

Container Distribution within the United States

Data on containerized cargo in foreign commerce imported to and exported from the U.S. is available through several sources, including the *Journal of Commerce's* PIERS® division and the U.S. Census Bureau Foreign Trade Division.

Foreign trade information is classified in various ways, such as commodity code, country and territory designations, Customs District ports, and ports which handle waterborne trade. Although there is considerable information about the cargo which is shipped in containers, information about the origin and destination of the containers containing cargo moving in foreign commerce within the U.S. is not readily available.

This missing piece of information is very important for the analysis of overall U.S. cargo traffic patterns and for projecting future container activity. Knowing the port of entry and exit does little to indicate where U.S. export containerized cargo originated within the U.S. and where imported containerized cargo is destined within the U.S..

To estimate where U.S. containerized cargo in foreign commerce comes from and where it goes, the following method is proposed and presented here. This technique is based on the assumption that containerized

cargo distribution is directly proportional to population distribution.

The following presentation compares two distributions of foreign commerce container TEUs: the distribution among states calculated by this estimation method and the distribution among the states through which the containers were actually imported or exported.

Distribution of Container TEUs based on Population Projections

The Census Bureau's 1995 civilian population of states, excluding military personnel, was used as the basis for projecting container distribution. The percentage of the total 1995 U.S. population (261,406,824) that each state population represents was applied to the total container TEUs of foreign commerce reported by the *Journal of Commerce's* PIERS Division for 1995 (12,945,237 TEUs).

According to the 1995 population projections, 60.6% of the U.S. population live east of the Mississippi River and another 18% live between the Mississippi and the Mountain states.

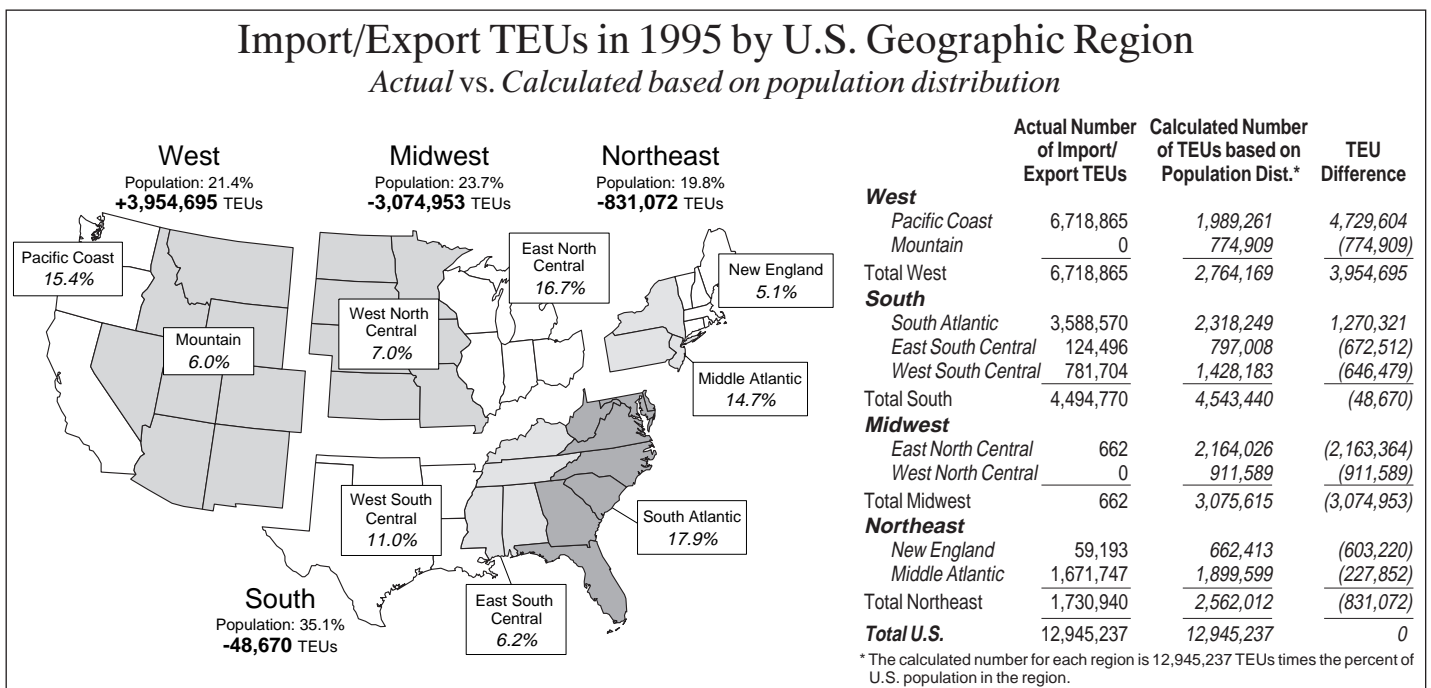
The table on page 2 lists the 48 contiguous states and shows for each (1) the containers which passed through the ports located in that state and (2) the estimated number of containers which that state either

