

ESTIMATING CHILD CARE NEEDS IN OREGON

A project of the Oregon Child Care Resource & Referral Network
and the Oregon Commission for Child Care

Made possible by a grant
from the Research Capacity Initiative of the
Rural Economic Policy Program of the Aspen Institute
and by the research contributions of Arthur Emlen

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EXECUTIVE SUMMARY

Oregon has a child care crisis. Thousands of parents are leaving children in care they do not consider adequate. A growing number of employers are aware that their need for a reliable, productive workforce is dependent on employee access to quality child care. Through the Great Start planning process, communities throughout Oregon listed child care as their number one problem.

Child care is found in a marketplace which includes the homes of neighboring families, centers, and a wide variety of recreational and educational activities. Yet most of this market care is relatively invisible to parents and programs that might regulate or support it.

Families are the major funders of child care. In Oregon, less than 10% of the \$370 million spent on child care per year is a public expenditure. Many families are helped by income tax credits or exemptions, but a large number of families earn too little to be helped by tax credits yet too much to qualify for assistance. Too many Oregon families are not able to provide for the basic needs of their children for food, shelter, health care or child care. Lack of access to affordable, quality child care is one of the factors keeping parents from self-sufficiency. Over 40% of families with children under 16 years earn under \$25,000. Paying the average \$2,500 per child annual cost of child care represents a serious problem. For the 18% who earn under \$15,000, the cost of care may well represent a third of their gross income and be enough to keep the family from self-sufficiency. Oregon cannot afford to have them fail. They, along with all other families, need a child care system that nurtures their children and prepares them for success. Oregon's future depends on that success.

Oregon needs a child care system in which high quality care is available, accessible, and affordable. We can no longer afford the piecemeal efforts by multiple sectors of society to do something about the child care crisis. Planning for a child care system should take into account the roles of families, communities and employers, and should identify the services needed in a community in order to build an adequate system of child care. Such planning is a joint responsibility of the public and private sectors.

Planning for a child care system also must be built on solid information about the current status of child care. In Oregon, as in the rest of the nation, solid information about the current child care system has been absent. The absence of data has often led to underestimations of the amount of child care provided by family and friends. This has led to overstatements of need and a failure to account for the myriad of child care solutions families and communities have created.

Knowledge about how many families need child care services and how demand matches the supply is essential to meaningful planning. This report assumes that the child care sector on which public policy should be focused is the care of a child by a non-relative that is given outside of that child's home (Market Child Care), that is, family child care, full and part-day centers and before or after school activities in education and recreation programs.

Reliable information on how many children need care and how they are currently cared for has been needed by all who work to improve child care. The Oregon Child Care Resource

and Referral Network and the Oregon Commission for Child Care received a grant from the Rural Research Capacity Initiative of the Aspen Institute to research basic child care questions. The Grant enabled a group of key child care professionals to address the basic questions and begin to build systems that will make this information available on an ongoing basis. The following report marks major progress toward the goal of providing solid information on the child care system.

The Aspen study gives dimension to the scope of the child care crisis. Included in this report are four major compilations of data that are essential to determining the size of the problem:

- Percentage of Oregon mothers in the labor force;
- Percentage of Oregon children with mothers in the labor force;
- Child care arrangements used by Oregon families; and
- Household income of Oregon mothers with children under 16.

Analysis of these findings tells us how many children need care, what kind of care their families are using, and the ability of Oregon families to pay for child care. The following summarizes some of the most important information about child care in Oregon.

CHILDREN:

- Of the 629,000 Oregon children who are under 16 years of age, 355,000 (56%) of them have mothers in the labor force. Another 38,000 (6%) live with single fathers.
- Of the 256,000 children who are provided care through the "child care market", 90,000 (35%) are under 5 years of age.

CHILD CARE ARRANGEMENTS OF CHILDREN OF EMPLOYED MOTHERS:

- | | |
|--|---|
| • Cared for exclusively at home or by family and in-home arrangements: | 27% of children under 6
57% of children 6-15 |
| • Cared for in family child care homes: | 45% of children under 6
17% of children 6-15 |
| • Cared for in centers: | 30% of children under 6
12% of children 6-15 |
| • Involved in other activities: | 1% of children under 6
22% of children 6-15 |

(Percentages total more than 100 due to use of multiple market-care arrangements.)

CHILD CARE PROVIDER ESTIMATES:

Facilities and Individuals Working in Child Care

- Number of certified centers: 670
- Number of non-certified centers (part-day): estimates range 325-750
- Number of registered family child care homes: 5,300
- Enrolled and not registered family child care:
(Based upon three CCR&R regions reporting) 1,500
- Number of family child care homes
that are neither registered nor enrolled: 24,300
- Number of persons working in child care: 38,000

CHILD CARE ECONOMY:

- Adult and Family Services' market rate survey found child care charges range widely based on age of child and area of the state. Charges range from \$560 per month for infant center care in Portland to as low as \$164 per month for school-age center care in smaller cities.
- Estimates based on the market rate survey indicate Oregon parents pay \$2,500 to \$3,000 per child on average.
- Eighteen percent of Oregon families earn under \$15,000 and 41% earn under \$25,000. For these families child care may cost in excess of 20% of a family's gross income, which is more than twice the percentage spent by most families..
- Studies also indicate that providers do not charge the full cost of care. If they did charges would be considerably higher.
- Approximately \$370 million per year is spent on child care in Oregon.
- Approximately \$23 million of that \$370 million spent on child care in Oregon in 1990-91 are state and federal child care expenditures, with an additional \$750,000 estimated in state child care tax credits. The public expenditure may increase to \$35 million per year.
- An additional approximately \$18 million public expenditure is made on early childhood programs including Head Start, Oregon Prekindergarten, Early Intervention and public school funded programs.

CONCLUSION CONCERNING CHILD CARE INFORMATION

Oregon needs a mechanism for assuring that basic child care information is current, accurate and available. The Aspen Institute Project was a one-time resource for Oregon. Therefore, the Aspen Group developed a model for collecting, analyzing and reporting supply and demand data on a county, regional and statewide basis. The model is

dependent upon child care data collected locally by child care resource and referral agencies, as well as on population (census) data, labor-force participation rates, and surveys of child care patterns. The Oregon Commission for Child Care and Oregon Child Care Resource and Referral Network are committed to finding ways to make child care data available to Oregon public and private decision makers. A continuing mechanism for the needed data collection and analysis in cooperation with the Oregon Progress Board and Portland State University Center for Population Research and Census is recommended. To implement the model, it is especially important to have full data for each county. Statewide estimates fail to deal with county variations in child care needs.

Child care is a complex system. Careful description of it does not lend itself to easily-read text. The report which follows is a research-based document and is hence technical in nature. Although all information is presented in a straightforward manner, it may take careful reading of both text and tables to fully understand the document. Effective decision-making requires that we understand what is happening to Oregon children, and that we base our decisions on reliable information about the current system. The Aspen Group presents this information with the hope that it gives local and state decision makers reliable information in a form that meets their needs.

Oregon has an opportunity to make major progress toward meeting the child care challenge. The magnitude of the challenge makes it essential that we invest our limited resources wisely. Working together we can make the most of the opportunity before us. Oregon's future will be far brighter if we succeed.

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PREFACE

ASPEN: NEED FOR THE PROJECT AND AUDIENCE FOR THE REPORT

A variety of local, regional and statewide groups are planning for child care needs of Oregon's families. Each group brings its own particular focus to the issues; some address specialized populations while others look at a wide spectrum of children and families.

Thus far, each group has developed a different strategy for responding to a very basic question: "How many families need child care in Oregon and how much child care is available to them?" Some groups use data from local planning efforts, some adapt census data to reflect the local situation, and others conduct informal surveys of parents and care providers.

The Children's Services Division (CSD) of Oregon's Department of Human Resources maintains a list of certified centers and registered family day care providers. However, CSD readily acknowledges that this list does not accurately reflect the current supply of child care in Oregon. Most family providers are not registered with CSD. CSD does not track the number of openings available in registered family day care homes. Child Care Resource and Referral agencies are increasingly able to help local communities with data needs, but CCR&Rs are not yet present in all counties. Many CCR&Rs have been recently established and are still too young to provide reliable data to answer these questions.

Our effort has limitations. We have no answer at this time for many important and interesting questions regarding child care. Some estimates are more solid than others, and statewide estimates are not sufficiently sensitive to county differences. Nevertheless, we have taken pains to inform the reader of how accurate estimates may be.

It is our hope that this document will be useful to planners, policy makers, advocates, and others in this state who are working to build a comprehensive child care system to enhance the quality of life for Oregon's families.

WHAT IS ASPEN?

This document is the product of a joint effort by several organizations that share a common need for better information about the child care needs of Oregon families. We have been meeting monthly since May 1990 to identify the key policy questions, indicators, data elements, data collection systems, and analyses needed to assess county, regional, and state progress in improving the quality and quantity of child care resources and services for families. The effort has become known as the "Aspen Grant Project", named after the Rural Economic Policy Program of the Aspen Institute which funded the project (through Priscilla Salant, Director, Research Capacity Initiative, Department of Agricultural Economics, Washington State University).

Purpose

The immediate purpose of this document is to assist the Oregon Child Care Resource and Referral Network and the Oregon Commission for Child Care in estimating child care needs in Oregon and in assessing the development of child care resource and referral services. To estimate the child care needs in Oregon, the Aspen Group is developing at

county, regional and state levels a data system, a base of information, and an analytic model. The model, when coupled with CCR&R data about consumer requests for service and the available supply of child care, will estimate child care supply and demand in each community. The immediate purpose of the report is in accordance with the statutory mission of the Commission both to require the necessary service data from its regional CCR&Rs and to build a statewide capacity for evaluation of program development.

This document also has a broader purpose of informing the public about child care needs in Oregon and of documenting characteristics of the community system of care, services, and needs that have to be understood in developing a statewide child care policy for all Oregonians. The report has been sought by legislators, commissions, agencies, and program planners who want to base their plans on better information about the family and child care situations of Oregon's children. Families and their patterns of child care and work are exceedingly complex. We hope this report will add to understanding of the context of programs designed to help families, as well as to provide a more accurate estimate of the numbers who need to be served.

The Problem with Available Data

Evaluation of child care services requires the ability to relate service outcomes to the numbers of children and families of the population served and to estimates of the demand for and supply of child care. Anyone who has tried to estimate child care demand and supply, or to make sensible statements about child care needs, knows how frustrating the task can be. The 1980 census is out of date; the 1990 census data won't be available until 1992. Different age groupings are used by different sources and always seem to be at odds with what is needed. The national figures may not represent Oregon or your area. All the studies and state statistics seem to use a different population base, different definitions, or a different combination of labor-force participation, gender, marital status, employment status of spouse, or unit of analysis of child care arrangements by children or by families, and, of course, in disparate age categories.

The Solution

Ultimately what is needed is a complete, coherent set of data elements. Meanwhile, what is needed is a Rosetta Stone to decipher the hieroglyphic statistics of child care demand. In simplest terms, our solution was achieved by starting with population estimates of the number of children of a given age, multiplying that by the maternal labor force status of those children, and then multiplying that by the percentage of children found from surveys to be in the various types of out-of-home child care such as family day care, center care, or other activities. In attempting to craft a remedy for the data problems, we have compiled from a variety of sources a compendium of related population statistics in various useful groupings, a repertory of relevant estimates derived from surveys, and formulas for linking or converting one basis for reporting data into another. But the key to our solution to the problem of estimating child care demand is to focus on the numbers of children, not the number of parents or families, as the unit of analysis. It is the children's pie, or population, that we divide up according to the child care arrangements they are in.

Lacking any existing independent data on current child care supply, we were forced to derive supply data from demand data (effective demand). "Effective demand" reveals the kinds of child care supply that are currently in use, although it does not indicate the number of providers who are supplying the care. In the estimates that follow, the demand and supply figures finally are expressed in terms of the number of Oregon children who are in various forms of care in the child care market.

STATE LEVEL ESTIMATES OF CHILD CARE DEMAND AND SUPPLY

CHILD CARE DEMAND

In order to determine child care demand it is essential to know the number of children with parents in the labor force. Labor force participation findings are shown in two sets of tables. The first set of tables describes the "mothers pie" according to labor force participation of Oregon women with children (Tables I.A and I.B). But mothers who work outside the home have fewer children than do mothers who are not in the labor force; therefore, estimating the numbers of children involved requires dividing the population of children according to the labor force participation of their parents. So the next set of tables divides the "children pie", yielding the status of Oregon children whose mothers are either in or out of the labor force (Tables II.A, II.B and II.C).

Special tables of labor force rates based on Bardsley & Neidhart survey

From the Bardsley & Neidhart data we have derived a series of tables that provide labor-force status of Oregon mothers age 16-64 who, together with single fathers, represent nearly all Oregon households with children under age 16. Maternal employment is most likely to create a need for some supplemental form of child care arrangement whether in-home or out-of-home. However, the tables also show the percentage of mothers who are not in the labor force, because they too make supplementary child care arrangements and create demand for out-of-home care, such as for pre-school.

Labor force status shown in Tables I.A and I.B gives the percent employed full time and the percent employed part time, which together with the percent "unemployed" who are looking for work, totals the percent in the labor force. The percent who are not in the labor force are those mothers who are not employed and are not looking for work.

These figures are important because they affect the demand for out-of-home child care. Among survey mothers 16-64 who have children under age 5, use of care outside the home is associated with labor force participation, ranging from a high of 73% of mothers working full time to 14% of mothers who are not in the labor force, i.e., are neither employed nor looking for employment. The relationship between the mothers' degree of participation in the labor force and use of out-of-home child care is shown in the following table based on (unweighted) Bardsley & Neidhart data. Parallel figures are presented to show the percent of children of each maternal-employment status who are in child care outside the home.

Use of Out-of-Home Child Care for and by Children Under Age 5

	<u>% of mothers (N)</u>	<u>% of children(N)</u>
• All mothers 16-64 with children < 5	43 (439)	35 (572)
• Labor-force mothers	63 (256)	55 (309)
• Employed mothers	67 (230)	59 (274)
• Full-time employed mothers	73 (142)	62 (172)
• Part-time employed mothers	57 (88)	53 (102)
• Unemployed mothers (looking for work)	27 (26)	23 (35)
• Non-LF mothers	14 (183)	11 (263)

With Tables II.A, II.B, and II.C, the focus shifts to counting children, not parents, but still according to the labor-force status of the mother. Table II.A is of children under age 16, Table II.B is of children under age 5, and Table II.C is of children ages 5-15. Having the maternal labor-force status of children of designated ages provides a basis for estimating child care demand when multiplied by the percentage of children of employed mothers in family day care or child care centers, which we turn to next.

Table III shows that 18% percent of Oregon mothers with children under age 16 have household incomes of less than \$15,000. The percents in three categories of household income are also shown: 41% with less than \$25,000, 39% with \$25,000-44,999, and 20% with \$45,000 or more. There is a weak relationship relationship between household income and use of child care outside the home, two-thirds of which is family day care; the rest is care at centers or in the home of relatives. The household incomes of those who use outside care are somewhat higher than the incomes of those who do not. These distributions are shown below parallel to the household income distributions of all Oregon mothers (Oregon weighted averages).

Household Income:	<u>< \$25,000</u>	<u>\$25,000-44,999</u>	<u>\$45,000 +</u>	
Percent using outside care	40	43	17	100%
Percent who do not	52	39	9	100%
Percent of all mothers, children < 5	47	40	13	100%
Percent of all mothers, children < 16	41	39	20	100%

I. Oregon Mothers: Labor Force Participation

Table I.A Labor Force Participation of Oregon Mothers With Children Under Age 16, By Region (Percents)

Please note: The regional sample sizes are rather small for the accuracy shown, but are presented to reduce rounding errors in making estimates. See text regarding standard errors and confidence limits.

<u>Region</u>	<u>R&R Service Region ()</u>	<u>N</u>	<u>FT</u>	<u>PT</u>	<u>Unemp</u>	<u>Non LF</u>	<u>LF</u>	<u>Emp</u>	<u>PT*</u>
Region 1:		113	40.7	20.4	7.1	31.9	68.1	61.1	33
	Clatsop (1)								
	Columbia (1)								
	Tillamook (1)								
	Lincoln (4)								
Region 2:		111	41.4	16.2	6.3	36.0	64.0	57.7	28
	Clackamas (2)								
	Multnomah (2)								
	Washington (2)								
	Yamhill (3)								
Region 3:		132	38.6	19.7	5.3	36.4	63.6	58.3	34
	Marion (3)								
	Polk (3)								
	Benton (5)								
	Linn (5)								
	Lane (6)								
Region 4:		110	31.8	21.8	7.3	39.1	60.9	53.6	41
	Douglas (7)								
	Coos (8)								
	Curry (8)								
	Jackson (9)								
	Josephine (9)								
Region 5:		138	45.7	18.8	4.3	31.2	68.8	64.5	29
	Hood River (10)								
	Wasco (10)								
	Gilliam (11)								
	Sherman (11)								
	Wheeler (11)								
	Morrow (14)								
	Umatilla (14)								
Region 6:		138	42.8	23.9	5.6	27.5	72.5	66.7	36
	Crook (12)								
	Deschutes (12)								
	Jefferson (12)								
Region 7:		118	37.3	19.5	2.5	40.7	59.3	56.8	34
	Klamath (13)								
	Lake (13)								
	Grant (15)								
	Harney (16)								
Region 8:		114	44.7	18.4	6.1	30.7	69.3	63.2	29
	Baker (15)								
	Union (15)								
	Wallowa (15)								
	Malheur (16)								
All Regions Unweighted	N= 974		40.6	19.9	5.5	34.0	66.0	60.5	33
Oregon Weighted Average			39.9	18.5	6.0	35.6	64.4	58.4	32

Definitions: 'mothers' = women 16-64 years old with children under age 16; 'labor force' (LF) = employed full time(FT) or part time (PT) or unemployed (Unemp); 'unemployed' = not employed but looking for work; 'non labor force' = not employed but not looking; 'Emp' = FT + PT; 'PT*' = percent of employed mothers who are employed part-time.

Table I.B. Labor Force Participation of Oregon Mothers With Children Under Age 5. By Region (Percents)

Please note: The regional sample sizes are too small for the accuracy shown, but are presented to reduce rounding errors in making estimates. See text regarding standard errors and confidence limits.

Region	R&R Service Region ()	N	FT	PT	Unemp	Non LF	LF	Emp	PT*
Region 1:		56	32.1	16.1	8.9	42.9	57.1	48.2	33
	Clatsop (1)								
	Columbia (1)								
	Tillamook (1)								
	Lincoln (4)								
Region 2:		58	31.0	24.1	5.2	39.7	60.3	55.2	44
	Clackamas (2)								
	Multnomah (2)								
	Washington (2)								
	Yamhill (3)								
Region 3:		57	31.6	26.3	3.5	38.6	61.4	57.9	45
	Marion (3)								
	Polk (3)								
	Benton (5)								
	Linn (5)								
	Lane (6)								
Region 4:		44	20.5	15.9	13.6	50.0	50.0	36.4	44
	Douglas (7)								
	Coos (8)								
	Curry (8)								
	Jackson (9)								
	Josephine (9)								
Region 5:		61	45.9	16.4	6.6	31.1	68.9	62.3	26
	Hood River (10)								
	Wasco (10)								
	Gilliam (11)								
	Sherman (11)								
	Wheeler (11)								
	Morrow (14)								
	Umatilla (14)								
Region 6:		56	33.9	17.9	1.8	46.4	53.6	51.8	34
	Crook (12)								
	Deschutes (12)								
	Jefferson (12)								
Region 7:		59	25.4	23.7	5.1	45.8	54.2	49.2	48
	Klamath (13)								
	Lake (13)								
	Grant (15)								
	Harney (16)								
Region 8:		48	35.4	18.8	4.2	41.7	58.3	54.2	35
	Baker (15)								
	Union (15)								
	Wallowa (15)								
	Malheur (16)								
All Regions Unweighted	N=439		32.3	20.0	5.9	41.7	58.3	52.4	38
Oregon Weighted Average			30.8	22.7	5.8	40.7	59.3	53.5	42

Definitions: 'mothers' = women 16-64 years old with children under age 5; 'labor force' (LF) = employed full time (FT) or part time (PT) or unemployed (Unemp); 'unemployed' = not employed but looking for work; 'non labor force' = not employed but not looking; 'Emp' = FT + PT; 'PT*' = percent of employed mothers who are employed part-time.

II. Oregon Children: Labor Force Participation of their Mothers

Table II.A Maternal Labor Force Status of Oregon Children Under Age 16, By Region
(Percents)

(See Table I.A for status of mothers. See text regarding standard errors and confidence limits.)

Region	R&R Service Region ()	N	FT	PT	Unem	Non LF	LF	Emp	PT*
Region 1:		235	38.3	18.3	6.4	37.0	63.0	56.6	32
	Clatsop (1)								
	Columbia (1)								
	Tillamook (1)								
	Lincoln (4)								
Region 2:		206	37.4	14.1	5.8	42.7	57.3	51.5	27
	Clackamas (2)								
	Multnomah (2)								
	Washington (2)								
	Yamhill (3)								
Region 3:		241	34.9	20.7	5.8	38.6	61.4	55.6	37
	Marion (3)								
	Polk (3)								
	Benton (5)								
	Linn (5)								
	Lane (6)								
Region 4:		218	29.8	19.7	8.3	42.2	57.8	49.5	40
	Douglas (7)								
	Coos (8)								
	Curry (8)								
	Jackson (9)								
	Josephine (9)								
Region 5:		271	41.7	19.2	3.7	35.4	64.6	60.9	32
	Hood River (10)								
	Wasco (10)								
	Gilliam (11)								
	Sherman (11)								
	Wheeler (11)								
	Morrow (14)								
	Umatilla (14)								
Region 6:		266	38.3	23.3	7.1	31.2	68.8	61.7	38
	Crook (12)								
	Deschutes (12)								
	Jefferson (12)								
Region 7:		237	35.4	17.3	3.0	44.3	55.7	52.7	33
	Klamath (13)								
	Lake (13)								
	Grant (15)								
	Harney (16)								
Region 8:		230	45.2	18.3	6.5	30.0	70.0	63.5	29
	Baker (15)								
	Union (15)								
	Wallowa (15)								
	Maiheur (16)								
All Regions Unweighted N=1904			37.8	19.0	5.8	37.4	62.6	56.8	33
Oregon Weighted Average			36.3	17.6	6.1	40.0	60.0	53.9	33

Definitions: 'mothers' = women 16-64 years old with children under age 16; 'labor force' (LF) = employed full time (FT) or part time (PT) or unemployed (Unemp); 'unemployed' = not employed but looking for work; 'non labor force' = not employed but not looking; 'Emp' = FT + PT; 'PT*' = percent of employed mothers who are employed part-time.

Table II.B Maternal Labor Force Status of Oregon Children Under Age 5, By Region
(Percents)

Please note: The regional sample sizes are too small for the accuracy shown, but are presented to reduce rounding errors in making estimates. See text regarding standard errors and confidence limits.

Region	R&R Service Region ()	N	FT	PT	Unemp	Non_LE	LF	Emp	PT*
Region 1:		79	31.6	11.4	8.9	48.1	51.9	43.0	26
	Clatsop (1)								
	Columbia (1)								
	Tillamook (1)								
	Lincoln (4)								
Region 2:		70	28.6	24.3	5.7	42.4	58.6	52.9	46
	Clackamas (2)								
	Multnomah (2)								
	Washington (2)								
	Yamhill (3)								
Region 3:		71	31.0	28.2	2.8	38.0	62.0	59.2	48
	Marion (3)								
	Polk (3)								
	Benton (5)								
	Linn (5)								
	Lane (6)								
Region 4:		60	18.3	11.7	15.0	55.0	45.0	30.0	39
	Douglas (7)								
	Coos (8)								
	Curry (8)								
	Jackson (9)								
	Josephine (9)								
Region 5:		78	43.6	12.8	7.7	35.9	64.1	56.4	23
	Hood River (10)								
	Wasco (10)								
	Gilliam (11)								
	Sherman (11)								
	Wheeler (11)								
	Morrow (14)								
	Umatilla (14)								
Region 6:		73	31.5	17.8	1.4	49.3	50.7	49.3	36
	Crook (12)								
	Deschutes (12)								
	Jefferson (12)								
Region 7:		77	23.4	20.8	3.9	51.9	48.1	44.2	47
	Klamath (13)								
	Lake (13)								
	Grant (15)								
	Harney (16)								
Region 8:		61	31.1	16.4	6.6	45.9	54.1	47.5	34
	Baker (15)								
	Union (15)								
	Wallowa (15)								
	Malheur (16)								
All Regions Unweighted	N=569		30.2	17.9	6.3	45.5	54.5	48.2	37
Oregon Weighted Average			28.5	22.0	5.9	43.6	56.4	50.5	44

Definitions: 'mothers' = women 16-64 years old with children under age 5; 'labor force' (LF) = employed full time(FT) or part time (PT) or unemployed (Unemp); 'unemployed' = not employed but looking for work; 'non labor force' = not employed but not looking; 'Emp' = FT + PT; 'PT*' = percent of employed mothers who are employed part-time.

Table II.C Maternal Labor Force Status of Oregon Children Ages 5-15, By Region
(Percents)

Please note: The regional sample sizes are rather small for the accuracy shown, but are presented to reduce rounding errors in making estimates. See text regarding standard errors and confidence limits.

Region	R&R Service Region ()	N	FT	PT	Unem	Non LF	LF	Emp	PT*
Region 1:		156	41.7	21.8	5.1	31.4	68.6	63.5	34
	Clatsop (1)								
	Columbia (1)								
	Tillamook (1)								
	Lincoln (4)								
Region 2:		136	41.9	8.8	5.9	43.4	56.6	50.7	17
	Clackamas (2)								
	Multnomah (2)								
	Washington (2)								
	Yamhill (3)								
Region 3:		170	36.5	17.6	7.1	38.8	61.2	54.1	33
	Marion (3)								
	Polk (3)								
	Benton (5)								
	Linn (5)								
	Lane (6)								
Region 4:		158	34.2	22.8	5.7	37.3	62.7	57.0	40
	Douglas (7)								
	Coos (8)								
	Curry (8)								
	Jackson (9)								
	Josephine (9)								
Region 5:		193	40.9	21.8	2.1	35.2	64.8	62.7	35
	Hood River (10)								
	Wasco (10)								
	Gilliam (11)								
	Sherman (11)								
	Wheeler (11)								
	Morrow (14)								
	Umatilla (14)								
Region 6:		193	40.9	25.4	9.3	24.3	75.6	66.3	38
	Crook (12)								
	Deschutes (12)								
	Jefferson (12)								
Region 7:		160	41.3	15.6	2.5	40.6	59.4	56.9	27
	Klamath (13)								
	Lake (13)								
	Grant (15)								
	Harney (16)								
Region 8:		169	50.3	18.9	6.5	24.3	75.7	69.2	27
	Baker (15)								
	Union (15)								
	Wallowa (15)								
	Malheur (16)								
All Regions Unweighted N=1335			41.0	19.5	5.5	34.0	66.0	60.5	32
Oregon Weighted Average			39.8	15.6	6.1	38.4	61.6	55.4	28

Definitions: 'mothers' = women 16-64 years old with children under age 16; 'labor force' (LF) = employed full time (FT) or part time (PT) or unemployed (Unemp); 'unemployed' = not employed but looking for work; 'non labor force' = not employed but not looking; 'Emp' = FT + PT; 'PT*' = percent of employed mothers who are employed part-time.

III. HOUSEHOLD INCOME OF OREGON MOTHERS

The following percentages provide household incomes of all Oregon mothers with children under age 16, without regard to the mothers' labor force participation status.

