

OREGON'S COUNTY
JAILS: A BRIEF
COMPARATIVE ANALYSIS

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OREGON'S COUNTY JAILS: A BRIEF COMPARATIVE ANALYSIS

EXECUTIVE SUMMARY

The following report is based on data available online from the Oregon Jail Managers Association (OJMA), from the documents obtained from the Oregon Department of Corrections (DOC), and analyses by the Performance Management Group.¹ This report is designed to provide descriptive data, comparative information, and associated bed costs per day for Oregon's county jails.

Results found a wide variety of county jails in Oregon, with some having no facilities to others having multiple facilities. Multnomah County has the distinction in Oregon of having both the most beds and the highest costs per day of any high population county in Oregon. While this cost gap has narrowed in the last few years, Multnomah County's rate was still the highest at \$110.59 per bed per day for 2002.

Comparing the statewide average proportion of jail expenditures to Multnomah County identified large differences in specific areas. Multnomah County spent substantially greater proportions on inmate health care (4-times greater proportion of their total expenditures), building management (2.5-times greater), and other internal services (10-times greater) than the statewide average.² Likely reasons for the differences are discussed in the report.

Economies of scale analyses (i.e., more beds is related to lower costs per bed) were performed to identify cost savings by size. It modeled several factors, but was unable to identify a linear relationship between the number of jail beds and their cost-per-day. Thus, as jail bed capacity increased in Oregon's jurisdictions, average costs per day did not decline. This result was not uncommon in public sector services.

VARIETY OF OREGON'S COUNTY JAILS

Of the 36 Oregon counties, three have no jail, four share a jail, and the remaining 29 have their own county jail facilities.³ According to the OJMA, the average combined county jail and work release beds are 225. Multnomah County has the greatest number of these beds, with a reported 2,073.⁴

Rank-ordered below (Table 1) are general jail statistics for the five most populous counties of Oregon (see Appendix A for all county data). According to the OJMA,

¹ OJMA is an affiliate of the Oregon State Sheriff's Association and represents the interests of jails throughout Oregon (<http://www.ojma.org>).

² Statewide totals excluded Multnomah County.

³ Gilliam, Hood River, Sherman and Wasco Counties are served by the 152-bed NORCOR Regional Jail Facility located in The Dalles. Wheeler, Wallowa, and Morrow Counties have no jail.

⁴ The OJMA reports 2,073, however the figure from the MCSO jail report for FY02 was 1,850 for jail beds.

Multnomah County had a higher bed rate than the statewide average, with 3.11 beds per 1,000 population (adjusted was 2.78), versus the state-wide average of 2.33. The national average was 2.46 beds per 1,000 people.⁵ In addition, Multnomah County had the highest reported offenses (nearly ten-times the statewide average) and the highest number of non-corrections officers.

Table 1. Jail data for the five most populous counties of Oregon

COUNTY	Population	Total Jail & Work Release Beds	Total Reported Offenses (not arrests)	Non-Correction Officers	Beds per 1,000 pop	Reported Offenses per 1,000 pop
MULTNOMAH	666,350	2,073	108,742	1,356	3.11	163.19
WASHINGTON	455,800	652	40,899	535	1.43	89.73
CLACKAMAS	345,150	447	35,667	406	1.3	103.34
LANE	325,900	631	42,872	411	1.94	131.55
MARION	288,450	659	45,600	418	2.28	158.09
Statewide average (all counties)	96,436	225	12,386	154	2.33	128.44

Source: Oregon Jail Manger's Association (2002)

According to OJMA, Multnomah County had more jail beds than the next three largest counties in Oregon, combined. The combined population of Washington, Clackamas, and Lane counties nearly doubles that of Multnomah County, however their combined jail bed rate per capita would be nearly half (1.53 beds per 1,000 versus 3.11 or 2.78 adjusted level). Each of the counties listed in Table 1 regularly released inmates when jail crowding occurred (i.e., matrix release).

JAIL BED PER DIEM

In February 1999, the DOC released jail cost-per-day estimates statewide by county. The analysis was performed to assess fair compensation to counties for the transfer of local control inmates under SB1145, using a standardized methodology. The report utilized 1997-98 expenditures to calculate the average number of jail beds days (hard beds) and total associated expenditures, resulting in a loaded costs per jail bed day.

