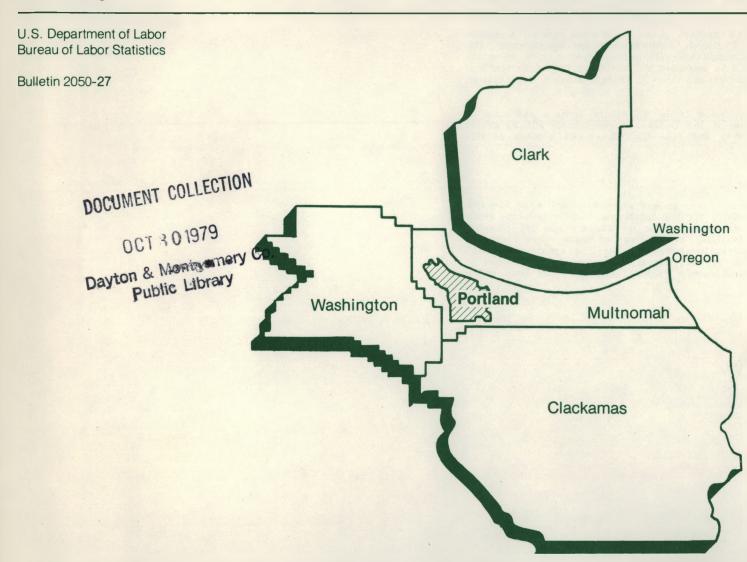
2050-27

## Area Wage Survey

## Portland, Oregon—Washington, Metropolitan Area, May 1979





## **Preface**

This bulletin provides results of a May 1979 survey of occupational earnings in the Portland, Oregon—Washington, 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 San Francisco, Calif., under the general direction of Susan Holland, 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:

Reports on occupational earnings and supplementary wage benefits in the Portland area are available for the hotels and motels industry (May 1978), and on occupational earnings only for the laundry and dry cleaning (May 1979) industry. 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

## Portland, Oregon—Washington, Metropolitan Area, May 1979



**Page** 

U.S. Department of Labor Ray Marshall, Secretary Bureau of Labor Statistics Janet L. Norwood Commissioner

October 1979

Bulletin 2050-27

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## Introduction

This area is 1 of 72 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, earnings data for selected occupations (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. The occupations are defined in Appendix B. For the 31 largest survey areas, tables A-10 through A-15 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.

Tables A-8 and A-9 provide for the first time measures of average pay relationships within establishments. These measures may differ considerably from the pay relationships of overall averages published in tables A-1 through A-6. See appendix A for details.

#### 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 representatives to classify workers by occupation.

## **Earnings: All establishments**

Table A-1. Weekly earnings of office workers, Portland, Oreg.-Wash., May 1979

				Weekly e			NUMBER	OF W	CRKER	S REC	EIVIN	STE	RAIGHT	-TIME	MEEKI	Y EAF	RNING	S (IN	DOLLA	RS 1	OF			-0.14			
Occupation and industry division	Number of worken	Average weekly hours <sup>1</sup> (standard)	Mean	Median <sup>2</sup>	Middle range <sup>2</sup>		105 AND UNDER 110	110 - 115	-	-	130 - 140	-	-	-	190	-	-	-	-	-	310	-	350 - 370	370 - 390	-	410	4:
ECRETARIES	1.215				\$195.50-\$2		-	l.		-		1	27	181	209			1 25	84	46	40	56	22	38	2		
MANUFACTURING	511		239.50				-	-	-	-	-	-	15	62	90	84	66	€5	49	27	21	24	5	3	-	-	
NONMANUFACTURING	704		243.00		194.00- 2 191.00- 2		-	1	-	-	3	1	12	119	119	140	76 13	6	35	19	28	32	17	35	2	_	
SECRETARIES, CLASS A	140	39.5	281.50	268.00	247.50- 3	12.50	-	-	_	_	_	_	_	_	1	11	28	32	23	8	13	13	3	3	2	_	
MANUFACTURING	74		279.00				-	_	- 1	-	-	-	-	-	_	4	13	18	12	8	13	4	2	2	_	-	
NONHANUFACTURING	66	38.5	284.50	264.50	244.00- 3	333.50	-	-	-	-	-	-	-	-	1	7	15	14	11	-	-	9	3	1	2	-	
SECRETARIES, CLASS B	192		274.00				-	-	- 3	-	-	-	-	16	14	40	14	13	31	10	8	15	12	13	-	-	
MANUFACTURING	56 136		280.GG 272.GO		247.50- 3 216.50- 3		-	- 5	-	-	_	-	2	6 10	12	39	8	5 8	15 16	6	2 6	8	8	12	_	_	
SECRETARIES, CLASS C	411	39.0	247-00	230.00	201.50- 2	274.50	_	-	_ '	_	_	_	7	51	72	64	50	58	19	22	20	19	7	22	_	_	
MANUFACTURING	165		244.00	244.00	211.00- 2	00.839	-	-	-	-	-	-	3	8	30	26	24	34	18	11	3	7	1	-	-	-	
NONMANUFACTURING	246	39.0	249.00	225.50	196.50- 2	295.00	_	10	-	-	-	-	4	43	42	38	26	24	1	11	17	12	6	22	-	~	
SECRETARIES, CLASS D	328	39.5	220.00	215.00	193.00- 2	231.50	-	-	-	-	-	-	8	53	80	93	47	20	В	6	7	8	-	-	-	-	
MANUFACTURING	191		212.50				-	-	-	-	-	-	6	42	52	53	21	8	1	2	2	4	-	-	-	-	
NONHANUFACTURING	137	39.5	230.50	222.50	206.50- 2	245.00	-		-	-	-	-	-	11	28	40	26	12	7	4	5	4	-	-	-	-	
SECRETARIES, CLASS E	136		192.50				-	-	-	-	-	-	14	61	39	14	3	-	3	-	1	1	-	-	-	-	
NONHANUFACTURING	111	38.0	188.00	185.50	174.50- 1	193.50	-	-	-	-	-	-	8	55	33	14	1	-	-	-	-	-	-	-	-	-	
ENOGRAPHERS	137	39.5	242.00	234.00	181.50-	314-00	-	_	_	-	-	11	17	20	14	3	5	18	5	9	16	7	12	-	-	-	
NONMANUFACTURING	110		240.50				-	-	-	-	-	11	17	19	6	2	2	13	5	2		7	12	-	-	-	
PUBLIC UTILITIES	57	40.0	263.50	270.60	192.00- 3	315.50	-	-	-	-	-	-	4	10	4	2	2	7	5	2	14	1	6	-	-	-	
STENOGRAPHERS, GENERAL	9.8		218.50				-	-	-	-	-	11	17	20	8	3	5	11	5	4	12	1	1	-	-	-	
NONMANUFACTURING	84		215.50				-	-	-	-	-	11	17	19	5	2	2	7	5	2	12	1	1	-	-	-	
PUBLIC UTILITIES	50	40.0	252.50	264.00	182.00-	314.50	-		-	-	-	-	4	10	4	2	2	7	5	2	12	1	1	*	-	-	
RANSCRIBING-MACHINE TYPISTS	168		192.50				-	-	-	3	4	12	27	61	21	4	19	-	-	13	4	-	-	-	-	-	
NONMANUFACTURING	153	39.0	195.00	182.60	170.50- 3	201.50	-	-	_	-	1	12	24	58	20	4	17	-	-	13	4	-	-	-	-	-	
PISTS	497		165.50				-	-	-	20	3 €	93	218	69	33	6	1	3	14	-	-	-	4	-	-	-	
MANUFACTURING	81		179.50				-	-	-	2	4	16	27	19	11	2	-	1	1	-	-	-	4	-	-	-	
PUBLIC UTILITIES	416 51		163.00		148.50-		=	-	-	18	32	83	191	50	22	4	1	2	13	_	-	_	-	-	-	-	
							_					٥					1										
TYPISTS: CLASS A	100		207.50		176.00- 1		-	Ξ	-	_	-	_	8	37 23	33	2	1	2 2	13	-	-	-	4	-	_	- 3	
										20	7.5	0.7	210														
TYPISTS: CLASS B	397		155.00				-		_	20	3€	93	210	32		4	1	1	1		-	_	_	100	_	_	
MANUFACTURING	347		154.60				+	-	-	18	32	83	183	27	_	4	-	-	-	18	-	2	-	1	1	-	
LE CLERKS	327	39.0	156.00	142.50	126.50-	167.00	6	_	29	64	62	40	50	40	5	2	4	11	3	1	-6	4	_	_	_	-	
MANUFACTURING	54		149.50		135.GO-	167.00	-	-	4	6	17	5	10	11	1	_	-	-	-	-			-	-	-	-	
NONMANUFACTURING	273	39.0	157.50	142.50	125.50-		6	-	25	58	4.5	35	40	29	4	2	4	11	3	1	€	4	-	-	-	-	
PUBLIC UTILITIES	45	40.D	242.50	251.50	185.50-	277.50	-	-	-	-	-	-	2	13	7	-	4	11	2	1	6	4	-	-	-	-	

Table A-1. Weekly earnings of office workers, Portland, Oreg.—Wash., May 1979—Continued

