working on electronic equipment. Work involves: A familiarity with the interrelationships of circuits; and judgment in determining work sequence and in selecting 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 technical guidance to lower level technicians.

**Class C.** Applies working technical knowledge to perform simple or routine tasks in working on electronic equipment, following detailed instructions which cover virtually all procedures. Work typically involves such tasks as: Assisting higher level technicians by performing such activities as 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.

## REGISTERED INDUSTRIAL NURSE

A registered nurse who gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve a combination of the following: Giving first aid to the ill 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 employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

# Maintenance, Toolroom, and Powerplant

## MAINTENANCE CARPENTER

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

## MAINTENANCE CARPENTER—Continued

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.

## MAINTENANCE ELECTRICIAN

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves most of the following: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## MAINTENANCE PAINTER

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; preparing surface for painting by removing old finish or by placing putty or filler in nail holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

## MAINTENANCE MACHINIST

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for this work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

## MAINTENANCE MECHANIC (Machinery)

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

## MAINTENANCE MECHANIC (Machinery)—Continued

obtained from stock; ordering the production of a replacement part by a machine shop or sending the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shops; reassembling machines; and making all necessary adjustments for operation. In general, the work of a machinery maintenance mechanic requires rounded training and experience usually 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.

## MAINTENANCE MECHANIC (Motor vehicle)

Repairs automobiles, buses, motortrucks, and tractors of an establishment. Work involves most of the following: Examining automotive equipment to diagnose source of trouble; 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 or defective parts from stock; grinding and adjusting valves; reassembling and installing the various assemblies in the vehicle and making necessary adjustments; and aligning wheels, adjusting brakes and lights, or tightening body bolts. In general, the work of the motor vehicle maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

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

## MAINTENANCE PIPEFITTER

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves most of the following: Laying out work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

## MAINTENANCE SHEET-METAL WORKER

Fabricates, installs, 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 sheet-metal maintenance work from blueprints, models, or other specifications; setting up and operating all available 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.

## MILLWRIGHT

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves most of the following: Planning and laying out work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

## MAINTENANCE TRADES HELPER

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; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-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 nonmetallic material (e.g., plastic, plaster, rubber, glass). Work typically involves: Planning and performing 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 controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions 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 of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

For cross-industry wage study purposes, this classification does not include machine-tool operators (toolroom) employed in tool and die jobbing shops.

## TOOL AND DIE MAKER

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). 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

## TOOL AND DIE MAKER—Continued

alloys; selecting appropriate materials, tools, and processes required to complete tasks; making necessary shop computations; setting up and operating various machine tools and related equipment; using various 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, the tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship 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 shops or (2) produce forging dies (die sinkers).

## STATIONARY ENGINEER

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, refrigeration, or air-conditioning. Work involves: Operating and maintaining equipment such as steam engines, air compressors, generators, motors, turbines, ventilating and refrigerating equipment, steam boilers and boiler-fed water pumps; making equipment repairs; and keeping a record of operation of machinery, temperature, and fuel consumption. May also supervise these operations. Head or chief engineers in establishments employing more than one engineer are excluded.

## 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 checks water and safety valves. May clean, oil, or assist in repairing boilerroom equipment.

# Material Movement and Custodial

## TRUCKDRIVER

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or workers between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. Salesroute and over-the-road drivers are excluded.

For wage study purposes, truckdrivers are classified by type and rated capacity of truck, as follows:

- Truckdriver, light truck  
(straight truck, under 1½ tons, usually 4 wheels)
- Truckdriver, medium truck  
(straight truck, 1½ to 4 tons inclusive, usually 6 wheels)
- Truckdriver, heavy truck  
(straight truck, over 4 tons, usually 10 wheels)
- Truckdriver, tractor-trailer

## SHIPPER AND RECEIVER

Performs clerical and physical tasks in connection with shipping goods of the establishment in which employed and receiving incoming shipments. In performing day-to-day, routine tasks, follows established guidelines. In handling unusual nonroutine problems, receives specific guidance from supervisor or other officials. May direct and coordinate the activities of other workers engaged in handling goods to be shipped or being received.