Results of the study found that jail beds cost between \$32.42 (Malheur) to \$109.70 (Benton) per day, with a statewide reported average of \$75.82. Multnomah County was found to have the second highest rate per day at \$100.86 (Appendix B).⁶ Table 2 displays the five most populous, counties rank-ordered by DOC jail-bed cost-per-day. While cost differences were considerable several years ago, this gap has narrowed more recently.

⁵ Source: Census 2001 and Bureau of Justice Statistics 2001.

⁶ Figures presented in 1998 dollars. According to MCSO per-diem reports, the Multnomah County Courthouse Jail accounted for a daily rate of \$207. The MCHJ is in limited service.

Multnomah County saw a modest increase in jail bed costs per day, while other Metro area counties saw increases upward to 46%.

Table 2. The five most populous counties rank-ordered by jail-bed cost-per-day

COUNTY	1997-98 DOC Average actual daily jail beds	1997-98 DOC reported net operating costs ⁷	1997-98 DOC calculated jail bed cost per day	2002-2003 Budgeted cost per day ⁸	1997-98 to 2002-03 Percent change*
MULTNOMAH	1567	\$ 57,697,155	\$ 100.86	\$110.59	+10%
LANE	311	\$ 9,838,881	\$ 86.67	\$90.21	+4%
WASHINGTON	252	\$ 7,612,672	\$ 82.63	\$103.56	+25%
MARION	440	\$ 10,977,123	\$ 68.34	-	-
CLACKAMAS	292	\$ 6,863,446	\$ 64.40	\$93.83	+46%
OREGON AVG			\$ 75.82	-	-

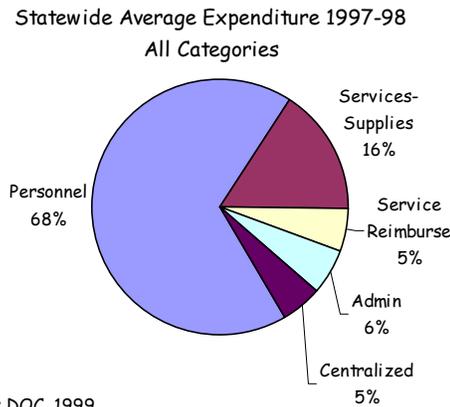
Source: Oregon Department of Corrections (1999). Note totals exclude start-up cost and revenue adjustments. *These figures were not inflation adjusted.

DOC apportioned costs into broad categories of personnel, service and supplies, service reimbursements, administrative costs, and centralized expenses. Comparing the proportions of the statewide average versus Multnomah County identified some differences in what accounted for jail bed expenditures (Figure 1 and Figure 2).⁹ Personnel accounted for the bulk of expenditures, at 61% (\$35m) for Multnomah County and 68% as a statewide average. However, this difference was minimized when administrative salaries and support, which included the Multnomah County Sheriff's Executive Office and staff (e.g., inspections, planning and research, payroll, fiscal, etc.), were included—69% and 73% respectively.

⁷ Totals include county revenue adjustments, but exclude start-up costs.

⁸ Source: Sharie Lewis, Budget Manager, MCSO (Multnomah County, Washington County, and Clackamas County). Lane County courtesy of Cpt. John Clay. Marion County data unavailable at the time.

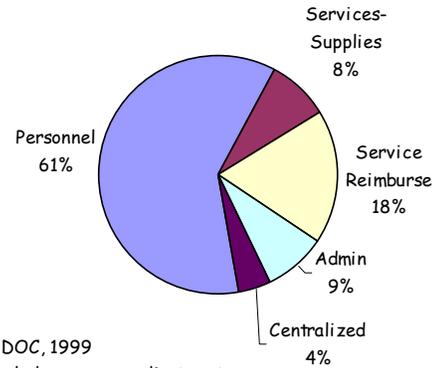
⁹ The statewide figures exclude Multnomah County expenditures.