				Weekly e		1	NUMBER	OF W	CRKER	S REC	EIVIN	G ST	RAIGH	T-TIME	WEEKL	Y EAS	RNING	SIIN	DOLL	ARS)	0F				11		
Occupation and industry division	Number of workers	Average weekly hours! (standard)	Mean <sup>2</sup>	Median <sup>3</sup>	Middle range 2	1	105 AND JNDER 110	-	115	-	-	140 - 150	-	178 - 190	190	210	-	-	270 - 290	-	310 - 330	-	350 - 370	-	390	410 - 430	430
FILE CLERKSCONTINUED																											
FILE CLERKS, CLASS B NONMANUFACTURING PUBLIC UTILITIES	139 114 33		\$172.50 173.50 234.00	154.00		.00	Ė	î	- 1.0	16 16	16 15	23 19	3 8 2 8 2	21 12 11	4 3 2	2 2		11 11 11	1 1 -	1 1 1	5 5 5	1 1 1	= =	=	-	=	-
FILE CLERKS, CLASS C	164 137	38.5	137.50 139.60	129.00 129.00	121.00- 138 120.00- 144		6	÷	29 25	48 42	43 27	7 6	9	16 16	1	-	4	-	_	-	1	_	=	_	-	-	-
MESSENGERS	121 93	39.0 38.5	163.50 165.50		135.00- 162 135.00- 157		1	ī	2	9	3 S	30 22	11 5	11 3	1	2	4	-	6	2 2	4		_	-	_	-	-
SWITCHEOARD OPERATORS	152 106	39.5	194.50 191.00		157.50- 219 148.00- 215		12	.0	-	12 12	9	11 11	27 25	22 6	14 7	29 13	8	2 2	1	15 15	_	2 2	_	-	_	_	=
SWITCHGOARD CPERATOR- RECEPTIONISTS	395 154 241 26 54	40.0	175.00 178.00 173.50 222.50 152.50	167.00 192.50	150.00- 180 167.00- 307	.00 .00	10.01		13000	53 11 42 - 32	7 7 -	32 23 9 4	115 34 82 8	116 58 58	29 7 22 4 3	12 12 - -	3 2 1 -	4 1 3 3	6 1 5 - 5	-	10 - 10 5	3 2 1 1	3 2	1 - 1 1	]	1	
ORDER CLERKS	507 147 360	39.5 40.0 39.5	223.CO 208.CO 229.CO	194.60		.00	-	=		2 - 2	3	31 7 24	33 15 18	107 47 60	106 29 77	41 16 25	17 3 14	56 12 44	10 - 10	64 - 64	=	19 15 4	13 - 13	4 -	=	Ξ	=
ORDER CLERKS. CLASS A	198	40.0	273.60	270.50	250.00- 300	.00	-	-	-	-	-	-	3	8	11	10	17	50	10	64	-	10	13	ц	-	-	-
ORDER CLERKS: CLASS 3	297 105	39.5	190.C0 199.C0		172.50- 196 172.50- 195		-	-	-	2 -	3	31 7	30 12	101 41	89 17	25 10	_	6	_	-	-	9	_	2	-	- 5	-
ACCOUNTING CLERKS	601	39.5 40.0 39.0 39.5	221.50 203.50 227.50 222.00	192.00 208.00		.00 .50	- 1	3 - 3 3	10 - 10 6	41 9 32 10	65 3 62 24	179 48 131 38	358 88 268 54	336 125 211 52	285 122 163 78	153 77 76 7	145 56 89 17	94 22 72	282 14 268 217	98 6 92 2	8 9 - 8 9 -	105 18 87	42 4 38	9 33	5 - 5 -	=	-
ACCOUNTING CLERKS, CLASS A MANUFACTURING NONMANUFACTURING RETAIL TRADE	823 215 608 126	39.0 40.0 39.0 40.0	260.50 231.50 271.60 234.60	222.00 285.50	200.60- 248 207.00- 340	.50 .00	3	-	1111	1111	* 1111	3 - 3 3	54 13 41 17	81 20 61 13	89 41 48 20	88 43 45 2	104 44 60 17	44 21 23 -	95 14 81 52	33 6 27 2	56 - 56	87 87	42 4 38	92 33 -	5 - 5 -	-	
ACCOUNTING CLERKS, CLASS B MANUF ACTURING NONHANUFACTURING RETAIL TRADE	377 1:121	39.5 40.0 39.0 39.5	199.50 187.50 204.60 218.50	180.50 184.00	155.50- 274	.00	1011	3 3	10 - 10 6	41 9 32 10	65 3 62 24	176 48 128 35	302 75 227 37	255 105 150 39	196 81 115 58	56 25 31 5	41 12 29	50 1 49	187 187 165	65 65	33	18 18 -	-	-	-		
PAYROLL CLERKS  HANUFACTURING  NONMANUFACTURING  PUBLIC UTILITIES  RETAIL TRADE	270 116 154 34 60	39.5 39.5 39.5	225.50 226.C0 225.G0 294.50 210.C0	218.50 196.00 323.00	179.50- 254 174.50- 285 248.60- 338	•00 •50 •50	1111	11110		11111	1 1 -	5 1 4 - 2	29 14 15 - 3	71 26 45 5 23	30 9 21 - 11	33 14 19 2 9	9 6 3	32 26 6 - 1	16 5 11 -	10 6 4 3	11 1 10 6	13 13 12	6 4 2 2	3 3 -	1 1 1	3,1111	5

Table A-1. Weekly earnings of office workers, Portland, Oreg.-Wash., May 1979—Continued

				Weekly e			NUMBER	OF W	CRKE	RS REC	EIVIN	IG STF	RAIGH	T-TIME	WEEK	LY EA	RNING	S (IN	DOLL	ARSI	0F						
Occupation and industry division	Number of workers	Average weekly hours l (standard)	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range	1	105 AND UNDER 110	-	115 - 120	-	-	-	150 - 170	-	190 - 210	-	-	250 - 270	-	29D - 310	310 - 330	330 - 350	-	-	-	-	450
KEY ENTRY OPERATORS	1.166	39.5	\$192.CO	\$178.50	\$161,00-\$	200.50	-		4	-	17	57	323	378	158	59	33	20	7.9	7.0	21	32			-	-	
MANUFACTURING					170.50-			-	-	-	_	7	75	136	61	28	0	20	1	24		20	6	_		-	
NONMANUFACTURING			190.50		160.00-				4	-	17	50		242	97	31	24	20	27	30	21	12	_	_	_	_	
RETAIL TRADE					181.00-			-	-	-	-	Б	9	26	15	8	4	-	19	-	-	-	-	-	-	-	
KEY ENTRY OPERATORS+ CLASS A	404	39.0	208.00	195.50	177.00-	221.00	-	-	0	-	-	Б	48	117	106	93	22	18	15	2	21	_	6	_	_	_	
MANUFACTURING	140	40.0	194.50	186.00	172.00-	203.50	-	-	77	-	-	-	32	73	38	15	4	-	1	-	_	-	6	_	-	-	
NONMANUFACTURING	264	39.0	215.00	203,00	184.00-	238.00	-	-	0-1	-	_	6	16	73	68	28	18	18	19	2	21	-	-	-	-	-	
PUBLIC UTILITIES	3 2	40.0	264.00	260.50	251.50-	307.00	-	-	12	-	-	-	2	1	2	_	2	14	2	2	7	-	-	-	-	-	
KEY ENTRY CPERATORS. CLASS B	762	39.5	184.50	171.00	159.00-	186.00	-	-	4	-	17	51	275	261	52	16	11	2	13	28	-	32	_	-	-	-	
MANUFACTURING	203	39.5	196.50	179.50	170.00-	193.50	-	-	-	-	-	7	43	92	23	13	5	-	_	_	-	20	-	-	-	-	
NONMANUFACTURING	559	39.5	179.00	166.00	155.50-	182.50	-	-	4	-	17	44	232	169	29	3	6	2	13	28	1+	12	-	-	-	-	

Table A-2. Weekly earnings of professional and technical workers, Portland, Oreg.-Wash., May 1979

				Weekly e			NUMBER	ROF	CRKER	S REC	EIVIN	IG STR	AIGHT	-TIME	WEEK	LY EA	RNING	S (IN	COLL	ARSI	OF				
Occupation and industry division	Number of workers	Average weekly hours <sup>1</sup> (standard)	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range	, 2	AND UNDER	-	20C - 22D	-	-	26C - 280	-	-	-	-	-	386	-	-	-	460	480 - 50C	-	540
COMPUTER SYSTEMS ANALYSTS																									
(BUSINESS)	456				\$342.50-			-		13	-	12	21	9	53	56	46	51	58	58	28	26	6	11	6
MANUFACTURING	177 279	39.5	385.50 385.50		342.50- 342.50-		-	-	_	13	-	10 2	6 15	8	17 36	24 32	18 28	19 32	21 37	21	16 12	10 16	1 5	3 8	3 5
COMPUTER SYSTEMS ANALYSTS																									
(BUSINESS), CLASS A	138	39.5			395-CO-		-	-	-	-	-	-	-		1	4	12	20	13	26	22	21	4	7	8
MANUFACTURING	64 74	40.0 39.0	433.GC 440.GO	436.00 427.00			_	_	_	_	_	_	Ξ	_	1	1	9	7	6 7	9 17	15 7	9	1 3	4	3 5
COMPUTER SYSTEMS ANALYSTS																							- 1		
(BUSINESS). CLASS B	187	39.5	389.50	392.00	356.50-	420.00	-	-	-	100	-	-	5	1	27	19	26	25	30	28	Б	5	2	4	-
MANUFACTURING	65	40.0	389.00	394.50	364.50-		-	-	-	-	-	-	-	1	6	8	9	12	15	12	1	1	-	-	1
NONMANUFACTURING	122	39.5	390.00	383.00	354.50-	472.50	-	-	-	-	-	-	5	-	21	11	17	13	24	16	5	4	2	4	-
COMPUTER SYSTEMS ANALYSTS																									
(BUSINESS), CLASS C	131	39.5 39.5		342.50			-	2	-	13	-	12	16 10	8	25 15	18	8	6 5	6	4	-	-	-	- 3	-
OMPUTER PROGRAMMERS (BUSINESS)	309	39.0	292.00	288.00	246.00-	339.50	_	7	37	28	41	35	35	24	27	25	25	8	2	15					
MANUFACTURING	148	40.0 38.5	295.50	286.50	243.00-	349.50	=	7	11	18	15	22	11	12	12	18	4 21	2	2	14	-	-	-	-	
CCMPUTER PROGRAMMERS (BUSINESS).											-		-												
CLASS A	130	39.0	333.00	339.50	290.50-	366-00	-	-		2	a	17	12	10	17	24	19	4	2	14		-	100		
MANUFACTURING	75 55	40.0	333.00		276.50-	359.00	-	-	-	- 2	7 2	16	6	4	6	17	2	1 3	2	14	-	-	-	-	-
COMPUTER PROGRAMMERS (BUSINESS),	33	2000	555,600	003630	203.50	200000				2	2	1	ь	ь	11	,	11	2	_	_	_	_	_	-	•
COMPOSER ANGRAMMENZ (BOZINEZZI)	144	39.5	272.50	261.00	230.50-	299.00	-	-	22	1.8	3 C	16	23	14	9	1	6	4		1	_	24			
MANUFACTURING	61 83	40.0	266.50		226.50-	305.00	-	_	10	15	7 23	6 10	5	8	6	1	2	1	_	-	-	50	-	-	-
													10		-		7	-		1					
COMPUTER OPERATORS	371	39.5		235.50			13	47	5 3	93	34	37	13	20	24	21	2	5	2	1	6	-	-	-	- 4
MANUFACTURING	124	39.5	251.00				3	25	5	26	12	20	8	9	2	Б	-	2	-	1	-	-	-	-	-
PUBLIC UTILITIES	29	40.0		331.00			10	22	4 4	67	2 2 E	17	5	11	22	15 8	2	2	2	-	6	_	-	_	
COMPUTER OPERATORS, CLASS A	67	39.0	290.00	273.00	233.50-	330.00	-	-	1	21	7	7	4	8	3	6	z	5	2	1	_	-	-	_	-
COMPUTER OPERATORS, CLASS B	270	39.5	253.00	236.00	213.00-	278.50	7	23	50	70	27	30	9	12	21	15	_	_	_	_	6	_			
MANUFACTURING	206	40.0 39.5	253.50 253.00	242.00			7	5 18	7 43	20 50	8	13 17	4 5	1	21	6	_	-	_	_	-	-	-	-	-
	509	40.0	769.50	261.00	220.00-	301.50	25	41	60	46	77	59	67	33	27	27	11	3.2	2	1					
PRAFTERS	354	40.0		257.50			9	31	4 C	39	61	44	43	23	19	18	5	22	-	1	_	_	1	_	
NONMANUFACTURING	155	40.0		273.50			16	10	20	7	16	15	24	10	8	9	6	10	2	1	-	-	1	_	-
DRAFTERS, CLASS A	167	40.0		322.60			-	-	-	_	15	17	28	19	22	26	7	29	2	1	-	-	1	-	_
MANUFACTURING	115	40.0					-	-	-	-	13	12	14	15	16	18	5	22	-	-	-	-	-	-	-
NONMANUFACTURING	52	40.0	329.50	323.50	289.00-	358.00	-	-	-	-	2	5	14	4,	6	8	2	7	2	1	-	-	1	-	-
DRAFTERS, CLASS B	163	40.0	265.50				-	4 2	18	20	3 2	26	33	13	3	-	4	3	-	-	-	-	-	-	-
MANUFACTURING	100 63	40.0 40.0	259.50 275.00				-	2	12 E	13	26 13	16 10	23 10	7 6	2	-	4	3	-	-	-	=	-	_	-
DRAFTERS, CLASS C	155	40.0	220.00	215.00	190.00-	251.50	19	34	3 C	26	23	15	6	1	_	1	_	_	_	_	_	_	_	_	_
MANUFACTURING	115	40.G	229.50				3	26	1€	26	22	15	6	1	-	-	-	-	14	-	-	-	-	-	-
ELECTRONICS TECHNICIANS	162	40.0	377.50	364.50	364.50-	388.50	-	-	-	-	-	-	1	11	4	-	84	30	8	12	8	4	-	-	-
ELECTRONICS TECHNICIANS, CLASS 8: PUBLIC UTILITIES	26	40.0		327.50	100 50	437 50	_						**	10	4					8	4				