Shippers typically are responsible for most of the following: Verifying that orders are accurately filled by comparing items and quantities of goods gathered for shipment against documents; insuring that shipments are properly packaged, identified with shipping information, and loaded into transporting vehicles; preparing and keeping records of goods shipped, e.g., manifests, bills of lading.

Receivers typically are responsible for most of the following: Verifying the correctness of incoming shipments by comparing items and quantities unloaded against bills of lading, invoices, manifests, storage receipts, or other records; checking for damaged goods; insuring that goods are appropriately identified for routing to departments within the establishment; preparing and keeping records of goods received.

For wage study purposes, workers are classified as follows:

- Shipper
- Receiver
- Shipper and receiver

## WAREHOUSEMAN

As directed, performs a variety of warehousing duties which require an understanding of the establishment's storage plan. Work involves most of the following: Verifying materials (or merchandise) against receiving documents, noting and reporting discrepancies and obvious damages; routing materials to prescribed storage locations; storing, stacking, or palletizing materials in accordance with prescribed storage methods; rearranging and taking inventory of stored materials; examining stored 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 Shipper and Receiver and Shipping Packer), order filling (see Order Filler), or operating power trucks (see Power-Truck Operator).

## ORDER FILLER

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales 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 stock or report short supplies to supervisor, and perform other related duties.

## SHIPPING PACKER

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

## SHIPPING PACKER—Continued

employed, and method of shipment. Work requires the placing of items in shipping containers and may involve one or more of the following: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. Packers who also make wooden boxes or crates are excluded.

## MATERIAL HANDLING LABORER

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.

## POWER-TRUCK OPERATOR

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 establishment.

For wage study purposes, workers are classified by type of power-truck, as follows:

- Forklift operator
- Power-truck operator (other than forklift)

## GUARD

Protects property from theft or damage, or persons from hazards or interference. Duties involve serving at a fixed post, making rounds on foot or by motor vehicle, or escorting persons or property. May be deputized to make arrests. May also help visitors and customers by answering questions and giving directions.

## GUARD—Continued

Guards employed by establishments which provide protective services on a contract basis are included in this occupation.

For wage study purposes, guards are classified as follows:

Class A. Enforces regulations designed to prevent breaches of security. Exercises judgment and uses discretion in dealing with emergencies and security violations encountered. Determines whether first response should be to intervene directly (asking for assistance when deemed necessary and time allows), to keep situation under surveillance, or to report situation so that it can be handled by appropriate authority. Duties require specialized training in methods and techniques of protecting security areas. Commonly, the guard is required to demonstrate continuing physical fitness and proficiency with firearms or other special weapons.

Class B. Carries out instructions primarily oriented toward insuring that emergencies and security violations are readily discovered and reported to appropriate authority. Intervenes directly only in situations which require minimal action to safeguard property or persons. Duties require minimal training. Commonly, the guard is not required to demonstrate physical fitness. May be armed, but generally is not required to demonstrate proficiency in the use of firearms or special weapons.

## JANITOR, PORTER, OR CLEANER

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. 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 who specialize in window washing are excluded.



# Area Wage Surveys

A list of the latest bulletins available is presented below. Bulletins may be purchased from any of the BLS regional offices shown on the back cover, or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Make checks payable to Superintendent of Documents. A directory of occupational wage surveys, covering the years 1970 through 1976, is available on request.