generated or used of the U.S. total moved in foreign commerce. The third column shows the difference between the two numbers, and this difference represents the excess number of containers imported or exported through the state above the number estimated to have been produced or consumed within that state. If this difference is negative, then a shortfall exists for the state, implying that it produced or consumed more than were imported or exported through it.

The map below shows the distribution of 1995 U.S. population projections by geographic groupings of states. The percentages shown also represent the assumed distribution of foreign trade container TEUs under this estimation method.

The table below has the data summarized by grouping the states into the four geographic regions and nine sub-regions as defined by the U.S. Census Bureau. The table shows, by geographic region, the actual number of import/export TEUs in 1995 as compared to the container TEU distribution based on population projections. The differences for each region are shown on the map: a plus value indicates more TEUs handled in an area than expected for the population, and a negative value occurs for areas where the population would be ex-

Continued on Page 2



1995 Import/Export TEUs by State

	Actual No. TEUs Handled	Calculated TEUs	Difference
West			
Pacific			
California	4,941,281	1,564,773	3,376,508
Oregon	239,171	156,473	82,698
Washington	1,538,413	268,015	1,270,398
Total Pacific	6,718,865	1,989,261	4,729,604
Mountain			
Arizona	0	209,121	(209,121)
Colorado	0	184,981	(184,981)
Idaho	0	57,793	(57,793)
Montana	0	43,163	(43,163)
Nevada	0	75,839	(75,839)
New Mexico	0	83,252	(83,252)
Utah	0	97,015	(97,015)
Wyoming	0	23,745	(23,745)
Total Mountain	0	774,909	(774,909)
Total West	6,718,865	2,764,170	3,954,695
South			
South Atlantic			
Delaware	82,998	35,521	47,477
District of Columbia	0	27,293	(27,293)
Florida	1,208,614	702,414	506,200
Georgia	444,931	355,587	89,344
Maryland	305,051	249,350	55,701
North Carolina	79,695	353,613	(273,918)
South Carolina	754,407	181,275	573,132
Virginia	712,874	322,093	390,781
West Virginia	0	91,103	(91,103)
Total So. Atlantic	3,588,570	2,318,249	1,270,321
East South Central			
Alabama	14,773	211,126	(196,353)
Kentucky	0	191,102	(191,102)
Mississippi	109,723	133,642	(23,919)
Tennessee	0	261,138	(261,138)
Total East So. Cent.	124,496	797,008	(672,512)
West South Central			
Arkansas	0	123,576	(123,576)
Louisiana	231,600	215,403	16,197
Oklahoma	0	161,949	(161,949)
Texas	550,104	927,255	(377,151)
Total West So. Cent.	781,704	1,428,183	(646,479)
Total South	4,494,770	4,543,440	(48,670)
Midwest			
East North Central			
Illinois	418	588,285	(587,867)
Indiana	0	289,196	(289,196)
Michigan	20	475,850	(475,830)
Ohio	63	555,370	(555,307)
Wisconsin	161	255,325	(255,164)
Total East No. Central	662	2,164,026	(2,163,364)
West North Central			
Iowa	0	141,638	(141,638)
Kansas	0	126,782	(126,782)
Minnesota	0	229,645	(229,645)
Missouri	0	264,708	(264,708)
Nebraska	0	81,144	(81,144)
North Dakota	0	31,556	(31,556)
South Dakota	0	36,116	(36,116)
Total West No. Central	0	911,589	(911,589)
Total Midwest	662	3,075,615	(3,074,953)
Northeast			
New England			
Connecticut	0	162,790	(162,790)
Maine	119	61,684	(61,565)
Massachusetts	59,074	302,428	(243,354)
New Hampshire	0	57,208	(57,208)
Rhode Island	0	49,157	(49,157)
Vermont	0	29,146	(29,146)
Total New England	59,193	662,413	(603,220)
Middle Atlantic			
New Jersey*	23,512	395,446	(371,934)
New York*	1,537,414	902,770	634,644
Pennsylvania	110,821	601,383	(490,562)
Total Mid Atlantic	1,671,747	1,899,599	(227,852)
Total Northeast	1,730,940	2,562,012	(831,072)
Total U.S.	12,945,237	12,945,237	0