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, Portland, Oreg.—Wash., May 1979

		(me	12 )			(m	erage ean <sup>d</sup> )				enn <sup>2</sup> )
Occupation, sex, 3 and industry division	Number of workers	Weekly hours (standard)	Waskly earnings <sup>1</sup> (standard)	Occupation, sex, 3 and industry division	Number of workers	Weekly hours' (standard)	Weekly earnings <sup>1</sup> (standard)	Occupation, sex. <sup>3</sup> and industry division	Number of workers	Weekly hours (standard)	earnings!
OFFICE OCCUPATIONS - MEN				OFFICE OCCUPATIONS - WOMENCONTINUED				OFFICE OCCUPATIONS - WOMENCONTINUED			
MESSENGERS	54	39.0	\$171.50	TYPISTSCONTINUED				PAYROLL CLERKS	244		\$223.50
ORDER CLERKS	214 178		266.5D 272.50	NONMANUFACTURING	8 <del>8</del> 5 7		\$210.50 210.50	NONMANUFACTURING	148 28 60	39.5	221.G
ORDER CLERKS, CLASS A	177	40.0	280.00	TYPISTS, CLASS B	389	39.0	155.00	KEY ENTRY OPERATORS	1.176		
ACCOUNTING CLERKS:				NONMANUFACTURING	339	39.0	154.00	MANUFACTURING	326	40.0	197.0
ACCOUNTING CLERKS. CLASS A	131	38.5	317.00	FILE CLERKS	290	39.0	150.00	RETAIL TRADE	86		
OFFICE OCCUPATIONS -				FILE CLERKS, CLASS 8	108		160.50	KEY ENTRY OPERATORS, CLASS A MANUFACTURING.	378 127 251	40.0	196.5
SECRETARIES	1+178 491 687	40.0		NONMANUFACTURING	159 137		138.00	KEY ENTRY CPERATORS, CLASS B	748 199	39.5	184.5
RETAIL TRADE	63		225.50	MESSFNGERS	63 50		153.50 151.50	NONMANUFACTURING			
SECRETARIES, CLASS A	139 74 65	40.0	281.00 279.00 283.00	SWITCHBOARD OPERATORS	137 94		186.00				
SECRETARIES, CLASS B	185		276.50	SWITCHEOARD OPERATOR- RECEPTIONISTS	395				146	40.0	
SECRETARIES, CLASS C	392 152		248.50	MANUFACTURING	154 241 26	39.5 40.0	173.50 222.50	COMPUTER SYSTEMS ANALYSTS	224		
NONMANUFACTURING	240				54			MANUFACTURING	57	40.0	430.5
SECRETARIES, CLASS D	326 191 135	40.0	212.50		283	46.0	202.50	COMPUTER SYSTEMS ANALYSTS		35.0	448.5
SECRETARIES, CLASS E	136		192.50	ORDER CLERKS: CLASS B	253 81				50	40.0	395.0
STENOGRAPHERS	130	39.5	238.00	ACCOUNTING CLERKS	2:062 544 1:518	40.0	199.50	COMPUTER SYSTEMS ANALYSIS			
NONMANUFACTURING	103		235.50 256.50		468						
STENOGRAPHERS GENERAL	91 77 43	39.0	206 - 50	MANUFACTURING	675 173 502	40.0	224.00 259.00	MANUFACTURING	106	40.0	299.0
TRANSCRIBING-MACHINE TYPISTS	161 152				1.278	39.5	200.00	CLASS A	97		
TYPISTS	471 81 396	90.0	179.50	NGNMANUFACTURING	1.016	39.0	204.50		30	40.0	343.5

Table A-3. Average weekly earnings of office, professional, and technical workers, by sex, Portland, Oreg.—Wash., May 1979—Continued

		Ave (me	an <sup>2</sup> )				anaga anaga			(m)	erege esm <sup>2</sup> )
Occupation, sex, 3 and industry division	Number of workers	Weekly hours [standard]	Weekly earnings <sup>1</sup> (standard)	Occupation, sex, 3 and industry division	Number of workers	We alcly hours (standard)	Wackly earnings <sup>1</sup> (standard)	Occupation, sex. 3 and industry division	Number of workers	Weekly house (standard)	Weekly earnings (standard
PROFESSIONAL AND TECHNICAL OCCUPATIONS - MENCONTINUED				PROFESSIONAL AND TECHNICAL OCCUPATIONS - MENCONTINUED				PROFESSIONAL AND TECHNICAL OCCUPATIONS - WOMEN			
COMPUTER PROGRAMMERS (BUSINESS) CONTINUED				DRAFTERS, CONTINUED  DRAFTERS, CLASS A				COMPUTER SYSTEMS ANALYSTS (BUSINESS)	72 55		\$380.00
COMPUTER PROGRAMMERS (BUSINESS).	116		\$272.00	MANUFACTURING	140 97		329.00				286.5
NONMANUFACTURING	71		272.50	MANUFACTURING	124	40.0	264.50 263.50	COMPUTER OPERATORS		39.5	247.5 261.5
MANUFACTURING	69 153	39.5	274.00	DRAFTERS, CLASS C	133			COMPUTER OPERATORS, CLASS B	94	39.5	258.5 265.0
COMPUTER OPERATORS: CLASS B	172 135			ELECTRONICS TECHNICIANS	158	40.0	376.00	NONMANUFACTURING			2000
DRAFTERS	417 301 116	40.0	269.00 268.50 270.00	TODELC DILLITES	26	40.0	370.50			-	

Table A-4. Hourly earnings of maintenance, toolroom, and powerplant workers, Portland, Oreg.—Wash., May 1979

			Hourly earn	ings 4		NUMBE	R OF	MORKE	RS REC	EIVI	G ST	RAIGHT	-TIME	HOU!	RLY E	RNIN	35 (1)	N DOLL	ARS)	OF		X			
Occupation and industry division	Number of workers	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range	2	AND	-	-	-	-	-	6.40 6	-	-	-	-	-	-	-	-	-	-	-	-	-
MAINTENANCE CARPENTERS	8D 51				\$9.62 10.25	-	1.1	1 1	-	1	÷	ċ	1 1	15	24	7	8 7	12 11	6	6 6	-	3	1	10 10	:
MAINTENANCE ELECTRICIANS	410 378	9.64			10.14	-	-		-	-	-	-	-	8	14 14	11	48	94	48	52 52	38	49	-	-	48
MAINTENANCE PAINTERS	61	9.75			10.43	_		1		_	-	1	3	15	14	3	1	7	5	52	2 8	20	7	_	48
MAINTENANCE MACHINISTS	366	9.20			9.11	_	-	_	_	-	_		3	3	9	10	111	145	3	_	16	66	_	_	_
MANUFACTURING	362	9.21	9.10		9.11	-	7	-	-	-	-	-	3	3	9	10	108	144	3	-	16	66	-	-	
MAINTENANCE MECHANICS (MACHINERY) MANUFACTURING	1:088	9.16			9.97	1 1	2 2	1	_	-	-	1	1	93		175 174	108	275	112	51 33	11	210	45	_	
MAINTENANCE MECHANICS																									
(MOTOR VEHICLES)	803	9-61	9.50	9.32-	10.05	-	-	-	4	-	-	1	1	-	20	29	6.0	74	307	108	96	14	64	29	
MANUFACTURING	130	9.16	8.84	8.75-	9.52	-	-	-	-	-	-	-	1	-	-	26	31	24	21	5	-	19	-	8	
NONMANUFACTURING	673	9.70	9.50	9.50-	10.09	-	-	-	-	-	-	1	-	-	20	3	29	50	286	103	96	-	64	21	
PUBLIC UTILITIES	554	9.76	9.50	9.56-	10.14	-	-	-	-	-	-	-	-	-	18	-	11	50	262	38	90	-	64	21	
TOOL AND DIE MAKERS	217	9.73	9.80	9.18-	10.22	-	-	_	-	-	_	_	_	-	-	23	10	23	26	57	92	3	33	-	
MANUFACTURING	217	9.73			10.22	-	-	-	-	- 1	-	-	-	-	-	23	10	23	26	57	42	3	33	-	0
STATIONARY ENGINEERS	322				9.52	-	-	-	-	-	-	1	-	12	75	13	84	4	84	22	14	-	9	4	-
MANUFACTURING	277	8.84	8.75	7.75-	9.52	-	-	-	-	-	100	1	-	11	66	11	71	4	82	4	14	-	9	q	-

Table A-5. Hourly earnings of material movement and custodial workers, Portland, Oreg.-Wash., May 1979