Source: DOC, 1999
 Note: Exclude revenues adjustments and Multnomah County

Figure 1. Statewide jail expenditures (\$91.5m)

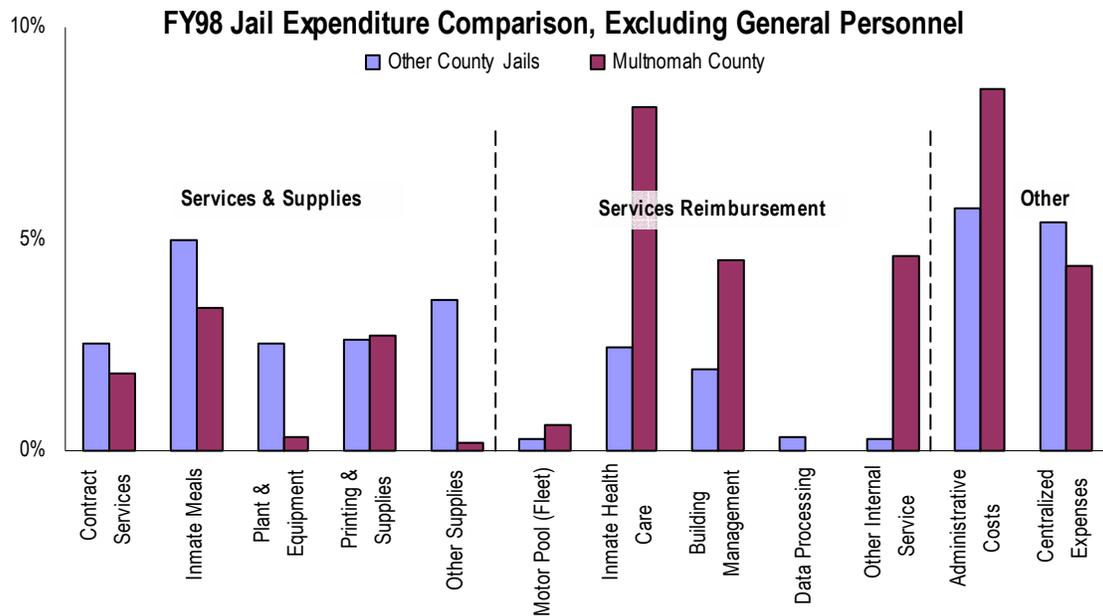
Multnomah County Average Expenditure 1997-98 All Categories



Source: DOC, 1999
 Note: Exclude revenues adjustments

Figure 2. Multnomah County jail expenditures (\$57.4m)¹⁰

The biggest difference between the statewide average and Multnomah County was found in service and supplies and service reimbursements categories. Multnomah County's second greatest expenditure was for service reimbursements, accounting for 18% of costs and 3.5-times higher than statewide averages. Examining the detail identified areas where substantial differences occurred. Figure 3 details the statewide average and Multnomah County proportions of jail costs, excluding personnel costs.



Source: DOC, 1999. Excludes revenues adjustments and other county jails exclude Multnomah County totals.

Figure 3. Statewide jail average & Multnomah County FY 98 expenditures, excluding personnel

¹⁰ Totals differ slightly from Table 2 due to adjustments for revenues and start-up costs.

As shown in the figure above, a larger proportion of Multnomah County expenditures were for inmate health care (4-times greater), building management (2.5-times greater), other internal services (10-times greater) and administrative costs (c.f., above). Inmate health care costs (\$4.6m) were based on the jail-based expenditures and included expenditures associated with other departments which may have provided for inmate health (e.g., Multnomah County Corrections Health expenditures, excluding juvenile health care costs). Excluding all personnel costs (including administrative costs), inmate health was the largest expenditure for Multnomah County's jails.

Building management costs (\$2.6m) as a proportion of expenditure were also found to be substantially higher than other counties. Several likely reasons accounted for the elevated costs including the number, size, and location of the jails. At the time data was collected Multnomah County was operating five facilities, while most other counties operated only one (some counties had no jail). The physical size of Multnomah County facilities was substantially larger, as the statewide county average number of beds was 120 per jail (excluding Multnomah County). The average Multnomah County facility was more than twice that size (1,567 beds/5 facilities=313 average beds per facility). These effects were compounded by the higher average cost of land in the Metro area and the generally higher cost of living in the area versus the statewide average.