* TEUs handled in The Port of NY/NJ are reported for New York.

Distribution (continued from Page 1)

pected to produce or consume more containerized cargo than is handled in the area.

Only two regions, the Pacific Coast and the South Atlantic show TEUs in excess of the number moving through their ports. Of the 6,718,865 TEUs of foreign trade which moved through the ports in the three West Coast states in 1995, this analysis demonstrates that 4,729,605 TEUs came from or were shipped to other states. Some 774,909 TEUs are attributable to the 8 Mountain states, but the bulk of the 3,954,695 containers moved through the Midwest region where 3,074,953 container TEUs are moved into and out of the region.

The South approaches self sufficiency in container handling with only 48,670 containers requiring movement into or out of the region. The Northeast region requires that 831,072 TEUs be moved in or out of the region.

It should be noted that an unknown number of container TEUs move into and out of Canada and Mexico, and these have not been taken into account in this analysis.

Another way to add perspective to the proposal that 4,730,000 "excess" containers move through West Coast ports annually is to estimate the number of trains which would be required to carry these containers if they all arrived or left by rail. At the rate of 400 TEUs per train, it would take approximately 16 trains arriving and 16 trains departing the West Coast each day to move the "excess" containers. This still leaves nearly 2,000,000 TEUs which must be transported by truck to and from the port areas to locations within the three West Coast states.

Midwest Short on TEUs

The Midwest region shows a "shortage" of 3,074,953 TEUs. This includes containers transported both into and out of the Midwest, and it is a reasonable conclusion that most of these containers are moving to and from this region through West Coast ports.

Joseph Miniace, PMA President and

CEO, noted that "this indicates that up to two-thirds of the reported containers through West Coast ports are going to or from other regions of the country, and if we are to hold onto and increase this traffic, we must maintain an operating environment which improves productivity and cost efficiencies."

Both the *Journal of Commerce* and the *Wall Street Journal* have recently run articles reporting that shippers and vessel operators are reviewing alternatives to shipping through West Coast ports.

Other Pacific Coast alternatives to ports on the West Coast exist. Western Canada, primarily Vancouver, British Columbia, is a port region which offers a route for cargo moving between Pacific Basin trading partners and various regions of the U.S.

Mexico also provides alternatives to U.S. West Coast ports. The West Coast of Mexico has several locations where deep draft ports are either under construction, planned, or could be constructed.

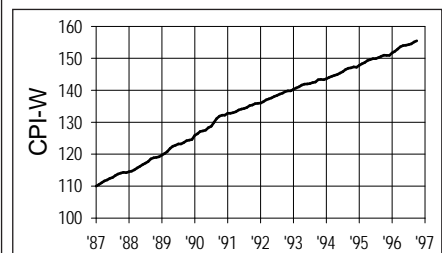
Another alternative for shippers and vessel operators is to use East Coast ports, because passage through the Suez Canal offers viable westbound routes to the U.S. East Coast from the western Pacific Basin.

Sources of Data: The container TEU data used in this study was obtained from the *Journal of Commerce*, PIERS division. The TEU (twenty foot equivalent units) numbers include only containers in foreign commerce. Unlike PMA data, the PIERS data do not include coastwise, inter-coastal and containers moving to and from Hawaii and Alaska.