Table III. Household Income of Mothers, 8 Regions of Oregon (Percents)

[mothers' =def. women 16 to 64 with children under age 16 at home]

Region	R&R Service Region ()	< \$15,000	< \$25K	\$25K-45K	\$45K +
Region 1:		21	38	40	21
	Clatsop (1)				
	Columbia (1)				
	Tillamook (1)				
	Lincoln (4)				
Region 2:		15	35	38	26
	Clackamas (2)				
	Multnomah (2)				
	Washington (2)				
	Yamhill (3)				
Region 3:		21	47	40	14
	Marion (3)				
	Polk (3)				
	Benton (5)				
	Linn (5)				
	Lane (6)				
Region 4:		22	50	34	16
	Douglas (7)				
	Coos (8)				
	Curry (8)				
	Jackson (9)				
	Josephine (9)				
Region 5:		19	35	44	21
	Hood River (10)				
	Wasco (10)				
	Gilliam (11)				
	Sherman (11)				
	Wheeler (11)				
	Morrow (14)				
	Umatilla (14)				
Region 6:		15	35	48	17
	Crook (12)				
	Deschutes (12)				
	Jefferson (12)				
Region 7:		24	45	46	9
	Klamath (13)				
	Lake (13)				
	Grant (15)				
	Harney (16)				
Region 8:		19	45	34	21
	Baker (15)				
	Union (15)				
	Wallowa (15)				
	Malheur (16)				
All Regions Unweighted Average		19.4	41.2	40.8	18.0
Oregon Weighted Average		18.0	41.0	39.0	20.0

N= 950 mothers (not including 24 who did not report their income)

CHILD CARE SUPPLY: ARRANGEMENTS USED BY OREGON FAMILIES

Child Care Arrangements by Labor Force Status of Mother and by Age of Children

The following set of tables (Tables IV.A-C) provides estimates of the percentage of children of a given age who are in each of three kinds of child care or organized activity outside the home. The first table shows the figures for children whose mothers are employed, and the second for the children of mothers who are not employed (Table IV.A). Labor force mothers who are unemployed but are looking for work probably will make similar arrangements; thus it seems reasonable to use the same percentages for estimating demand for them as well (Table IV.B). Labor force mothers will be especially likely to need assistance from CCR&R services as they try to re-enter the child-care market. A third table provides all the frequencies for the first table, and is presented because it may be useful to some in calculating ratios among child care arrangements for children of different ages (Table IV.C).

Keep in mind that this set of tables represents the **percentage of children** in various child care arrangements, not of child care usage by parents. This model for estimating child care arrangements involves dividing up the "children pie" not the "families pie". This approach is less useful for estimating the number of families needing services, but there is no feasible way to divide up families by age of child, and the child estimates are useful in estimating demand for child care for children of different ages. Some information is presented for converting from number of children to number of families (Appendix C).

In each of Tables IV.A-C, for each category of age of child, going from left to right, we present the percent of children in each of three types of child care that is found outside the home in the child care market: **family day care, child care centers, and other organized activities**. These percentages are independent and represent **any** use of each type of care, rather than of which is the primary arrangement. This approach is more useful in estimating demand in each of three major child care markets. Thus, the percents typically add up to more than 100% of the children involved due to multiple out-of-home arrangements. Families typically make many child care arrangements within the entire family and an average of one-and-a-half arrangements per child, but the number of out-of-home arrangements per child exceeds the number of children by about 5% on average. Most of the multiple arrangements made for children involve combinations with care at home. Therefore, these tables also present an unduplicated estimate of the total number of children in any of the three types of out-of-home care that is not with relatives, that is, children whose care is found and purchased "in the child care market". Then, including care in the home of a relative, we present the percent of children in any form of **out-of-home care**. The remainder are at home, only, with the other parent, related or unrelated adults, sitters, older brothers and sisters, or the children themselves; their care is **exclusively at home**, not in any kind of out-of-home care.

Missing are comparable tables showing the children of single fathers, who, together with the children of mothers in and out of the labor force, would make up the complete pie of children from Oregon households (if adequately sampled). Unfortunately, our samples of single fathers are not large enough, nor probably representative enough, for accurate reporting. It appears that they may tend to use family day care and center care less than employed mothers, about half as much. Children of single fathers represent about 6% of the children of Oregon households (Bardsley & Neidhart data), thus their demand in the child care market probably represents about 3 percent of that of the children with employed

mothers. These are composite 1989-90 figures from employee surveys representing wide range of companies, occupations, incomes, and geographic areas. (Source: Arthur Emlen & Associates, Inc. in cooperation with the Regional Research Institute for Human Services, Portland State University)

Table IV.A Percentage of Children in Types of Child Care by Age of Child of Employed Mothers*

This table of percentages may be useful to those who would like to have some basis for estimating for specified ages of children of employed mothers how many children may be in a certain type of child care. The table presents the percent of children in Family Day Care (FDC), Child Care Centers, and in Other Organized Activities. The table also includes three percent "totals" that discount, are not inflated by, multiple arrangements: 1) the percent of children in any out-of-home "Market Care", that is, any child care or activity found outside of the child's home and found in the child care market, not with family or relatives; 2) the percent of children in any kind of "Out-of-Home Care" including with relatives, and 3) the percent of children whose supplemental child care occurs exclusively at home, whether by another parent, live-in grandmother, nanny, sitter, older sibling, or the children alone.

<u>Age of Child</u>	<u>Sample Size</u>	<u>% in FDC</u>	<u>% in Centers</u>	<u>% in Other Activities</u>	<u>% in any Market</u>	<u>% In Any Out of Home*</u>	<u>% Only At Home</u>
Under 3	870	51	17	0	67	77	23
Under 6	1850	45	30	1	73	82	18
Under 9	2785	42	27	5	68	78	22
Under 12	3734	36	22	9	62	70	30
6-11	1884	26	15	18	51	57	43
Under 3	870	51	17	0	67	77	23
3-5	980	40	42	2	78	86	14
6-8	935	36	22	11	59	70	30
9-11	949	15	7	23	44	46	54
12-14	826	1	1	29	29	32	68
Under 15	4560	29	18	13	56	63	37
Under 5	1528	47	27	1	71	81	19
Under 10	3092	41	26	6	68	76	24
Under 15	4560	29	18	13	56	63	37
5-9	1564	35	25	12	64	70	30
10-14	1468	5	3	27	32	36	64
5-15	3354	19	16	20	47	61	39
6-15	3032	17	12	22	43	59	41
Under 16	4882	28	19	14	54	68	32

* Composite 1989-90 figures from employee surveys representing wide range of companies, occupations, incomes, and geographic areas. (Source: Arthur Emlen & Associates, Inc. in cooperation with the Regional Research Institute for Human Services, Portland State University)

Table IV.B Percentage of Children in Types of Child Care by Age of Child of Mothers Who Are Not in the Labor Force

This table of percentages may be useful to those who would like to have some basis for estimating for specified ages of children of mothers who are not in the labor force how many children may be in a certain type of child care. The table presents the percent of children in **Family Day Care (FDC)**, **Child Care Centers**, and in **Other Organized Activities**. The table also includes three percent "totals" that discount, are not inflated by, multiple arrangements: 1) the percent of children in any out-of-home "Market Care", that is, any child care or activity found outside of the child's home and found in the child care market, not with family or relatives; 2) the percent of children in any kind of "Out-of-Home Care" including with relatives, and 3) the percent of children whose supplemental child care occurs exclusively at home, whether by another parent, live-in grandmother, nanny, sitter, older sibling, or the children alone.

<u>Age of Child</u>	<u>Sample Size</u>	<u>% in FDC</u>	<u>% in Centers</u>	<u>% in Other Activities</u>	<u>% in any Market</u>	<u>% In Any Out of Home*</u>	<u>% Only At Home</u>
Under 3	195	4	4	0	8	11	89
Under 6	385	5	10	1	15	17	83
Under 9	560	5	8	5	17	18	82
Under 12	697	4	6	8	18	20	80
6-11	312	3	2	17	21	24	76
Under 3	195	4	4	0	8	11	89
3-5	190	7	16	2	22	23	77
6-8	175	3	3	15	21	22	78
9-11	137	2	1	20	23	26	74
12-14	127	0	0	35	35	36	64
Under 15	824	4	5	12	20	22	78
Under 5	329	5	10	1	15	17	83
Under 10	610	5	7	5	17	19	81
Under 15	824	4	5	12	20	22	78
5-9	281	4	4	13	20	22	78
10-14	214	1	0	29	30	31	69
5-15	536	2	2	22	26	28	72
6-15	480	2	1	24	27	17	83
Under 16	865	3	5	14	22	23	77

* Composite 1989-90 figures from employee surveys representing wide range of companies, occupations, incomes, and geographic areas. This particular table represents the children in child care arrangements reported by employed fathers whose spouse is not employed (neither full nor part-time), hence a profile of the care arrangements of children of mothers who are not in the labor force. It is not known how representative this sample of "non-labor force children" is. (Source: Arthur Emlen & Associates, Inc. in cooperation with the Regional Research Institute for Human Services, Portland State University).

Estimates of the Number of Children in Child Care in Oregon by Age of Child and Type of Care

Using data already described, Table IV.C summarizes our estimates of Oregon children in three types of child care found outside the child's home. Of all children under age 16, we estimate that 110,534 are in family day care, 82,591 in centers, 89,533 in other out-of-home group activities. A total of 256,328 children are estimated to be in at least one of these out-of-home markets.

How good are these estimates? One way of testing their validity is to compare estimates based on alternative sources of data discussed in the Appendix A. For example, for children under age 5 in family day care, we have three methods for making the estimate:

Method #1 is the above model which classifies children by labor force status of their parents using the regionally unweighted Bardsley & Neidhart rates multiplied by child care percentage estimates from Regional Research Institute employee surveys. The result: 55,120.

Method #2 uses the 1990 Bardsley & Neidhart survey data directly estimating family day care usage by all parents regardless of labor force status, corrected for the differential in number of children of mothers in and out of the labor force (divided by 1.125). The result: 43,303 weighted Bardsley & Neidhart sample (25%); or 48,500 unweighted sample (28%).

Method #3 applies child care rates from a national study to Oregon population numbers. Based on the data reported in Advance Data, 61.5 % of western states children under age 6, regardless of the labor force status of their parents, were in some form of supplemental child care, and 24% of those in this age category were in family day care (non-relative outside the home) as the regular and main source of care, that is, for more hours per week than any other form of supplemental child care (about 15% of all children). The result: 28,762. This is the lowest estimate. However, it excludes use of part-time family day care that is secondary to reliance on other types of care, which is frequently the case when mothers work part time instead of full time. Approximately 44% of the children under age 5 of employed mothers have mothers employed part time (Bardsley & Neidhart and Regional Research Institute). The Advance Data estimate may represent only 70% of all the uses of family day care, a correction that would bring the result to 41,088.

Thus, Oregon probably has 43,000 to 55,000 children under age 5 in family day care arrangements in any given month, and a good estimate for 1990 would be at least 50,000.

The 1990 data from the Center for Population Research and Census at Portland State University were not available at the time this report was written and since the estimates as of July 1989 used in this report, there was a 4.5% increase in the estimated number of children under age 5 and a 1.9 percent increase in children ages 5-15.

There is insufficient Oregon survey data on which to estimate the number of family day care providers who are caring for these children. The closest we can come is to apply a finding from the national survey just cited (Advance Data) that children under age 6 in family day care are cared for in average group sizes of 3.3. Subtract .8 for the average number of the caregivers own children under age 6, and we arrive at an average of 2.5 children of these ages per family day care provider. Result: 20,000 family day care providers giving care to 50,000 children under 5. Of course, children under age 5 represent only about half of all the children in family day care, so these estimates under-represent the typical group sizes in family day care, as well as the number of providers.

Table IV.C Summary estimate of the number of children in child care in Oregon by labor-force status, age, and type of care

Estimated child Population	Age of Child			*
	0-4	5-15	0-15	
All Oregon children	194,864	433,883	628,747	
6 % with single fathers	11,692	26,033	37,725	
94% with mothers	183,172	407,850	591,022	
Mothers in Labor Force	x 56.4 % = 103,309	x 61.6 % = 251,236	x 60.0% = 354,613	
In family day care	x 47 % = 48,555	x 19 % = 47,735	x 28 % = 99,292	
In centers	x 27 % = 27,893	x 16 % = 40,198	x 19 % = 67,376	
In other activities	x 1 % = 1033	x 20 % = 50,247	x 14 % = 49,646	
In any out-of-home market	x 71 % = 73,349	x 47 % = 118,081	x 54 % = 191,491	
In out-of-home care	x 81 % = 83,680	x 61 % = 153,254	x 68 % = 241,137	
At home exclusively	x 19 % = 199,629	x 39 % = 97,982	x 32 % = 113,476	
Mothers Not in Labor Force	x 43.6% = 79,862	x 38.4 % = 156,614	x 40.0 % = 236,409	
In family day care	x 5 % = 3993	x 2 % = 3132	x 3 % = 7092	
In centers	x 10 % = 7986	x 2 % = 3132	x 5 % = 11,820	
In other activities	x 1 % = 799	x 22 % = 34,455	x 14 % = 33,097	
In any out-of-home market	x 15 % = 11,979	x 26% = 40,720	x 22 % = 52,010	
In out-of-home care	x 17 % = 13,577	x 28 % = 43,852	x 23 % = 54,374	
At home exclusively	x 83 % = 66,285	x 72 % = 112,762	x 77 % = 182,035	

* Multiple rounding errors mean that age categories may not add up.

Estimated child Population	Age of Child			*
	0-4	5-15	0-15	
Of single fathers	11,692	26,033	37,725	
In family day care	x 22 % = 2572	x 8 % = 2083	x 11 % = 4150	
In centers	x 7 % = 818	x 10 % = 2603	x 9 % = 3395	
In other activities	x 0 % = 0	x 24 % = 6248	x 18 % = 6790	
In any out-of-home market	x 30 % = 3508	x 35 % = 9112	x 34 % = 12,827	
In out-of-home care	x 41 % = 4794	x 47 % = 12,236	x 45 % = 16,976	
At home exclusively	x 59 % = 6898	x 53 % = 13,797	x 55 % = 20,749	

Estimated child Population	Age of Child		
	0-4	5-15	0-15
Total of Oregon children	194,864	433,883	628,747
In family day care	55,120 (28 %)	52,950 (12 %)	110,534 (18%)
In centers	36,697 (19 %)	45,933 (11 %)	82,591 (13%)
In other activities	1,832 (1 %)	90,950 (21 %)	89,533 (14%)
In any out-of-home market	90,668 (47 %)	167,913 (39 %)	256,328 (41%)
In out-of-home care	102,051 (52 %)	209,342 (48 %)	312,487 (50%)
At home exclusively	92,812 (48 %)	224,541 (52 %)	316,260 (50%)

* Multiple rounding errors mean that age categories may not add up.

MODEL FOR CHILD CARE DATA COLLECTION, ANALYSIS AND REPORTING

NEED FOR THE MODEL

The primary goal of the Aspen Project is to develop an accurate and consistent method for estimating child care supply and demand in Oregon. Local and regional decision makers in both the private and public sectors need to know the dimensions of the child care crisis in their part of the state. At the state level, consistent data is needed by Governor, Legislature, Commissions and state agencies. The effectiveness of statewide professional organizations and strategists such as the Oregon Child Care Initiative is also dependent on solid knowledge of the current child care system. The more accuracy and consistency in data used, the more effective efforts to improve child care will be.

Child care supply and demand changes with social and economic shifts. The ability to assess supply and demand on an ongoing basis is essential. The creation of the Child Care Resource and Referral system makes it possible to create a model for assessing and reporting supply and demand by county, region and the state as a whole and to do the assessment on an ongoing basis. The model integrates demographic information, labor force participation data and knowledge of the child care supply.

Child care is best "known" at the local level. It is difficult if not impossible to find and describe early care and education resources at a state level. A majority of care is not required to be registered, certified or listed with any state organization. A key role of the resource and referral agencies is to identify the providers and recruit them into the r&r so that they are accessible to the families that are looking for care and also so the region and the state can know the adequacy of the child care system. It is this local knowledge of the child care supply that makes the model possible.

CHILD CARE SUPPLY AND DEMAND: DATA, DATA SOURCES AND ESTIMATES GENERATED

Data is entered by county so that supply and demand estimates can be made for each county or regional combinations of counties. In the following text the data source is noted in parenthesis where appropriate.

Child Care Demand: Data and Data Sources

Child care demand varies significantly by age of child. Therefore, demand analysis was done separately for each county for each of the major age groups: 0-5, 6-10, 11-15 years (PSU). Employment status of mother or single custodial father also has a major impact on need for child care. Therefore, each age group was divided into one of five household types: full-time employed mother; part-time employed mother; mothers looking for work; non-labor force mother and single employed father (Bardsley and Neidhart). Children in each household type were then divided by kind of care received: market or non-market (Emlen). Since it is market care that is the concern of public policy, those children in market care were divided by kind of market care received: center; family child care or other activities (Emlen).

Child Care Demand: Estimates

Using the above described data, the model generates an estimate of the number of child care spaces needed for each age group by each kind of market care. An estimate of child care spaces needed in any county, region or the state as a whole can then be made.

In order to compare child care demand in one area to that of another area, a demand density ratio is calculated. The number of child care spaces needed in any given county or region is divided by the number of children 0-15 in that same area. This ratio can then be compared to that of another part of the state to see how the need for child care in that area compares with the need in other parts of the state. Child care demand is surprisingly consistent across the state. Around 42% of all children under age 16 are in the child care market with a low of 39% in Douglas County and a high of almost 43% in Linn and Benton Counties.

Child Care Supply: Data and Data Sources

The model for child care supply uses a mix of actual data and estimates. The total child care supply is the sum of the number of spaces available in each kind of care: full day centers; part-day centers; group homes; registered family child care, non-registered but enrolled family child care; neither registered nor enrolled family day care; and other activities.

Three numbers are important in assessing the supply: the number of child care facilities; the number of child care spaces; and the number of child caregivers. In some instances the number of facilities is known. In others, the number is estimated. The source of either the number or the estimate is given. In some instances the number of child care spaces per facility is known while in others it must be estimated based on averages for that kind of care. In cases where capacity is estimated, the average number of spaces per facility is noted. In child care centers a number of caregivers are involved whereas in other kinds of care such as family child care there is only one caregiver. Therefore, a ratio of caregivers to the facility is necessary in order to calculate the total number of caregivers.

The following table displays supply data by kind of care and identifies how facilities, caregivers and spaces are calculated. The "facilities" column notes if there is a known number or an estimate. The "caregiver" column notes the ratio of caregivers per facility. The "spaces" column indicates the number of child care spaces if known or ratio of spaces to facility if estimated. The data source is noted in the parenthesis following either number or estimate. The following abbreviations are used to note data sources: Children's Services Division (CSD); Oregon Association of Day Care Directors Survey (OADCD); Child Care Resource and Referral Quarterly Reports (R&R); Aspen demand data described above (Aspen); Advance Data study described in Appendix A (Adv Data).

<u>KIND OF CARE</u>	<u>FACILITIES</u>	<u>CAREGIVERS PER FACILITY</u>	<u>SPACES PER FACILITY</u>
Full-day centers:	Number (CSD)	6:1 (OADCD)	Number (CSD)
Part-day centers:	Number (R&R)	6:1 (OADCD)	Number (R&R)
Group homes:	Number (CSD)	6:1	1:10
Family child care			
Registered:	Number (CSD)	1:1	1:3.3 (Adv Data)
Non-registered & enrolled:	Number (R&R)	1:1	1:3.3 (Adv Data)
Non-registered & not enrolled:	Estimate (Aspen)	1:1	1:3.3 (Adv Data)

Child Care Supply: Estimates

Using the above described data, the model generates an estimate of the number of child care spaces available by each kind of market care. An estimate of child care facilities, caregivers and spaces available in any county, region or the state as a whole can then be made by summing the appropriate data.

In order to compare child care supply in one area to that of another area, a supply density ratio is calculated. The total number of child care spaces available in any given county or region is divided by the number of children 0-15 in that same area. This ratio can then be compared to that of another part of the state to see how the supply of child care in that area compares with the supply in other parts of the state. Research performed by Gwen Morgan of Wheelock College indicates a community should have about 25 spaces per every 100 children. Oregon regions range from only 8 spaces per 100 children in Baker, Grant, Morrow and Umatilla Region to 16 per 100 in Linn and Benton Counties Region.

LIMITATIONS OF THE MODEL

The model described above provides basic dimensions of the child care market. In its present stage, it does not show unevenness of demand and supply by age groupings and hence gaps in service. For a more complete picture the model estimates must be coupled with CCR&R data generated by helping families locate care.

Although the density ratios do allow for some comparisons across counties and regions, the model does not allow for comparisons within counties or regions. Again the model is best accompanied by CCR&R generated data that can be compared by zip code.

At this stage, the model does not address issues of affordability or quality. Future refinements will be needed to address these issues.

Sources of needed data are difficult to access and some essential data is not routinely available. The Aspen Group has begun discussions with the State Economist to increase the scope and depth of the Bardsley and Neidhart survey. The group has also begun discussions with the Portland State University Center for Population Research and Census to collect data on workforce, families and children on a county basis. And finally, the Group has initiated a national effort to develop tools for measuring the quality of child care supply through information collected by the child care resource and referral system.

USES OF THE MODEL

The model is designed to provide an accurate and consistent method for estimating child care supply and demand at the county, regional and state level. Local and regional decision makers in both the private and public sectors need to know the dimensions of the child care crisis in their part of the state. Real progress in solving the child care crisis necessitates a shared knowledge base that defines the problem. Child care resource and referrals have a state mandate to provide this data. Their proximity to providers and parents gives them the ability to know child care locally. It is hoped that the model will enable child care resource and referrals to provide data locally and the Oregon Child Care Resource and Referral Network to provide it statewide.

Data generated by use of the model is included in Appendix K. Data is given by county and region, allowing comparisons across the state.

CHILD CARE RESOURCE & REFERRAL

ROLE OF CHILD CARE RESOURCE AND REFERRAL

Child care resource and referral provides the infrastructure for the child care system. Its role can be compared to that of a transportation or telecommunication system. CCR&R makes the market-driven child care system work by enabling parents, providers, employers and communities to access one another.

A community-based CCR&R is essential to identification of child care supply. CCR&R staff work at the local level and are therefore able to identify child care providers who are not on any state lists. That includes legal but not registered family child care providers as well as part-day early childhood programs. Parents of children nine years and older use a vast array of education and recreation programs as the primary form of child care. The majority of care given in any Oregon community can only be identified locally.

Providers are enrolled by a CCR&R and descriptive information is put into a computerized database. Parents describe their child's and family's needs and a computer search is made to match family and provider. Educational consultations to parents and providers are the main activity of a CCR&R. Employers are taught how they can support their own employees and can actually purchase services for their workforce.

Collection, analysis and reporting of child care data are a major function of local CCR&Rs and the Oregon Child Care Resource and Referral Network. Data on supply, demand and gaps in services are produced in the process of serving parents and providers. Data are reported to local and state decision makers, both public and private.

The Aspen Model for calculating child care supply and demand is dependent upon the work of community-based CCR&Rs. Accurate data on providers and on child care needs of families can only be gathered at the community level. Fully-functioning CCR&Rs in each of the sixteen regions of Oregon are essential to accurate assessment and reporting of child care supply and demand in the state. These data, in turn, are essential to planning and effective use of limited resources.

OREGON'S CHILD CARE RESOURCE AND REFERRAL SYSTEM

The Oregon Commission for Child Care began the child care resource and referral system in 1988 with four pilot programs funded by the 1987 Legislature. The 1989 Legislature defined a state system of child care resource and referral services and appropriated \$906,000 to begin development of the system. The Commission has CCR&Rs funded and operating at some level in 11 of 16 regions of the state.

Appendix L gives a picture of current CCR&R activity and even more importantly the kind of child care data that will be available for local communities as well as the state. CCR&Rs in Service Delivery Areas 1, 3 and 5 are now a little over three years old. Their data show what is possible in terms of numbers of parents and providers served.

Additional graphs show that high need families are using the service: 44% of all families served are headed by a single parent and over 68% of families have household incomes under \$20,000. Other graphs show that 65% of all requests are for difficult-to-find care such as infant and toddler, odd-hour and part-time care. Employment-related needs account for 68% of requests for services; education and training are the reason for 23% of requests. Referrals to family child care providers account for 61% of all referrals probably because family child care providers are the predominant providers of odd-hour, part-time and infant care and because full day centers are easier for families to find without assistance.

Oregon's CCR&Rs are capable of doing the job for which they were created and of doing it well. However, many regions are not yet being served, and others are just beginning. Expansion is needed statewide with adequate, stable funding.

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Child care information is critical to planning and effective use of limited resources. Currently data sources and resources to fund the analysis and reporting of data are inadequate. The Aspen Group has reached the following conclusions:

1. Consistent data are needed by decision makers in both the public and private sectors. The lack of consistent data results in a fragmented and inefficient child care delivery system that fails to meet family, community or state needs.
2. Data used for child care planning should be consistent across organizations such as the Oregon Commission for Child Care, the Oregon Community Children and Youth Services Commission, state agencies, the new Workforce Quality Councils, the Oregon Child Care Initiative and professional child care organizations.
3. Data analysis and reporting are important to Oregon's ability to plan and leverage resources. Child care is dynamic, responding to economic and other changes and so data analysis and reporting needs to be an ongoing activity.
4. A statewide system of adequately-funded child care resource and referral services is essential to producing good child care data, which in turn are essential to providing good services to children and families.
5. Current data sources need to become county-sensitive in order to have accurate data for any given community or for meaningful comparisons across the state.
6. Current population and labor force data sources are inadequate.
7. Supply and demand density ratios are useful measures of the adequacy of child care in a given community. They make possible comparisons across the state.
8. Data and methods for analyzing data related to child care costs, compensation and quality care are inadequate.

RECOMMENDATIONS

Based on the above conclusions, the Aspen Group makes the following recommendations:

1. The Oregon Commission for Child Care and Oregon Child Care Resource and Referral Network, which have statutory authority and responsibility for collection, analysis and reporting of child care data, should be given the resources to carry out this mandate as part of their strategic planning for child care in Oregon.
2. The data function within local CCR&Rs, the Network and the Commission should be adequately funded.

3. Use of standard child care data should be encouraged and, to the extent feasible, required.
4. The Oregon Commission for Child Care and the Oregon Child Care Resource and Referral Network should seek resources to identify needed data and a methodology for analyzing such data in order to measure child care costs, compensation and quality.
5. The State Economist should make the following changes in the demographic population survey: annual administration; expanded population sample; county-sensitive; data on child care arrangements of all parents of all children 0-15 years by age of child; data on other dependent care needs of families; marital status and employment status of all household adults and continue collection of household income data.
6. The Department of Revenue should do an annual data series on the use of the dependent care tax credit and Earned Income Tax Credits by household by county.
7. The Employment Division should analyze existing data and report on labor force participation of mothers with children under five and mothers with children under sixteen by county.
8. The Oregon Commission for Child Care should fund start-up costs of Portland State University Center for Population Research and Census to generate a predictive model for estimating number of children in the child care market by labor force status, marital status and household income; a model that integrates a number of data sources. Further, the Commission should request the Center to dedicate resources to continuation of the activity once the model is generated.

APPENDICES

APPENDIX A: ASPEN GROUP PROJECT

Participants

Arthur Emlen

Arthur Emlen is Professor Emeritus, Portland State University, and President, Arthur Emlen & Associates, Inc. which conducts research on child care, adult care, work and family, and community issues in cooperation with the University's Regional Research Institute for Human Services (503/725-4178). Arthur Emlen serves as research consultant to the project, for which he is paid by the Aspen grant. While Dan Vizzini compiled the Regional Child Care Resource and Referral Agency data and developed the Commission's spread-sheet model, Emlen compiled and analyzed the other sources of data and spelled out the assumptions behind the estimates. Authorship of the report belongs to all of the above Aspen Project participants.

Roberta Weber

Bobbie Weber is Chair, Department of Family Resources, Linn Benton Community College, and Chair, Oregon Child Care Resource and Referral Network.(503/967-8835). Bobbie Weber provides the leadership behind Oregon's growing network of regional "CCR&R" organizations which are funded by the state of Oregon under bylaws and direction of the Oregon Commission for Child Care. She wrote the Aspen grant proposal together with Dan Vizzini for the Commission, and she chairs the project that led to this report. The project is sponsored by the CCR&R Network in cooperation with the Commission. Bobbie Weber and the Oregon Child Care Resource and Referral Network are associated with the National Association of Child Care Resource and Referral Agencies (NACCRA).

Daniel Vizzini

Dan Vizzini is Assessments Manager, City of Portland, Member and Chair, Oregon Commission for Child Care (503/823-4087). Dan Vizzini chairs the Commission's Resource and Referral Committee. Experienced in computer systems and program planning, he receives the monthly service statistics from Oregon's regional CCR&R agencies, which he analyzes and maintains as the statewide system of child care resource and referral information. He also produces, maintains, and revises the operating model for estimating child care supply and demand for the state of Oregon, for the 36 counties, and for the 16 regional CCR&R agencies. This document presents Dan's, i.e. the Commission's, model together with source data and findings that justify the assumptions in the model. Dan Vizzini, in turn, has maintained liaison between Aspen and the "bench marks" project of the Oregon Progress Board.

Janis Elliot

Janis Elliot is Co-Coordinator of Child Care for Oregon (with Mary Louise McClintock) in the Office of the Director, Oregon Department of Human Resources (503/373-7282). An experienced social service professional, Janis Elliot contributes coordination with state-level planning and participates in the state inter-agency child care coordination committee.