Finally, the "Other" category was a catch-all that included telephone, mail, information technology and indirect overhead assessed to manage public safety funds (approximately \$2.6m). Indirect overhead accounted for \$1.6m of the \$2.6m (according to the FY97-98 budget) category total. The majority of indirect overhead was payment for grant funds, federal funds, and levy funds management.¹¹ Additionally, Multnomah County had a flat-fee replacement fund for updating desktop computer hardware and software, which was likely to increase these expenditures (it's unlikely that other counties had these expenditures in FY97-98). The flat-fee funds were captured as part of the other service reimbursement category.

ECONOMIES OF SCALE

Because jail beds varied dramatically by county in both volume and cost per day, analyses were performed to assess the economies of scale which might exist in Oregon county jails. An *economy of scale* is defined as relative saving realized when the size of an enterprise/organization/facility is increased. For example, the lower per unit production cost of an automobile from the production of a large number of automobiles of the same type, is due to an economy of scale—in this case as number of beds increases at a facility the average cost-per-bed should decrease.

Several correlational analyses were performed in an attempt to identify economies of scale. Initially all reporting counties (30) identified a moderate positive relationship between the jail bed cost per day and the number of jail beds, nearing significance (i.e., as the number of beds increased so to did cost-per-day—a relationship known as a *diseconomy of scale*). Because Multnomah County was considerably larger in both

¹¹ Larry Aab, former MCSO budget manager.

population and number of jails (a statistical outlier) it was removed and the calculations were performed again. Results found the previous near significant correlation of more beds related to more average costs disappeared.

Another model using only those reporting counties with greater than 100,000 populations (9) were included. Results identified a significant diseconomy of scale for those large county populations. In other words, when examining large counties, as their number of jail beds increase, so does their average jail bed cost per day. Again, Multnomah County was removed from the analysis (8) and the significant correlation disappeared. Thus, there was no correlation evidence of an economy of scale. The evidence of a diseconomy of scale when examining larger counties are wholly dependent upon whether Multnomah County is included in the model.¹²

Because of its size, Multnomah County acts statistically as an 800-pound gorilla on simple correlations. Therefore, a hierarchical multiple regression model was performed for all reporting counties to control for a variety of variables (i.e., level the playing field for big and small counties). The dependent variable in the model was cost-per-day, and the variety of independent variables included: county population (entered at the first step), the number of jail facilities in each county was entered in the second step, and average number of beds was entered in the final step (Table 3).¹³ Each step allows for the model to control for the effect of the past variable, thus allowing one to single out the important variables in the relationship.

Results found that the county’s population accounted for between 14%-17% of the total average cost per day. This was likely due to the interrelationship between high population and greater costs of land and living. Controlling for a county’s population, neither the number of facilities nor the number of beds in each county was related with the average cost per bed. This is consistent with the correlational analyses performed earlier, finding no evidence of a positive economy of scale efficiency in Oregon jails.

Table 3. Hierarchical multiple regression and model summary, all counties

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	R ² Change	F Change	df1	df2	Sig. F Change
1a	.413	.171	.141	16.7394	.171	5.767	1	28	.023
2b	.413	.171	.109	17.0466	.000	.000	1	27	.992
3c	.424	.180	.085	17.2786	.009	.280	1	26	.601

a Predictors: (Constant), Population

b Predictors: (Constant), Population, Number of Jails

c Predictors: (Constant), Population, Number of Jails, Number of Jail Beds

¹² All counties, $r = .333, p = .072$ ($n = 30$); all counties excluding Multnomah County, $r = .077, p = .691$ ($n = 29$); counties with greater than 100k populations, $r = .776, p = .014$ ($n = 9$); counties with greater than 100k populations excluding Multnomah County, $r = .029, p = .946$ ($n = 8$).

¹³ Most counties in Oregon have one jail. Four counties share one jail and Multnomah County had five facilities at the time of data collection.

As with the correlational analyses, and because Multnomah County was an outlier in the previous regression model, it was again removed and model was recalculated (Table 4). Again, controlling for Multnomah County, none of the independent variables or the entire model was found to be significant. In other words, controlling for Multnomah County, there is no evidence that population size, number of jails, or the number of jail beds in a county were associated with jail bed cost-per-day.