The Population data was obtained from the U.S. Bureau of Census web site, specifically the Estimates and Population Distribution Branches Population Division.

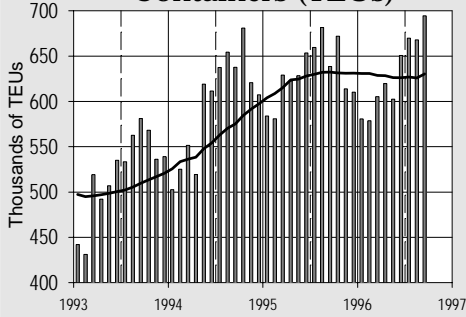
CONSUMER PRICE INDEX U.S. CITY AVERAGE - ALL ITEMS (1982-84 = 100)

Urban Wage Earners & Clerical Workers				
Month	1994	1995	1996	12 Mo.
JAN	143.6	147.8	151.7	2.64%
FEB	144.0	148.3	152.2	2.63
MAR	144.4	148.7	152.9	2.82
APR	144.7	149.3	153.6	2.88
MAY	144.9	149.6	154.0	2.94
JUN	145.4	149.9	154.1	2.80
JUL	145.8	149.9	154.3	2.94
AUG	146.5	150.2	154.5	2.86
SEP	146.9	150.6	155.1	2.99
OCT	147.0	151.0	155.5	2.98
NOV	147.3	150.9		2.44
DEC	147.2	150.9		2.51

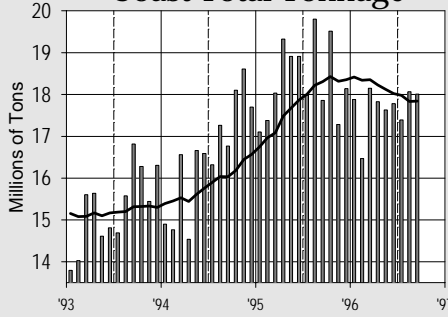


Monthly Tonnage by Reporting Category and Weekly Hours by Occupation Code Type

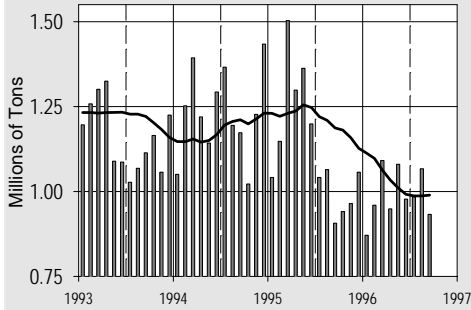
Containers (TEUs)



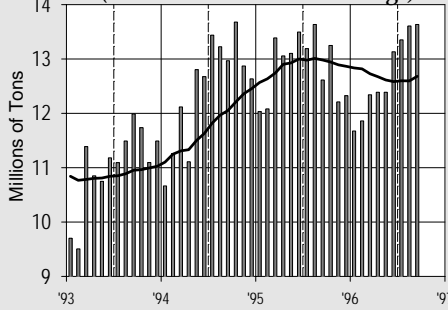
Coast Total Tonnage



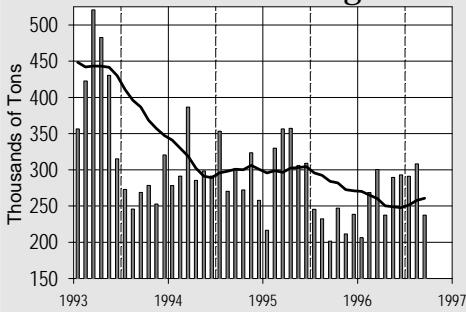
Automobiles & Trucks



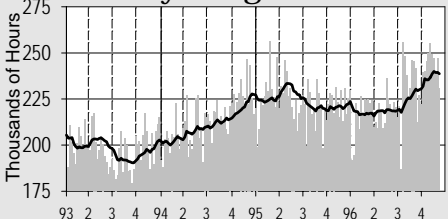
"Weighted" Total Tonnage (Includes 1/50 of Bulk Tonnage)