Larry Shadbolt

Larry Shadbolt is Child Care Program Analyst for the Adult and Family Services Division (AFS) (503/378-3520). AFS is responsible for implementing the JOBS program under the Family Support Act, and administers subsidized child care programs for welfare and low-income working families. Larry has been actively involved with the design and implementation of welfare reform in Oregon through an extensive local program planning process. He has also been responsible for management of the Child Care Improvement Grant. He will be providing ongoing assistance in the design, implementation and coordination of subsidized child care programs administered by AFS.

Marguerite Kenagy

Marguerite Kenagy manages the Oregon Commission for Child Care's Resource and Referral program, through a cooperative arrangement with Children's Services Division (503/378-3178).

Roberta Wood

Roberta Wood is Program Director of the Oregon Child Care Initiative, a private non-profit corporation recently formed to attract private dollars from the business community and channel them into development of new, high quality child care resources for Oregon (503/227-4288). The Oregon Child Care Initiative was launched by a \$300,000 grant from the Ford Foundation and already has received major contributions from Oregon corporations. It provides Oregon with a needed linkage between the public and private sectors, both of which have concerns in common and need similar information. Roberta Wood, like Bobbie Weber, brings experience in the development and administration of child care resource and referral services.

Stephany Anderson

Stephany Anderson is Director of Family Child Care for West Tuality Child Care Service and a member of the Metro Resource and Referral Network (503/357-4994).

Sources of Data

Current population estimates.

Current, or most recent (July 1, 1989, reported February 1990), population estimates from the Center for Population Research and Census at Portland State University (503/725-3922). Director Ed Schafer has provided us with population estimates for Oregon and by county, by sex, and by age one year at a time, which we have combined in alternative age intervals (2-year, 3-year, and 5-year) so that the population base can be fitted to program needs. Similarly, variations in the age categories counted as adult or as a base for labor-force participation rates call for translation, so those needed figures are supplied as well.

1990 sample survey of parental labor force participation.

A 1990 Oregon 3200-household sample survey was done by Bardsley & Neidhart, Inc. This 1990 demographic population survey was commissioned by State Economist Paul Warner (503/378-3405) of the Office of Economic Analysis in the Executive Department for the Oregon Demographic Taskforce. Paul Warner provided us with the data file, and from those data our compendium includes selected analyses conducted by Arthur Emlen at the Regional Research Institute for Human Services at Portland State University. Most valuable are estimates of labor force participation of men and women by households with children under age 5 and under age 16, as well as the percentage of children in each maternal labor-force status, information that has not been available since the 1980 US Census. The language of the 1990 US Census was used. The survey also provides an estimate of households using, and number of children in, child care outside the home for children under age 5. Unweighted data are used for each of eight regions sampled and for

the state, and an Oregon weighted average is also provided, the difference providing a perspective on the effects of giving equal, rather than proportionate, weight to less populated counties.

Users of these rates should bear in mind two potential sources of error: sampling error and bias in how the sample was obtained. Sampling error within 99 percent confidence limits for the statewide maternal labor force rate of 66 percent (N=974 mothers age 16-64 with children under age 16) suggests allowing for $\pm 4\%$ leeway; thus the rate probably falls between 62 and 70 percent (or ± 1.8 for a 5.5 % unemployment rate). For some analyses, the sample sizes within the eight regions are somewhat too small for comfort, requiring special caution about their accuracy. More important, but less predictable, are possible sources of bias that should be kept in mind. Based on a telephone survey of households, the rates are not perfectly representative of Oregon families. For example, the data do not report homeless, some migrant, or other families whose incomes are so low that they have been priced out of ownership of home telephones. Also, the analysis required selection by marital status, probably resulting in under-reporting of mothers with partners not claimed as a spouse. Further, the analyses of labor-force rates were calculated for women ages 16-64 who had household children under age 16 , which excluded a very small number of children of mothers whose age was 15 or younger and age 65 or older.

National studies.

Summaries and revised presentations of national studies are also included, either because they provide estimates that are missing from local data or because they provide the comfort of being able to make validating alternative estimates from independent sources. Included are:

- A nationally representative sample survey of children under the age of 6, conducted by the **National Center for Health Statistics** in 1988 and reported in the October 1, 1990 issue of Advance Data (Deborah A. Dawson and Virginia S. Cain, "Child Care Arrangements: Health of Our Nation's Children, 1988.") The study provides information about the supplemental child care arrangements of children whether or not their parents are in the labor force.
- A 1987 national population survey by the **Bureau of Labor Statistics** (Bulletin 2307, August 1988) providing the number of children of in-the-labor-force parents by age of child and type of family structure. The figures provide a basis for creating formulas to convert numbers of children to numbers of mothers in the labor force by age of child.

Employee surveys.

Employee surveys conducted by **Arthur Emlen & Associates, Inc.** and the **Regional Research Institute for Human Services, Portland State University** (Arthur C. Emlen and Paul E. Koren, Employee Dependent Care Surveys, 1987, 1989, 1990). This source provides detailed data on the patterns of child care used by employed parents for children of different ages, by sex, marital status, and employment status of spouse. Although these are the best data available, they are based on employee surveys that are not known to be representative of Oregon households. They under-represent the most sparsely inhabited rural counties that have fewer child care centers, and may reflect other sources of bias that are unknown. However, they do represent a two-thirds response rate from the surveyed workforce in a wide range of geographic areas, incomes, and occupations.

Resource and Referral Service Data.

The **Oregon Child Care Resource and Referral Network**, together with the **Oregon Commission for Child Care**, provide monthly, quarterly, annual, and a continuing source of data through a data system called CareFinder. It reports the child care

requests and providers in each county or group of counties served by the regional CCR&R agencies. A primary purpose of this compendium is to assist in evaluating this source of data in the context of population estimates of total potential child care supply and demand. The Oregon Commission for Child Care incorporates Network data into the spreadsheet model shown in this report for use in assessing child care supply and demand.

APPENDIX B: POPULATION ESTIMATES

Population Estimates of Oregon Children and Youth by Age and Sex

(Source: PSU Center For Population Research and Census, July 1, 1989) The 1990 data, which were not available at the time this report was written, result in a 4.5 percent increase in the estimated number of children under age 5 and a 1.9 percent increase in children ages 5-15.

CUMULATIVE AGE TOTALS

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All Children</u>
<1	20,366	19,408	39,774
<2	40,293	38,398	78,691
<3	59,894	57,082	116,976
<4	79,858	76,116	155,974
<5	99,771	95,093	194,864
<6	119,821	114,201	234,022
<7	140,264	133,686	273,950
<8	161,643	154,065	315,708
<9	183,514	174,907	358,421
<10	205,204	195,757	400,961
<11	225,725	215,152	440,877
<12	245,729	234,058	479,787
<13	265,839	252,667	518,506
<14	285,043	270,999	556,042
<15	304,004	289,008	593,012
<16	322,222	306,525	628,747
<17	340,971	324,778	665,749
<18	360,421	343,181	703,602
<19	381,841	363,279	745,120
<20	403,372	383,758	787,130
<21	423,299	402,999	826,298

2-YEAR AGE CATEGORIES

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All children</u>
0-1	40,293	38,398	78,691
2-3	39,565	37,718	77,283
4-5	39,963	38,085	78,048
6-7	41,822	39,864	81,686
8-9	43,561	41,692	85,253
10-11	40,525	38,301	78,826
12-13	39,314	36,941	76,255
14-15	37,179	35,526	72,705
16-17	38,199	36,656	74,855
18-19	42,951	40,577	83,528
20	19,927	19,241	39,168

3-YEAR AGE CATEGORIES

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All Children</u>
0-2	59,894	57,082	116,976
3-5	59,927	57,119	117,046
6-8	63,693	60,706	124,399
9-11	62,215	59,151	121,366
12-14	58,275	54,950	113,225
15-17	56,417	54,173	110,590
18-20	62,878	59,818	122,696

5-YEAR AGE CATEGORIES

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All Children</u>
0-4	99,771	95,093	194,864
5-9	105,433	100,664	206,097
10-14	98,800	93,251	192,051
15-19	99,368	94,750	194,118
20-24	99,862	95,598	195,460
5-15 (for B&N)	222,451	211,432	433,883

Population of Adults and Potential Labor Force Participants

(Source: PSU Center For Population Research and Census, July 1, 1989)

SUMMARY

<u>Age Span</u>	<u>Male</u>		<u>Female</u>		<u>All Oregonians</u>	
<18	360,421	26%	343,181	24%	703,602	25%
18-64	849,444	62%	855,250	60%	1,704,694	61%
65+	158,548	12%	224,156	16%	382,704	14%
All ages	1,368,413	100%	1,422,587	100%	2,791,000	100%

10-YEAR AGE CATEGORIES

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All</u>
15-24	210,900	201,458	412,358
25-34	221,556	224,463	446,019
35-44	224,280	223,520	447,800
45-54	141,286	141,467	282,753
55-64	107,839	118,515	226,354
65-74	96,719	119,345	216,064
75+	61,829	104,811	166,640

SELECTED AGE GROUPINGS

<u>Age Span</u>	<u>Male</u>	<u>Female</u>	<u>All</u>
14+	1,083,370	1,151,588	2,234,958
15+	1,064,409	1,133,579	2,197,988
16+	1,046,191	1,116,062	2,162,253
17+	1,027,442	1,097,809	2,125,251
18+	1,007,992	1,079,406	2,087,398
14-64	924,822	927,432	1,852,254
15-64	905,861	909,423	1,815,284
16-64	887,643	891,906	1,779,549
17-64	868,894	873,653	1,742,547
18-64	849,444	855,250	1,704,694
16-24	192,682	183,941	376,623
25-54	587,122	589,450	1,176,572

APPENDIX C: SUPPLEMENTARY FINDINGS

The following supplementary findings from Oregon as well as national data provide perspective on labor force participation rates:

- Labor force mothers as a proportion of women in or out of the labor force in Oregon;
- Labor force participation rates as affected by age of child; and
- Number of children involved in families whose mothers are in or out of the labor force.

Estimates of Labor Force Participation

Based on Bardsley & Neidhart 1990 survey:

Labor force participation rate of mothers age 16-64:	64%
Mothers as a % of women:	45%
Mothers in labor force as a % of women:	30%
Mothers in LF as % of women in LF:	47%

Summary based on 1987 Bureau of Labor Statistics data:

Based on national data, the following percentages provide perspective on the amount of variation in labor force participation that is associated with the marital status of mothers and the ages of their children.

Bureau of Labor Statistics: Percent of children whose mothers are in the labor force and have:

		5-year olds	57.3%
children <18	61.7%	4-year olds	55.7
children 6-17	65.7	3-year olds	54.4
children <6	54.1	2-year olds	54.8
		1-year olds or younger	51.1

In the 1987 Bureau of Labor Statistics data, the number of **children of single fathers maintaining families** as a percentage of all children of mothers or single fathers in the labor force is 2.5% of children <18, 2.9% of children 6-17, and 1.9% of children <6.

Bureau of Labor Statistics:

<u>LF rates of women who:</u>	<u>%</u>
All women	55.4%
Have no children <18	50.5
Have children <18	64.7 (40.4% of women in LF)
Have children 6-17	72.0
Have children <6	56.7
Have children 3-5	62.4
Have children <3	52.9
Ever married, kids <18	65.6
Married, spouse present, kids <18	63.8
Widowed, divorced, separated, kids <18	73.9
Single, never married, kids <18	54.8

Number of Children per Family, by Labor Force Participation and Type of Child Care

These statistics are needed for estimating numbers of children from numbers of mothers in the labor force or not in the labor force. Separate estimates are required because mothers in the labor force have somewhat smaller families. To convert in the other direction, simply divide 1 by 1.64, for example, to get the percentage for estimating the number of mothers (families) in the labor force with children <18 from the number of children <18 of mothers in the labor force.

Bardsley & Neidhart:

Number of children <16 per Oregon family	16-64: 1.96	16+: 1.95
Number of children <16 per family	<u>Mothers 16-64</u>	<u>Fathers 16-64</u>
Employed Full-time	1.82	1.96
Employed Part-time	1.85	2.06
Not employed	2.15	2.00
All parents in or out of labor force	1.95	1.97

Bureau of Labor Statistics:

<u>Ages of children</u>	<u># of kids per family</u>		
	<u>mother in LF</u>	<u>mother not in LF</u>	<u>All kids</u>
< 18	1.64	1.86	1.72
6-17	1.98	2.66	
< 6	1.17	1.30	
3-5	1.41	1.85	
< 3	1.00	1.01	

Regional Research Institute: (data from employed mothers)

<u># of children per family by age of child</u>	<u>in family day care</u>	<u>in the family</u>
< 5	1.2	1.2
< 10	1.4	1.5
< 6	1.3	1.3
< 9	1.4	1.5
< 12	1.4	1.6

For all tables, see discussion of confidence limits and potential bias in Appendix A, Sources of Data.

APPENDIX D: GLOSSARY OF TERMS AND ABBREVIATIONS

Accessibility is a term used to describe whether or not families can know about, find, or conveniently use the care they need in the geographic area. Given the high percentage of care that is "invisible" (see description below) this is a major problem in areas that do not have a community based child care resource and referral (see description below).

ADC: Aid to Dependent Children

Affordability is a term used to describe whether or not families can pay for the care they need in the geographic area. If one assumes a family should not have to pay more than 10% of income for care and market care in Oregon is averaging \$2,500 per child, then child care is not affordable for approximately 40% of Oregon families.

AFS: Adult and Family Services Division of the Oregon Department of Human Services

Availability is a term used to describe whether or not the care families need exists in the geographic area.

B&N: Bardsley & Neidhart, Inc.

BLS: Bureau of Labor Statistics

CCR&R: Child Care Resource and Referral

Child care demand describes the number of children currently in market care as well as those children whose parents are currently looking for care or are looking for work. These are children for whom parents are using child care while working, going to school or are using care for reasons related to the parent's or child's own needs. For example, respite for parent or social or cognitive development for child.

Child care effective demand limits actual demand to those who are willing and able to purchase care at current rates.

Child care resource and referral agencies are organizations designed to improve access for parents, providers and employers. Community-based child care resource and referral agencies also serve their communities and the state; acting as hubs of the child care system and providing linkages between all involved in child care. One of their critical functions is to document child care supply and demand and to report this data to local and state decision makers on a regular basis. Efforts to improve the working of the child care system require solid, accurate information as the basis of decision making.

Child care supply describes the number of providers of market care and the number of market child care spaces available. See the definition of market care for a listing of the kinds of providers included. Estimation of supply is all that is possible given the absence of Oregon law requiring part-day centers or family day care to be registered or certified.

CSD: Children's Services Division of the Oregon Department of Human Resources

Early care and education:

The care and education of children aged 0 through 15 years by persons other than their parents for part of the 24 hour day. No consensus exists for a single term to describe this activity. Commonly used terms include: child care, day care, early childhood education, educare. A high level of consensus does exist that care and education of young children cannot be separated. In this paper we separate all care into market and non-market care. Market care describes that care which happens clearly outside of the child's family. Non-market care includes parental care, non-parental care given by kith or kin and any care that takes place in the child's own home (see "market care" and "non-market care" below).

Enrolled child care refers to those providers that are enrolled in a community based child care resource and referral data base. The resource and referral agencies work to identify what would otherwise be "invisible" child care, the legal but not registered or certified provider. Providers who then self-certify to meet the resource and referral standards are enrolled.

Full cost of care is a phrase used to distinguish the actual cost from the amount providers charge parents. Actual cost of care would need to take into account: free or low rent in churches; donated time of volunteers; donated equipment; and the amount of income sacrificed by providers who could earn more elsewhere. The last of these is the major subsidy.

Invisible child care is a term used to describe that care which is not registered or certified by Children's Services Division or enrolled with one of the child care resource and referral agencies. Researchers are able to estimate the size of invisible portion of market child care by combining demographics with what is known from research on parent usages of the different forms of child care. At this time a majority of market care provided Oregon children is invisible to programs designed to improve its accessibility and quality.

Labor force describes those employed full time or part time or unemployed but looking for work. Maternal labor force participation describes the percentage of women 16-64 years old with children under age 16 years employed part-time, full-time or looking for work. Child care demand of mothers in education or training is estimated along with that of mothers not in the labor force.

LF: Labor force

Market care is any child care or activity found outside of the child's home and found in the child care market; not with family or relative. Types include:

- **Center** includes full day centers; part-day centers (preschools, nursery schools, Head Start); and before and after school programs. Centers that meet the following definition must be certified by Children's Services Division: "a day care facility that cares for thirteen or more children, or a facility that is certified to care for twelve or fewer children and located in a building constructed as other than a single family dwelling."
- **Family child care** describes care for a child in the home of the person who provides care. Registered homes care for no more than six children and include no more than two children under two. Non-registered homes can care for up to ten children with no limitation on the number of infants. Group homes care for no more than 12 children at a time in the provider's own home and are required to be certified.
- **Other activities** describes those community activities such as after-school educational and recreational programs offered by libraries and recreation centers. This is the most commonly used form of market care for children over age 8 years.

Non-market care is that care given by a relative or given by any person in the child's own home. Families may or may not pay for this form of care. Many believe that this care is totally the private business of the child's family and hence outside the market. Types include:

- **Care by parents** working staggered work hours or while at work.
- **Care by a relative or very close friend (kith)** can take place in the child's own home or in the relative's home.
- **Care by an older sibling** happens in the child's own home and is most common as a form of before and after-school care.
- **Self care by a child** is a common form of care for children over 8 years of age.
- **In-home care** describes care by a non-relative in the child's own home. Nanny is a term commonly used to describe this type of caregiver.
- **Shared care** describes an in-home arrangement in which one in-home provider is employed to care for the children of several families who share the cost.

Parent choice or parent preference are both terms used to describe parental ability to determine the kind of care and the caregiver of choice. Although child care is driven by parental choice, those choices are limited by what is available and what funds the family has. Researchers have great difficulty documenting true parental preference due to these factors. Hence it is more accurate to refer to parental choices than to parental preferences. A major public policy issue revolves around the question of whether parents whose child care is wholly or partially publicly funded should have their choices restricted.

PSU: Portland State University

Quality is a term often used and even more often debated. Research has found that early care and education programs of good quality have positive effects on children. Children have significantly better test scores and behave in observably different ways. They achieve more in their lives and cost society less in the long run. Low quality programs, however, fail to have these positive effects and have been found to harm children. The important elements of quality are intangible: the relationship between adults and children, the creation of a social group of children that has a sense of community. Some of the **measurable factors** that have been found to be associated with quality are: **group size; ratios of children to adults; training of staff; salaries of staff; and well-designed space.**

R&R: Resource and Referral, i.e. Child Care Resource and Referral

Regulation refers to state activity to provide consumer protection to families using care that the state chooses to regulate. Oregon has three distinct regulating activities: **certification, voluntary registration and standards for non-registered.**

- Centers and group homes are required to be **certified** which means that the facility receives on-site inspection by Children's Services Division, sanitarian and fire marshall annually.
- Oregon has two sets of family child care standards. One applies to providers who choose to register and the other applies to providers who do not register.
- Family child care providers may **register** which entails an orientation, self-certification, and a criminal record check of provider and family members over 18 years of age who are in the home when child care children are present. There is an on-site visitation if a complaint is received.

- Standards for providers who do not register allow for a larger number of children and no limitation on number of infants in care. Only child abuse and "over-number" complaints receive follow-up.

RRI: Regional Research Institute for Human Services, Portland State University

SDA: Service Delivery Area for child care resource and referral.

APPENDIX E: CAREFINDER DATA ELEMENTS USED BY CCR&R'S

CareFinder is a computerized data base management program of Work/Family Directions. Work/Family franchises local child care resource and referral agencies that meet their criteria. Only franchised resource and referral agencies may purchase CareFinder. In Oregon, designation by the Oregon Commission for Child Care as the child care resource and referral agency for one of the 16 specific service delivery areas makes an agency eligible for a Work/Family franchise.

CareFinder includes 142 fields of data on parents who use the r&r service and 166 fields of data on enrolled providers. After a parent receives an educational consultation and their child care needs and preferences are recorded in CareFinder, the computer is able to do a search which matches parents and providers by a large number of variables which include: location, hours, cost, kind of care preferred and other quality variables such as training, non-smoking and kind of program offered.

CareFinder has functions which enable the computer to report data on parent demand and provider supply. These reports provide detail on kind of care requested including ages and other characteristics of children needing care; reasons care is needed and parent preference. Provider data includes kind, hours and other characteristics of care given, cost and numbers of spaces available.

APPENDIX F: THE OREGON CHILD CARE RESOURCE AND REFERRAL NETWORK

The Oregon Child Care Resource and Referral Network is a non-profit corporation whose membership is composed of those agencies designated by the Oregon Commission for Child Care as the community based child care resource and referral agency for their service delivery area. The Commission divided the state into 16 service delivery areas and has designated CCR&R agencies in 11 of the 16 regions.

The purpose of the Network is the development of a high quality child care resource and referral system throughout Oregon. The Network provides training and technical assistance to its members. It also works with the Oregon Commission for Child Care to collect and report child care supply and demand data in a way that provides local and state decision makers with needed information. Specific uses of Network/Commission generated data include:

- assist local planning efforts of human services, economic development, education, and employment agencies;
- focus efforts to develop new child care services in areas of unmet need;
- assist employers in meeting the child care needs of their employees; and
- provide timely and accurate information local and state policy-makers and program managers about quality and adequacy of child care services.

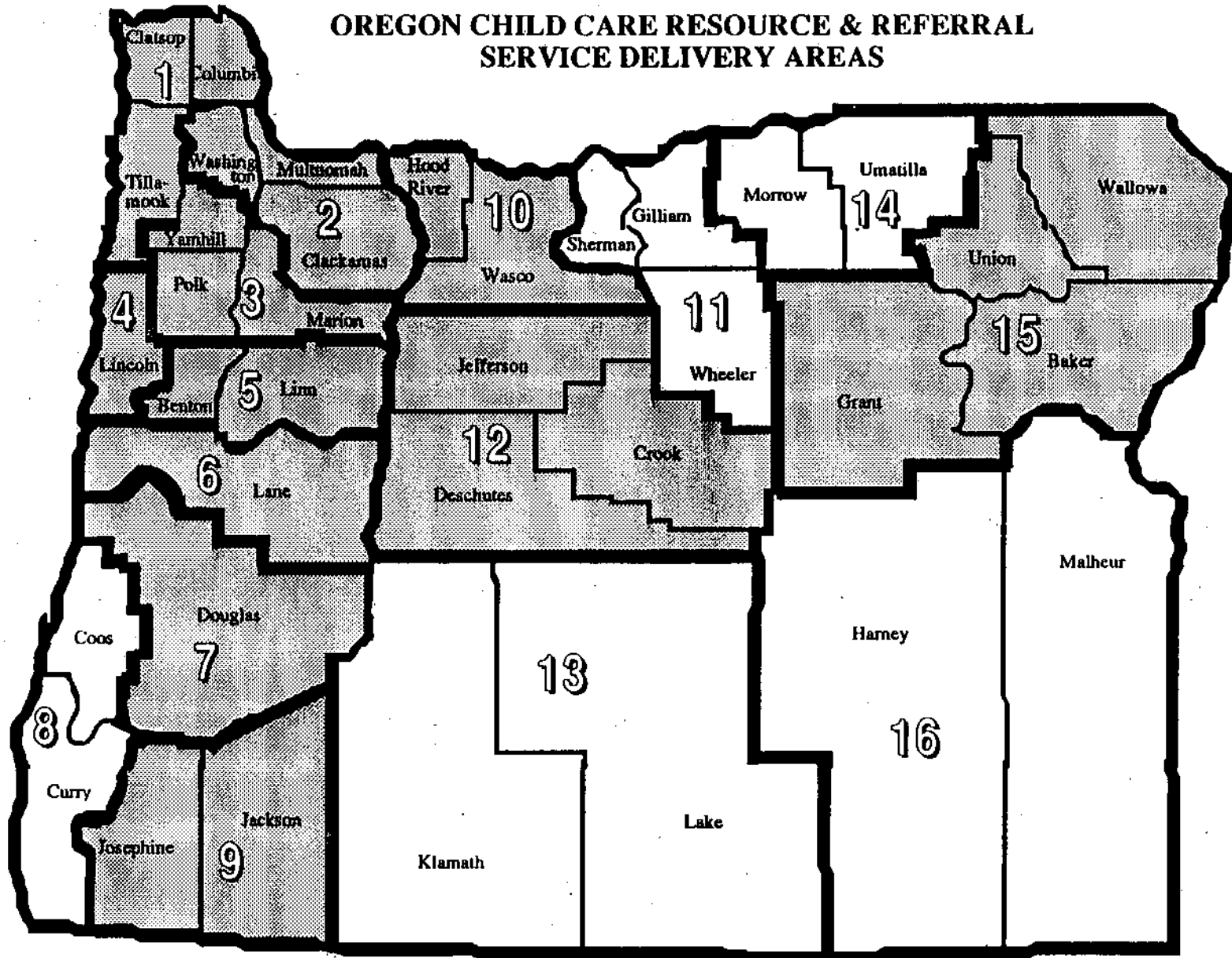
Following is a directory of the 11 designated child care resource and referral agencies and of the four emerging agencies. A map shows the location of each region.

Directory: Oregon Child Care Resource & Referral Network

SERVICE DELIVERY AREA # COUNTIES SERVED	SPONSORING AGENCY & CONTACT PERSON
SDA #1: Clatsop, Columbia and Tillamook Counties	Community Action Team Charlotte Hart 310 Columbia Boulevard St. Helens, Oregon 97051 503/397-3511
SDA #2: Clackamas, Multnomah and Washington Counties	Metro CCR&R Karen Gorton P.O. Box 16521 Portland, Oregon 97216 503/253-1561
SDA #3: Marion, Polk and Yamhill Counties	MidWillamette Valley Community Action Agency Lorine Day-Reynolds 1255 Edgewater N.W. Salem, Oregon 97304 503/585-2491
SDA #4: Lincoln County	Careerpaths Training & Resource Center Muriel Demory 163 N.E. 11th Newport, Oregon 97365 503/265-3087
SDA #5: Linn and Benton Counties	Linn Benton Community College Bobbie Weber 6500 S.W. Pacific Boulevard Albany, Oregon 97321 503/967-8835
SDA #6: Lane County	Lane Community College Sandra Ing 4000 East 30th Street Eugene, Oregon 97440 503/747-4501, ext. 2132
SDA #7: Douglas County	Umpqua Community Action Network Polly Stirling 2448 W. Harvard Boulevard Roseburg, Oregon 97470 503/672-7004 or 503/672-7955

SDA #8: Coos and Curry Counties	Coos Education Service District Gerri Livingston 1350 Teakwood Coos Bay, Oregon 97420 503/888-7203
SDA #9: Jackson and Josephine Counties	The Job Council Mary O'Kief 3069 Crater Lake Avenue Medford, Oregon 97504 503/776-5100
SDA #10: Hood River and Wasco Counties	Columbia Gorge Community College Ruth Lusk 300 E. Fourth Street The Dalles, Oregon 97058 503/298-5200
SDA #11: Gilliam, Sherman and Wheeler Counties	No activity
SDA #12: Crook, Deschutes and Jefferson Counties	Central Oregon Community Action Agency Network Holly Hutton 2303 S.W. First Street Redmond, Oregon 97756 503/389-3311
SDA #13: Klamath and Lake Counties	Early Intervention Services Vicki Harris 1336 Avalon Klamath Falls, Oregon 97603 503/883-4748
SDA #14: Morrow and Umatilla Counties	Head Start of Umatilla-Morrow County Karen Graybeal 721 S.E. Third Pendleton, Oregon 97801 503/278-0770
SDA #15: Baker, Grant, Union and Wallowa Counties	Center for Parenting Excellence Dierdre Jones 1104 K Avenue La Grande, Oregon 97850 503/963-9404
SDA #16: Harney and Malheur Counties	Treasure Valley Community College Genevieve Johannsen 650 College Boulevard Ontario, Oregon 97914 503/889-6493

OREGON CHILD CARE RESOURCE & REFERRAL SERVICE DELIVERY AREAS



■ CCR&R services funded by Commission for Child Care □ Area not yet funded for CCR&R services

APPENDIX G: THE OREGON COMMISSION FOR CHILD CARE

The Commission for Child Care is a state advisory body charged with advising the Governor and Legislature on the child care policies and programs. The Commission was created by an act of the 1985 Legislative Assembly to "address the issues, problems and alternative solutions that are critical to the development of accessible, affordable and quality child care services."