Table 4. Hierarchical multiple regression and model summary, excluding Multnomah County

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	R ² Change	F Change	df1	df2	Sig. F Change
1a	.274	.075	.041	17.0008	.075	2.187	1	27	.151
2b	.383	.147	.081	16.6393	.072	2.186	1	26	.151
3c	.449	.201	.105	16.4175	.055	1.707	1	25	.203

a Predictors: (Constant), Population

b Predictors: (Constant), Population, Number of Jails

c Predictors: (Constant), Population, Number of Jails, Number of Jail Beds

These findings are not inconsistent with other research of public sector services. While economies of scale have been found in numerous examples in private industry, they have often been elusive in the public sector research. Hirsch sites many studies of public sector services where economies of scale were not found, and several cases where the relationship was U-shaped.¹⁴ For example, average unit costs for high school students was beneficial as it increased, until the population reached 1,700 students. As the number of student grew beyond that point, diseconomies of scale increased. Hirsch stated that the majority of public sector costs were related to labor costs, and possibilities existed to gain major price concessions in this area were very limited.¹⁵ Indeed, it is possible that parabolic relationship may exist between unit costs and capacity with jail beds, as a linear relationship was not found, however these analyses are beyond the scope of this study.

Future analysis should examine if a parabolic cost relationship exist in Oregon’s jail beds. If determined to exist, at which point is the most cost-effective number of beds found controlling for aspects of locations. Additionally it was noted in this report that Multnomah County had a higher jail bed per capita rate than other counties and the nation as a whole. A comparison of bed rates with other comparable counties should also be performed to assessment which factors relate to beds rates.

¹⁴ Hirsch, W. Z. (1970). *The Economics of State and Local Government*. McGraw-Hill, New York. Pg 177.

¹⁵ Ibid. pg.184

APPENDIX A

Updated July 3, 2002, PREPARED BY: Steven J. Oldenstadt, Benton County Sheriff's Office