			Hourly earn	ings "		NUMBER	OF W	ORKER	S REC	EIAIN	IE STE	RAIGHI	-TIME	HOU	RLY EA	RNING	S (IN	DOLL	.ARS1	OF							
Occupation and industry division	Number of workers	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range	ı	AND UNDER	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.401C
TRUCKORI VERS	3,255	\$9.18	\$9.42	\$9.07-	<b>\$9.79</b>					22	11	E	16		4	15	23	46	3.8	69	218	73	782	1079	588	263	
MANUFACTURING	589	8.78		8.31-		_	- 2.	- 0		_	2	5	a	£4	4	9	22	46	13	16	113	26	1	148	79	63	_
NONMANUFACTURING	2 + 666	9.27	9.42	9.07-	9.79	-	-	-	-	22	9	-	8	-	-	6	1	_	25	53	105	47		931	509	200	9
PUBLIC UTILITIES	1,450	9.49	9.44	9.40-	9.53	-	-	-	4	-	-	-	-	(4)	_	-	_	_	_	4	3	2	300		42	200	_
RETAIL TRADE	274	8.81	9.79	8.38-	9.79	-	-	-	-	16	6	-	8	-		-	1	-	-	12	9.4	16	-	-	162	-	9
TRUCKDRIVERS, LIGHT TRUCK	150	6.32	6.58	4.58-	7.85	_	_	_	_	22	11	E	13				14	,	13	42	-			-			
MANUFACTURING	56	6.57		5.51-	7.85	_	_	-	-	-	2	5	5	4	4	6	13	1	12	5	E	_	1	5	1	_	
NONMANUFACTURING	94	6.17		4.27-		-	-	-	-	22	9	-	8	-	-	2	1		13	37	1	_	-	-	1	_	_
																_									_		
TRUCKDRIVERS, MEDIUM TRUCK	532 453	9.28		9.37-			_		-	-	-	-	_	-	_	-	1	Б	9	17	4	2 4	4.8	391	-	32	-
NONMANUFACTURING	421	9.42				1		_	_		-	-	_	_			_	_	4	15	2	15	48	337	_	32 32	_
TODELC CITETILES	76.2	24.45	2010	3.40	3011														_	7		_	40	231	_	22	
TRUCKDRIVERS, HEAVY TRUCK	517	9.15	9.44	8.55-	9.44	-	-	-	-	-	-	-	-	-	-	7	7	6	9	9	71	25	64	234	55	-	-
MANUFACTURING	143	9.23	9.82	8.31-	9.97	-	-	-	-	-	-	-	-	-	-	3	7	6	1	9	27	5	-	-	55	-	-
NONMANUFACTURING	374	9.12	9.44	8.93-	9.44	-	-	-	-	-	-	-	*	-		4	-	-	8	-	44	2.0	64	234	-	-	-
PUBLIC UTILITIES	270	9.40	9.44	9.44-	9.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	234	-	-	-
TRUCKDRIVERS, TRACTOR-TRAILER	1,936	9.41	9.53	9.07-	9.79	_	_	_	_	_	_	_	_	_	_	_	1	33	_	1	134	15	539	444	529	231	9
MANUFACTURING	293	9.61				_	-	-	-	-	-	_	_	-	-	-	1	33	-	-	76	12	-	84	24	63	_
NONMANUFACTURING	1.643	9.48				_	-	-	-	-	-	-	_	_	-	_			_	1	5.8	3	539	360	505	168	q
PUBLIC UTILITIES	758	9.57				-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	2	2	216	328	42	168	_
															_												
SHIPPERS	125	8.11					_			-	-	_	-	1	7	3	2	18	2	18 14	16 15	25 12	14	19	_	-	-
MANUFACTURING	88	8.04	8.20	7.65-	8.32	-	-	-	-	_	_	-	-	7	,	.2	2	1	2	14	15	12	14	11	-	-	-
RECEIVERS	129	7.57	8.02	6.91-	8.60	-	-	-	-	4	_	-	20	-	2	3	3	14	3	14	14	26	16	10	_	-	_
MANUFACTURING	56	6.73	7.15	5.15-	8.23	-	-	-	-	4	-	-	19	-	-	Z	2	Z	1	2	11	13	_	_	_	_	-
NONMANUFACTURING	73	8.22	8.53	7.5G-	9.60	-	-	-	-	-	-	-	1	-	2	1	1	12	2	12	3	13	16	10	_	_	_
RETAIL TRADE	50	7.87	7.54	7.20-	9.00	-	-	-	-	-	-	-	1	-	2	1	1	12	2	12	3	_	16	-	-	-	-
SHIPPERS AND RECEIVERS	282	8.16	7.89	7.52-	8.90	_	_	_	-		_	1	_	_	2	_	17	2	56	89	10	13	40	52			
HANUFACTURING	160	8.06				_	-	-	-	_	-	1	_	-	2	_	11	2	36	61	10	9	39	2 2	_	_	
NONMANUFACTURING	122	8.30				-	-	-	-	-	-	-	-	-	-	-	17	-	20	28	_	4	1	52	-	-	_
			0.50	7 07	0.55					20	74			77				2.00	0.7		4.0.4						_
WAREHOUSEMEN	2 • 155	8.05		7.23-				=	1	2C 11	31 14	8	60 52	32 17	6 2	8	67 51	5 8 5	9.3 56	65 23	104	25	16	17	_	_	3
MANUFACTURING	354	8.30		8.27-		=			1	11	17	1	9	15	4	8	16	232	37	42	103	824	398	76	-	-	3
NCMMANUFACTURING	1 • 791 342	9.12				-	_		1	3	17	1	8	15	4	В	16	232	27	42	102	10	332	16	-	21	=
PUBLIC UTILITIES	342	7.31				3.	-	1.5	1	4	2	1	8	3	u	_	4	183	33	34	99	10	222	4		- 3	
RETAIL TRADESSASSASSASSASSASSASSASSASSASSASSASSASSA	200	,	7.00	7.00	0 0 2 4				-		~	-		-			•	100			3.5			4			
ORDER FILLERS	1.044	8.11		7.38-		-	-	2	3		1	ε	-	12	10	-	28	1		132	-	52	20	569	-	9	-
MANUFACTURING	266	5.94				-	-	2	3	167	1	-	-	5	10	-	6	-	-	132	-	-	-	-	-	-	-
NONMANUFACTURING	778	8.85				-	-	-	-	18	-	E	-	7	-	-	22	1	7 9	-	-	5 2	20	5 E 9	~	9	-
RETAIL TRADE	323	8.80	9.37	9.16-	9.37	-	~	-	-	18	-	£	-	7	-	-	1	1	2	-	-	27	20	232	-	9	-
SHIPPING PACKERS	346	5.85	4.76	4.44-	7.38	-	_	_	-	-	3	187	-	-	2	_	4	_	132	_	17	_	_	1	_	_	_
			1												-									-			

Table A-5. Hourly earnings of material movement and custodial workers, Portland, Oreg.-Wash., May 1979—Continued

			Hourly cars	ings <sup>4</sup>		NUMBER	OF W	ORKER	S RECI	IVIN	IG STR	AIGHT	-TIME	HOUR	LY EA	RNING	S (IN	DOLL	ARS)	OF								
Occupation and industry division	Number of workers	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range	z	AND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6010	-	-	-	-
MATERIAL HANCLING LABORERS	683 313 370 199	\$8.33 8.57 8.12 9.04	8.71 8.29	8.28- 7.36-	\$10.18 10.79 10.18 10.18	(111)	0.11	1 1 12 1	1 1 -	4 -	18 6 12 4	42 18 24	22 10 12	27 22 5	12 - 12 3	6 2 4 2	8 2 6 5	12 - 12 6	4 B - 4 B 4 2	3 - 3	179 86 93 6	36 36	1 -	21 - 21 20	6	111 - 111 111	123 123	****
FORKLIFT OPERATORS	1:416 853 563	8.11 7.36 9.23			8.31	=	-	-	-	1	=	16 16	27 27	46 46	56 56	53 53	50 50	21 21 -	131 122 9	235 189 46	146 143 3	73 43 30	83 82 1	471 4 467	1	7 - 7	-	111
POWER-TRUCK OPERATORS (CTHER THAN FORKLIFT)	210 208	7.87 7.86					=	-	Ξ	-	-	=	=	-	-	Ξ	1	Ξ	16 16	158 158	5 5	20	9	2 2	2	-	=	1
GUARDS  MANUF ACTURING  NONMANUF ACTURING	915 100 815	3.67 5.73 3.42		4.85-	7.25		316 - 316	141	210	29	18 - 18	63 14 49	45 34 11	16 7 9	30 15 15	5 2 3	1	1.10.1	27 27 —	7 - 7	4 - 4	-	-	-	-	-	1	-
GUARDS, CLASS B	873 83 790	3.55 5.73 3.32	4.59	4.85-	7.25	-	316 - 316	141	210	28	18 - 18	61 13 48	44 34 10	15 6 9	6 1 5	2 2	-5	-	27 27	=	=	=	-	-	-	-	-	-
JANITORS, PORTERS, AND CLEANERS MANUFACTURING NONMANUFACTURING PUBLIC UTILITIES	1 • 643 694 949 107	5.25 5.87 4.80 5.09	6.E9	4.65-	7.14	- 24	7 -7 -	11 - 11	51 20 31 10	3 q 2 6 8 q	127 89 38 20	291 57 234	558 61 497 8	68 34 34 26	45 12 33 27	139	92 92	49 46 3 1	91 84 7 7	83 81 2	12	3 -	1000	8 -	1111	1113	11.53	

Table A-6. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, Portland, Oreg.—Wash., May 1979

Occupation, sex, and industry division	Number of workers	Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup>	Occupation, sex, and industry division	Number of workers	Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup>	Occupation, sex, <sup>3</sup> and industry division	Number of workers	Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup>
MAINTENANCE, TOOLROOM, AND POWERPLANT OCCUPATIONS - MEN			MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - MENCONTINUED			MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - MENCONTINUED		
MAINTENANCE CARPENTERS	69 50	\$9.08 9.47	TRUCKDRIVERSCONTINUED			ORDER FILLERS	803 661	\$6.67
MAINTENANCE ELECTRICIANS	409	9.64	TRUCKDRIVERS, LIGHT TRUCK MANUFACTURING	142 51 91	\$6.39 6.67	MATERIAL HANDLING LABORERS	587 281	8.65
	7.5.5	67.00		1970		FORKLIFT OPERATORS.		
MAINTENANCE PAINTERS	60	9.13	TRUCKDRIVERS, MEDIUM TRUCK	480	9.37	MANUFACTURING	790	8-18
MANUFACTURING	365 362	9.20	TRUCKDRIVERS, HEAVY TRUCK	516	9.44	NONMANUFACTURING	546	9.25
MAINTENANCE MECHANICS (MACHINERY)		9.18	MANUFACTURING	142	9.25	(OTHER THAN FORKLIFT)	210	7.87
NONMANUFACTURING	1:025	9.17	NONMANUFACTURING	374 270	9.40		208	7.81
MAINTENANCE MECHANICS			TRUCKDRIVERS. TRACTOR-TRAILER	1,935	9.41	GUARDS	82 <b>7</b> 90	5.73
MANUFACTURING	790	9.63	NONE A CONTRACTOR OF THE CONTR	292	9.02		737	3.35
NONMANUFACTURING	660	9.73	PUBLIC UTILITIES	758	9.57	GUARDS CLASS B	795 75	3.50
PUBLIC UTILITIES	541	9.78	SHIPPERS	122	8.13	NONMANUFACTURING	720	3.3
HANUFACTURING	217	9.73		87	8.08	JANITORS, PORTERS, AND CLEANERS		5.28
STATIONARY ENGINEERS	317	8.85		121	7.56 6.73	NONMANUFACTURING	590	9.73
MANUFACTURING	277	8.84	NONMANUFACTURING	67	8.23			
BOILER TENDERS	112 112	7.47	SHIPPERS AND RECEIVERS	268 149 119	8.18 8.09 8.28	OCCUPATIONS - WOMEN		
MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - MEN			WAREHOUSEMEN		8.07		223	6.3
TRUCKDRIVERS		9.20		345 1,768	6.84		79 69	3.5
MANUFACTURING		8.82	RETAIL TRADE	342 357	7.30	GUARES CLASS B	77	3.6
PUBLIC UTILITIES	1.413	9.50				NONMANUFACTURING	69	3.3

Table A-7. Percent increases in average hourly earnings for selected occupational groups, Portland, Oreg.—Wash., for selected periods

	May 1972	May 1973	May 1974	May 1975	May 1976	May 1977	May 1978
Industry and occupational group 5	to	to	to	to	to	to	to
	May 1973	May 1974	May 1975	May 1976	May 1977	May 1978	May 1979
All industries:							
Office clerical	5.4	9.0	10.3	8.3	9.2	8.5	8.5
Electronic data processing	(6)	(6)	10.4	7,7	7,9	8,5	9,1
Industrial nurses	4.6	4.3	(°)	(°)	(°)	(6)	(6)
Skilled maintenance trades	7.0	7.3	10.6	10.3	10.0	7,1	8.5
Unskilled plant workers	7.2	7.9	11.0	9.1	7.8	7.7	8.6
Manufacturing:							
Office clerical	4.7	8.0	10.8	8.7	(6)	(6)	(6)
Electronic data processing	( <sup>6</sup> )	(6)	(6)	(6)	(6)	(6)	(6)
Industrial nurses	3.5	4.2	(6)	(6)	(6)	(6)	(6)
Skilled maintenance trades	4.7	7.8	11.3	11,6	10.0	6.5	9.4
Unskilled plant workers	5.9	9,3	11.1	10,0	9.7	8,4	7.2
Nonmanufacturing:							
Office clerical	5.6	9,3	10.0	8.1	8.8	7.9	9.2
Electronic data processing	5.6 (6) (6)	(6)	(6)	(6)	7.5	8.7	10.5
Industrial nurses	(6)	(6)	(6)	(6)	(6)	(6)	( <sup>6</sup> )
Unskilled plant workers	8.2	6.7	10.7	8.6	6.7	7.5	8.8

Table A-8. Average pay relationships within establishments for white-collar occupations, Portland, Oreg.-Wash., May 1979