The Commission consists of 20 citizens and 3 legislators, appointed by the Governor, Senate President and Speaker of the House of Representatives. Commission membership is intended to represent child care consumers, providers, state and local government, business management, labor, pediatric medicine, early childhood development, tax and legal expertise, and the Commission for Women. Appointed Commission members serve a three-year term on a volunteer basis. Legislative members serve a two-year term. Commission staff consists of a part-time administrative officer.

The Commission conducts monthly business meetings, regional and community forums, an annual policy and planning retreat, and an annual child care conference. In addition, Commission members provide advice and technical assistance to community child care programs and activities, and serve on a variety of related state and local committees and task forces.

The Commission has published four reports which highlight the basic child care issues facing families in Oregon. Each report contains detailed information on current child care trends, and provides specific recommendations for legislative and administrative action.

The Commission sets policy, direction and State funding for Oregon's system of community-based child care resource and referral programs. The CCR&R program was created by the 1989 Legislative Assembly to provide, on a community basis, consultation and referral services to parents, technical assistance and access to training for providers, technical assistance to employers, a complete listing of all available child care services, and detailed statistics on the size and characteristics of child care supply and demand. As of January 1991, the Commission provided matching funds to 11 regional CCR&R programs serving 25 of 36 counties and 90% of Oregon's population. Administration, contracting and technical support for the CCR&R program is provided by the Children's Services Division through an interagency agreement with the Commission.

In March 1991, the Commission was charged by the Governor with responsibilities for developing a multi-year child care strategic plan. The plan will encompass all public and private child care activities and services in Oregon. The Commission will enlist participation from a broad cross section of Oregon consumers, employers, providers, state and local government, and specialists in early childhood development. The first plan is scheduled for release to the Governor and Legislature by February 1992.

The Commission office is located at the Children's Services Division, 198 Commercial Street S.E., Salem, Oregon 97310. The office telephone number is 503/378-3178.

APPENDIX H: THE OREGON CHILD CARE INITIATIVE

Initiative History. In October, 1988 the Oregon Child Care Initiative Foundation was incorporated to solicit funding from corporate and private sources and to encourage collaborative solutions to Oregon's child care crisis. The foundation was developed during more than a year of grass roots efforts by child care advocates, legislators, public officials and business leaders. The Initiative became a sub-fund of the Oregon Community Foundation in August 1989.

Initiative Intent. Increase access to stable high quality child care.

Initiative Objectives

1. Establish an infrastructure to conduct a statewide initiative.
2. Establish or strengthen community-based child care planning groups.
3. Provide training and technical assistance to caregivers.
4. Establish or strengthen local child care resource and referral agencies.
5. Strengthen consumer education about child care.

Funding for projects is available to communities through proposals to carry out the Initiative's intent. Local advocates will be requested to network within their community in relation to existing resources and potential partnerships. The Initiative will encourage collaborative efforts that are flexible, unique, and responsive to the community needs. It is the Initiative's intent to build on existing resources and partner with public grants such as the Oregon Commission for Child Care and Children's Services Division grant programs. The initiative will not generally award grants to more than one organization within a district. Separate groups are encouraged to submit grants together as a cooperative collaborative effort.

Priority is given to projects that:

- Demonstrate cooperative efforts among a variety of child care interests in the community
- Submit documented support from corporate and municipal sectors in the community
- Present evidence of consensus among child care and education sectors of the community

APPENDIX I: STATE OF OREGON CHILD CARE ACTIVITY

Department of Human Resources. The Department of Human Resources houses child care programs in several of its divisions: The Office of Child Care Coordination in the Office of the Director, the Adult and Family Services Division and the Children's Services Division.

• Director's Office, Office of Child Care Coordination is charged with coordination of state child care activities and works closely with the Commission for Child Care, state and local agencies, and with private, community-based child care provider groups on a variety of child care service and planning issues. The Department of Human Resources is the lead agency for the Child Care and Development Block Grant. The Office of Child Care Coordination is facilitating the development of the plan for these federal funds and is staffing the Interagency Child Care Group.

Coordination of planning the state's child care activities is done by the Interagency Child Care Group which includes representatives from the Director's Office of the Department of Human Resources and from its respective divisions (Adult & Family Services, Children's Services, Employment, Health, Mental Health and Developmental Disabilities Services). Representatives from other state agencies and commissions serving on the Interagency Child Care Group are: Commission for Child Care, Department of Education, Economic Development Department, Executive Department, Office of Community College Services, Oregon Community Children and Youth Services Commission and the State System for Higher Education.

The Office of Child Care Coordination also administers the Dependent Care Block Grant which assists in the development of dependent care information and referral services and school age child care programs. These programs are delivered through a sub-contract with Mid-Willamette Valley Community Action Agency. The School Age Child Care Program is housed in the Department of Education.

Finally, the Office of Child Care Coordination also encourages and assists employers interested in developing child care programs for their employees. The office promotes the state employer dependent care assistance tax credit program, which was enacted in 1987.

• Adult and Family Services Division (AFS) provides child care assistance to low-income families through several programs: child care benefits are provided to families on ADC, and direct financial assistance is provided to parents participating in JOBS education and employment training programs and to families leaving welfare for work. Other low-income working families are served through a state-funded Employment Related Day Care program (ERDC). AFS has also developed specialized programs to provide child care assistance to teen parents who are participating in education programs as a part of their involvement with AFS.

• Children's Services Division (CSD) operates four child care programs: Day Care Certification and Family Day Care Registration, Migrant Day Care Program, Supportive Remedial Day Care and Child Care Resource and Referral.

Certification and Registration include promulgating regulations and policy pertaining to operation of child care facilities. The office provides assistance, support and training to certifiers who are located in CSD regional offices. Certifiers in turn inspect day care centers and family group homes to insure compliance with regulations. They work with community groups to assist them in developing and operating child care programs in their

communities. Certifiers support family day care registration by doing new applicant orientations and investigating complaints.

The Migrant Day Care Program funds services to children of migrant farm workers throughout the state. The Supportive Remedial Day Care Program provides respite care to support families at risk of abuse or neglect. Under an interagency agreement with the Commission for Child Care, CSD provides administrative support for the Child Care Resource and Referral program.

Oregon Community Children and Youth Services Commission. Through allocations to counties by the Oregon Children and Youth Services Commission, state funds have been used to develop a variety of child care programs on the community level. Great Start, a program for children 0-6, has provided for the development of new programs and financial assistance to parents with child care costs. The community planning process implemented on a statewide level through the OCCYSC has helped to identify child care needs and priorities in all Oregon counties. The Commission, both on a state level and through its county commissions, works closely with other state and local agencies addressing the need for child care in Oregon.

APPENDIX J: OREGON BENCHMARKS RELATED TO CHILD CARE: INDIVIDUAL AND QUALITY OF LIFE BENCHMARKS OF THE OREGON PROGRESS BOARD

Oregon is proud of its high quality of life characterized by respect for its people and its environment. *Oregon Shines*, a 20-year strategic plan for achieving sustained economic prosperity and an enhanced quality of life for Oregonians articulates the state vision. Oregon's vision relates the quality of environmental, economic and social health. The Oregon Progress Board, a group of influential Oregonians, have been charged with articulating the vision and monitoring Oregon's progress toward the vision.

Public and private policy-makers have begun to recognize the direct connections between child care and efforts to reform human resource programs, restructure education programs and promote economic prosperity. Recognition of these relationships is embodied in *Oregon Benchmarks*, the set of measurable standards for assessing Oregon's progress towards achieving the goals described in *Oregon Shines*. In two reports the Oregon Progress Board officially recognized child care as a key indicator of Oregon's efforts to sustain a high quality of life.

The connection between *Oregon Benchmarks* and the Aspen Project is far reaching and significant to the future development of effective child care policies and programs. First, the Aspen Project provided critical information to the Oregon Progress Board to develop three key "quality of life" benchmarks related to child care. Based on Aspen Project research, the Oregon Progress Board elected to measure progress in child care by tracking the relationship of child care demand to child care supply (Benchmark No. 40), the characteristics and quality of available child care (Benchmark No. 41) and the relative affordability of child care (Benchmark No. 42). The Aspen Project has developed the necessary methods for the Commission for Child Care and the Oregon Child Care Resource and Referral Network to monitor and report on these three key benchmarks.

A second and more significant product of the connection between *Oregon Benchmarks* and the Aspen Project relates to child care planning and policy development. *Oregon Benchmarks* promotes long-range strategic planning based on measurable performance goals and timely and accurate information. These principles are guiding the efforts of the Commission for Child Care to adopt and monitor a long-range strategic plan for child care. The Commission's efforts are based on the information provided through the Aspen Project and data collected by the Oregon Child Care Resource and Referral Network. This information will be added to a growing inventory of research and issue papers from communities throughout Oregon, and used by a broad based public and private planning committee to develop specific and long-range child care plans and benchmarks. The Commission's first planning report will be adopted in June 1991, followed by a detailed strategic plan to be completed by Spring 1992. The materials developed by the Aspen Project will provide a critical basis of information for the Commission's efforts.

**APPENDIX K: ASPEN MODEL OF CHILD CARE SUPPLY AND DEMAND:
ESTIMATES BY OREGON COUNTY AND CCRR SERVICE
DELIVERY AREA**

The following spreadsheets and charts were prepared using a child care supply and demand model developed by the Aspen Project. All estimates are based on 1989 population estimates provided by the Portland State University Center for Population Research and Census. Additional factors related to families, work force and child care were provided by a variety of local, state and national sources as identified in the text of this report.

The reader should keep in mind that these are **estimates** based on the very best available information. In particular, the reader should be aware that county and regional estimates are based on statewide, rather than local or regional, characteristics of child care demand. With continued funding and support, future estimates and reports will be more sensitive to local and regional variations in the characteristics of child care demand.

The appendix presents county estimates first, followed by estimates for the CCRR service delivery areas.

APPENDIX K

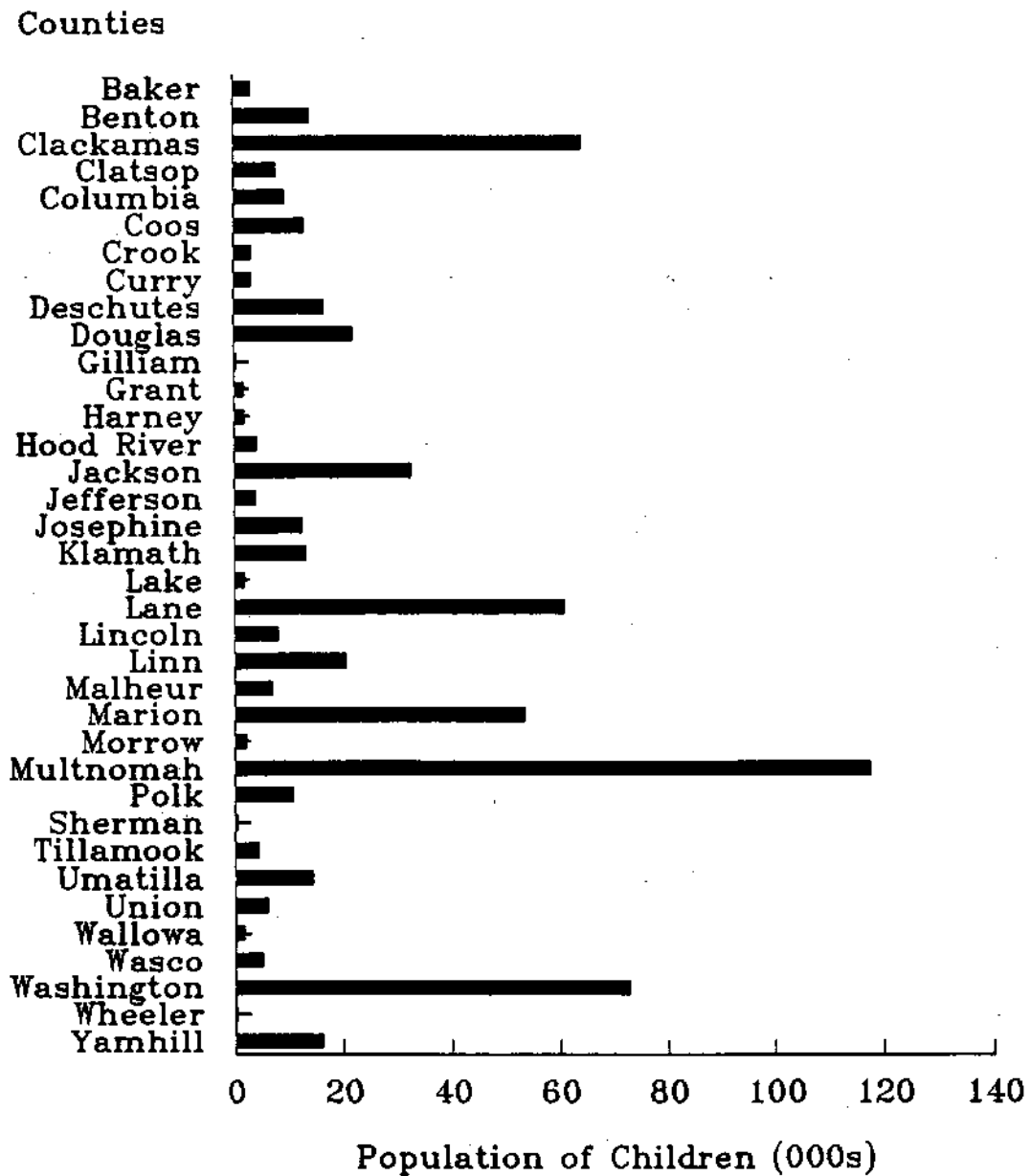
Section A. County Estimates

APPENDIX K. ASPEN Model Spreadsheets
 Schedule 1. 1989 Population Estimates by Oregon County

County	SDA	1989 Population Estimates by Age Groupings ----->				
		Age 0-5	Age 6-10	Age 11-15	Under 16	All Ages
Baker	15	1,071	1,071	1,003	3,145	15,350
Benton	5	5,255	4,586	4,201	14,042	71,000
Clackamas	2	23,099	20,585	20,599	64,283	265,500
Clatsop	1	2,800	2,648	2,364	7,812	35,200
Columbia	1	3,096	3,066	3,114	9,276	37,300
Coos	8	4,339	4,372	4,278	12,989	60,300
Crook	12	1,163	1,095	970	3,228	13,600
Curry	8	1,112	1,170	989	3,271	19,200
Deschutes	12	6,227	5,526	4,944	16,697	70,600
Douglas	7	7,459	7,248	7,035	21,742	95,000
Gilliam	11	114	139	114	367	1,850
Grant	15	661	630	581	1,872	8,300
Harney	16	584	594	629	1,807	7,400
Hood River	10	1,522	1,326	1,154	4,002	17,000
Jackson	9	12,198	10,382	9,919	32,499	145,000
Jefferson	12	1,606	1,209	1,017	3,832	12,100
Josephine	9	4,481	4,081	4,042	12,604	64,200
Klamath	13	4,638	4,304	4,139	13,081	58,500
Lake	13	605	553	559	1,717	7,400
Lane	6	21,941	20,043	18,722	60,706	280,000
Lincoln	4	2,995	2,761	2,314	8,070	39,500
Linn	5	7,279	6,642	6,508	20,429	90,000
Malheur	16	2,417	2,241	2,084	6,742	26,000
Marion	3	20,322	17,722	15,544	53,588	224,000
Morrow	14	730	652	597	1,979	7,500
Multnomah	2	46,406	39,276	31,853	117,535	581,000
Polk	3	3,880	3,475	3,251	10,606	47,800
Sherman	11	124	161	143	428	2,000
Tillamook	1	1,443	1,543	1,376	4,362	21,600
Umatilla	14	5,071	4,962	4,316	14,349	58,100
Union	15	1,958	2,002	1,892	5,852	23,300
Wallowa	15	503	578	475	1,556	7,200
Wasco	10	1,715	1,650	1,626	4,991	21,100
Washington	2	29,134	23,102	20,687	72,923	295,000
Wheeler	11	62	75	80	217	1,400
Yamhill	3	6,012	5,385	4,751	16,148	60,700
State Total		234,022	206,855	187,870	628,747	2,791,000
Average		6,501	5,746	5,219	17,465	77,528
Low End		62	75	80	217	1,400
High End		46,406	39,276	31,853	117,535	581,000

Source: Portland State University
 Center for Population Research and Census

Table 1
Population of Children under Age 16
 (PSU Population Center - 1989)



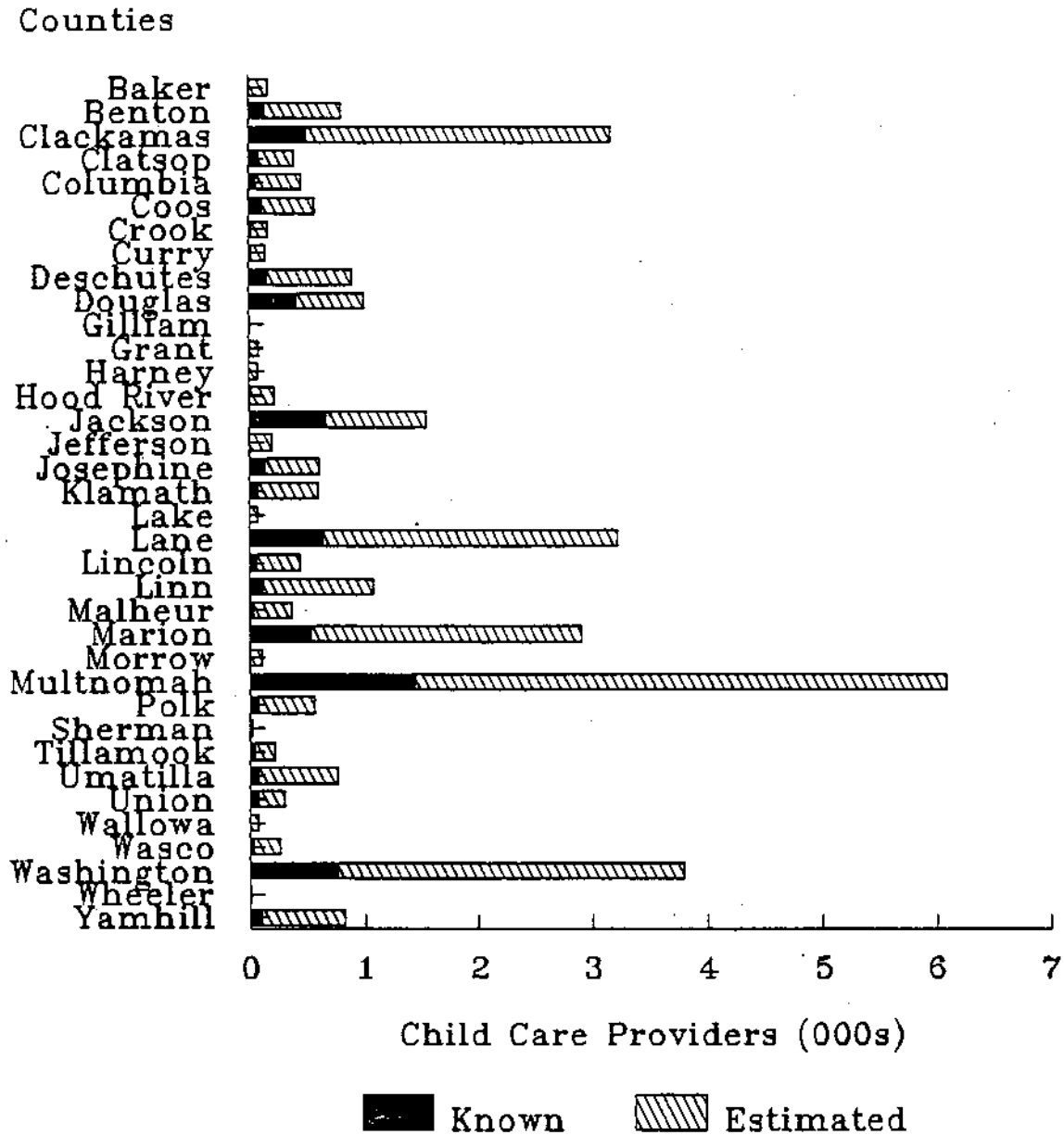
APPENDIX K. ASPEN Model Spreadsheets
 Schedule 2. Known and Estimated Child Care Providers

County	SDA	Known Child Care Providers ----->				Estimated	GRAND TOTAL
		Licensed Centers	Group Homes	Other Sites	Family Providers	Family Providers	
Baker	15	1	3	0	9	151	164
Benton	5	30	0	42	69	657	798
Clackamas	2	52	3	0	442	2,670	3,169
Clatsop	1	5	2	10	67	315	399
Columbia	1	3	0	8	55	390	456
Cook	8	7	2	0	103	465	577
Crook	12	1	0	1	18	144	164
Curry	8	5	0	0	18	126	149
Deschutes	12	17	4	24	117	731	893
Douglas	7	11	1	30	364	594	1,000
Gilliam	11	0	0	0	0	18	18
Grant	15	2	0	0	9	75	86
Harney	16	1	1	0	5	73	80
Hood River	10	3	0	0	11	205	219
Jackson	9	22	11	38	598	869	1,538
Jefferson	12	4	0	1	3	197	205
Josephine	9	15	2	26	95	466	604
Klamath	13	6	2	0	64	522	594
Lake	13	1	0	0	1	76	78
Lane	6	88	37	0	508	2,590	3,223
Lincoln	4	13	0	27	26	372	438
Linn	5	9	2	28	78	959	1,076
Malheur	16	12	6	0	15	333	366
Marion	3	68	10	48	405	2,380	2,911
Morrow	14	2	0	0	2	103	107
Multnomah	2	172	7	0	1,257	4,645	6,081
Polk	3	9	1	9	52	492	563
Sherman	11	0	0	0	0	21	21
Tillamook	1	2	0	6	36	172	216
Umatilla	14	6	2	0	63	689	760
Union	15	1	1	4	74	223	303
Wallowa	15	1	1	0	1	77	80
Wasco	10	3	0	0	32	227	262
Washington	2	91	25	0	646	3,033	3,795
Wheeler	11	0	0	0	0	11	11
Yamhill	3	6	1	24	66	726	823
State Total		669	126	326	5,309	25,800	32,230
Average		19	4	9	147	717	895
Low End		0	0	0	0	11	11
High End		172	37	48	1,257	4,645	6,081

Notes:

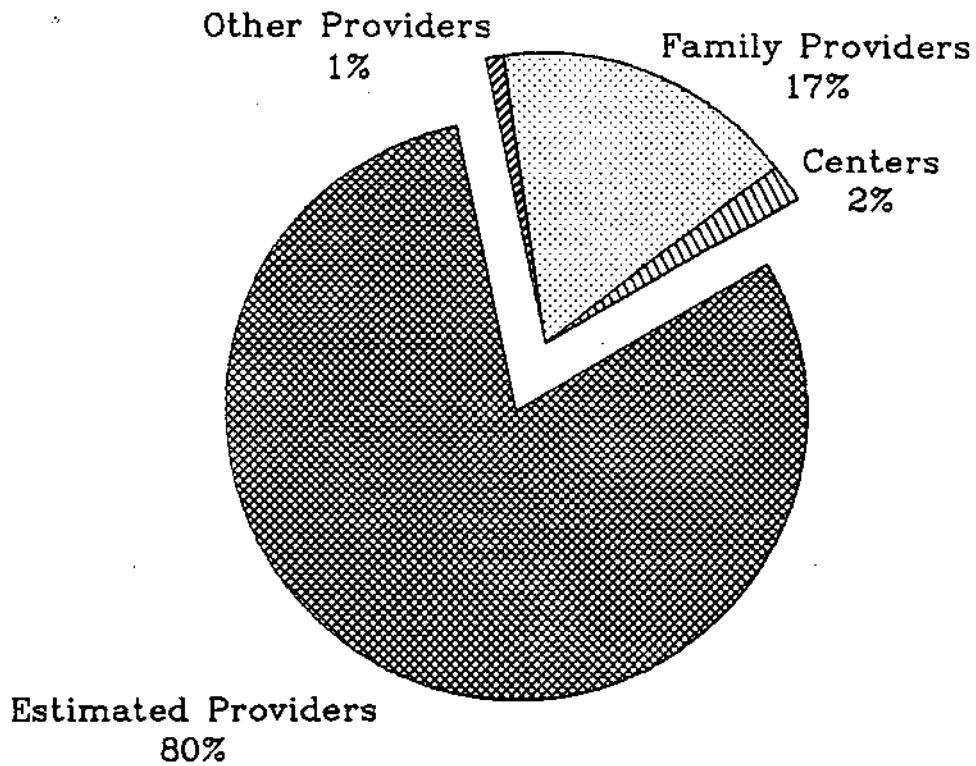
Known providers are licensed and registered providers on file with the Oregon Children's Services Division as of December 1990. Estimated family providers is a projection of unregistered family providers based on consumer demand. Other Sites include part day and other unregulated child care as reported by CCRA agencies.

Table 2a
 Known and Estimated Child Care Providers
 (Aspen Model - May 1991)



Known data based on CSD records,
 November 1990. Estimated data based
 on Aspen Model, May 1991.

Table 2b
Known & Estimated Child Care Providers
(Aspen Model - May 1991)



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 3. Known and Estimated Child Care Supply

County	SDA	Known Child Care Spaces ----->				Estimated		GRAND TOTAL
		Licensed Centers	Group Homes	Other Sites	Family Providers	Fam. Provider Spaces		
Baker	15	20	30	0	30	498	578	
Benton	5	1,156	0	1,697	228	2,168	5,249	
Clackamas	2	3,435	50	0	1,459	8,809	13,753	
Clatsop	1	131	20	172	221	1,039	1,603	
Columbia	1	199	0	153	182	1,287	1,790	
Coos	8	284	20	0	340	1,536	2,180	
Crook	12	60	0	20	59	477	616	
Curry	8	125	0	0	59	415	599	
Deschutes	12	959	40	1,129	386	2,412	4,926	
Douglas	7	574	10	1,251	1,201	1,962	4,998	
Gilliam	11	0	0	0	0	60	60	
Grant	15	49	0	0	30	246	325	
Harney	16	88	10	0	17	243	357	
Hood River	10	233	0	0	36	676	945	
Jackson	9	957	110	1,833	1,973	2,869	7,742	
Jefferson	12	294	0	30	10	651	985	
Josephine	9	553	20	1,027	314	1,538	3,451	
Klamath	13	371	20	0	211	1,724	2,326	
Lake	13	60	0	0	3	250	313	
Lane	6	4,423	370	0	1,676	8,549	15,018	
Lincoln	4	407	0	738	86	1,229	2,460	
Linn	5	441	20	1,188	257	3,166	5,072	
Malheur	16	608	60	0	50	1,100	1,817	
Marion	3	3,843	100	2,170	1,337	7,856	15,305	
Morrow	14	71	0	0	7	341	419	
Multnomah	2	9,376	70	0	4,148	15,327	28,921	
Polk	3	359	10	422	172	1,623	2,586	
Sherman	11	0	0	0	0	70	70	
Tillamook	1	53	0	88	119	569	829	
Umatilla	14	578	20	0	208	2,272	3,078	
Union	15	12	10	298	244	735	1,299	
Wallowa	15	30	10	0	3	256	299	
Wasco	10	74	0	0	106	749	929	
Washington	2	6,504	250	0	2,132	10,009	18,895	
Wheeler	11	0	0	0	0	35	35	
Yamhill	3	360	10	1,090	218	2,396	4,074	
State Total		36,677	1,260	13,306	17,520	85,139	153,902	
Average		1,019	35	370	487	2,365	4,275	
Low End		0	0	0	0	35	35	
High End		9,376	370	2,170	4,148	15,327	28,921	

Notes:

Known spaces are licensed center spaces based on files of the Oregon Children's Services Division, and estimated spaces for group homes (10 children per provider) and family providers (3.3 children per provider). Other provider data are based on CCRR records of part day and other child care programs not regulated by the State of Oregon.