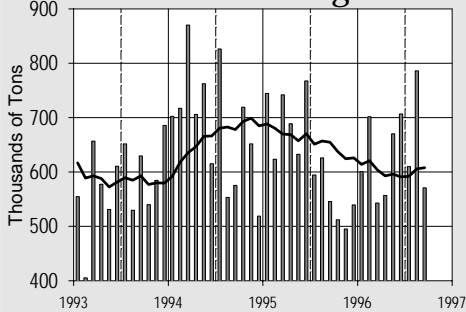
Lumber & Logs



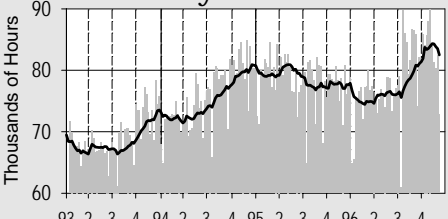
Weekly Longshore Hours



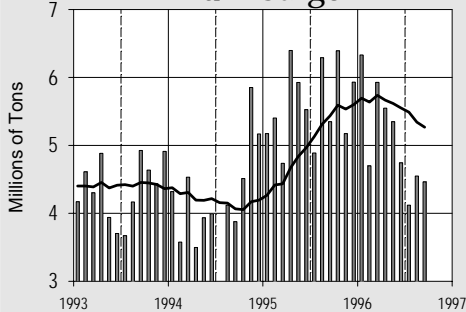
General Cargo



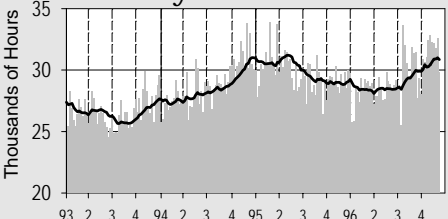
Weekly Clerk Hours



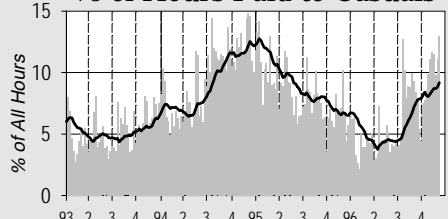
Bulk Cargo



Weekly Foreman Hours



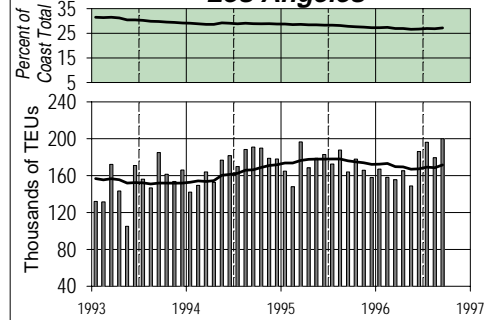
% of Hours Paid to Casuals



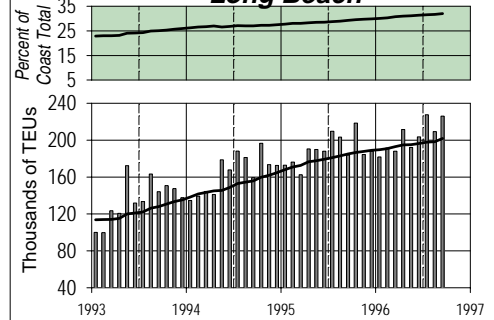
Bars represent monthly tonnage or weekly hours; solid lines represent 12-month or 13-week running averages.