| <u>Area</u>  | <u>Bulletin number<br/>and price*</u> |
|--|---------------------------------------|
| Akron, Ohio, Dec. 1977   | 1950-70, 80 cents                     |
| Albany-Schenectady-Troy, N.Y., Sept. 1977                            | 1950-52, 80 cents                     |
| Anaheim-Santa Ana-Garden Grove,<br>Calif., Oct. 1977                 | 1950-60, \$1.00                       |
| Atlanta, Ga., May 1977   | 1950-17, \$1.20                       |
| Baltimore, Md., Aug. 1977  | 1950-39, \$1.20                       |
| Billings, Mont., July 1977 <sup>1</sup>                              | 1950-40, \$1.00                       |
| Birmingham, Ala., Mar. 1978  | 2025-15, 80 cents                     |
| Boston, Mass., Aug. 1977   | 1950-50, \$1.20                       |
| Buffalo, N.Y., Oct. 1977   | 1950-58, \$1.00                       |
| Canton, Ohio, May 1977 <sup>1</sup>                                  | 1950-28, \$1.10                       |
| Chattanooga, Tenn.-Ga., Sept. 1977                                   | 1950-44, 70 cents                     |
| Chicago, Ill., May 1977 <sup>1</sup>                                 | 1950-41, \$1.40                       |
| Cincinnati, Ohio-Ky.-Ind., July 1977 <sup>1</sup>                    | 1950-45, \$1.20                       |
| Cleveland, Ohio, Sept. 1977 <sup>1</sup>                             | 1950-53, \$1.40                       |
| Columbus, Ohio, Oct. 1977  | 1950-64, \$1.00                       |
| Corpus Christi, Tex., July 1977 <sup>1</sup>                         | 1950-35, \$1.00                       |
| Dallas-Fort Worth, Tex., Oct. 1977                                   | 1950-65, \$1.20                       |
| Davenport-Rock Island-Moline, Iowa-Ill., Feb. 1978                   | 2025-6, 70 cents                      |
| Dayton, Ohio, Dec. 1977 <sup>1</sup>                                 | 1950-71, \$1.10                       |
| Daytona Beach, Fla., Aug. 1977 <sup>1</sup>                          | 1950-43, \$1.00                       |
| Denver-Boulder, Colo., Dec. 1977 <sup>1</sup>                        | 1950-74, \$1.40                       |
| Detroit, Mich., Mar. 1978  | 2025-11, \$1.20                       |
| Fresno, Calif., June 1977  | 1950-30, 70 cents                     |
| Gainesville, Fla., Sept. 1977 <sup>1</sup>                           | 1950-46, \$1.00                       |
| Green Bay, Wis., July 1977   | 1950-36, 70 cents                     |
| Greensboro-Winston-Salem-High Point,<br>N.C., Aug. 1977 <sup>1</sup> | 1950-42, \$1.10                       |
| Greenville-Spartanburg, S.C., June 1977                              | 1950-33, 70 cents                     |
| Hartford, Conn., Mar. 1978 <sup>1</sup>                              | 2025-14, \$1.20                       |
| Houston, Tex., Aug. 1977 <sup>1</sup>                                | 1950-48, \$1.40                       |
| Huntsville, Ala., Feb. 1978  | 2025-4, 70 cents                      |
| Indianapolis, Ind., Oct. 1977  | 1950-56, \$1.00                       |
| Jackson, Miss., Jan. 1978  | 2025-1, 70 cents                      |
| Jacksonville, Fla., Dec. 1977  | 1950-67, 70 cents                     |
| Kansas City, Mo.-Kans., Sept. 1977                                   | 1950-54, \$1.00                       |
| Los Angeles-Long Beach, Calif., Oct. 1977                            | 1950-61, \$1.20                       |
| Louisville, Ky.-Ind., Nov. 1977 <sup>1</sup>                         | 1950-66, \$1.20                       |
| Memphis, Tenn.-Ark.-Miss., Nov. 1977                                 | 1950-63, 70 cents                     |