Table 3a
 Known and Estimated Child Care Supply
 (Aspen Model - May 1991)

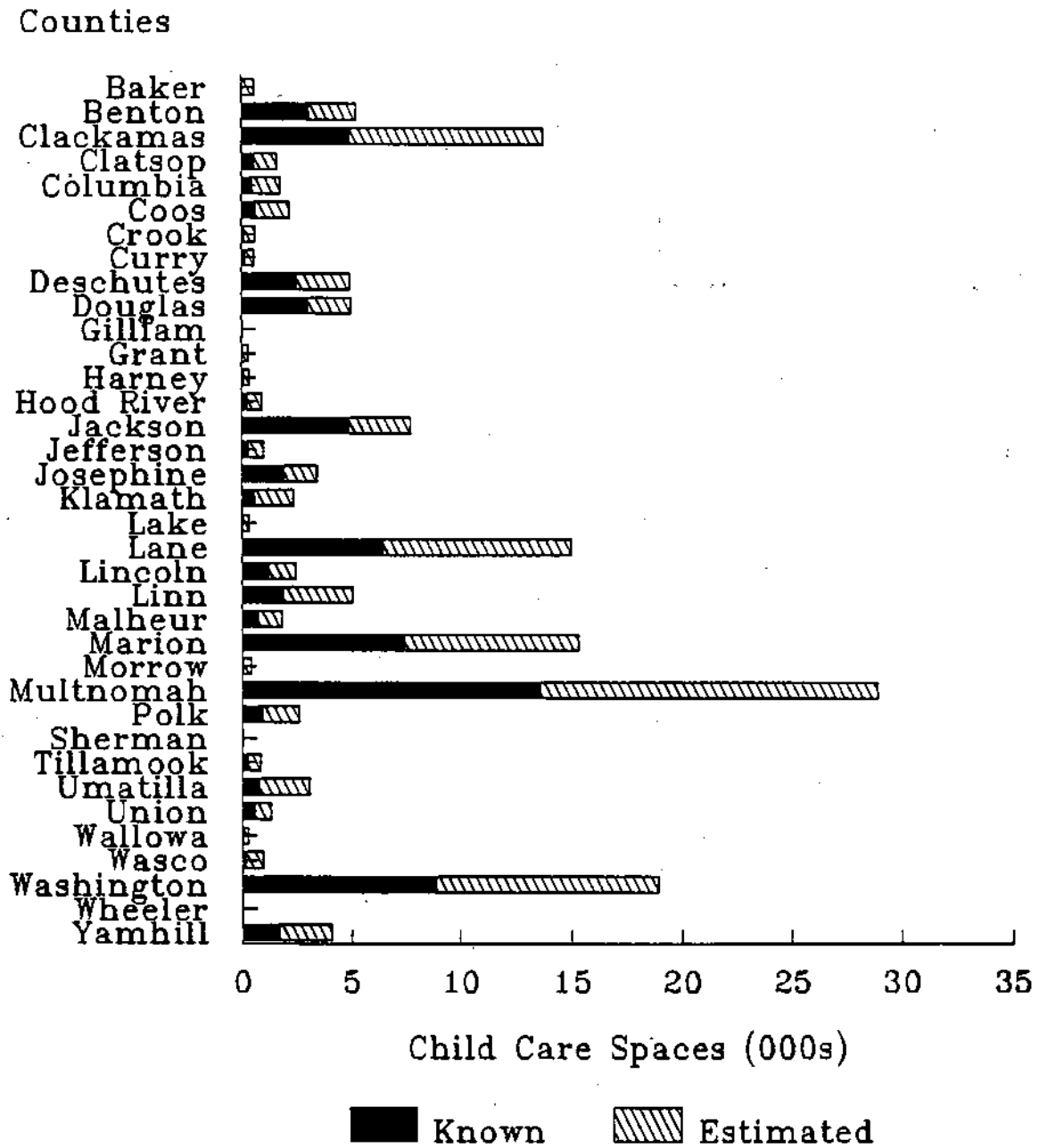
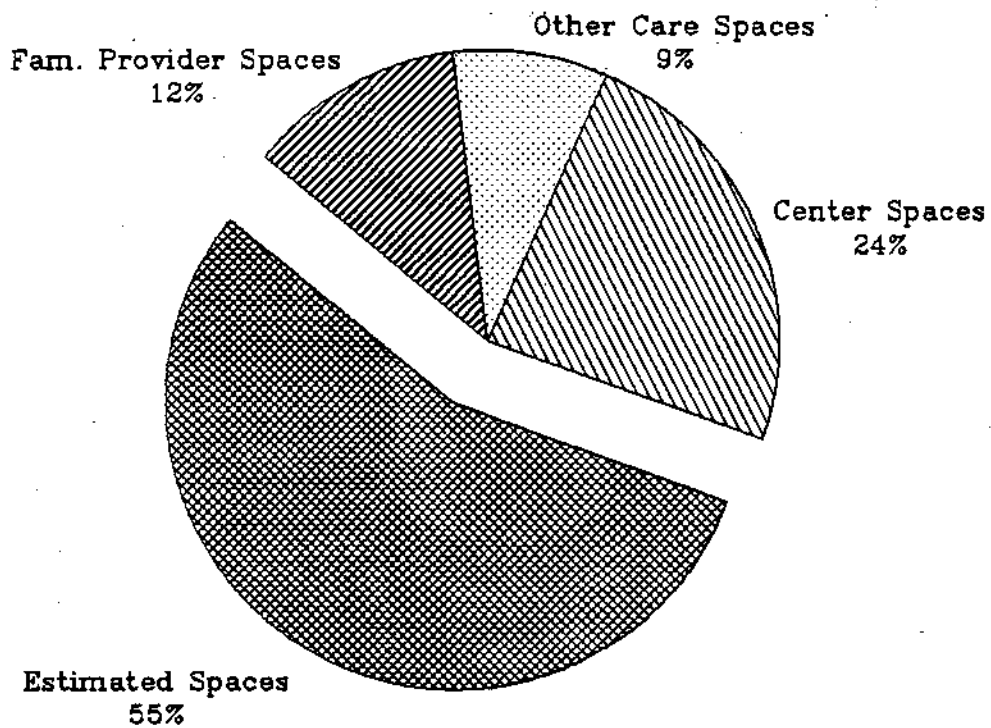


Table 3b
Known and Estimated Child Care Supply
(Aspen Model - May 1991)



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 4. Supply Density of Known Child Care Spaces

County	SDA	Known Child Care Spaces ----->			Total Known Spaces	SUPPLY GAP
		Licensed Centers	Family Providers*	Other Sites		
Baker	15	0.64%	1.90%	0.00%	2.53%	22.47%
Benton	5	8.23%	1.62%	12.09%	21.94%	3.06%
Clackamas	2	5.34%	2.35%	0.00%	7.69%	17.31%
Clatsop	1	1.93%	3.09%	2.20%	7.22%	17.78%
Columbia	1	1.82%	1.96%	1.65%	5.43%	19.57%
Coos	8	2.19%	2.77%	0.00%	4.96%	20.04%
Crook	12	1.86%	1.84%	0.62%	4.32%	20.68%
Curry	8	3.82%	1.82%	0.00%	5.64%	19.36%
Deschutes	12	5.74%	2.55%	6.76%	15.06%	9.94%
Douglas	7	2.64%	5.57%	5.75%	13.96%	11.04%
Gilliam	11	0.00%	0.00%	0.00%	0.00%	25.00%
Grant	15	2.62%	1.59%	0.00%	4.20%	20.80%
Hazley	16	4.87%	1.47%	0.00%	6.34%	18.66%
Hood River	10	5.82%	0.91%	0.00%	6.73%	18.27%
Jackson	9	2.94%	6.41%	5.64%	15.00%	10.00%
Jefferson	12	7.67%	0.26%	0.78%	8.71%	16.29%
Josephine	9	4.39%	2.65%	8.15%	15.18%	9.82%
Klamath	13	2.84%	1.77%	0.00%	4.60%	20.40%
Lake	13	3.49%	0.19%	0.00%	3.69%	21.31%
Lane	6	7.29%	3.37%	0.00%	10.66%	14.34%
Lincoln	4	5.04%	1.06%	9.14%	15.25%	9.75%
Linn	5	2.16%	1.36%	5.82%	9.33%	15.67%
Malheur	16	9.02%	1.62%	0.00%	10.64%	14.36%
Marion	3	7.17%	2.68%	4.05%	13.90%	11.10%
Morrow	14	3.59%	0.33%	0.00%	3.92%	21.08%
Multnomah	2	7.98%	3.59%	0.00%	11.57%	13.43%
Polk	3	3.38%	1.71%	3.98%	9.08%	15.92%
Sherman	11	0.00%	0.00%	0.00%	0.00%	25.00%
Tillamook	1	1.22%	2.72%	2.02%	5.96%	19.04%
Umatilla	14	4.03%	1.59%	0.00%	5.62%	19.38%
Union	15	0.21%	4.34%	5.09%	9.64%	15.36%
Wallowa	15	1.93%	0.85%	0.00%	2.78%	22.22%
Wasco	10	1.48%	2.12%	0.00%	3.60%	21.40%
Washington	2	8.92%	3.27%	0.00%	12.19%	12.81%
Wheeler	11	0.00%	0.00%	0.00%	0.00%	25.00%
Yamhill	3	2.23%	1.41%	6.75%	10.39%	14.61%
State Total		5.83%	2.99%	2.12%	10.94%	14.06%
Average		3.74%	2.02%	2.24%	7.99%	17.01%
Low End		0.00%	0.00%	0.00%	0.00%	3.06%
High End		9.02%	6.41%	12.09%	21.94%	25.00%

* Includes Group Home supply.

- Notes: 1. Supply Density is a measure of known child care supply (spaces) as a percentage of the estimated population of children under age 16.
2. Supply Gap is the difference between the supply density and the typical market percentage of 25%, provided by Gwen Morgan of Wheelock College.

Table 4a
Density of Known Child Care Supply
 (Aspen Model - March 1991)

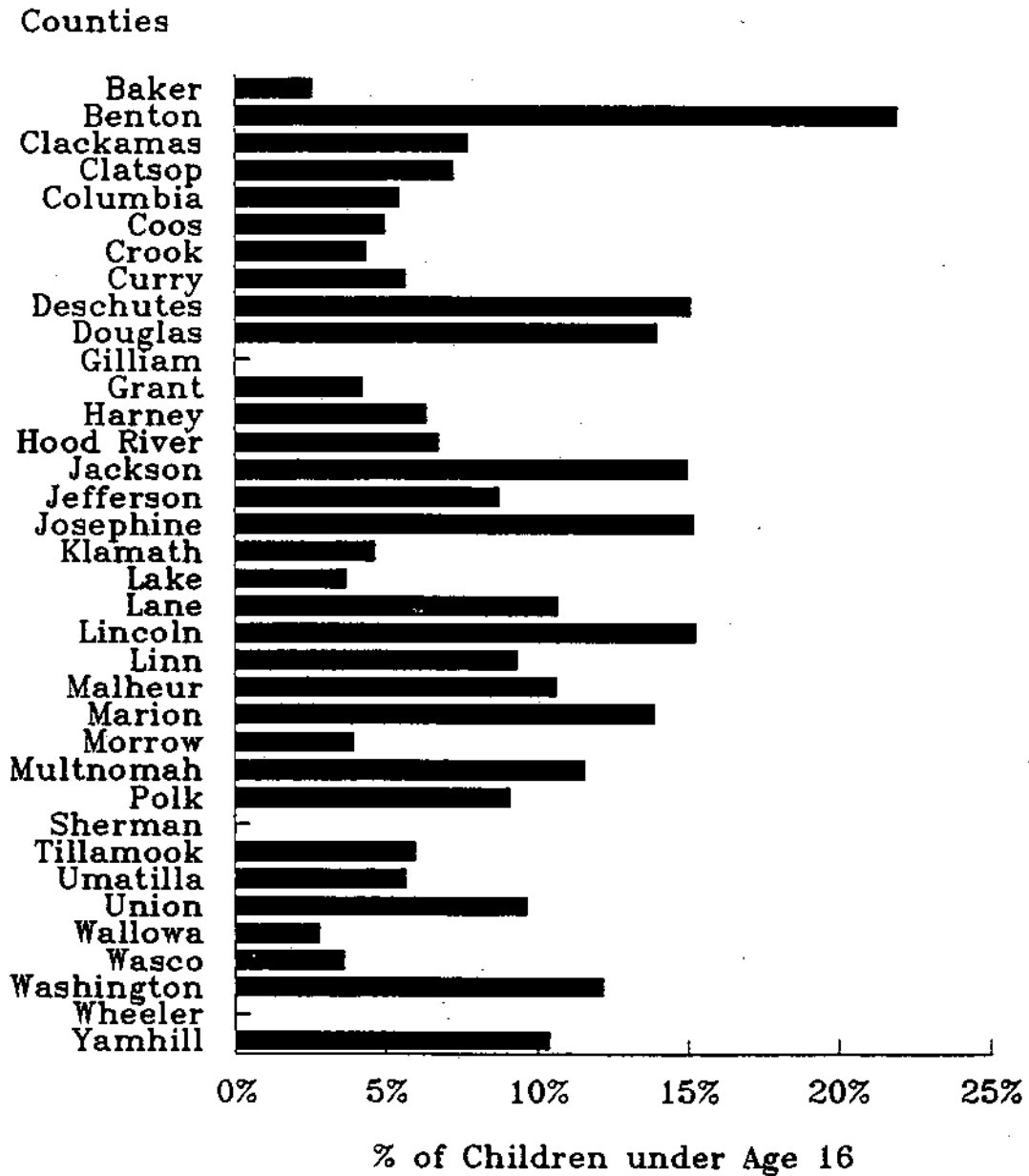
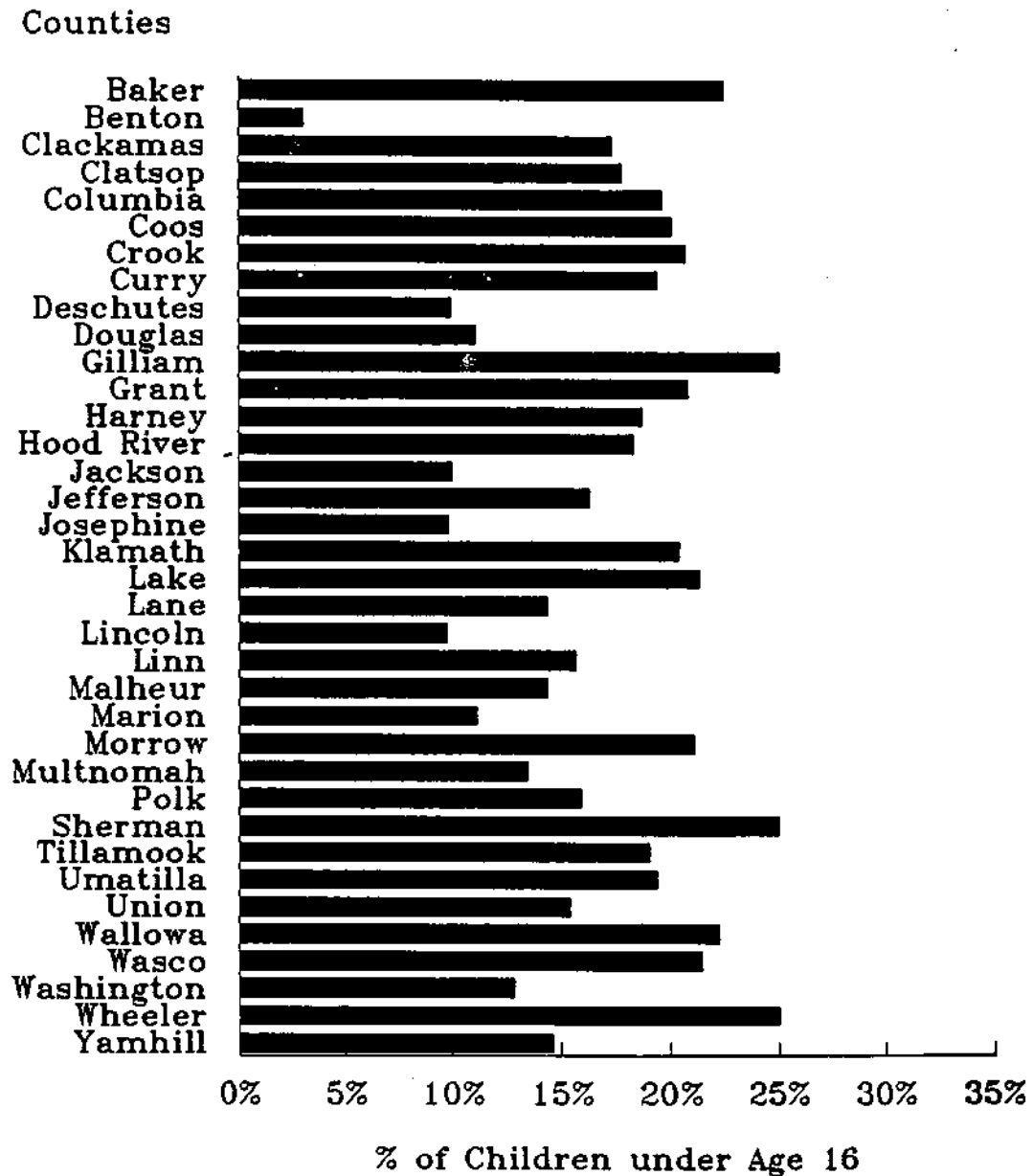


Table 4b
 Gap between Known and Typical Supply
 (Aspen Model - May 1991)



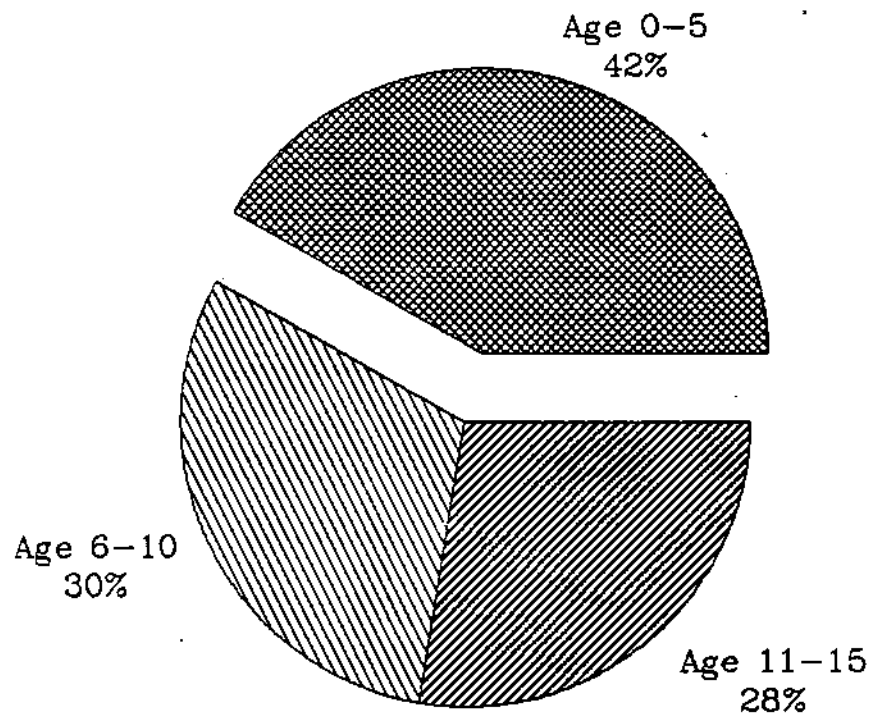
APPENDIX K. ASPEN Model Spreadsheets
 Schedule 5. Estimated Child Care Demand by Age Grouping of Children

County	SDA	Children Age 0-5		Children Age 6-10		Children Age 11-15		Children under Age 16	
		Total	Demand	Total	Demand	Total	Demand	Total	Demand
Baker	15	1,071	484	1,071	445	1,003	418	3,145	1,347
Benton	5	5,255	2,609	4,586	1,775	4,201	1,626	14,042	6,010
Clackamas	2	23,099	11,071	20,585	7,778	20,599	7,783	64,283	26,632
Clatsop	1	2,800	1,236	2,648	1,066	2,364	951	7,812	3,253
Columbia	1	3,096	1,367	3,066	1,233	3,114	1,252	9,276	3,852
Coos	8	4,339	1,751	4,372	1,706	4,278	1,669	12,989	5,126
Crook	12	1,163	505	1,095	455	970	404	3,228	1,364
Curry	8	1,112	448	1,170	455	989	385	3,271	1,288
Deschutes	12	6,227	2,708	5,526	2,299	4,944	2,058	16,697	7,065
Douglas	7	7,459	3,012	7,248	2,829	7,035	2,745	21,742	8,586
Gilliam	11	114	58	139	55	114	44	367	157
Grant	15	661	278	630	242	581	223	1,872	743
Hарney	16	584	244	594	228	629	242	1,807	714
Hood River	10	1,522	773	1,326	523	1,154	455	4,002	1,751
Jackson	9	12,198	4,926	10,382	4,050	9,919	3,871	32,499	12,847
Jefferson	12	1,606	698	1,209	503	1,017	423	3,832	1,624
Josephine	9	4,481	1,810	4,081	1,592	4,042	1,576	12,604	4,978
Klamath	13	4,638	1,951	4,304	1,651	4,139	1,589	13,081	5,191
Lake	13	605	253	553	211	559	214	1,717	678
Lane	6	21,941	10,893	20,043	7,760	18,722	7,249	60,706	25,902
Lincoln	4	2,995	1,322	2,761	1,111	2,314	931	8,070	3,364
Linn	5	7,279	3,614	6,642	2,571	6,508	2,520	20,429	8,705
Malheur	16	2,417	1,096	2,241	933	2,084	870	6,742	2,899
Marion	3	20,322	10,090	17,722	6,862	15,544	6,018	53,588	22,970
Morrow	14	730	371	652	256	597	236	1,979	863
Multnomah	2	46,406	22,241	39,276	14,840	31,853	12,035	117,535	49,116
Polk	3	3,880	1,927	3,475	1,345	3,251	1,258	10,606	4,530
Sherman	11	124	63	161	63	143	56	428	182
Tillamook	1	1,443	637	1,543	622	1,376	553	4,362	1,812
Umatilla	14	5,071	2,575	4,962	1,957	4,316	1,702	14,349	6,234
Union	15	1,958	887	2,002	835	1,892	787	5,852	2,509
Wallowa	15	503	229	578	240	475	199	1,556	668
Wasco	10	1,715	871	1,650	651	1,626	643	4,991	2,165
Washington	2	29,134	13,964	23,102	8,729	20,687	7,817	72,923	30,510
Wheeler	11	62	30	75	31	80	32	217	93
Yamhill	3	6,012	2,881	5,385	2,034	4,751	1,794	16,148	6,709
State Total		234,022	109,873	206,855	79,936	187,870	72,628	628,747	262,437
Average		6,501	3,052	5,746	2,220	5,219	2,017	17,465	7,290
Low End		62	30	75	31	80	32	217	93
High End		46,406	22,241	39,276	14,840	31,853	12,035	117,535	49,116

Notes:

Child care demand is the number of children under age 16 in the child care marketplace.
 Child care demand is estimated by age grouping of children under age 16 based on the labor force participation of parents by region and statewide measures of the use of competing type of care. This schedule reports, for children under age 16, total population and total estimated demand for market child care.
 Market child care is defined as care by a non-relative outside of the child's home.

Table 5
Estimated Demand by Age of Children
(Aspen Model - May 1991)



Distribution of children in market
child care by age grouping.

APPENDIX K. ASPEN Model Spreadsheets
 Schedule 6. Estimated Child Care Demand by Type of Provider

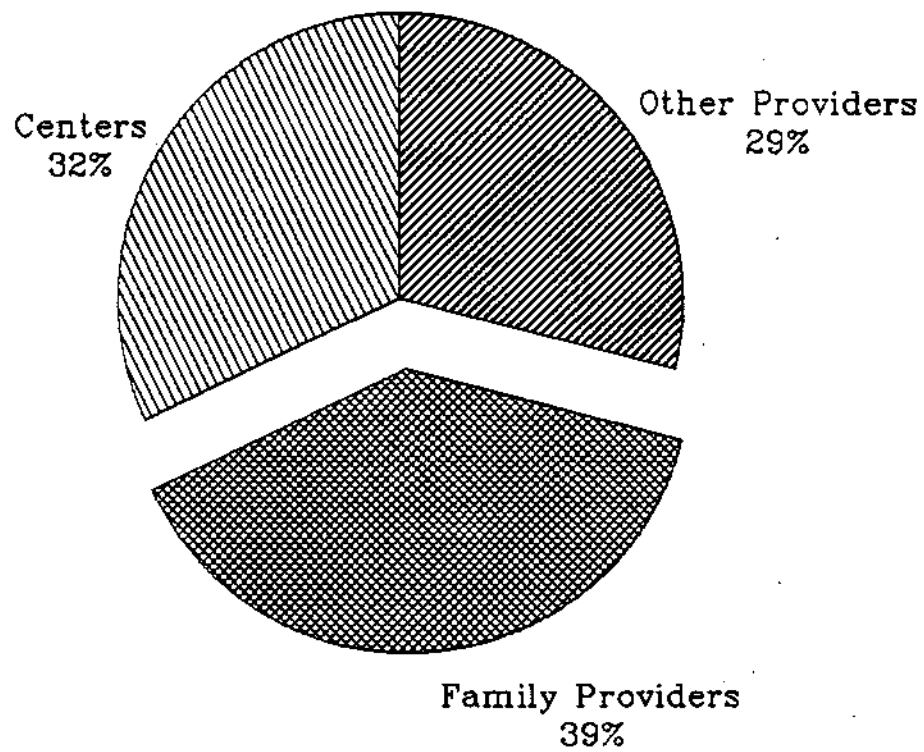
County	SDA	Licensed Centers	Family Providers*	Other Providers	Total Demand
Baker	15	430	528	390	1,348
Benton	5	1,896	2,396	1,718	6,010
Clackamas	2	8,228	10,268	8,136	26,632
Clatsop	1	1,031	1,260	962	3,253
Columbia	1	1,203	1,468	1,182	3,853
Coos	8	1,571	1,876	1,679	5,126
Crook	12	439	536	388	1,363
Curry	8	396	474	418	1,288
Deschutes	12	2,292	2,798	1,975	7,065
Douglas	7	2,648	3,163	2,774	8,585
Gilliam	11	48	60	48	156
Grant	15	229	276	238	743
Harney	16	215	259	240	714
Hood River	10	559	712	482	1,753
Jackson	9	4,046	4,842	3,958	12,846
Jefferson	12	540	561	422	1,623
Josephine	9	1,548	1,851	1,580	4,979
Klamath	13	1,601	1,935	1,656	5,192
Lake	13	209	253	217	679
Lane	6	8,104	10,225	7,573	25,902
Lincoln	4	1,073	1,315	975	3,363
Linn	5	2,714	3,423	2,568	8,705
Malheur	16	934	1,149	816	2,899
Marion	3	7,266	9,192	6,513	22,971
Morrow	14	274	348	242	864
Multnomah	2	15,531	19,475	14,110	49,116
Polk	3	1,421	1,795	1,314	4,530
Sherman	11	54	70	58	182
Tillamook	1	565	688	559	1,812
Umatilla	14	1,958	2,480	1,795	6,233
Union	15	797	979	731	2,507
Wallowa	15	211	259	199	669
Wasco	10	676	855	633	2,164
Washington	2	9,677	12,141	8,692	30,510
Wheeler	11	28	35	31	94
Yamhill	3	2,091	2,614	2,004	6,709
State Total		82,503	102,659	77,276	262,438
Average		2,292	2,852	2,147	7,290
Low End		28	35	31	94
High End		15,531	19,475	14,110	49,116

* Includes Group Home providers.

Notes:

This schedule is based on child care usage by type of market care as reported in surveys of employees for a sampling of Oregon employers. Source: Arthur Emlen & Associates and PSU Regional Research Institute.