									Jince Cie	Fical oc	cupation	being co	mpareu-								
Occupation which equals 100			Secretaries			Steno- graphers.	Tran- scribing-	Тут	pists	File	clerks	Messen-	Switch- board	Switch- board operator-	Order	clerks	Accoun	ting clerks	Payroll	Key entry	operators
	Class A	Class B	Class C	Class D	Class E	general	machine typists	Class A	Class B	Class B	Class C	gens	operators	recep- tionists	Class A	Class B	Class A	Class B	clerks	Class A	Class !
SECRETARIES CLASS A	100																				
SECRETARIES, CLASS B	122	100																			
SECRETARIES, CLASS C	127	119	100			1															
SECRETARIES, CLASS D	151	133	116	100					1		1										
SECRETARIES. CLASS E	(6)	135	118	115	100							1				1					
STENOGRAPHERS, GENERAL	168	(6)	138	(6)	(6)	100					1					1					
TRANSCRIBING-MACHINE TYPISTS	165	135	122	123	(6)	96	100					1									
TYPISTS, CLASS A	148	141	125	102	(6)	(6)	(6)	100													
TYPISTS, CLASS B	219	179	150	135	(6)	117	111	127	100									1			
FILE CLERKS, CLASS 8	193	176	144	129	(6)	110	118	107	104	100											
FILE CLERKS: CLASS C	218	184	163	(6)	(6)	(6)	130	151	115	(6)	100										
MESSENGERS	190	197	156	143	(6)	121	124	128	111	108	100	100									
SWITCHBOARD OPERATORS	138	141	123	108	(6)	102	115	93	91	90	75	82	100					1			
SWITCHBOARD OPERATOR-		1	1													l					
RECEPTIONISTS	148	140	130	115	107	89	104	116	93	85	81	83	(6)	100							
ORDER CLERKS, CLASS A	109	(6)	108	(6)	(6)	(6)	(6)	(6)	72	(6)	61	62	93	66	100						
ORDER CLERKS: CLASS B	127	132	138	97	(6)	(6)	(6)	(6)	79	(6)	(6)	(3)	104	93	(6)	100					
ACCOUNTING CLERKS: CLASS A	117	113	101	94	91	79	87	87	7.0	71	62	79	94	83	102	90	100				
ACCOUNTING CLERKS CLASS B	157	146	132	1 20	107	96	104	106	90	87	86	93	110	99	139	105	125	100			
PAYROLL CLERKS	137	121	111	103	94	84	8.8	98	75	80	69	78	92	88	117	96	108	94	100		
KEY ENTRY OPERATORS, CLASS A	145	130	115	102	(6)	85	8.8	98	74	81	71	77	98	96	114	(6)	111	94	102	100	
KEY ENTRY OPERATORS. CLASS B	172	164	136	120	112	111	102	106	91	93	76	90	118	101	127	103	127	104	119	121	100
								Profe	ssional a	nd techn	ical occu	pation b	eing com	pared—							
		C	omputer syste	ms analysts	(business)			Computer	r programme	rs (business)			Computer o	perators				Draft	ers		
		I A	T	Class P	- T	Clean C		Class A		Class P		C)		C1		Clas		T	B	1	

				Froiession	ar and technical oc	cupation being co	mpared—			
	Con	puter systems analysts (bu	liness)	Computer progra	mmers (business)	Computer	operators		Drafters	
	Class A	Class B	Class C	Class A	Class B	Class A	Class B	Class A	Class B	Class C
COMPUTER SYSTEMS ANALYSIS										
(BUSINESS), CLASS A	100									
COMPUTER SYSTEMS ANALYSTS										
(BUSINESS). CLASS B	115	100								
COMPUTER SYSTEMS ANALYSTS										
(BUSINESS) # CLASS C	139	128	100							
COMPUTER PROGRAMMERS										
(BUSINESS) CLASS A	137	121	119	100						
COMPUTER PROGRAMMERS			171	121	100					
(BUSINESS), CLASS B	162	143	131	114	100 87	100				
COMPUTER OPERATORS, CLASS A	155	129	98		120	123	100			•
COMPUTER OPERATORS, CLASS B	196	162	134	144			100	100		
DRAFTERS+ CLASS A	141	123	(6)	(6)	81	100	78		100	
DRAFTERS+ CLASS B	175	154	126	122	102	128	99	126		100
DRAFTERS, CLASS C	206	192	164	(6)	128	175	127	157	127	100

NOTE: Tables A-8 and A-9 present the average pay relationship between pairs of occupations within establishments. For example, a value of 122 indicates the earnings for the occupation directly above in the heading are 22 percent greater than earnings for the occupation directly to the left in the stub. Similarly, a value of 85 indicates earnings for the occupation in the heading are 15 percent below earnings for the occupation in the stub.

See appendix A for method of computation.

Table A-9. Average pay relationships within establishments for blue-collar occupations, Portland, Oreg.-Wash., May 1979

							1	
Occupation which equals 100					Meci	hanics		
	Carpenters	Electricians	Painters	Machinists	Machinery	Motor vehicles	Tool and die makers	Stationary, enginees
AINTENANCE CARPENTERS	100							
INTENANCE ELECTRICIANS	99	100						
INTENANCE PAINTERS	105	107	100					
INTENANCE MACHINISTSINTENANCE MECHANICS	101	101	95	100				
MACHINERY)	100	102	97	101	100			
MOTOR VEHICLES)	101	101	100	161	101	100		
OL AND DIE MAKERS	91	92	(6)	84	91	79	100	
TATIONARY ENGINEERS	106	102	99	102	104	103	(6)	100

							1								
		Truck	drivers		6) (	Bto-	Shippers and	Warehousemen	0-1-60-	Shipping packers	Material	Forklift	Power-truck operators	Guarde, class B	Janitos, portes,
	Light truck	Medium truck	Heavy truck	Tractor-trailer	Shippers	Receivers	receivens	warenousemen	Order fillen	Shipping packers	handling laborers	operators	(other than forklift)	Guardi, ciam s	and cleaners
TRUCKDRIVERS, LIGHT TRUCK TRUCKDRIVERS, MEDIUM TRUCK TRUCKDRIVERS, HEAVY TRUCK SHIPPERS SHIPPERS AND RECEIVERS WAREHOUSEMEN ORDER FILLERS SHIPPING PACKERS MATERIAL HANDLING LABORERS FORKLIFT OPERATORS (OTHER THAN FORKLIFT) GUARDS, CLASS B	(6) (6) (6) (6) (6) (6) (6) (6) (6) (6)	100 (6) 98 104 (6) 99 (6) (6) (6) (6)	100 100 91 (6) 102 103 (6) (6) 119 115	100 (6) 106 104 105 108 (6) 101 104 (6)	100 103 (6) (6) (6) (1) 119 104	100 (6) 104 110 (6) 115 102 (6)	100 109 103 124 112 102	100 127 (6) 115 102 (6) 151	100 (6) 98 98 (6)	100 (6) (6) (6)	100 95 (6)	100 98 190	100 (6)	100	
JANITORS, PORTERS, AND CLEANERS	(6)	172	166	155	123	126	158	169	138	115	135	130	104	93	100

NOTE: Tables A-8 and A-9 present the average pay relationship between pairs of occupations within establishments. For example, a value of 122 indicates that earnings for the occupation directly above in the heading are 22 percent greater than earnings for the occupation directly to the left in the stub. Similarly, a value of 85 indicates earnings for the occupation in the heading are 15 percent below earnings for the occupation in the stub.

See appendix A for method of computation.

### Earnings: Large establishments

Table A-10. Weekly earnings of office workers, large establishments, Portland, Oreg.-Wash., May 1979

				Weekly e		NUMBER	OF 6	CRKER	S REC	EIVIN	G STF	RAIGHT	-TIME	WEEK	LY EA	RNING	S (IN	COLL	ARS)	OF						
Occupation and industry division	Number of work an	Average weekly hours <sup>1</sup> (stundard)	Mean <sup>3</sup>	Median <sup>2</sup>	Middle range <sup>2</sup>	AND UNDER	-	130 - 140	-	-	-	-	18C - 19C	190 - 200	-	220	240 - 260	-	280 - 300	300	320 - 340	340 - 360	360 - 380	380 - 400	400 - 428	420
SECRETARIES	619 316 303	39.5 40.0 39.0	\$244.50 240.50 248.50	237.00		-	9111	0.14	1 - 1	5 2 3	15 7 8	34 16 18	43 18 25	48 23 25	97 43 54	96 58 38	70 46 24	62 44 18	44 28 16	32 14 18	31 9 22	13 1 12	19 5 14	5 2 3	1 - 1	3
SECRETARIES: CLASS A	79 58	39.5 40.0	281.00 271.00	264.50 264.00			-	_	=	-	-	Ξ	-	1	2	12	20 18	16 11	12 12	3	5	_	2	3 2	1 -	3
SECRETARIES, CLASS B	84 50	39.5 39.5	309-00 324-50	309.50 339.50	276.00+ 355.00 287.50- 361.00		-	3	_	_	_	_	1 -	1 -	3	5 3	4 2	10	13	11 8	5	12 11	17 12	2	Ē	-
SECRETARIES, CLASS C	193 85 108	39.5 40.0 39.0	248.00 248.50 247.50	244.00 256.00 237.50		-	117		-	3	4 3 1	8 4 4	8 2 6	3	28 5 23	33 14 19	28 15 13	28 24 4	1 2 5 7	15 7 8	20 3 17	13.6	-	1	-	-
SECRETARIES, CLASS D	187 136	40.0	217.C0 210.50	212.50 208.50	194.00- 232.50 190.00- 226.00		-	-	÷	2	4	12 12	18 15	24 19	53 35	40	16 10	6 2	7 2	3	1	1 -	=	_	_	-
STENOGRAPHERS	81 72 52	39.5 39.5 40.0	229.00 227.00 255.00	209.50 209.00 266.00	165.50- 291.00	-	1.4.4		11 11 -	7 7 -	4	1	11 10 10	2 2	6 4 2	ų ų	į	8 8	7 5 5	14 12 12	4	-	1 1 1	-	1	-
STENOGRAPHERS, GENERAL NONMANUFACTURING PUBLIC UTILITIES	75 69 50	39.5 39.5 40.0	224.00 224.50 252.50	200.00 200.00 264.00	159.00- 288.50	-		3	11	7 7 -	4 4 4	-	11 10 10	4 2 2	5 3 2	e e	5	8 8 8	6 5 5	11 11 11	3 3	=======================================	1 1 1	1119		-
TYPISTS NONMANUFACTURING	172 127	39.5 39.0	170.00 162.50				9	25 22	33 3C	37 33	25 18	6	3	7	8 4	2	-	<b>7</b>	6	-	-	4	_	Ę	Ξ	-
TYPISTS: CLASS B	128 104	39.0	150.50 148.50				9	25 22	33 30	31 27	23 16	3	1 -	-	2 2	-	Ξ	1 -	Ξ	Ξ	-	=	-	-		-
FILE CLERKSNOMANUFACTURINGPUBLIC UTILITIES	150 131 40	39.0 39.0 40.0	166.00 170.00 240.50	146.00	125.00- 186.50	25	27 21 -	13 11	17 15 -	10 10	5 3 2	11 9 7	7 7 6	3 2	3 -	101	11 11 11	3 3 2	-	3	7 7 7	11.	3	-	=	
FILE CLERKS, CLASS BNONMANUFACTURINGPUBLIC UTILITIES	72 67 32	39.5 39.0 40.0	184.50 186.60 230.50	170.50 172.50 251.50	133.50- 251.50	-	16 16	8 7 —	5 -	2 -	4 2 2	6 5	6 6	2 2	3 -	1.4	11 11 11	1		3 3	3 3	-	-	-	=	1 6
FILE CLERKS, CLASS C	66 54	38.5	135.CO 138.CO				11 5	5 4	7 6	8	1	3	2	1	-	=	÷	I	=	Ē	1	Ē	- 2	_	_	-
NONMANUFACTURING	70 53		167.50 172.50	145.00 142.50			3 2	25 17	16 13	1 C 5	1	2	1 -	1	1	6 5	-	6	_	2 2	3	Ş	Į.	-	2	-
SWITCHBOARD OPERATORS	90 51	39.5 39.5	205.00				3	6	5 5	5 4	7 6	8	10	4	11	11	3 2	2 2	7	8	1	Ē	-	-	4	-