| <u>Area</u>   | <u>Bulletin number<br/>and price*</u> |
|---|---------------------------------------|
| Miami, Fla., Oct. 1977  | 1950-57, \$1.00                       |
| Milwaukee, Wis., Apr. 1977  | 1950-14, \$1.10                       |
| Minneapolis-St. Paul, Minn.-Wis., Jan. 1978 <sup>1</sup>                          | 2025-2, \$1.40                        |
| Nassau-Suffolk, N.Y., June 1977   | 1950-27, \$1.00                       |
| Newark, N.J., Jan. 1978 <sup>1</sup>  | 2025-7, \$1.40                        |
| New Orleans, La., Jan. 1978   | 2025-5, \$1.00                        |
| New York, N.Y.-N.J., May 1977   | 1950-31, \$1.20                       |
| Norfolk-Virginia Beach-Portsmouth, Va.-<br>N.C., May 1977                         | 1950-20, 70 cents                     |
| Norfolk-Virginia Beach-Portsmouth and<br>Newport News-Hampton, Va.-N.C., May 1977 | 1950-21, 70 cents                     |
| Northeast Pennsylvania, Aug. 1977 <sup>1</sup>                                    | 1950-38, \$1.10                       |
| Oklahoma City, Okla., Aug. 1977 <sup>1</sup>                                      | 1950-49, \$1.10                       |
| Omaha, Nebr.-Iowa, Oct. 1977 <sup>1</sup>   | 1950-55, \$1.10                       |
| Paterson-Clifton-Passaic, N.J., June 1977   | 1950-34, 70 cents                     |
| Philadelphia, Pa.-N.J., Nov. 1977   | 1950-62, \$1.20                       |
| Pittsburgh, Pa., Jan. 1978  | 2025-3, \$1.10                        |
| Portland, Maine, Dec. 1977  | 1950-69, 70 cents                     |
| Portland, Oreg.-Wash., May 1977 <sup>1</sup>                                      | 1950-32, \$1.20                       |
| Poughkeepsie, N.Y., June 1977   | 1950-25, 70 cents                     |
| Poughkeepsie-Kingston-Newburgh, N.Y., June 1976                                   | 1900-55, 55 cents                     |
| Providence-Warwick-Pawtucket, R.I.-<br>Mass., June 1977 <sup>1</sup>              | 1950-22, \$1.20                       |
| Richmond, Va., June 1977 <sup>1</sup>   | 1950-23, \$1.10                       |
| St. Louis, Mo.-Ill., Mar. 1978  | 2025-13, \$1.20                       |
| Sacramento, Calif., Dec. 1977 <sup>1</sup>  | 1950-72, \$1.00                       |
| Saginaw, Mich., Nov. 1977   | 1950-59, 70 cents                     |
| Salt Lake City-Ogden, Utah, Nov. 1977   | 1950-68, 80 cents                     |
| San Antonio, Tex., May 1978   | 2025-17, 70 cents                     |
| San Diego, Calif., Nov. 1977 <sup>1</sup>   | 1950-73, \$1.10                       |
| San Francisco-Oakland, Calif., Mar. 1978 <sup>1</sup>                             | 2025-10, \$1.40                       |
| San Jose, Calif., Mar. 1978 <sup>1</sup>  | 2025-9, \$1.20                        |
| Seattle-Everett, Wash., Dec. 1977   | 1950-75, 80 cents                     |
| South Bend, Ind., Aug. 1977 <sup>1</sup>  | 1950-51, \$1.10                       |
| Toledo, Ohio-Mich., May 1977  | 1950-18, 80 cents                     |
| Trenton, N.J., Sept. 1977   | 1950-47, 70 cents                     |
| Utica-Rome, N.Y., July 1977 <sup>1</sup>  | 1950-37, \$1.10                       |
| Washington, D.C.-Md.-Va., Mar. 1978 <sup>1</sup>                                  | 2025-12, \$1.40                       |
| Wichita, Kans., Apr. 1978   | 2025-16, 80 cents                     |
| Worcester, Mass., Apr. 1977   | 1950-15, 70 cents                     |
| York, Pa., Feb. 1978 <sup>1</sup>   | 2025-8, \$1.10                        |

\* Prices are determined by the Government Printing Office and are subject to change.

<sup>1</sup> Data on establishment practices and supplementary wage provisions are also presented.

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