Table 6
Estimated Demand by Type of Care
(Aspen Model - May 1991)



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 7. Density of Estimated Child Care Demand

County	SDA	Density Percentages by Age of Children --->			
		Age 0-5	Age 6-10	Age 11-15	Age 0-15
Baker	15	45.19%	41.55%	41.67%	42.83%
Benton	5	49.65%	38.70%	38.71%	42.80%
Clackamas	2	47.93%	37.78%	37.78%	41.43%
Clatsop	1	44.14%	40.25%	40.23%	41.64%
Columbia	1	44.15%	40.22%	40.21%	41.53%
Coos	8	40.35%	39.02%	39.01%	39.46%
Crook	12	43.42%	41.55%	41.65%	42.26%
Curry	8	40.29%	38.89%	38.93%	39.38%
Deschutes	12	43.49%	41.60%	41.63%	42.31%
Douglas	7	40.38%	39.03%	39.02%	39.49%
Gilliam	11	50.88%	39.57%	38.60%	42.78%
Grant	15	42.06%	38.41%	38.38%	39.69%
Harney	16	41.78%	38.38%	38.47%	39.51%
Hood River	10	50.79%	39.44%	39.43%	43.75%
Jackson	9	40.38%	39.01%	39.03%	39.53%
Jefferson	12	43.46%	41.60%	41.59%	42.38%
Josephine	9	40.39%	39.01%	38.99%	39.50%
Klamath	13	42.07%	38.36%	38.39%	39.68%
Lake	13	41.82%	38.16%	38.28%	39.49%
Lane	6	49.65%	38.72%	38.72%	42.67%
Lincoln	4	44.14%	40.24%	40.23%	41.69%
Linn	5	49.65%	38.71%	38.72%	42.61%
Malheur	16	45.35%	41.63%	41.75%	43.00%
Marion	3	49.65%	38.72%	38.72%	42.86%
Morrow	14	50.82%	39.26%	39.53%	43.61%
Multnomah	2	47.93%	37.78%	37.78%	41.79%
Polk	3	49.66%	38.71%	38.70%	42.71%
Sherman	11	50.81%	39.13%	39.16%	42.52%
Tillamook	1	44.14%	40.31%	40.19%	41.54%
Umatilla	14	50.78%	39.44%	39.43%	43.45%
Union	15	45.30%	41.71%	41.60%	42.87%
Wallowa	15	45.53%	41.52%	41.89%	42.93%
Wasco	10	50.79%	39.45%	39.54%	43.38%
Washington	2	47.93%	37.78%	37.79%	41.84%
Wheeler	11	48.39%	41.33%	40.00%	42.86%
Yamhill	3	47.92%	37.77%	37.76%	41.55%
State Total		46.95%	38.64%	38.66%	41.74%
Average		45.86%	39.52%	39.49%	41.76%
Low End		40.29%	37.77%	37.76%	39.38%
High End		50.88%	41.71%	41.89%	43.75%

Notes:

Demand Density is a measure of estimated child care demand as a percentage of children under age 16.

Table 7a
 Density of Child Care Demand
 (Aspen Model - May 1991)

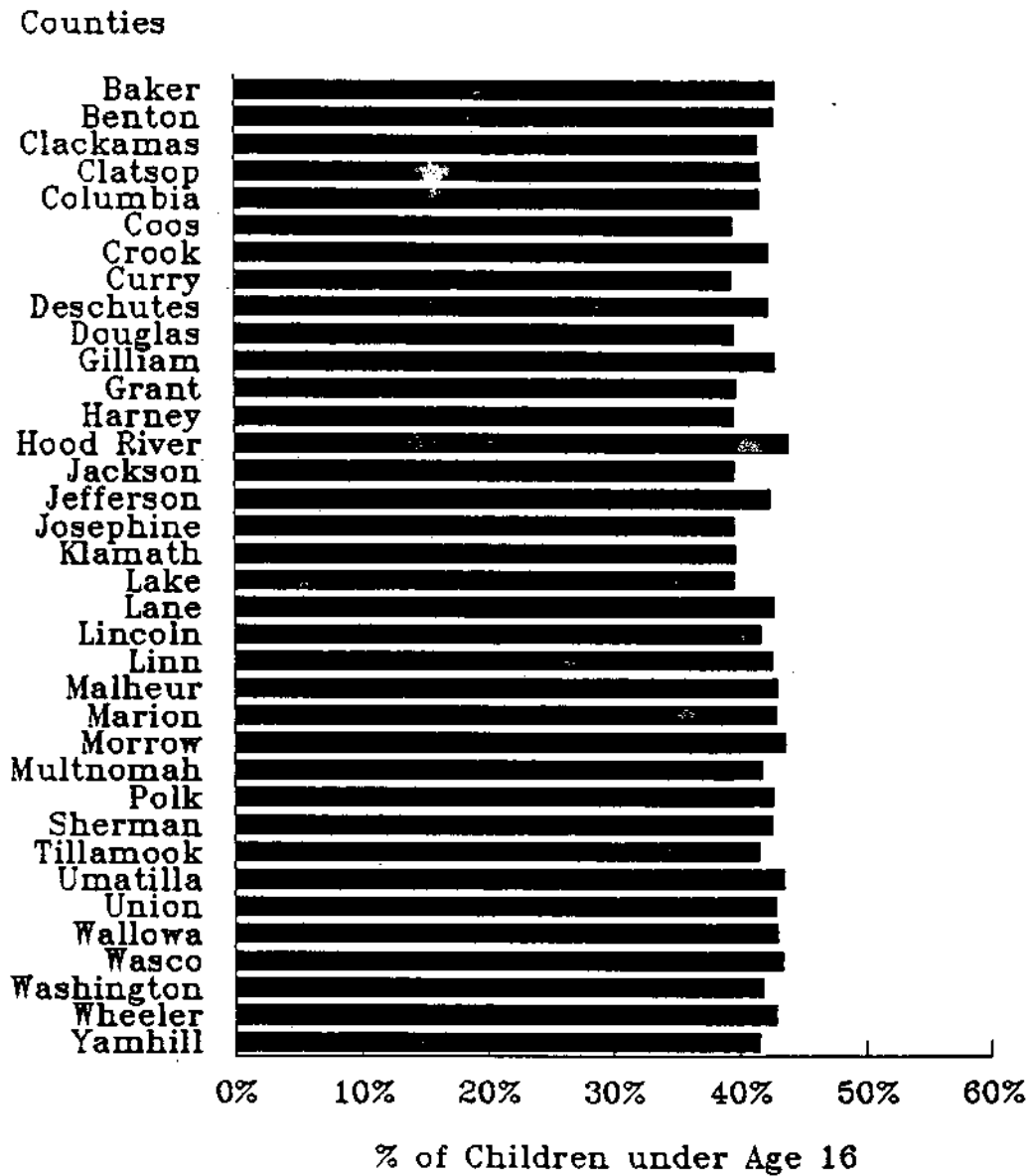


Table 7b
 Demand Density for Children Under Age 6
 (Aspen Model - May 1991)

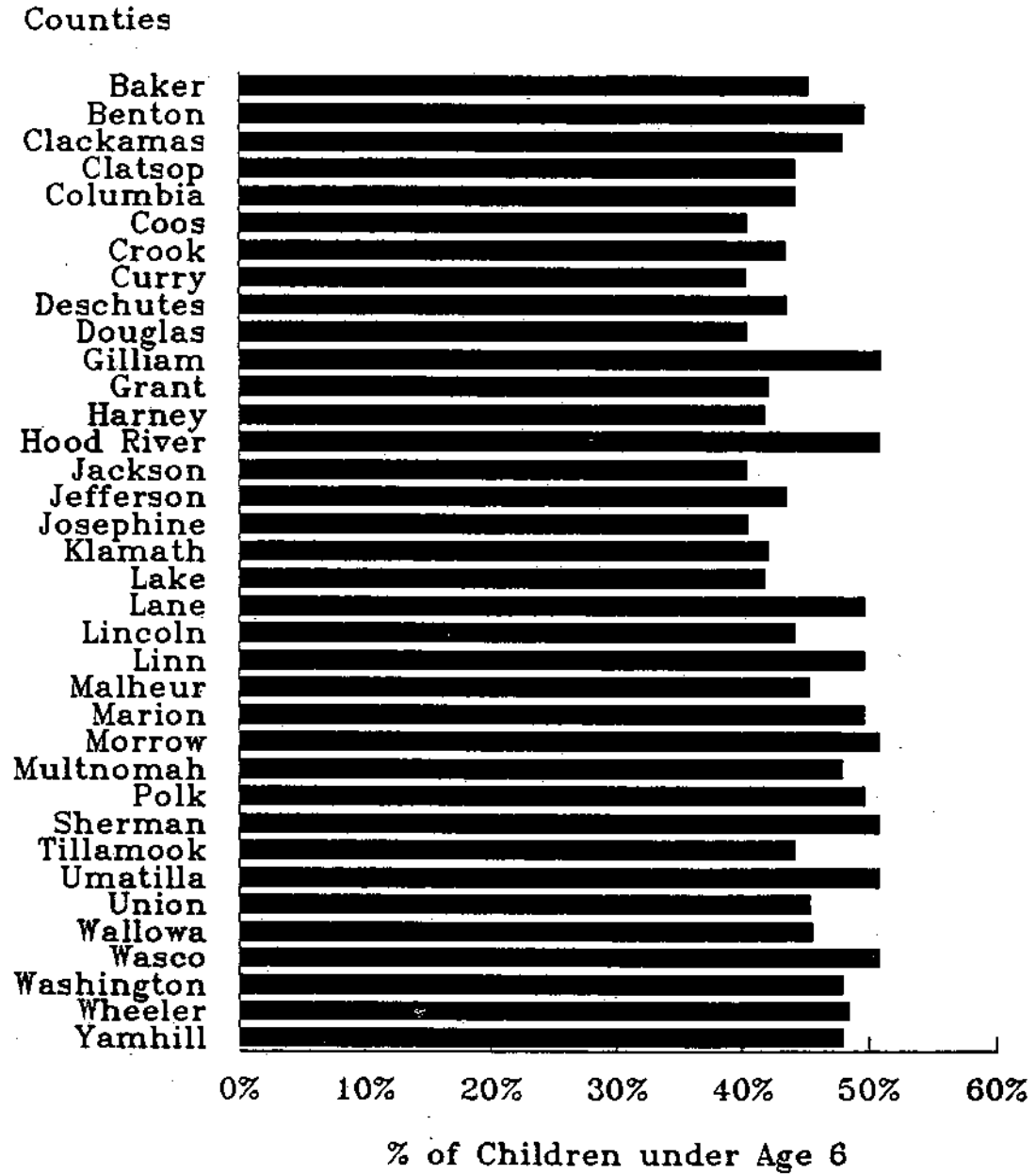


Table 7c
 Demand Density for Children Age 6-10
 (Aspen Model - May 1991)

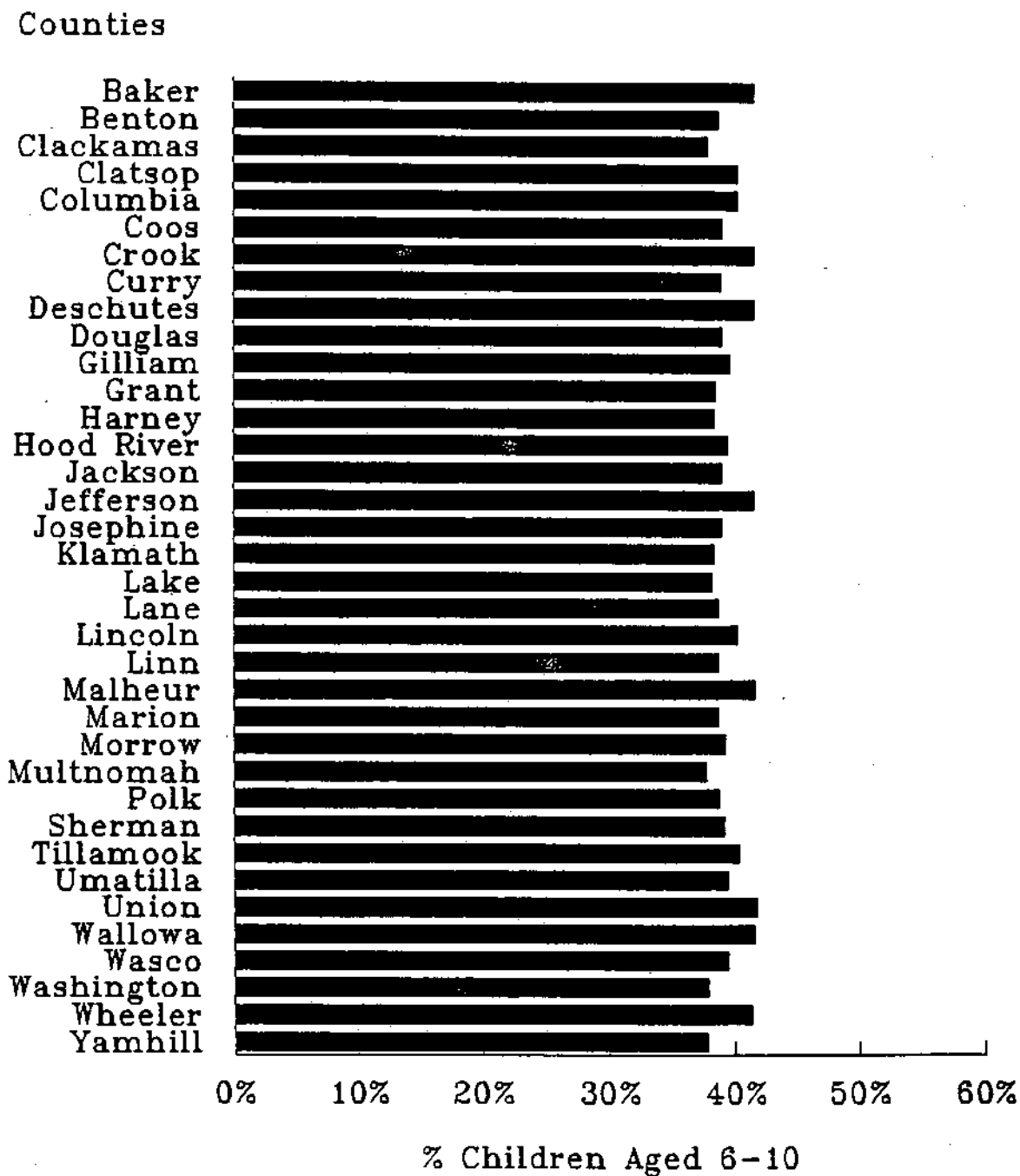
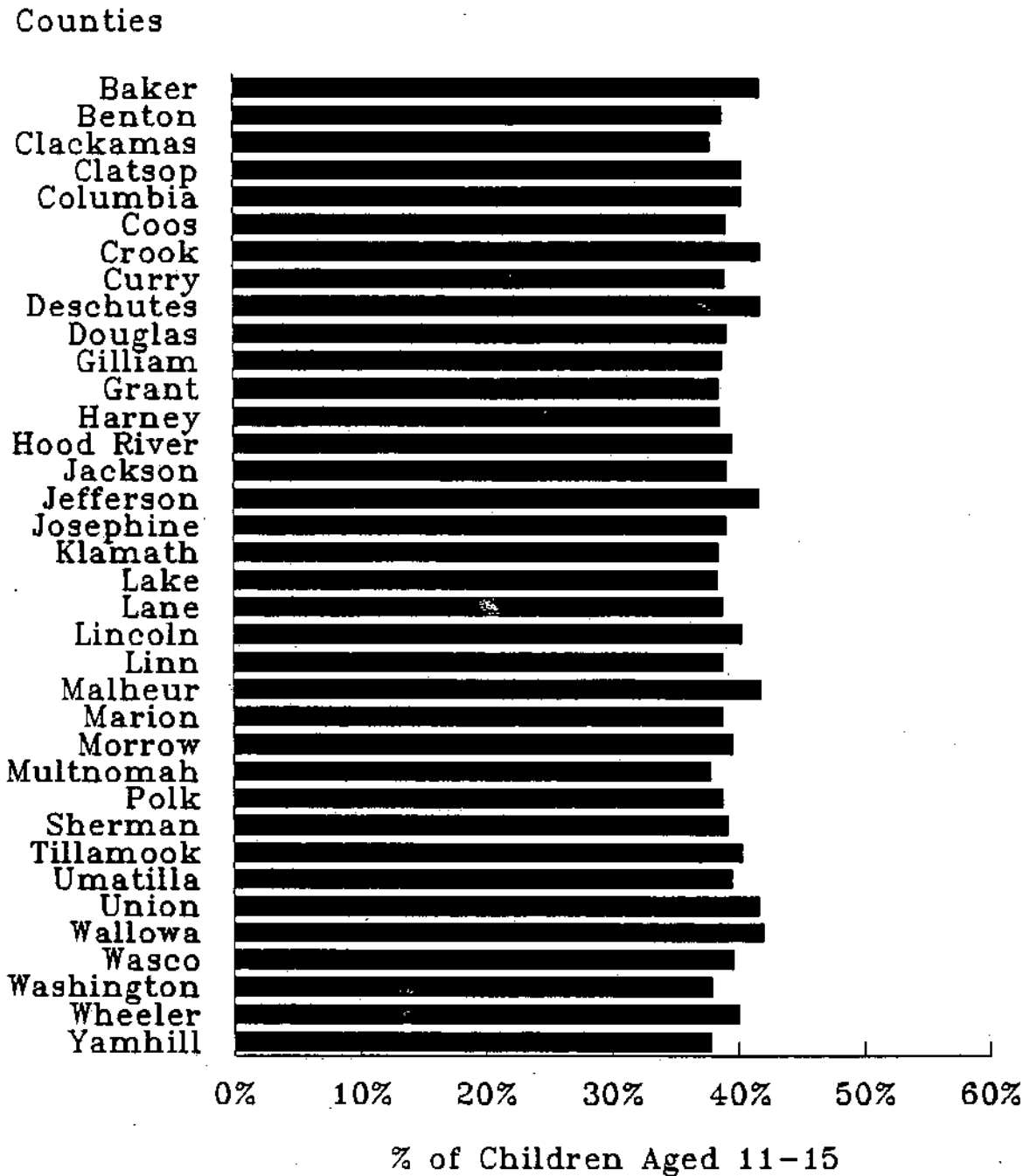


Table 7d
 Demand Density for Children Age 11-15
 (Aspen Model - May 1991)



APPENDIX K

Section B. Service Delivery Area Estimates

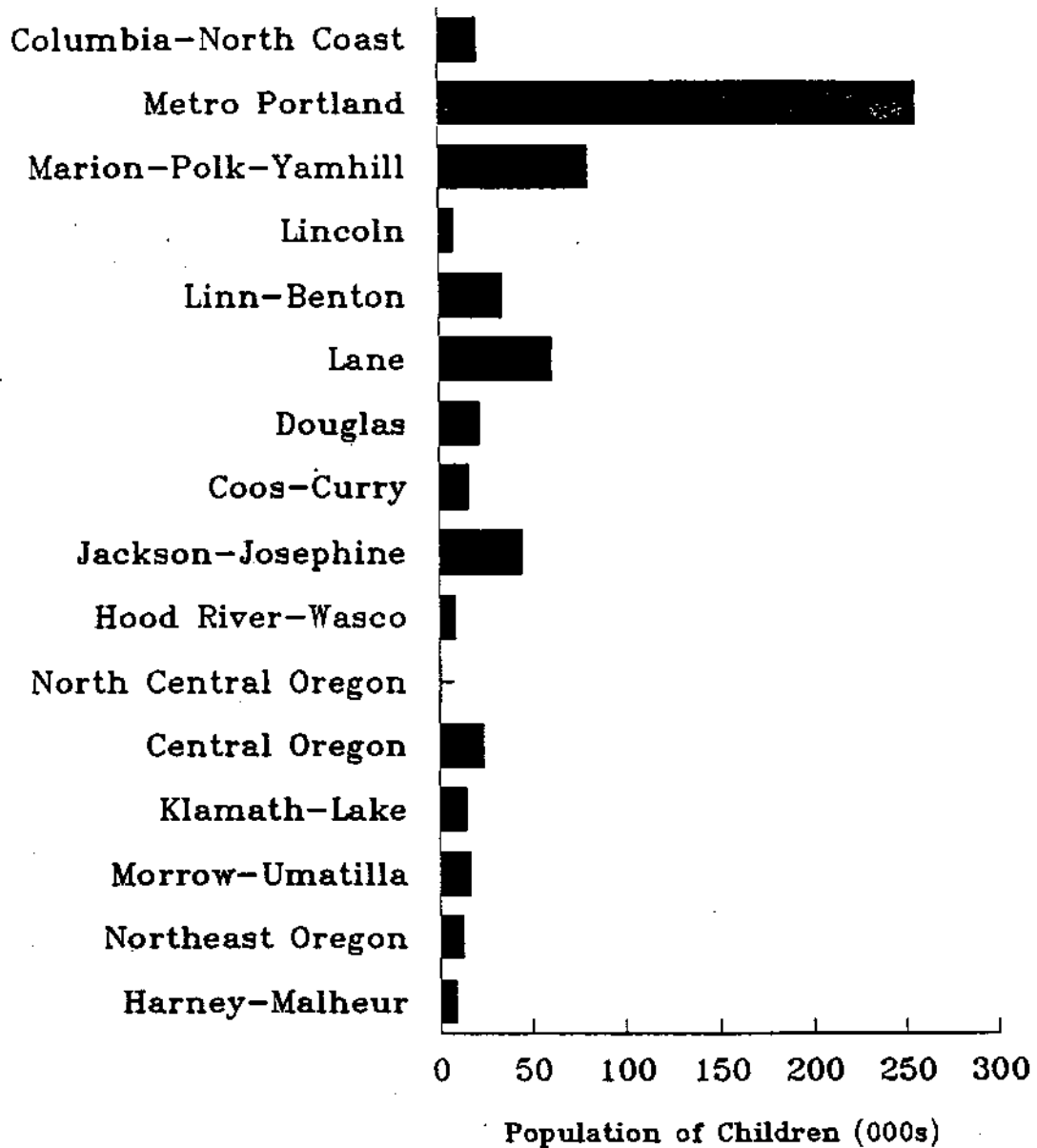
APPENDIX K. ASPEN Model Spreadsheets
 Schedule B. 1989 Population Estimates by Service Delivery Area

Service Delivery Area	SDA	1989 Population Estimates ----->				
		Age 0-5	Age 6-10	Age 11-15	Under 16	All Ages
Columbia-Clatsop-Tillamook	1	7,339	7,257	6,854	21,450	94,100
Multnomah-Clackamas-Washington	2	98,639	82,963	73,139	254,741	1,141,500
Marion-Polk-Yamhill	3	30,214	26,582	23,546	80,342	332,500
Lincoln	4	2,995	2,761	2,314	8,070	39,500
Linn-Benton	5	12,534	11,228	10,709	34,471	161,000
Lane	6	21,941	20,043	18,722	60,706	280,000
Douglas	7	7,459	7,248	7,035	21,742	95,000
Coos-Curry	8	5,451	5,542	5,267	16,260	79,500
Jackson-Josephine	9	16,679	14,463	13,961	45,103	209,200
Hood River-Wasco	10	3,237	2,976	2,780	8,993	38,100
Gilliam-Sherman-Wheeler	11	300	375	337	1,012	5,250
Deschutes-Jefferson-Crook	12	8,996	7,830	6,931	23,757	96,300
Klamath-Lake	13	5,243	4,857	4,698	14,798	65,900
Morrow-Umatilla	14	5,801	5,614	4,913	16,328	65,600
Baker-Grant-Union-Wallowa	15	4,193	4,281	3,951	12,425	54,150
Harney-Malheur	16	3,001	2,835	2,713	8,549	33,400
State Total		234,022	206,855	187,870	628,747	2,791,000
Average		14,626	12,928	11,742	39,297	174,438
Low End		300	375	337	1,012	5,250
High End		98,639	82,963	73,139	254,741	1,141,500

Source: Portland State University
 Center for Population Research and Census

Table 8
 Population of Children under Age 16

Service Delivery Areas



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 9. Known and Estimated Child Care Providers

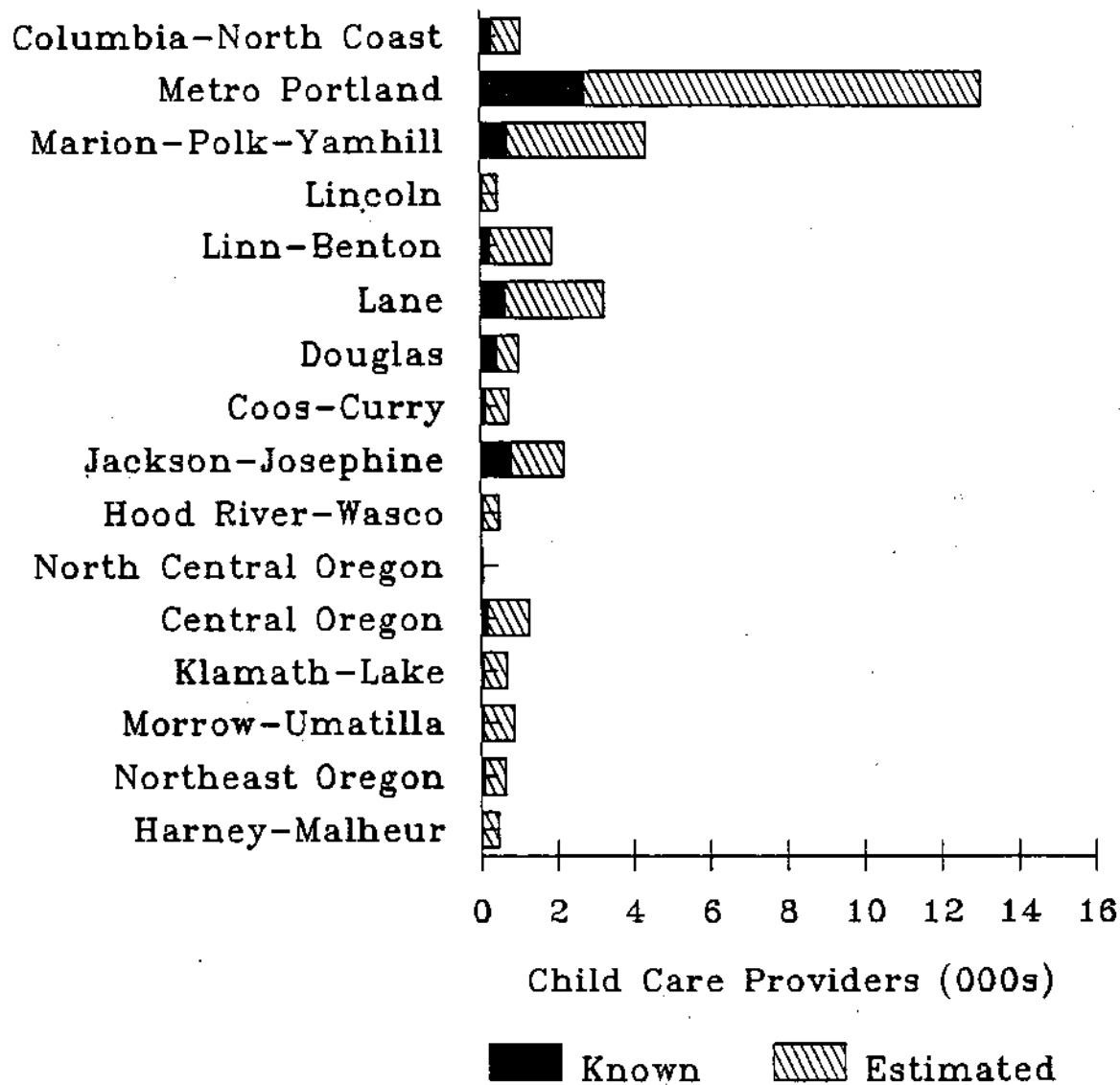
Service Delivery Area	SDA #	Known Child Care Providers ----->				Estimated Family Providers	GRAND TOTAL
		Licensed Centers	Group Homes	Other Sites	Family Providers		
Columbia-Clatsop-Tillamook	1	10	2	24	239	796	1,071
Multnomah-Clackamas-Washington	2	315	37	0	2,345	10,347	13,044
Marion-Polk-Yamhill	3	83	12	81	523	3,599	4,298
Lincoln	4	13	0	27	26	372	438
Linn-Benton	5	39	2	70	147	1,616	1,874
Lane	6	88	37	0	508	2,590	3,223
Douglas	7	11	1	30	364	594	1,000
Coos-Curry	8	12	2	0	121	591	726
Jackson-Josephine	9	37	13	64	693	1,335	2,142
Hood River-Wasco	10	6	0	0	43	432	481
Gilliam-Sherman-Wheeler	11	0	0	0	0	50	50
Deschutes-Jefferson-Crook	12	22	4	26	138	1,073	1,263
Klamath-Lake	13	7	2	0	65	598	672
Morrow-Umatilla	14	8	2	0	65	792	867
Baker-Grant-Union-Wallowa	15	5	5	4	93	526	633
Harney-Malheur	16	13	7	0	20	407	447
State Total		669	126	326	5,390	25,719	32,230
Average		42	8	20	337	1,607	2,014
Low End		0	0	0	0	50	50
High End		315	37	81	2,345	10,347	13,044

Notes:

Known providers are licensed and registered providers on file with the Oregon Children's Services Division as of December 1990. Estimated family providers is a projection of unregistered family providers based on consumer demand. Other sites include part day and other unregulated child care as reported by CCRR agencies.