Major Container Ports: Monthly TEUs Reported & Percent of Coast Total TEUs

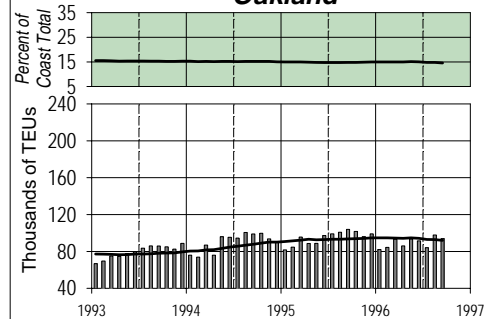
Los Angeles



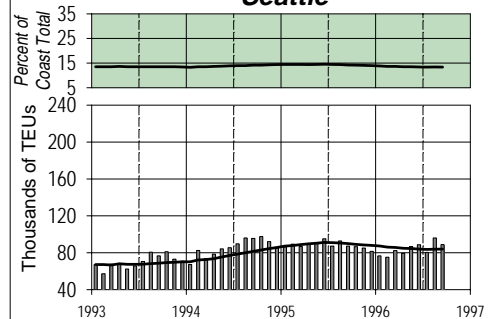
Long Beach



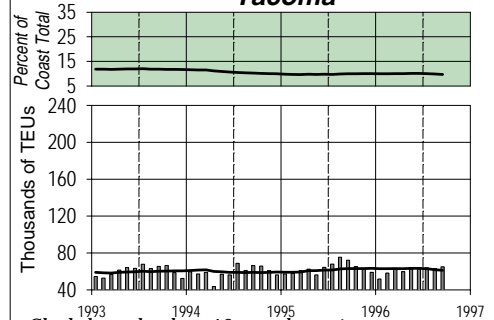
Oakland



Seattle



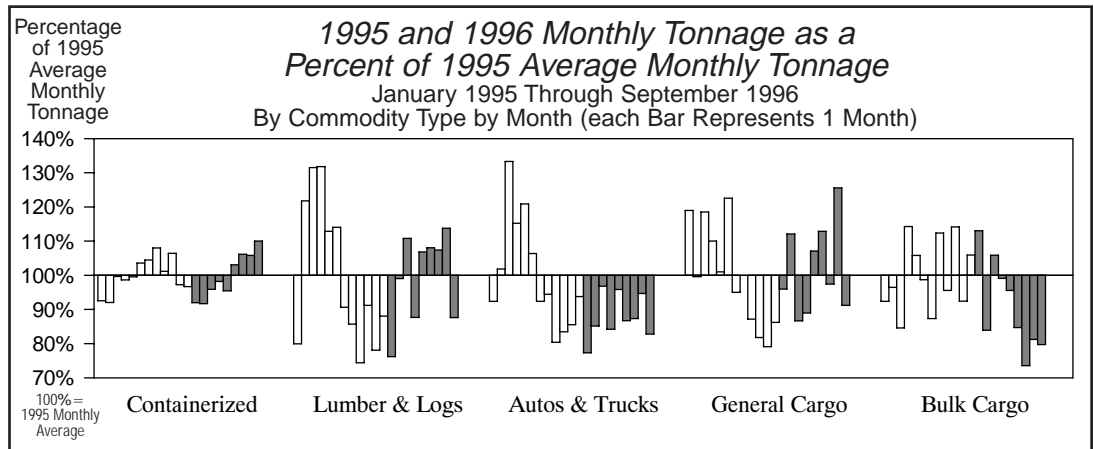
Tacoma



Shaded graphs show 12-month moving averages of TEUs reported in the port as a % of the coast total. Vertical bars represent TEUs reported in the port each month; lines are 12-month moving averages.