Table A-10. Weekly earnings of office workers, large establishments, Portland, Oreg.—Wash., May 1979—Continued

				Weekly e			NUMBER	OF W	CRKER	S REC	EIVIN	S S T R	AIGHT	-TIME	WEEKL	Y EAF	RNING	S (IN	COLL	ARS)	0F		1				
Occupation and industry division	Number of workers	Average weekly hours! (standard)	Mean 2	Median <sup>2</sup>	Middle range 2		110 AND UNDER 120	-	-	140 - 150	-	-	-	180 - 190	190	-	-	-	-	-	300 - 320	-	-	-	380	-	-
ACCOUNTING CLERKS	738	70 5	422A CO	e217 60	\$176.50-\$2	95 50	a	1.7	31	38	28	37	37	51	39	93	4.1	49	10	232	9	16					
			139.00				-	11	31	10	7	18	24	32	21	40	28	17	IU	232	- 2	16	1	6	100	18	
MANUFACTURING	525			253.00			9	19	28	28	21	19	13	19	18	53	13	32	5	231	7	16	1	2			
PUBLIC UTILITIES	78			251.50			-	-	-	-	5	2	2	7	3	13	-	25	4	5	1	8	1	2	_	_	-
ACCOUNTING CLERKS+ CLASS A				250.00			-	-	-	3	2	3	ц	4	10	29	27	19	7	60	2	16	1	6	_	-	1
MANUFACTURING	79		231.50				-	-	-	-	-	-	1	1	9	21	22	15	5	1	-	-	-	4	-	-	
NONMANUFACTURING	114	39.5	269.00	285.50	245-00- 28	85.50	-	-	-	3	2	3	3	3	1	8	5	4	2	59	2	16	1	2	1 7	-	-
ACCOUNTING CLERKS: CLASS B				201.50			9	17	31	35	26	34	33	47	29	64	14	30	3	172	1	-	-	_	-	2/	45
MANUFACTURING				181.50 234.50			9	14	28	10 25	7 19	18 16	23 10	31 16	12 17	19 45	8	2 28	3	172	1	_	_	-	-	-	1
PAYROLL CLERKS				230.00			Ξ	Ξ	1	9	7	5	5	9	4 2	12 10	1 -	4	6	16	1	13	3	4	-	=	
KEY ENTRY OPERATORS	446	39.5	195.00	189.00	164.50- 21	09.00	_	_	2	29	46	59	64	61	42	61	24	11			_	15					
MANUFACTURING							_	_	-	5	5	33	28	29	29	26	17	11	-	21	5	12	-				
NONMANUFACTURING	271				160.50- 2		-	-	2	24	41	26	36	32	13	35	7	10	6	21	5	13	-	-	-	-	
KEY ENTRY OPERATORS. CLASS A	229	39.0	210.00	197.50	179.50- 2		_	_	-	-	3	26	29	37	26	51	10	9	6	19	5	13	_	_	_	-	A
NONMANUFACTURING	135						-	-	-	-	3	7	19	19	7	29	5	8	6	14	5	13	-	-	-	-1	
PUBLIC UTILITIES	27	40.0	252.00	253.50	243.00- 2	66.00	-	-	-	-	1	1	-	1	-	2	2	8	6	2	3	1	-	-	-	-	
KEY ENTRY OPERATORS, CLASS B					159.00- 1		-	-	2	29	43	33 19	35 17	24	16	10	14	2	-	7	-	2	-	-	-	-	
NONMANUFACTURING	136	39.0	174.00	161.50	154.50- 1	84.50			2	24	38	19	17	1.5	ь	ь	2	2	-	7	-	0		-	-	12	F

Table A-11. Weekly earnings of professional and technical workers, large establishments, Portland, Oreg.-Wash., May 1979

				Weekly (stan		NUMBER	OF W	CRKE	REC	EIVI	(G STF	RAIGHT	-TIME	WEEK	LY EA	RNING	S (IN	DOLL	ARSI	0F						
Occupation and industry division	Number of workers	Average weakly hours <sup>1</sup> (standard)	Mean <sup>2</sup>	Median <sup>2</sup>	Middle range <sup>2</sup>	160 AND UNDER 180	-	550 - 500	-	24C - 26C	-	-	-	-	-	•	380	400 - 420	-	460	460 - 480	490 - 500	500 - 520	520 - 540	540 - 560	560 - 560
COMPUTER SYSTEMS ANALYSTS																										
(BUSINESS)	260				\$341.00-\$423.50		*	*	-	-	11	14	9	21	36	25	33	29	31	20	7	4	5	-	1	4
NONMANUFACTURING	116	39.0	386.00	383.50	344.50- 423.50	-	-	-	-	-	2	10	1	15	15	13	16	12	16	6	-	3	2	-	1	4
COMPUTER SYSTEMS ANALYSTS (BUSINESS), CLASS A	68	39.5	448.50	443.50	421.00- 469.00	-	-	-	-			-	-	-	-	3	8	6	14	17	6	,	5	-	1	4
COMPUTER SYSTEMS ANALYSTS																										
IBUSINESS), CLASS B	97	39.5	390.00	394.50	368-00- 919-00	-	-	-	-	-	-	-		9	9	17	19	21	17	2	1	-	-	-	-	-
MANUFACTURING				390.50			-	-	-	-		-	i	6	6	9	12	13	7	1	1	-	-	-	-	
COMPUTER SYSTEMS ANALYSTS	25		700 50																							
(BUSINESS). CLASS C	95	39.5	329.00	329.00	296.50- 350.00	-	-	-	-	-	11	14	8	22	27	5	6	2	-	_	-	-	_	-	-	-
COMPUTER PROGRAMMERS (BUSINESS)	148 104		291.C0 290.C0	287.50 282.50	253.50- 330.00 250.00- 330.50		1	11	11 7	20 15	27 20	19 11	18	16 10	11	4	5 2	2 2	3 2	2	-	1	-	-	-	-
COMPUTER PROGRAMMERS (BUSINESS).		20.0																								
MANUFACTURING	52		308.C0 310.50		270.50- 339.50 270.60- 349.50		2	-	2	7	14	6	10	6	8	2	1	2	2	-	-	-	-	-	-	-
CCMPUTER PROGRAMMERS (BUSINESS),																										
CLASS B	61	40.0	283.50	279.00	247.00- 306.00	-	-	8	4	9	10	10	8	4	1	2	4	-	1	-	-	-	-	-	-	-
COMPUTER OPERATORS	117	39.5	259_50	291.00	220.50- 300.00			21	29	12	12		11	7	6	2	2	2		-	-	-	-	-	-	-
MANUFACTURING	50	40.0	241.50		213.50- 267.00		2	9	15	6	8	9	2	2	-	-	-	-	_	-	-	-		_	-	-
NONHANUFACTURING	67	39.0	272.50	242.50	228.00- 321.50	1	2	12	14	7	4	1	9	5	6	2	2	2	-	-	-	-	-	-	-	-
COMPUTER OFERATORS. CLASS B	75	39.5	246.5C	236.00	219.00- 270.00	1	2	18	21	40	6	4	9	4	_	_	nder	_	-	-	_	-	_	-	-40	_
NCNMANUFACTURINE	51	39.0	251.00				2	11	12	7	4	1	9	4	-	-	-	-	-	-	-	-	-	-	-	-
DRAFTERS	228	40.0	278.50	273.50	238.00- 305.00	1	А	21	33	23	34	39	26	18	3	9	9	2	1	-	-	1	-	-	-	-
MANUFACTURING		40.0	268.50				6	13	33	19	28	30	20	16	1	5	-	-	-	-	-	- 2	-	-	-	-
DRAFTERS+ CLASS A	65	40.C	323.50	315.60	293.50- 349.50	-	-	-	-	3	R	10	14	13	2			2	,			1	_			
MANUFACTURING	54			308.00			-	-	-	3	8	10	14	13	1	5	-	-	-	-	-	-	-	-	-	-
DRAFTERS+ CLASS E	93	40.0	280.00	280.50	251.00- 298.00	-	2	5	9	13	15	28	11	3		4	3	_	_	_	-	_		-	_	
MANUFACTURING	60	40.0	263-50		238.50- 291.00		2	5	9	10	9	19	5	1	-	-	-	-	-	-	-	-	-	-	-	-

Table A-12. Average weekly earnings of office, professional, and technical workers, by sex, large establishments, Portland, Oreg.—Wash., May 1979

			an <sup>2</sup> )				erage		3-50	Ave	mage
Occupation, sex, <sup>3</sup> and industry division	Number of workers	Weekly hours (standard)	Weekly esmings! (standard)	Occupation, sex, and industry division	Number of workers	We akly hours (standard)	Waskly earnings <sup>1</sup> (standard)	Occupation, sex. <sup>3</sup> and industry division	Number of	Weekly house (enaded)	Westly ennings (standard
OFFICE OCCUPATIONS - WOMEN				OFFICE OCCUPATIONS - WOMENCONTENUED				PROFESSIONAL AND TECHNICAL OCCUPATIONS - MEN			
SECRETARIES	582	39.5	\$295.50	FILE CLERKS:				COMPUTER SYSTEMS ANALYSTS			
MANUFACTURING	296				109	38.5	\$154.00	(BUSINESS)	207	39.5	\$387.0
NONMANUFACTURING		39.0						NONHANUFACTURING	94		392.0
		2000	2.1.2.	FILE CLERKS. CLASS C	51	38.5	136.50				
SECRETARIES. CLASS A	78	35.5	280.00	NONMANUFACTURING	54	38.5	138.00	COMPUTER SYSTEMS ANALYSTS			
MANUFACTURING	58		271.00			7777	500500	(BUSINESS): CLASS A	57	39.5	450.5
		10000		SWITCHBOARD OPERATORS	75	39.5	191.50			1000	
SECRETARIES, CLASS B	77	39.5	317.50					COMPUTER SYSTEMS ANALYSTS			
NONMANUFACTURING	50		324.50	ACCOUNTING CLERKS	626	39.5	224.50	(BUSINESS), CLASS B	79	39.5	395.0
				MANUFACTURING	185	40.0	198.00				
SECRETARIES. CLASS C	174	39.5	250.50	NONMANUFACTURING	941	39.5	236.00	COMPUTER PROGRAMMERS (BUSINESS)	102		
MANUFACTURING	72	40.0	261.00				70.00	MANUFACTURING	70	40.0	290.00
NONMANUFACTURING	102	39.0	243.00	ACCOUNTING CLERKS, CLASS A	164	40.0		AND A STATE OF THE			
				MANUFACTURING	65	40.0		COMPUTER PROGRAMMERS (BUSINESS).			
SECRETARIES. CLASS D	185	40.0	216.50	NONHANUFACTURING	99	39.5	268.00	CLASS B	50	40.0	288.00
MANUFACTURING	136	40.0	210.50	400000000000000000000000000000000000000		30.0		A SHIP COLUMN TO A STATE OF THE			1000
				ACCOUNTING CLERKS. CLASS B	462			COMPUTER OPERATORS	82	39.5	266.00
STENOGRAPHERS	7.4				120		180.50	Company Company of the company			
NONMANUFACTURING	65		217.50		342	39.5	226.50	COMPUTER OPERATORS: CLASS B	57	39.5	251.50
PUBLIC UTILITIES	4.5	40.0	245.50								222.0
		20.2		PAYROLL CLERKS:				DRAFTERS	180		
STENOGRAPHERS: GENERAL	6.8		214.50		51	39.5	248.00	MANUFACTURING	191	40.0	270.50
NONMANUFACTURING	6.2		214.50								
PUBLIC UTILITIES	4.3	40.0	242.00	KEY ENTRY OPERATORS	419				54	40.0	326.50
		23/2		MANUFACTURING	158		190.50				
TYPISTS	159		169.00		261	39.0	198.00	DKAL IEKZI CTWZZ B	70	40.0	278.00
NONMANUFACTURING	114	39.0	161.00		200	39.0	244 00				
TUDTETE CLASE O		36.4		KEY ENTRY OPERATORS. CLASS A	125		211.00				
TYPISTS: CLASS B	126		151.00		152	26.5	223.30				
NONMANUFACTURING	102	39.0	148.50	KEY ENTRY CPERATORS, CLASS B	213	39.5	179.50				
				NONMANUFACTURING	136						
				NUMBARUF ACTURENCE	136	-2.0	714-00				