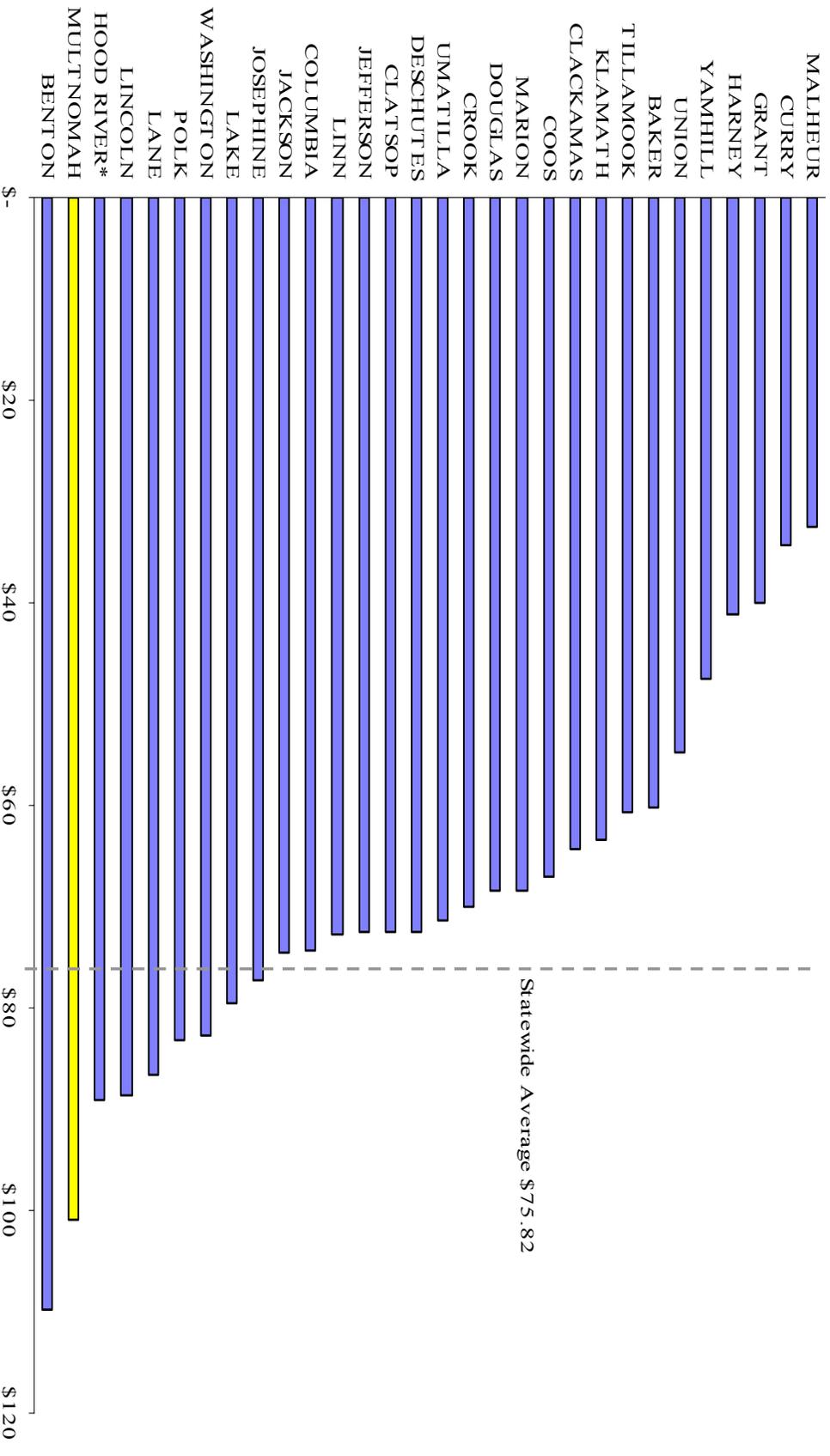
COUNTY	Population	Total Jail & Work Release Beds	Total Reported Crime	Total Admits to Prison	Non-correction officers	Beds per 1000 pop	Crime per 1000 pop	Prison admits per 1000	Officers per 1000 pop	Officers per 1000 pop	Bookings per 1000 pop	1997-98 DOC Avg daily beds	1997-98 DOC expenditures	1997-98 DOC cost per day
BAKER	16,700	37	1,813	16	49	2.22	108.56	0.96	2.93	84	35 \$	769,699	\$ 60.25	
BENTON	79,000	40	8,927	51	116	0.51	113	0.65	1.47	42	40 \$	1,592,431	\$ 109.70	
CLACKAMAS	345,150	447	35,667	212	406	1.3	103.34	0.61	1.18	47	292 \$	6,863,446	\$ 64.40	
CLATSOP	35,850	62	6,292	69	89	1.73	175.51	1.92	2.48	56	68 \$	1,799,436	\$ 72.50	
COLUMBIA	44,300	195	4,933	32	67	4.4	111.35	0.72	1.51	65	39 \$	1,056,765	\$ 74.24	
COOS	62,950	188	8,027	68	107	2.99	127.51	1.08	1.7	66	220 \$	5,375,245	\$ 66.94	
CROOK	19,850	24	2,807	18	31	1.21	141.41	0.91	1.56	61	24 \$	612,628	\$ 69.93	
CURRY	21,550	59	1,378	20	46	2.74	63.94	0.93	2.13	58	42 \$	527,292	\$ 34.40	
DESCHUTES	122,050	318	15,363	145	207	2.61	125.87	1.19	1.7	45	150 \$	3,967,862	\$ 72.47	
DOUGLAS	101,200	176	12,209	121	176	1.74	120.64	1.2	1.74	71	149 \$	3,718,866	\$ 68.38	
GILLIAM*	1,900	7	203	0	12	3.68	106.84	0	6.32	57				
GRANT	7,800	41	695	4	20	5.26	89.1	0.51	2.56	57	41 \$	600,244	\$ 40.11	
HARNEY	7,600	20	676	17	18	2.63	88.95	2.24	2.37		22 \$	330,867	\$ 41.20	
HOOD RIVER*	20,600	61	1,572	13	38	2.96	76.31	0.63	1.84	57	24 \$	781,328	\$ 89.19	
JACKSON	184,700	335	25,062	146	267	1.81	135.69	0.79	1.45	70	250 \$	6,805,154	\$ 74.58	
JEFFERSON	19,400	160	2,235	27	37	8.25	115.21	1.39	1.91	60	25 \$	661,868	\$ 72.53	
JOSEPHINE	76,850	266	8,717	146	103	3.46	113.43	1.9	1.34	50	64 \$	1,805,645	\$ 77.30	
KLAMATH	64,200	136	5,919	102	102	2.12	92.2	1.59	1.59	56	136 \$	3,144,552	\$ 63.35	
LAKE	7,500	12	530	10	15	1.6	70.67	1.33	2	85	13 \$	377,196	\$ 79.49	