ILWU LOCAL/PORT AREA	REGISTRATION		STATS (For 52 Payroll Weeks)							PORT HOURS (Year-to-date)					TONNAGE BY PORT AREA (For 12 months-to-date & YTD)									
	(At 11/6/96)		(Ending 11/2/96)		Hours Paid:					Hours Paid at					% of Category Coast Total (12 Months-to-Date)					% of 1996 YTD				
	Class	Number	Annual	Wkly	Out of	Other	Cas-	Inac-	P/R Wks	1-45, '96	Occ Codes	Exp.	Cont'r	Lmbr	Autos	Other	Bulk	1996 YTD	Coast	'96 as a	Cstwise			
TOTAL	"B"	Working	Hrs Pd	PGP	Port	Local	uals	tives	Avg. Wkly	% Cst	Clk	Frm	Rates*	RU's	Logs	Trucks	Gen'l	Cargo	TOTAL	1996 YTD	Coast	'96 as a	Cstwise	
NO.	NO.	NO.	HRS	\$	%	%	%	%	HRS	%	%	%	%	%	%	%	%	%	%	TONS	%	%	TONS	
Longshoremen																								
Southern California																								
29 San Diego	42	0	41	1,577	14	3.7	8.8	28.1	2.4	2,079	0.6	11.3	13.3	19.3	0.1	2.5	1.6	1.1	1.3	0.6	963,807	0.6	117.1	0
13 Los Angeles/Long Beach	2,996	766	2,960	1,961	< 1	0.5	3.3	7.3	0.6	182,040	52.5	24.9	9.1	16.0	59.3	4.0	42.6	50.3	23.2	46.6	75,725,961	47.6	104.5	39,916
46 Port Hueneme	85	11	85	1,941	2	7.6	8.0	23.9	0.0	4,985	1.4	14.1	6.1	21.7	< 0.1	< 0.1	8.5	9.7	-	0.8	1,334,152	0.8	84.6	0
Southern California Total	3,123	777	3,086	1,956	< 1	0.7	3.5	8.1	0.6	189,104	54.6	24.5	9.0	16.1	59.4	6.5	52.6	61.1	24.5	48.0	78,023,920	49.0	104.2	39,916
Northern California																								
10 San Francisco Bay Area	909	100	847	1,639	2	1.1	0.4	3.3	3.4	43,061	12.4	28.3	7.9	7.2	14.7	0.1	14.1	7.3	1.5	10.3	16,255,767	10.2	92.1	77,125
54 Stockton	52	6	50	1,817	60	1.1	10.0	19.4	4.9	2,975	0.9	9.7	5.7	9.3	-	< 0.1	-	1.5	2.4	0.8	1,233,728	0.8	81.1	0
18 Sacramento	29	15	29	1,502	146	9.8	17.0	19.4	4.1	1,540	0.4	22.0	6.5	12.1	< 0.1	0.4	< 0.1	2.3	1.1	0.4	708,568	0.4	89.9	0
14 Eureka	34	1	34	1,016	253	40.3	3.1	3.9	0.3	526	0.2	12.3	9.9	4.2	-	1.1	-	2.6	0.5	0.2	398,476	0.3	84.3	23,878
Northern California Total	1,024	122	960	1,622	19	2.3	1.9	5.3	3.5	48,102	13.9	26.8	7.7	7.4	14.7	1.6	14.1	13.7	5.6	11.7	18,596,539	11.7	91.0	101,003
Oregon																								
12 North Bend/Coos Bay	103	7	97	1,598	36	10.2	21.0	9.3	1.6	4,663	1.3	8.2	6.9	7.4	< 0.1	11.1	< 0.1	1.2	5.2	1.7	2,628,592	1.7	98.9	1,547
53 Newport	8	0	8	1,016	308	79.9	46.4	0.5	0.0	76	0.0	8.4	4.4	2.3	-	0.4	-	-	-	< 0.1	8,628	0.0	171.2	0
50 Astoria	57	0	57	779	322	78.4	6.8	1.9	4.7	245	0.1	3.9	4.2	3.0	-	0.7	-	-	-	< 0.1	15,471	0.0	38.7	0
8 Portland	469	99	460	1,808	5	3.5	8.2	4.7	1.4	21,575	6.2	14.1	7.0	5.4	3.0	2.9	17.3	2.9	20.2	8.8	13,292,004	8.3	95.6	37,831
4 Vancouver, WA	149	42	149	1,922	3	10.0	9.7	6.7	0.7	7,163	2.1	14.2	6.4	17.1	< 0.1	2.6	1.3	3.9	7.7	2.5	3,661,746	2.3	100.8	0
21 Longview, WA	202	27	197	1,962	8	10.6	6.3	6.0	5.3	9,373	2.7	9.0	8.1	7.5	< 0.1	27.5	-	5.5	17.1	5.6	8,392,946	5.3	74.6	36,523
Oregon Total	988	175	968	1,769	30	9.1	9.5	5.8	2.2	43,095	12.4	12.3	7.1	8.0	3.0	45.1	18.7	13.4	50.2	18.7	27,999,387	17.6	88.9	75,901
Washington																								
24 Aberdeen	89	0	87	1,411	101	18.7	15.6	7.3	0.0	2,791	0.8	5.2	8.0	1.0	-	16.8	-	0.9	-	0.3	469,575	0.3	104.9	40,188
27 Port Angeles	58	0	57	1,171	262	56.1	4.8	2.9	0.0	748	0.2	9.8	8.0	1.2	-	3.3	-	-	0.4	0.2	304,738	0.2	160.7	24,961
51 Port Gamble	13	0	13	778	433	86.8	20.0	1.9	0.0	34	0.0	2.6	4.0	3.1	-	-	-	< 0.1	-	< 0.1	2,706	0.0	65.4	0
47 Olympia	22	0	22	946	296	31.6	39.4	6.4	0.8	567	0.2	4.3	13.5	3.2	-	1.8	-	-	-	< 0.1	50,791	0.0	117.9	0
23 Tacoma	452	70	448	1,960	-	1.5	3.8	14.4	0.7	26,291	7.6	21.2	8.9	4.8	9.7	17.5	10.7	3.0	10.7	9.9	16,406,518	10.3	94.1	0
19 Seattle	579	143	571	1,814	< 1	2.9	3.4	9.3	1.0	32,073	9.3	27.1	8.1	10.7	13.3	0.4	4.0	5.0	6.0	10.2	15,805,248	9.9	84.0	49,929
32 Everett	68	0	66	1,456	131	17.1	10.4	10.3	1.6	2,023	0.6	7.3	8.0	5.7	< 0.1	6.3	-	0.4	0.6	0.3	439,289	0.3	96.5	4,341
25 Anacortes	13	0	13	1,288	189	44.9	39.4	3.6	0.0	383	0.1	10.4	9.3	3.7	-	0.6	-	-	0.5	0.1	220,544	0.1	76.8	0
7 Bellingham	32	4	32	1,513	55	10.9	22.0	10.1	0.0	1,442	0.4	7.8	9.3	11.2	< 0.1	0.1	-	2.3	1.6	0.6	890,181	0.6	106.1	2,720
Washington Total	1,326	217	1,309	1,754	38	6.5	5.5	11.1	0.8	66,351	19.1	22.3	8.5	7.6	23.0	46.8	14.6	11.7	19.8	21.5	34,589,590	21.7	89.8	122,139
Total/Average	6,461	1,291	6,323	1,835	15	3.3	4.6	7.9	1.3	346,653	100.0	22.9	8.5	12.3	100.0	100.0	100.0	100.0	100.0	100.0	159,209,436	100.0	96.3	338,959
% Change from Update of 11/95	+2.9	+47.9	+2.9	-0.3	+15.4	-0.6	+0.3	-4.1	+0.5	-0.2	+0.1	-0.2	+0.1	+0.1	-0.3%	-8.2%	-16.6%	-7.2%	-3.1%	-2.5%			3.7%	