Table A-13. Hourly earnings of maintenance, toolroom, and powerplant workers, large establishments, Portland, Oreg.—Wash., May 1979

			Hourly same	ings <sup>4</sup>	NUMBE	R OF	MORKE	RS REC	EIVIN	IG STR	AIGHT	-TIME	HOUF	RLY E	RNIN	GS (II	I DOL	LARSI	0F								
Occupation and industry division	Number of workers	Mean 2	Median	Middle range <sup>2</sup>	UNDER	-	-	-	-	6.00 6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MAINTENANCE CARPENTERS	53	\$8.60	\$8.04	\$7.87- \$9.50	5 -	_	1	-	-	-	-	-	-	_	1	-	24	7	3	1	6	4	-	z	-	4	_
MAINTENANCE ELECTRICIANS	193 176					- 5	Ξ	1	-	-	į.	1	-	-	74	8 -	1	7	8 5	34 34	17	16 16	34	2 D 2 O	1	0	48
MAINTENANCE HACHINISTS						_	_	_	-	_	-	-	-	1	2	3	9	10 10	22	43 42	3	_	16 16	5 7 5 7	-	-	-
MAINTENANCE MECHANICS (MACHINERY)	306 289					. 2	1	Ę.	Ē,		-	1	-	-	1	7	2	43 43	18	1 -	8 8 8 8	3	6	132 132	-	Ξ	-
MAINTENANCE MECHANICS (MOTOR VEHICLES)	112 97 40	9.58	9.79	9.08- 9.8	5 -	=	1	-	-		-	:	10	1.6.1	111	-	4 4 2	1	12 11 11	10 10 10	5 2 2	54 49 -	21 21 15	6 -	1111	7	-
TOOL AND DIE MAKERS	146 146	9.96 9.96				-	-		-	0	-	-	-	÷	-	-	-	1	=	15 15	18 18	55 55	3 4 3 4	3	20 20	2	- 2

Table A-14. Hourly earnings of material movement and custodial workers, large establishments, Portland, Oreg.—Wash., May 1979

			Hourly earn	sings *		NUMBER	OF N	HORKER	S RECI	EIVIN	IG STE	AIGHT-	-TIME	HOUR	LY EA	RNING	S (IN	DOLL	ARSI	OF								
Occupation and industry division	Number of workers	Mean Z	Median <sup>2</sup>	Middle range	2	AND		3.40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- 3	AND CVER
RUCKDRIVERS	634 568					-	-	-	4	-	-	2	-	-	5	4	4	9	11	7	8	18	7 3	25	29	209	255	43
NUMMANUFACTURING	200	3.53	3.73	3.40-	3.13				-	_	-	2				-		7	•		_	15	3	18	28	205	255	43
TRUCKDRIVERS, TRACTOR-TRAILER	307 299					=	-	5	÷	-	=	171	-	-	-	Ξ	2	-	1 -	Ξ	=	-	2 2	10 3	-	-	251 251	*43
HIPPERS AND RECEIVERS	98 54					-	-	-	-	Ξ	-	-	=	1 -	ηΞ	-	-	-	1	_	-	46	=	_	1 1	50 50	Ξ	-
MAREHOUSEMEN	240 79 161	7.40	8.31	6.14-	8.93 8.90 8.93	-	100	1 -	-	4	15	3 2	2	9 8	15 7 8	3	6 2	-	5	12	37	12	12	28	80	11 7	Ξ	-
ORDER FILLERS	457				9.37		2	2	1	1	,	1		-		2	4	_		1	3.3	3	11	10	66	4	-	
MATERIAL HANGLING LABORERS	200	7.41	1 8.15	7.30-	8.28	-	3	1 -	-	-	-	2	6	12	-	1 1	4	4	6	9	44	3	97	52 - -	20 1 1	361 1 1	6 6	9
FORKLIFT OPERATORS	550 339					Ē	-	-	Ξ	-	1	_	-	13 13	26 26	45 45	23 23	18 18	3	19 19	22	50 39	81 81	15 15	31 30	203	Ξ	-
GUARDS	93 57				7.25 7.25	-	-	1 -	-	1	_	4 -	-	17 14	3 2	16	20 15	2 2	1	-	16 16	7 -	4 -	-	-	-	=	=
GUARDS, CLASS B	61	5.57	7 5.47	4.44-	7.25	-	-	1	-	-	-	4	-	15	2	15	6	2	-	-	16	-	_	-	-	-	-	-
JANITORS, PORTERS, AND CLEANERS MANUFACTURING NOMMANUFACTURING PUBLIC UTILITIES	557 275 282 55	5.57	7 5.29 3 4.82	4.66-	6.24	2 - 2	1 - 1	1111	6	2 2	21 19 2	24 15 9	27 24 3	39	179 35 144	36 6 30 26	25 3 22 21	72 72	12 12 -	13 10 3	24 17 7	23 21 2	-	=	=	-	-	

<sup>\*</sup> Workers were distributed as follows: 34 at \$10 to \$10.40; and 9 at \$10.40 to \$10.80.

Table A-15. Average hourly earnings of maintenance, toolroom, powerplant, material movement, and custodial workers, by sex, large establishments, Portland, Oreg.—Wash., May 1979

Occupation, sex, 3 and industry division	Number of workers	Average (mean <sup>2</sup> ) hourly earnings <sup>4</sup>	Occupation, sex, 3 and industry division	Number of workers	Average (mean <sup>2</sup> ) hourly earnings
MAINTENANCE, TOOLROOM, AND POMERPLANT OCCUPATIONS - MEN			MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS - NENCONTINUED		
MAINTENANCE ELECTRICIANS	192 175		SHIPPERS AND RECEIVERS	85 51	\$8.83
MAINTENANCE MACHINISTS	166 165	9.45	WAREHOUSEMENMANUFACTURING	207 68	7.74
MAINTENANCE MECHANICS (MACHINERY)	301 284	9.60		401	7.87
MAINTENANCE MECHANICS (MOTOR VEHICLES)	9 <u>9</u>	9.75 9.73		492 294	8.14 7.26
TOOL AND DIE MAKERS	146 146	9.96 9.96	MANUFACTURING	53	5.79
MATERIAL MOVEMENT AND CUSTODIAL OCCUPATIONS — MEN			GUARDS, CLASS B	192	5.56
TRUCKDRIVERS	575 516	9.34		132	J. 0 L
TRUCKDRIVERS, TRACTOR-TRAILER	306 299	9.79			

#### **Footnotes**

1 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.

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.
  - 6 Data do not meet publication criteria or data not available.

# Appendix A. Scope and Method of Survey

In each of the 72 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,

Included in the 72 areas are 2 studies conducted by the Bureau under contract. These areas are Akron, Ohio and Poughkeepsie-Kingston-Newburgh, 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. Digitiz Department of Labor.

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.

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 also shown. (It is assumed that wages increase at a constant rate between surveys.)

Occupations used to compute wage trends are:

#### Office clerical

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

### Electronic data processing— Continued

Computer operators, classes A, B, and C

#### Industrial nurses

Registered industrial nurses

#### Skilled maintenance

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

#### Unskilled plant

Janitors, porters, and cleaners
Material handling laborers

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

- 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.
- 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.

#### Average pay relationships within establishments

Relative measures of occupational pay are presented in table A-8 for white-collar occupations and in table A-9 for blue-collar occupations. These relative values reflect differences in pay between occupations within individual establishments. Relative pay values are computed by dividing an establishment's average earnings for an occupation being compared by the average for another occupation (designated as 100) and multiplying the quotient by 100. For example, if janitors in a firm average \$4 an hour and forklift operators \$5, forklift operators have a relative pay value of 125 compared with janitors. (\$5  $\div$  \$4 = 1.25, x 100 = 125.) In combining the relatives of the individual establishments to arrive at an overall average, each establishment is considered to have as many relatives as it has weighted workers in the two jobs being compared.

Pay relationships based on overall averages may differ considerably because of the varying contribution of high- and low-wage establishments to the averages. For example, the overall average hourly earnings for forklift operators may be 50 percent more than the average for janitors because the average for forklift operators may be strongly influenced by earnings in high-wage establishments while the average for janitors may be strongly influenced by earnings in low-wage establishments. In such a case, the intra-establishment relationship will indicate a much smaller difference in earnings.

#### 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.

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## Appendix table 1. Establishments and workers within scope of survey and number studied, Portland, Oreg.—Wash., May 1979

	Minimum	Number of es	tablishments	Wor	kers in establishme	nts
Industry division <sup>2</sup>	employment in establish-	Within scope		Within scop	e of study 4	
	ments in scope of study	of study	Studied	Number	Percent	Studied
ALL ESTABLISHMENTS						
ALL INDUSTRY DIVISIONS		966	210	206+695	100	110,050
ANUFACTURING	50	336	77	89.276	43	52,55€
ONMANUFACTURING	-	630	133	117,419	57	57,494
OTHER PUBLIC UTILITIES	50	71	22	20 • 474	10	13,447
WHOLESALE TRADE 6	5₽	135	21	18,313	9	3,979
RETAIL TRADE	50	226	37	39,645	19	20.09€
FINANCE, INSURANCE, AND REAL ESTATE	50	8.8	18	23 + 526	11	13.712
SERVICES "	50	110	35	15.461	7	6,310
LARGE ESTABLISHMENTS						
ALL INDUSTRY DIVISIONS	-	54	47	81 • 715	100	77.037
ANUFACTURING	500	25	21	40,510	50	38.077
ONMANUFACTURING	-	29	26	41,205	50	38,960
TRANSPORTATION, COMMUNICATION, AND				,		207300
OTHER PUBLIC UTILITIES 5	500	8	7	11.050	14	9,950
WHOLESALE TRADE 6	500	3	2	1,806	2	1,276
RETAIL TRADE 6	500	10	10	15.770	19	15,770
FINANCE, INSURANCE, AND REAL ESTATE 6	500	6	6	11,349	14	11,349
SERVICES 6 7	500	2	1	1,230	2	615

The Portland Standard Metropolitan Statistical Area, as defined by the Office of Management and Budget through February 1974, consists of Clackamas, Multnomah, and Washington Counties, Oreg.; and Clark County, Wash. The "workers within scope of study" estimates 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 statistical series 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. 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.

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

5 Abbreviated to "public utilities" in the A-series tables. Taxicabs and services incidental to water transportation are excluded. Portland's transit system is publicly owned and is excluded by definition from the scope of the study.

6 Separate data for this division are not presented in the A-series tables, but the division is represented in the "all industries" and "nonmanufacturing" estimates.

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 representatives 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 grouping 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 representatives are instructed to exclude working supervisors; apprentices; and parttime, 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;
- 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 required 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 tabulation 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)

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

#### 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.)
- IS-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 IS-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.

#### SECRETARY-Continued

#### Classification by Level-Continued

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 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.