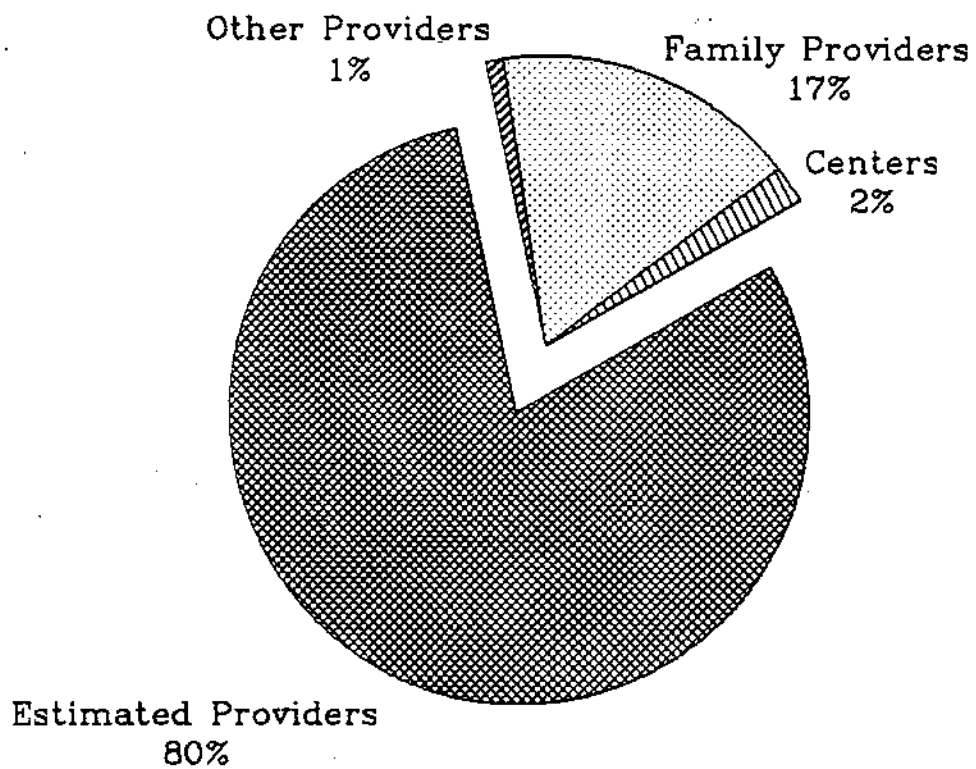
Table 9a
Known and Estimated Child Care Providers
 (Aspen Model - May 1991)

Service Delivery Areas



Known data based on CSD records,
 November 1990. Estimated Data based
 on Aspen Model, May 1991)

Table 9b
Known & Estimated Child Care Providers
(Aspen Model - May 1991)



APPENDIX K ASPEN Model Spreadsheets
 Schedule 10. Known and Estimated Child Care Supply

Service Delivery Area	SDA #	Known Child Care Spaces				Estimated		GRAND TOTAL
		Licensed Centers	Group Homes	Other Sites	Family Providers	Fam. Provider Spaces		
Columbia-Clatsop-Tillamook	1	373	20	413	789	2,627	4,222	
Multnomah-Clackamas-Washington	2	19,315	370	0	8,168	33,717	61,569	
Marion-Polk-Yamhill	3	4,562	120	3,682	2,488	11,113	21,965	
Lincoln	4	407	0	738	152	1,163	2,460	
Linn-Benton	5	1,597	20	2,885	1,076	4,743	10,321	
Lane	6	4,423	370	0	1,676	8,549	15,018	
Douglas	7	574	10	1,251	1,241	1,922	4,998	
Coos-Curry	8	409	20	0	399	1,951	2,779	
Jackson-Josephine	9	1,310	130	2,860	2,383	4,310	11,193	
Hood River-Wasco	10	307	0	0	142	1,425	1,874	
Gilliam-Sherman-Wheeler	11	0	0	0	0	165	165	
Deschutes-Jefferson-Crook	12	1,313	40	1,179	455	3,540	6,527	
Klamath-Lake	13	431	20	0	215	1,974	2,639	
Morrow-Umatilla	14	649	20	0	215	2,614	3,497	
Baker-Grant-Union-Wallowa	15	111	50	298	356	1,686	2,501	
Harney-Malheur	16	696	70	0	66	1,342	2,174	
State Total		36,677	1,260	13,306	19,820	82,839	153,902	
Average		2,292	79	832	1,239	5,177	9,619	
Low End		0	0	0	0	165	165	
High End		19,315	370	3,682	8,168	33,717	61,569	

Notes:

Known spaces are licensed center spaces based on files of the Oregon Children's Services Division, and estimated spaces for group homes (10 children per provider) and family providers (3.3 children per provider). Other provider data are based on CCRR records of part day and other unregulated child care programs.

Table 10a
 Known and Estimated Child Care Supply
 (Aspen Model - May 1991)

Service Delivery Areas

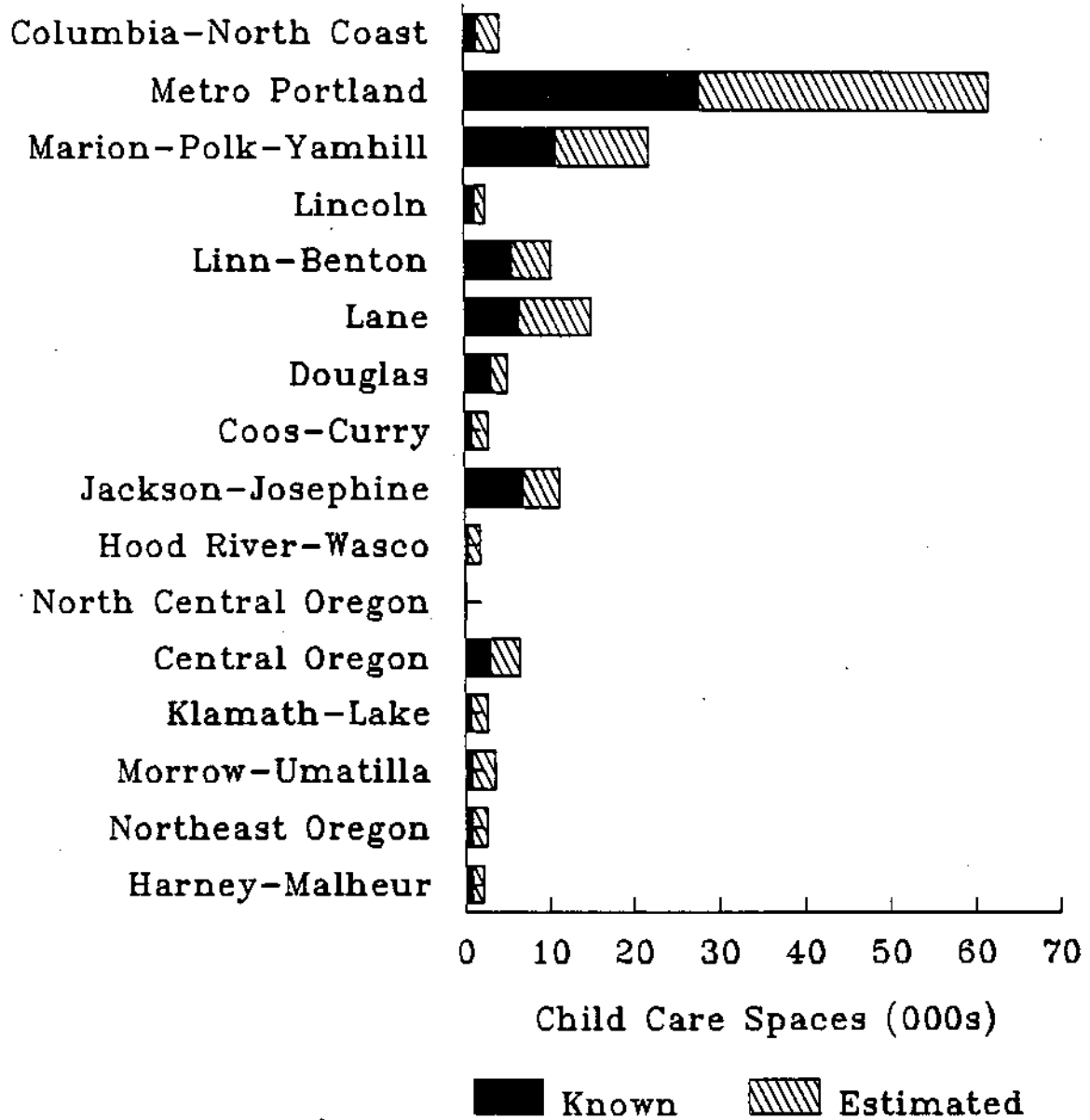
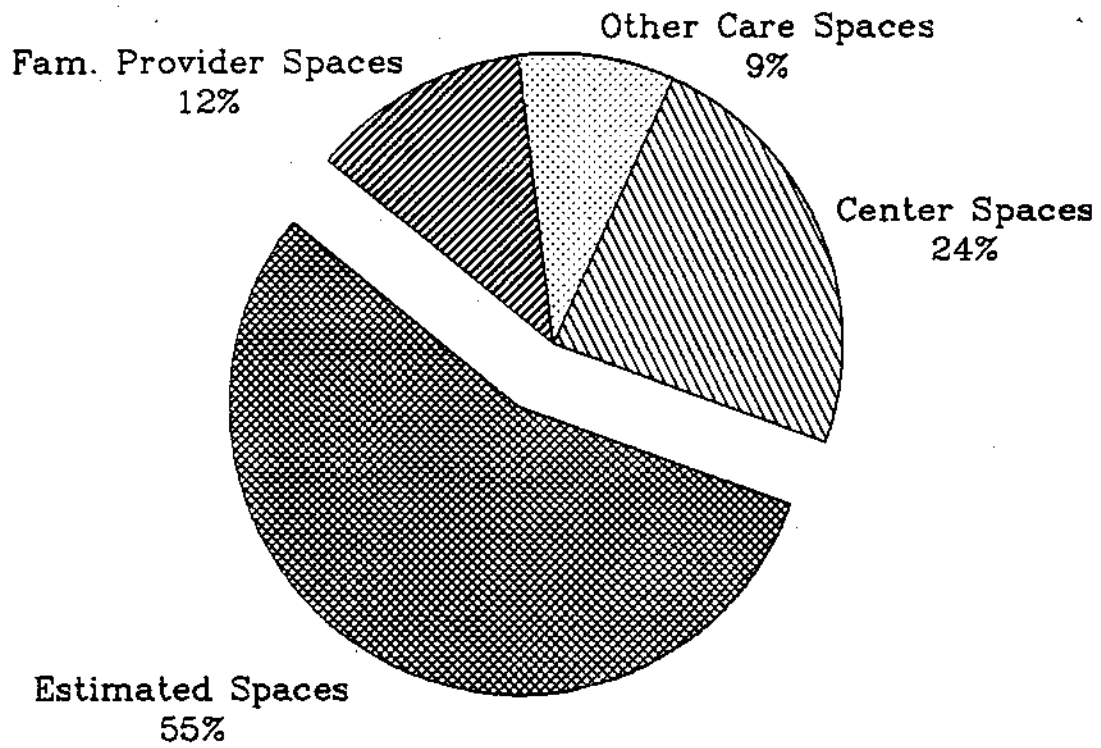


Table 10b
Known and Estimated Child Care Supply
(Aspen Model - May 1991)



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 11. Supply Density of Known Child Care Spaces

Service Delivery Area	SDA #	Known Child Care Spaces ----->			Total Known Spaces	SUPPLY GAP
		Licensed Centers	Family Providers*	Other Sites		
Columbia-Clatsop-Tillamook	1	1.74%	3.77%	1.93%	7.43%	17.57%
Multnomah-Clackamas-Washington	2	7.58%	3.35%	0.00%	10.93%	14.07%
Marion-Polk-Yamhill	3	5.68%	3.25%	4.58%	13.51%	11.49%
Lincoln	4	5.04%	1.88%	9.14%	16.07%	8.93%
Linn-Benton	5	4.63%	3.18%	8.37%	16.18%	8.82%
Lane	6	7.29%	3.37%	0.00%	10.66%	14.34%
Douglas	7	2.64%	5.75%	5.75%	14.15%	10.85%
Coos-Curry	8	2.52%	2.58%	0.00%	5.09%	19.91%
Jackson-Josephine	9	3.35%	5.57%	6.34%	15.26%	9.74%
Hood River-Wasco	10	3.41%	1.58%	0.00%	4.99%	20.01%
Gilliam-Sherman-Wheeler	11	0.00%	0.00%	0.00%	0.00%	25.00%
Deschutes-Jefferson-Crook	12	5.53%	2.09%	4.96%	12.57%	12.43%
Klamath-Lake	13	2.91%	1.58%	0.00%	4.50%	20.50%
Morrow-Umatilla	14	3.97%	1.44%	0.00%	5.41%	19.59%
Baker-Grant-Union-Wallowa	15	0.89%	3.27%	2.40%	6.56%	18.44%
Harney-Malheur	16	8.14%	1.59%	0.00%	9.73%	15.27%
State Total		5.83%	3.35%	2.12%	11.30%	13.70%
Average		4.08%	2.77%	2.72%	9.57%	15.43%
Low End		0.00%	0.00%	0.00%	0.00%	8.82%
High End		8.14%	5.75%	9.14%	16.18%	25.00%

* Includes Group Home supply.

- Notes: 1. Supply Density is a measure of known child care supply (spaces) as a percentage of the estimated population of children under age 16.
2. Supply Gap is the difference between the supply density and the typical market percentage of 25%, provided by Gwen Morgan of Wheelock College.

Table 11a
Density of Known Child Care Supply
 (Aspen Model - May 1991)

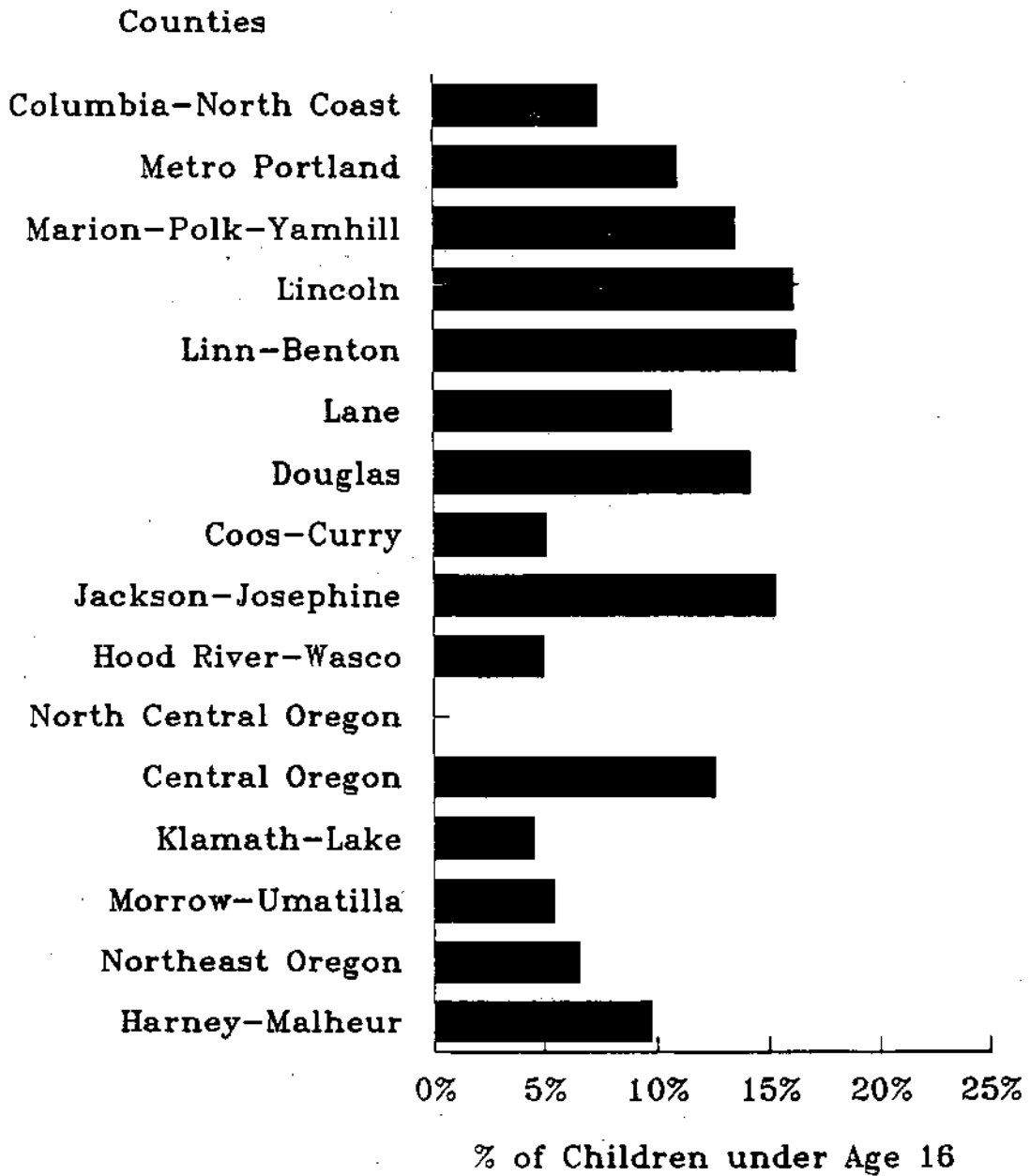
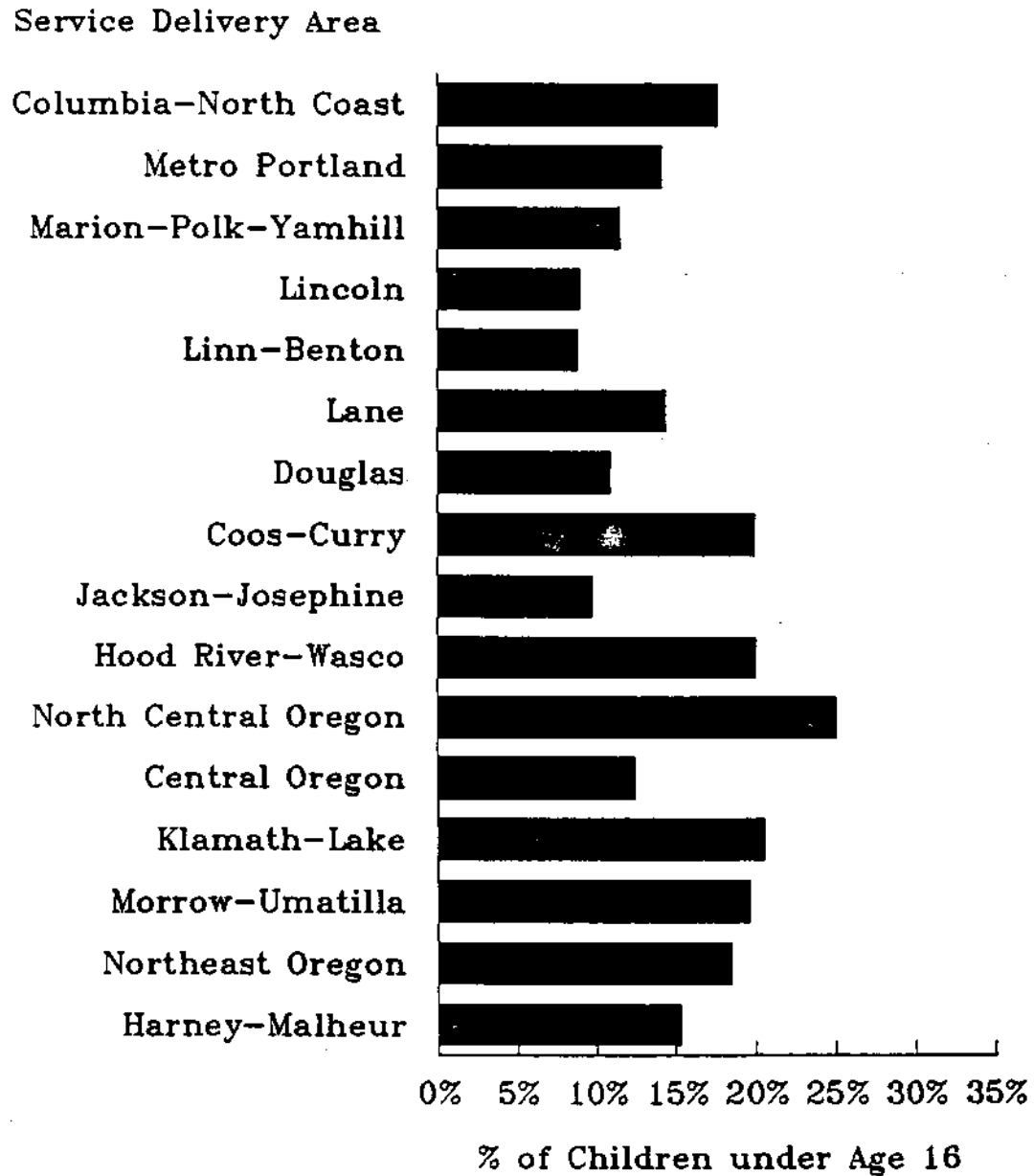


Table 11b
Gap between Known and Typical Supply
 (Aspen Model - May 1991)



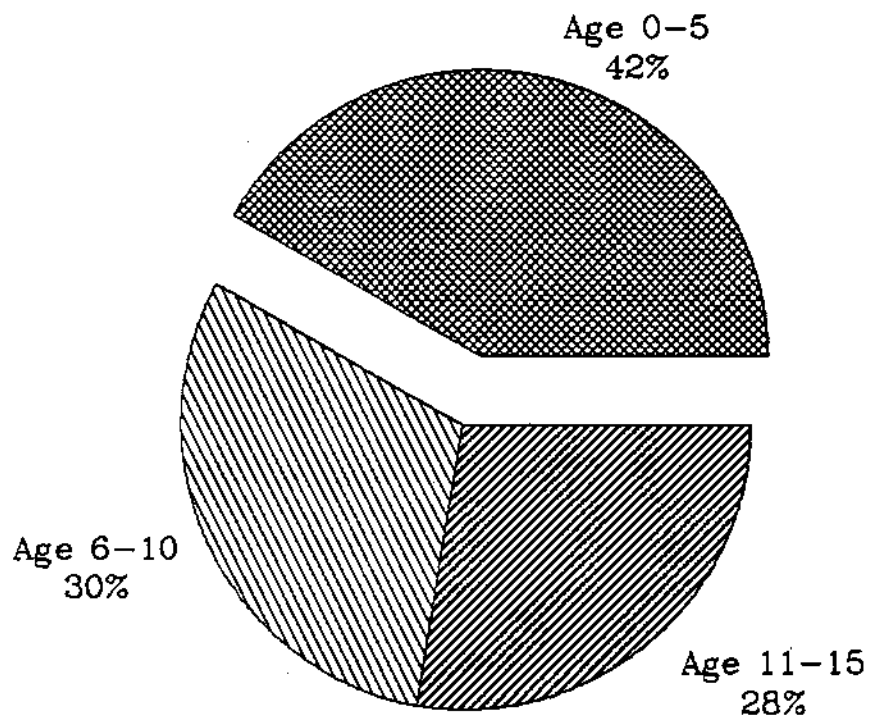
APPENDIX K. ASPEN Model Spreadsheets
 Schedule 12. Estimated Child Care Demand by Age Grouping of Children

Service Delivery Area	SDA #	Children Age 0-5		Children Age 6-10		Children Age 11-15		Children under Age 16	
		Total	Demand	Total	Demand	Total	Demand	Total	Demand
Columbia-Clatsop-Tillamook	1	7,341	3,240	7,258	2,921	6,853	2,756	21,452	8,917
Multnomah-Clackamas-Washington	2	99,566	47,276	82,962	31,347	73,139	27,635	255,667	106,258
Marion-Polk-Yamhill	3	30,271	14,898	26,580	10,241	23,545	9,070	80,396	34,209
Lincoln	4	2,996	1,322	2,762	1,111	2,314	931	8,072	3,364
Linn-Benton	5	12,534	6,223	11,227	4,346	10,709	4,146	34,470	14,715
Lane	6	21,940	10,893	20,044	7,760	18,722	7,249	60,706	25,902
Douglas	7	7,459	3,012	7,249	2,829	7,035	2,745	21,743	8,586
Coos-Curry	8	5,450	2,199	5,541	2,161	5,267	2,054	16,258	6,414
Jackson-Josephine	9	16,680	6,736	14,462	5,642	13,960	5,447	45,102	17,825
Hood River-Wasco	10	3,237	1,644	2,974	1,174	2,779	1,098	8,990	3,916
Gilliam-Sherman-Wheeler	11	299	151	377	149	338	132	1,014	432
Deschutes-Jefferson-Crook	12	8,997	3,911	7,821	3,257	6,923	2,885	23,741	10,053
Klamath-Lake	13	5,242	2,204	4,856	1,862	4,699	1,803	14,797	5,869
Morrow-Umatilla	14	5,800	2,946	5,613	2,213	4,913	1,938	16,326	7,097
Baker-Grant-Union-Wallowa	15	4,190	1,878	4,280	1,762	3,952	1,627	12,422	5,267
Harney-Malheur	16	3,001	1,340	2,836	1,161	2,714	1,112	8,551	3,613
State Total		235,003	109,873	206,842	79,936	187,862	72,628	629,707	262,437
Average		14,688	6,867	12,928	4,996	11,741	4,539	39,357	16,402
Low End		299	151	377	149	338	132	1,014	432
High End		99,566	47,276	82,962	31,347	73,139	27,635	255,667	106,258

Notes:

Child care demand is the number of children under age 16 in the child care marketplace.
 Child care demand is estimated by age grouping of children under age 16 based on the labor force participation of parents by region and statewide measures of the use of competing type of care. This schedule reports, for children under age 16, total population and total estimated demand for market child care.
 Market child care is defined as care by a non-relative outside of the child's home.

Table 12
Estimated Child Care by Age of Children
(Aspen Model - May 1991)



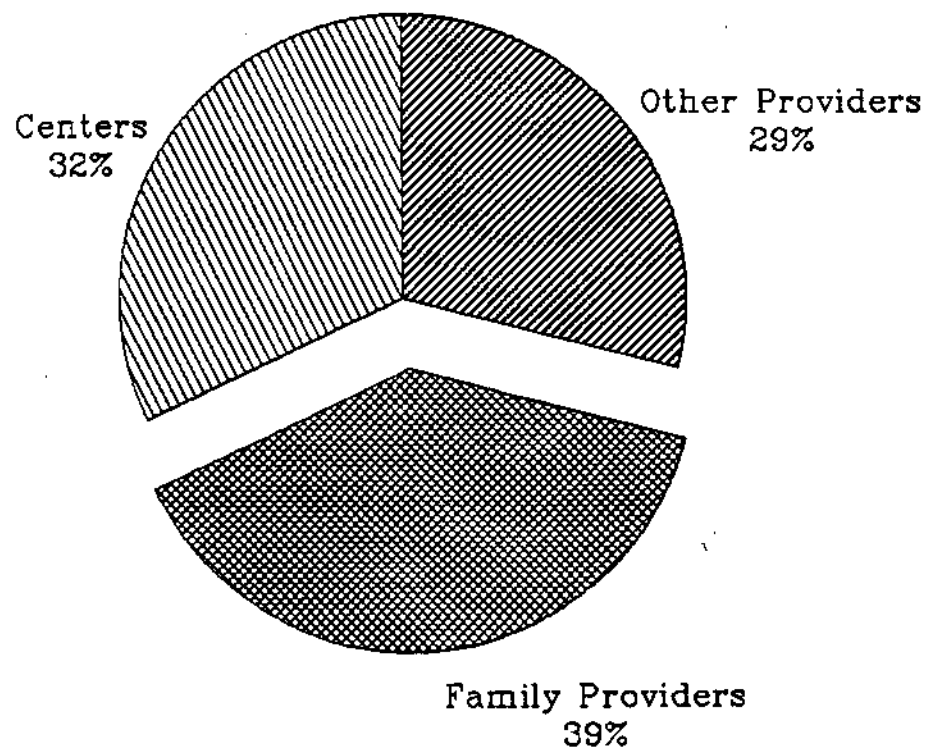
Distribution of children in market
child care by age grouping.