Updated July 3, 2002. PREPARED BY: Steven J. Oldenstadt, Benton County Sheriff's Office														1997-1998 DOC Cost per bed day		
COUNTY	Population	Total Jail & Work Release Beds	Total Reported Crime	Total Admits to Prison	Non-correction officers	Beds per 1000 pop	Crime per 1000 pop	Prison admits per 1000	Officers per 1000 pop	Officers per 1000 pop	Bookings per 1000 pop	1997-98 DOC Avg daily beds	1997-98 DOC expenditures	1997-98 DOC cost per day		
LINCOLN	44,650	150	6,066	84	100	3.36	135.86	1.88	2.24	68	101 \$	3,271,551	\$ 88.74			
LINN	103,500	228	17,525	195	168	2.2	169.32	1.88	1.62	60	158 \$	4,191,460	\$ 72.71			
MALHEUR	32,000	128	4,577	64	61	4	143.03	2	1.91	48	105 \$	1,242,360	\$ 32.42			
MARION	288,450	659	45,600	556	418	2.28	158.09	1.93	1.45	84	440 \$	10,977,123	\$ 68.34			
MORROW	11,150	No Jail	1,714	7	24	N/A	153.72	0.63	2.15							
MULTNOMAH	666,350	2,073	108,742	1,200	1,356	3.11	163.19	1.8	2.03	69	1567 \$	57,697,155	\$ 100.86			
POLK	63,600	180	8,586	48	91	2.83	136	0.75	1.43	65	58 \$	1,759,521	\$ 83.11			
SHERMAN*	1,900	7	163	4	5	3.68	85.79	2.11	2.63	57						
TILLAMOOK	24,600	109	2,470	28	55	4.43	100.41	1.14	2.24	74	72 \$	1,597,690	\$ 60.79			
UMATILLA	70,900	280	8,348	73	148	3.95	117.74	1.03	2.09	64	72 \$	1,877,283	\$ 71.43			
UNION	24,550	56	2,121	30	42	2.28	86.4	1.22	1.71	59	56 \$	1,119,799	\$ 54.78			
WALLOWA	7,100	No Jail	627	2	20	N/A	88.31	0.28	2.82							
WASCO*	24,150	76	3,020	31	56	3.15	125.05	1.28	2.32	57						
WASHINGTON	455,800	652	40,899	417	535	1.43	89.73	0.91	1.17	77	252 \$	7,612,672	\$ 82.63			
WHEELER	1,550	No Jail	141	1	5	N/A	90.97	0.65	3.23							
YAMHILL	86,400	279	9,394	93	125	3.23	108.73	1.08	1.45	63	209 \$	3,634,383	\$ 47.60			
OREGON TOTAL	3,471,700	8,092	445,890	4,447	5,526	N/A	N/A	N/A	N/A							
OREGON AVG	96,436	225	12,386	124	154	2.33	128.44	1.28	1.59				\$ 75.82			
NATIONAL	274,688,312	687,973				2.5										

* Gilliam, Hood River, Sherman and Wasco Counties served by the 152-bed NORCOR Regional Jail Facility located in The Dalles.
 SOURCES: Center for Population Research, Portland State University (July 2001); Oregon Jail Managers Association (2002); U.S. Bureau of Justice Statistics (July 1999); U.S. Census Data (1999); Law Enforcement Data System (2001); Oregon Department of Corrections Research Unit (2001-2002).
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 DOC data courtesy of Ginger Martin.

APPENDIX B

1997-98 Jail Bed Cost per Day



Source: DOC, 1999.