- 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.
- 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.
- Compiles or assists in compiling periodic reports on the basis of general instructions.

#### Level of Secretary's Responsibility (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-3	Class D Class C	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, 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 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.

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

#### 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.

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 materials; 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.

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.

#### ORDER CLERK-Continued

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.

<u>Class A.</u> 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.

<u>Class B.</u> 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),

#### BOOKKEEPING-MACHINE OPERATOR—Continued

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, 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.

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.

OF

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 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

#### COMPUTER OPERATOR-Continued

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.

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 maintanctions, 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 advance 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).

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 NURSES

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 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 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

#### MAINTENANCE MECHANIC (Machinery)—Continued

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 Vehicles)

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

#### MILLWRIGHT-Continued

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 alloys; selecting appropriate materials, tools, and

#### TOOL AND DIE MAKER-Continued

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 <u>not</u> 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 airconditioning. 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 <u>variety</u> of <u>warehousing</u> duties which require an <u>understanding</u> of the <u>establishment's</u> storage plan. Work involves <u>most</u> of the <u>following</u>: 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 <u>primary</u> 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 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

#### GUARD-Continued

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.

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.

## Service Contract Act Surveys

The following areas are surveyed periodically for use in administering the Service Contract Act of 1965. Survey results are published in releases which are available, at no cost, while supplies last from any of the BLS regional offices shown on the back cover.

Alaska (statewide) Albany, Ga. Albuquerque, N. Mex. Alexandria-Leesville, La. Alpena-Standish-Tawas City, Mich. Ann Arbor, Mich. Asheville, N.C. Augusta, Ga.-S.C. Austin, Tex. Bakersfield, Calif. Baton Rouge, La. Battle Creek, Mich. Beaumont-Port Arthur-Orange and Lake Charles, Tex.-La. Biloxi-Gulfport and Pascagoula-Moss Point, Miss. Binghamton, N.Y. Birmingham, Ala. Bloomington-Vincennes, Ind. Bremerton-Shelton, Wash. Brunswick, Ga. Cedar Rapids, Iowa Champaign-Urbana-Rantoul, Ill. Charleston-North Charleston-Walterboro, S.C. Charlotte-Gastonia, N.C. Clarksville-Hopkinsville, Tenn.-Ky. Columbia-Sumter, S.C. Columbus, Ga.-Ala. Columbus, Miss. Connecticut (statewide) Decatur, Ill. Des Moines, Iowa Dothan, Ala. Duluth-Superior, Minn.-Wis. El Paso-Alamogordo-Las Cruces, Tex.-N. Mex. Eugene-Springfield-Medford, Oreg.

Fayetteville, N.C. Fort Lauderdale-Hollywood and West Palm Beach-Boca Raton, Fla. Fort Smith, Ark,-Okla. Fort Wayne, Ind. Gadsden and Anniston, Ala. Goldsboro, N.C. Grand Island-Hastings, Nebr. Guam, Territory of Harrisburg-Lebanon, Pa. Knoxville, Tenn. La Crosse-Sparta, Wis. Laredo, Tex. Las Vegas-Tonopah, Nev. Lexington-Fayette, Ky. Lima, Ohio Little Rock-North Little Rock, Ark. Lorain-Elyria, Ohio Lower Eastern Shore, Md.-Va.-Del. Macon. Ga. Madison, Wis. Maine (statewide) Mansfield, Ohio McAllen-Pharr-Edinburg and Brownsville-Harlingen-San Benito, Tex. Meridian, Miss. Middlesex, Monmouth, and Ocean Counties, N.J. Mobile-Pensacola-Panama City, Ala.-Fla. Montana (statewide) Nashville-Davidson, Tenn. New Bern-Jacksonville, N.C. New Hampshire (statewide) North Dakota (statewide) Northern New York Northwest Texas Orlando, Fla. Oxnard-Simi Valley-Ventura, Calif. Peoria, Ill. Phoenix, Ariz. Pine Bluff, Ark. Pueblo, Colo. Puerto Rico Raleigh-Durham, N.C. Reno, Nev.

Riverside-San Bernardino-Ontario, Calif. Salina, Kans. Salinas-Seaside-Monterey, Calif. Sandusky, Ohio Santa Barbara-Santa Maria-Lompoc, Calif. Savannah, Ga. Selma, Ala. Sherman-Denison, Tex. Shreveport, La. South Dakota (statewide) Southeastern Massachusetts Southern Idaho Southwest Virginia Spokane, Wash. Springfield, Ill. Stockton, Calif. Tacoma, Wash. Tampa-St. Petersburg, Fla. Topeka, Kans. Tucson-Douglas, Ariz. Tulsa, Okla. Upper Peninsula, Mich. Vallejo-Fairfield-Napa, Calif. Vermont (statewide) Virgin Islands of the U.S. Waco and Killeen-Temple, Tex. Waterloo-Cedar Falls, Iowa West Virginia (statewide) Western and Northern Massachusetts Wichita Falls-Lawton-Altus, Tex.-Okla. Yakima-Richland-Kennewick-Pendleton, Wash.-Oreg.

#### ALSO AVAILABLE—

An annual report on salaries for accountants, auditors, chief accountants, attorneys, job analysts, directors of personnel, buyers, chemists, engineers, engineering technicians, drafters, and clerical employees is available. Order as BLS Bulletin 2004, National Survey of Professional, Administrative, Technical and Clerical Pay, March 1978, \$2.40 a copy, from any of the BLS regional sales offices shown on the back cover, or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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## **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 1977, is available on request.

Area		Bulletin number and price *	
Akron Ohio Dec. 1978	2025-63,	\$1.00	
Akron, Ohio, Dec. 1978Albany-Schenectady-Troy, N.Y., Sept. 1978	2025-58,		
Anaheim-Santa Ana-Garden Grove.		<b>4</b>	
Calif., Oct. 1978 1	2025-65,	\$1,30	
Atlanta, Ga., May 1979	2050-20,		
Atlanta, Ga., May 1979Baltimore, Md., Aug. 1978 1	2025-50,	\$1.50	
Billings, Mont., July 1978	2025-38,	\$1.00	
Birmingham, Ala., Mar. 1978	2025-15,	80 cents	
Boston, Mass., Aug. 1978 Buffalo, N.Y., Oct. 1978	2025-43,	\$1.50	
Buffalo, N.Y., Oct. 1978 1	2025-71,	\$1.30	
Canton, Ohio, May 1978	2025-22,	70 cents	
Chattanooga, TennGa., Sept. 1978 1	2025-51,	\$1.20	
Chicago, Ill., May 1979	2050-21,	\$1.75	
Cincinnati, Ohio-KyInd., July 1978	2025-39.	\$1.10	
Cleveland, Ohio, Sept. 1978	2025-49.	\$1.30	
Columbus, Ohio, Oct. 1978 1	2025-59,	\$1.50	
Corpus Christi, Tex., July 1978	2025-29,	\$1.00	
Dallas-Fort Worth, Tex., Oct. 1978 1	2025-52,	\$1.50	
Davenport-Rock Island-Moline, Iowa-Ill., Feb. 1979	2050-10,	\$1.00	
Dayton, Ohio, Dec. 1978	2025-66,	\$1.00	
Daytona Beach, Fla., Aug. 1978	2025-48,	\$1.00	
Denver-Boulder, Colo., Dec. 1978	2025-68,	\$1.20	
Detroit, Mich., Mar. 1979 1	2050-7,		
Fresno, Calif., June 1979	2050-25,	\$1.50	
Gainesville, Fla., Sept. 1978	2025-45,	\$1.00	
Gary-Hammond-East Chicago, Ind., Aug. 1979 1	(To be sur	veyed)	
Green Bay, Wis., July 1978 1	2025-41,	\$1.20	
Greensboro-Winston-Salem-High Point.			
N.C., Aug. 1978Greenville-Spartanburg, S.C., June 1978	2025-46,	\$1.00	
Greenville-Spartanburg, S.C., June 1978	2025-30,	\$1.00	
Hartford, Conn., Mar. 1979	2050-12,	\$1.10	
Houston, Tex., Apr. 1979	2050-15,	\$1.30	
Huntsville, Ala., Feb. 1979	2050-3,	\$1.00	
Huntsville, Ala., Feb. 1979 Indianapolis, Ind., Oct. 1978 Jackson, Miss., Jan. 1979	2025-57,		
Jackson, Miss., Jan. 1979	2050-9,	\$1.20	
Jacksonville, Fla., Dec. 1978	2025-67,		
Kansas City, MoKans., Sept. 1978	2025-53,	4 .	
Los Angeles-Long Beach, Calif., Oct. 19781	2025-61,	T .	
Louisville, KyInd., Nov. 1978	2025-69,		
Memphis, TennArkMiss., Nov. 1978	2025-62,	\$1.00	

Area	Bulletin number and price *	
Miami, Fla., Oct. 1978 1	2025-60.	\$1.30
Milwaukee, Wis., Apr. 1979	2050-8.	\$1.30
Minneapolis-St. Paul, MinnWis., Jan. 1979	2050-1.	\$1.30
Nassau—Suffolk, N.Y., June 1978 1	2025-33,	T -
Newark, N.J., Jan. 1979	2050-5.	\$1.30
New Orleans, La., Jan. 1979	2050-2,	\$1.30
New York, N. YN. J., May 1978 1	2025-35.	
Norfolk-Virginia Beach-Dortsmouth Va-		<b>\$ 1.00</b>
N.C., May 1979 1	2050-22,	\$1.75
Norfolk-Virginia Beach-Portsmouth and	2030-22,	\$ 11.13
Newport News-Hampton, VaN.C., May 1978	2025-21,	80 cents
Northeast Pennsylvania, Aug. 1978	2025-47,	
Oklahoma City, Okla., Aug. 1978	2025-40,	
Omaha, NebrIowa, Oct. 1978	2025-56.	
Paterson-Clifton-Passaic, N.J., June 1979	2050-26.	4
Philadelphia, PaN.J., Nov. 1978	2025-54.	
Pittsburgh, Pa., Jan. 1979	2050-11.	
Portland, Maine, Dec. 1978	2025-70,	•
Portland, OregWash., May 1979	2050-27,	
Poughkeepsie, N.Y., June 1978 1	2025-37.	
Poughkeepsie-Kingston-Newburgh, N.Y., June 1978 1	2025-42.	
Providence-Warwick-Pawtucket, R.I	0000-10,	φ 1.50
Mass., June 1978	2025-27,	\$1.40
Richmond, Va., June 1979	2050-24,	
St. Louis, MoIll., Mar. 1979 1	2050-13,	
Sacramento, Calif., Dec. 1978	2025-75,	
Saginaw, Mich., Nov. 1978	2025-64,	
Salt Lake City-Ogden, Utah, Nov. 1978 1	2025-72.	7 -
San Antonio, Tex., May 1979	2050-17,	
San Diego, Calif., Nov. 1978	2025-73,	
San Francisco-Oakland, Calif., Mar. 1979	2050-14.	
San Jose, Calif., Mar. 1979	2050-19.	7
Seattle-Everett, Wash., Dec. 1978	2025-74.	\$1.00
South Bend, Ind., Aug. 1978	2025-44,	
Toledo, Ohio-Mich., May 1979	2050-16,	
Trenton, N.J., Sept. 1978	2025-55,	•
Utica-Rome, N.Y., July 1978	2025-34.	
Washington, D.CMdVa., Mar. 1979	2050-4.	\$1.20
Wichita, Kans., Apr. 1979	2050-18.	
Worcester, Mass., Apr. 1979	2050-23,	T -
York, Pa., Feb. 1979	2050-6,	\$1.00
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<sup>\*</sup> Prices are determined by the Government Printing Office and are subject to change.

Data on establishment practices and supplementary wage provisions are also presented.

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