Clerks																							
29 San Diego	5	0	5	1,808	9	18.1	39.8	7.4	0.8														
46 Port Hueneme	12	0	12	2,336	< 1	5.0	31.8	3.9	0.0														
63 Los Angeles/Long Beach	783	3	774	2,652	< 1	0.1	10.5	5.5	0.5														
14 Eureka	3	0	3	***	***	13.6	37.7	0.0	0.0														
30 SF Bay Area & Delta	275	4	266	2,339	2	3.0	4.5	1.1	1.7														
40 Portland	109	0	108	2,315	< 1	35.1	6.3	1.7	3.5														
23 Tacoma	60	0	59	2,621	-	0.0	42.9	3.0	0.9														
52 Seattle	171	2	170	2,688	< 1	16.1	10.4	4.2	0.4														
Total/Average	1,418	9	1,397	2,560	< 1	5.2	11.8	4.2	0.9														
Foremen/Walking Bosses																							
29 San Diego	2	0	2	***	***	0.0	71.1	0.5	0.8														
46 Port Hueneme	6	-	6	2,078	35	1.4	21.4	0.0	0.0														
94 Los Angeles/Long Beach	308	-	306	2,854	< 1	0.2	5.6	0.0	3.4														
91 Northern Calif. Area	76	-	75	2,334	36	0.2	7.3	0.0	2.2														
92 Portland	50	-	49	2,601	14	12.1	15.2	0.0	7.0														
98 Seattle	96	-	95	2,664	9	10.2	12.2	0.0	1.8														
Total/Average	538		533	2,712	8	3.0	8.8	0.0	3.3														



* Longshore and Clerk hours only. *** "Annual Hrs Pd" and "Wkly PGP" for groups of less than five individuals are not shown, but the data are included in category averages.