APPENDIX K. ASPEN Model Spreadsheets
 Schedule 13. Estimated Child Care Demand by Type of Provider

Service Delivery Area	SDA #	Licensed Centers	Family Providers*	Other Providers	Total Demand
Columbia-Clatsop-Tillamook	1	2,799	3,416	2,703	8,918
Multnomah-Clackamas-Washington	2	33,436	41,884	30,938	106,258
Marion-Polk-Yamhill	3	10,778	13,601	9,831	34,210
Lincoln	4	1,073	1,315	975	3,363
Linn-Benton	5	4,610	5,819	4,286	14,715
Lane	6	8,104	10,225	7,573	25,902
Douglas	7	2,648	3,163	2,774	8,585
Coos-Curry	8	1,967	2,350	2,097	6,414
Jackson-Josephine	9	5,594	6,693	5,538	17,825
Hood River-Wasco	10	1,235	1,567	1,115	3,917
Gilliam-Sherman-Wheeler	11	130	165	137	432
Deschutes-Jefferson-Crook	12	3,271	3,995	2,785	10,051
Klamath-Lake	13	1,810	2,188	1,873	5,871
Morrow-Umatilla	14	2,232	2,828	2,037	7,097
Baker-Grant-Union-Wallowa	15	1,667	2,042	1,558	5,267
Harney-Malheur	16	1,149	1,408	1,056	3,613
State Total		82,503	102,659	77,276	262,438
Average		5,156	6,416	4,830	16,402
Low End		130	165	137	432
High End		33,436	41,884	30,938	106,258

* Includes Group Home providers.

Table 13
Estimated Demand by Type of Care
(Aspen Model - May 1991)



APPENDIX K. ASPEN Model Spreadsheets
 Schedule 14. Density of Estimated Child Care Demand

Service Delivery Area	SDA #	Density Percentages by Age of Children --->			
		Age 0-5	Age 6-10	Age 11-15	Age 0-15
Columbia-Clatsop-Tillamook	1	44.15%	40.25%	40.21%	41.57%
Multnomah-Clackamas-Washington	2	47.93%	37.78%	37.78%	41.71%
Marion-Polk-Yamhill	3	49.31%	38.53%	38.52%	42.58%
Lincoln	4	44.14%	40.24%	40.23%	41.69%
Linn-Benton	5	49.65%	38.71%	38.72%	42.69%
Lane	6	49.65%	38.72%	38.72%	42.67%
Douglas	7	40.38%	39.03%	39.02%	39.49%
Coos-Curry	8	40.34%	38.99%	39.00%	39.45%
Jackson-Josephine	9	40.39%	39.01%	39.02%	39.52%
Hood River-Wasco	10	50.79%	39.45%	39.50%	43.54%
Gilliam-Sherman-Wheeler	11	50.33%	39.73%	39.17%	42.69%
Deschutes-Jefferson-Crook	12	43.47%	41.60%	41.62%	42.32%
Klamath-Lake	13	42.04%	38.34%	38.38%	39.66%
Morrow-Umatilla	14	50.78%	39.42%	39.45%	43.47%
Baker-Grant-Union-Wallowa	15	44.79%	41.16%	41.18%	42.39%
Harney-Malheur	16	44.65%	40.95%	40.99%	42.26%
State Total		46.75%	38.65%	38.66%	41.68%
Average		45.80%	39.49%	39.47%	41.73%
Low End		40.34%	37.78%	37.78%	39.45%
High End		50.79%	41.60%	41.62%	43.54%

Notes:

Demand Density is a measure of estimated child care demand as a percentage of children under age 16.

Table 14a
Density of Estimated Child Care Demand
 (Aspen Model - May 1991)

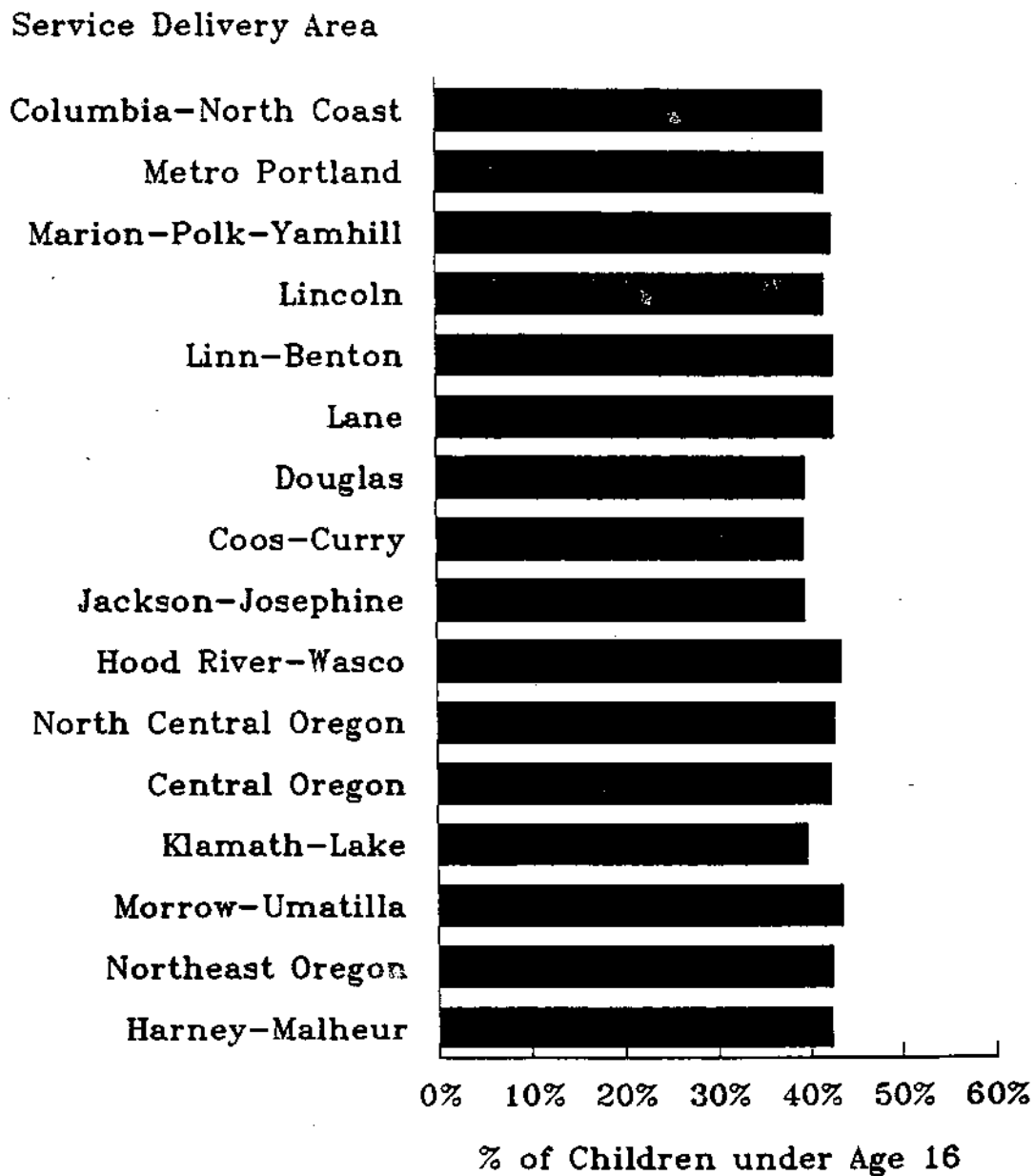


Table 14b
 Demand Density of Children under Age 6
 (Aspen Model - May 1991)

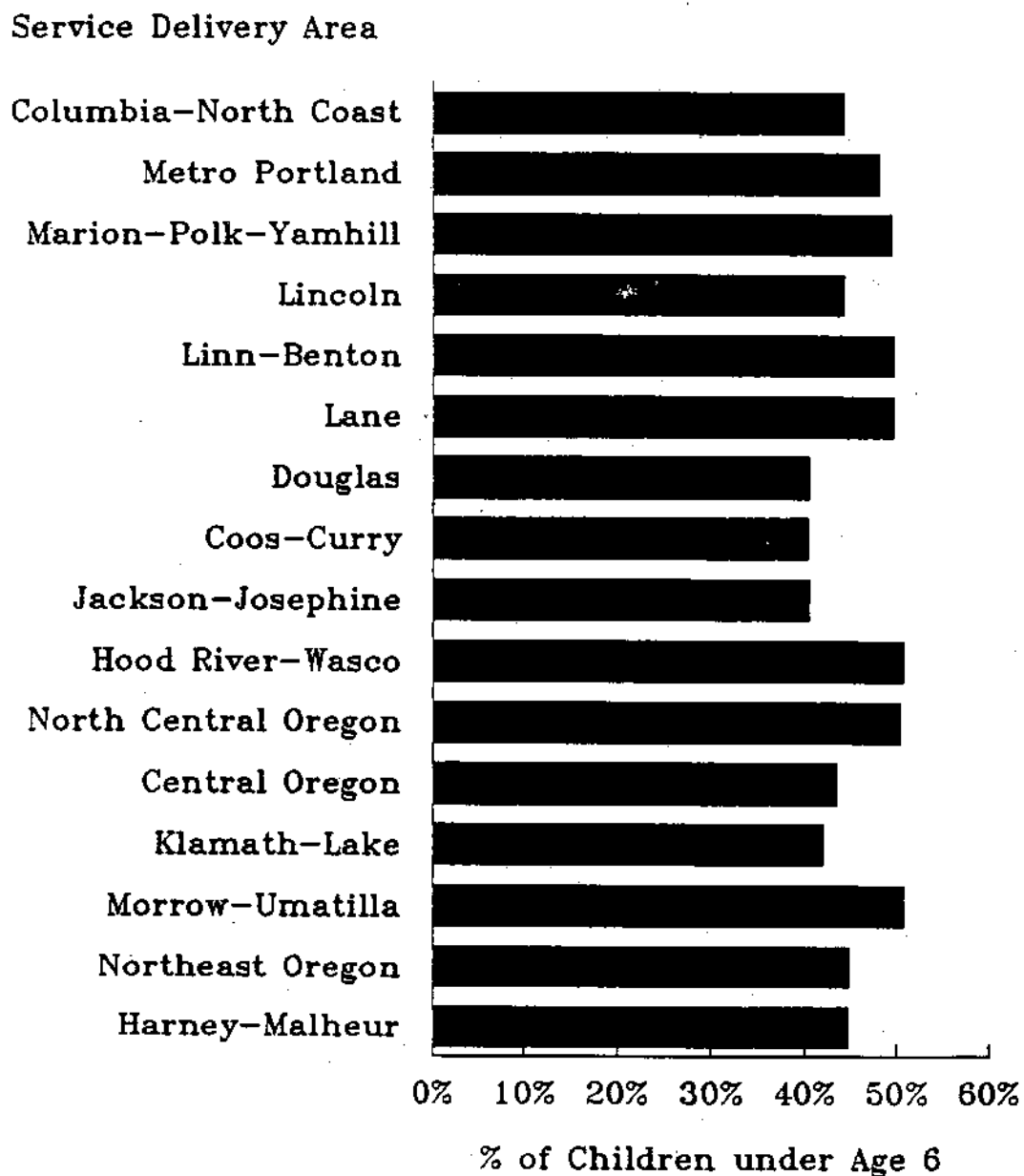


Table 14c
 Demand Density for Children Age 6-10
 (Aspen Model - May 1991)

Service Delivery Area

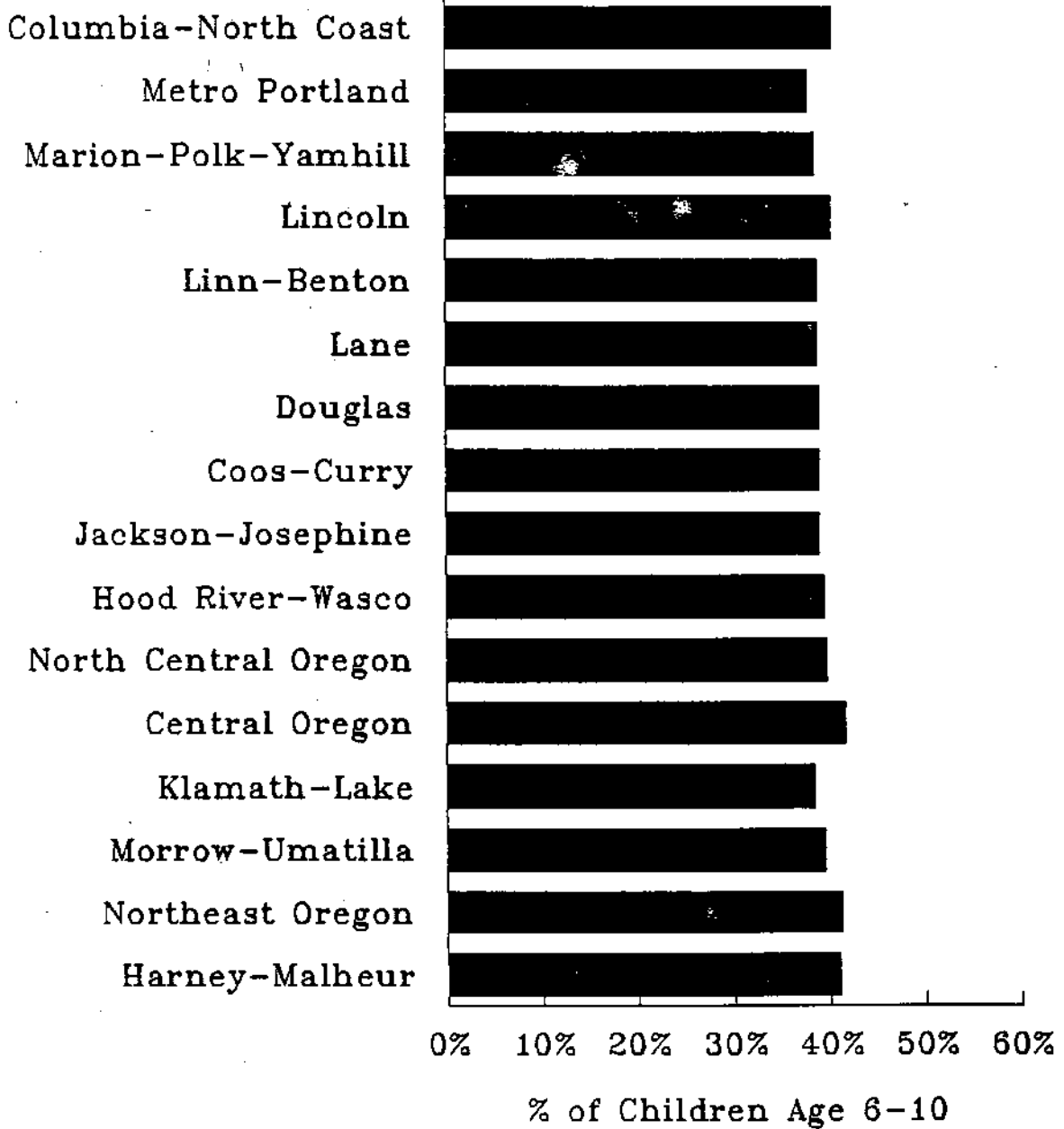
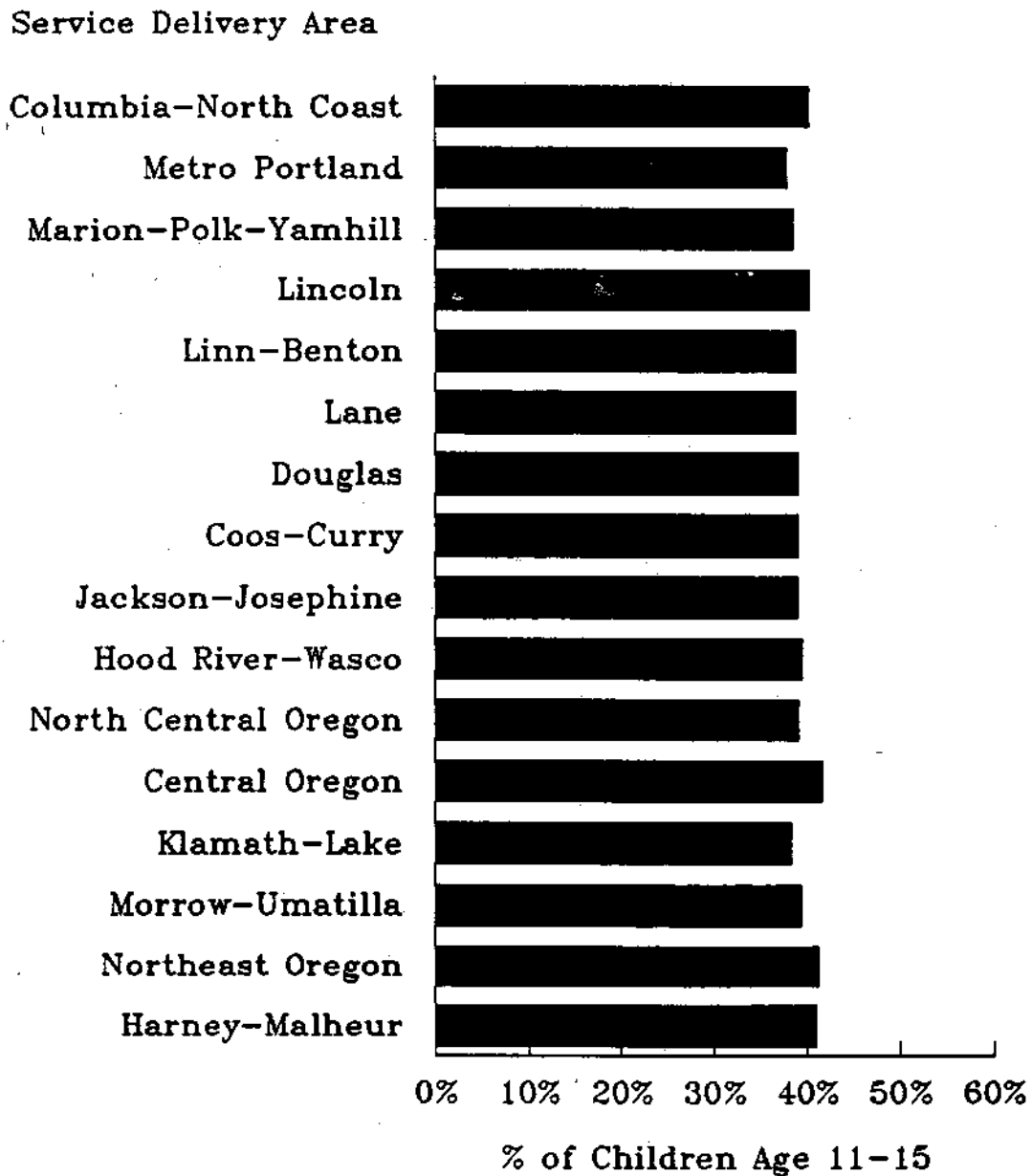


Table 14d
Demand Density for Children Age 11-15
 (Aspen Model - May 1991)



**APPENDIX L: DATA GENERATED BY CHILD CARE RESOURCE &
REFERRAL AGENCIES, JULY 1990 THROUGH MARCH
1991**

The following spreadsheets and charts were prepared from data reported to the Commission for Child Care by nine state-supported child care resource and referral agencies. The nine programs operate in 22 counties, representing nearly 90% of total state population. The data reported in this appendix reflect the varied levels of development and operating status of the community-based agencies. For example, data for the Marion-Polk-Yamhill area reflect 9 months of full operations, while data for Metro Portland reflect one month of full operations. In effect, the schedules and charts present a snap shot of CCRR activity early in the development of a statewide system.

CCRR agencies report child care provider and supply (spaces) data quarterly, and referral data monthly. The data is collected by each agency in a computerized database called *CareFinder*. Commission data files are maintained on Lotus 123 spreadsheet software.

Appendix L - Summary of Child Care Resource and Referral Activities
 Schedule 1 - Information on Child Care Providers

Description	CCRR Service Delivery Areas ----->									TOTAL
	#01	#02	#03	#04	#05	#07	#09	#12	#15	
CCRR Enrolled Providers										
Family Providers	239	677	596	51	326	125	294	165	63	2536
Centers and Others	21	180	126	7	74	12	17	30	3	470
Providers Enrolled with CCRR as a Percent of Total Estimated Providers										
Family Providers	23.0%	5.3%	14.4%	12.8%	18.5%	13.0%	14.4%	13.6%	10.1%	8.9%
Centers and Others	61.8%	57.1%	76.8%	17.5%	67.9%	29.3%	16.8%	62.5%	33.3%	49.2%
Density of CCRR Enrolled Providers (Providers as a % of Children under Age 16)										
Family Providers	1.11%	0.27%	0.74%	0.63%	0.95%	0.57%	0.65%	0.69%	0.51%	0.44%
Centers and Others	0.10%	0.07%	0.16%	0.09%	0.21%	0.06%	0.04%	0.13%	0.02%	0.08%

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Key to Service Delivery Areas:

- No. 1 Columbia-Clatsop-Tillamook
- No. 2 Clackamas-Multnomah-Washington
- No. 3 Marion-Polk-Yamhill
- No. 4 Lincoln
- No. 5 Linn-Benton
- No. 7 Douglas
- No. 9 Jackson-Josephine
- No. 12 Crook-Deschutes-Jefferson
- No. 15 Baker-Grant-Union-Wallowa

Table 1a
CCR Data - July 1990 to March 1991

Service Delivery Area

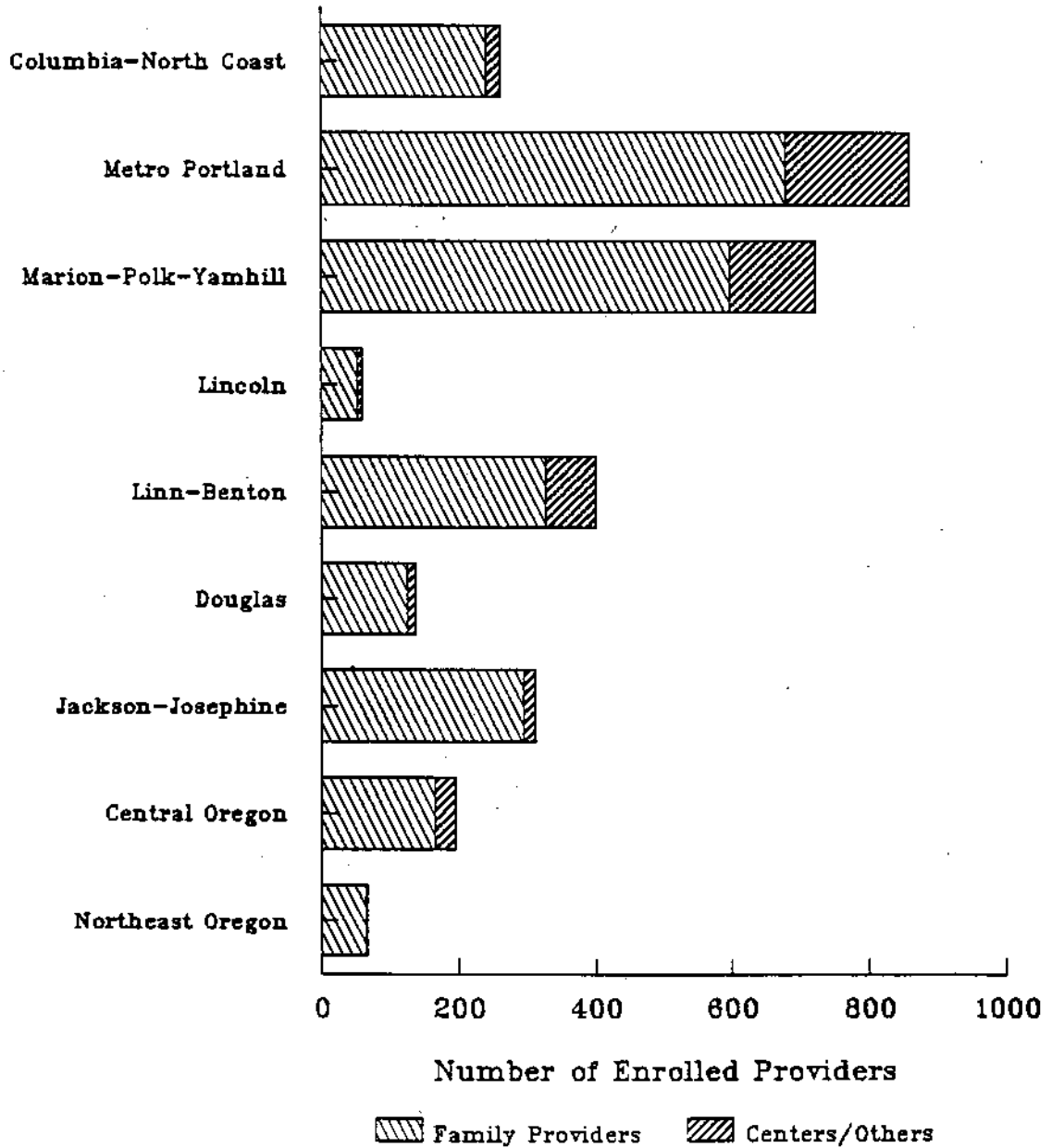


Table 1b
 Percent of Providers Enrolled with CRRR
 (CRRR Data - July 1990 to March 1991)

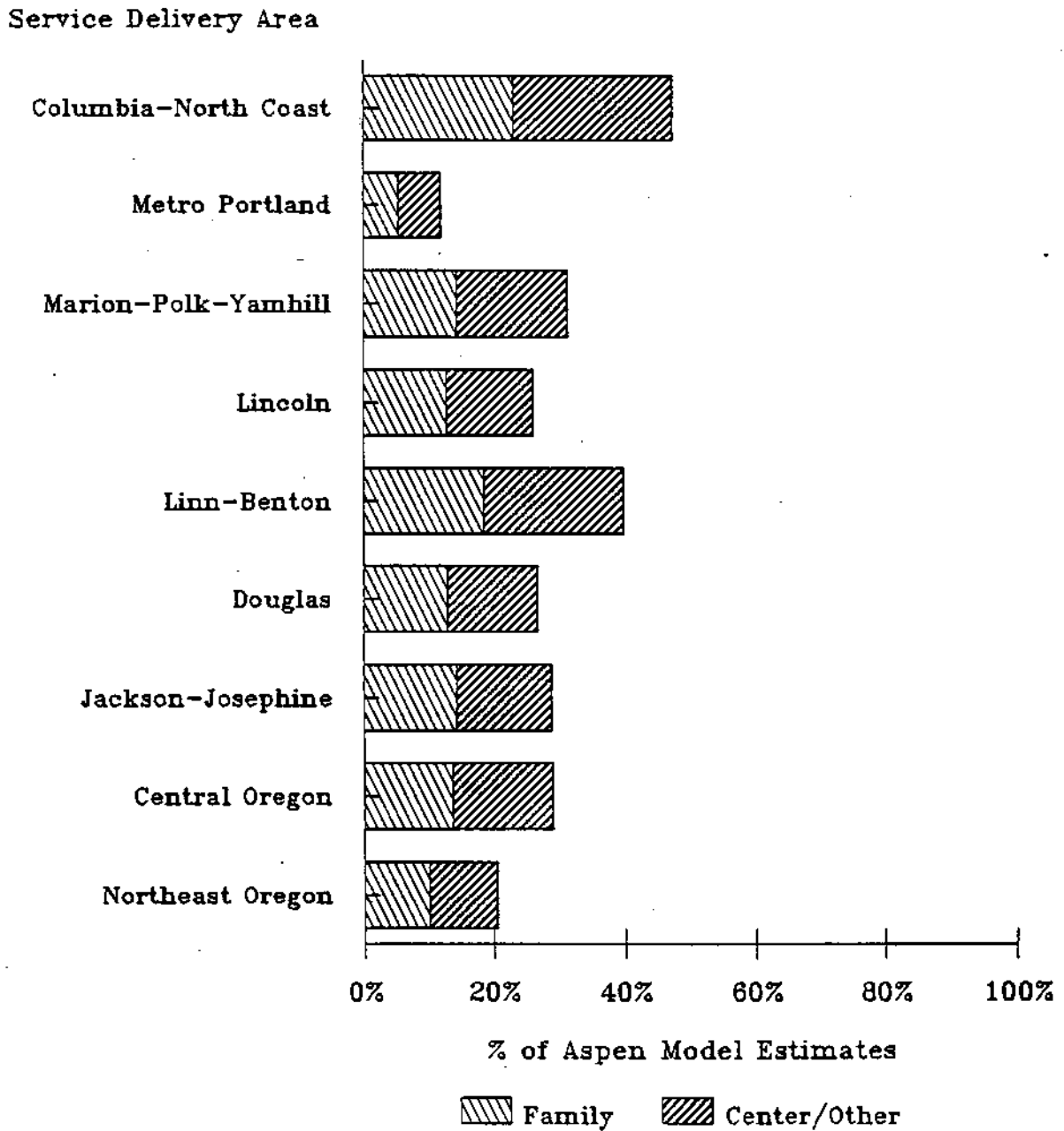


Table 1c
Density of CCRR Enrolled Providers
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area

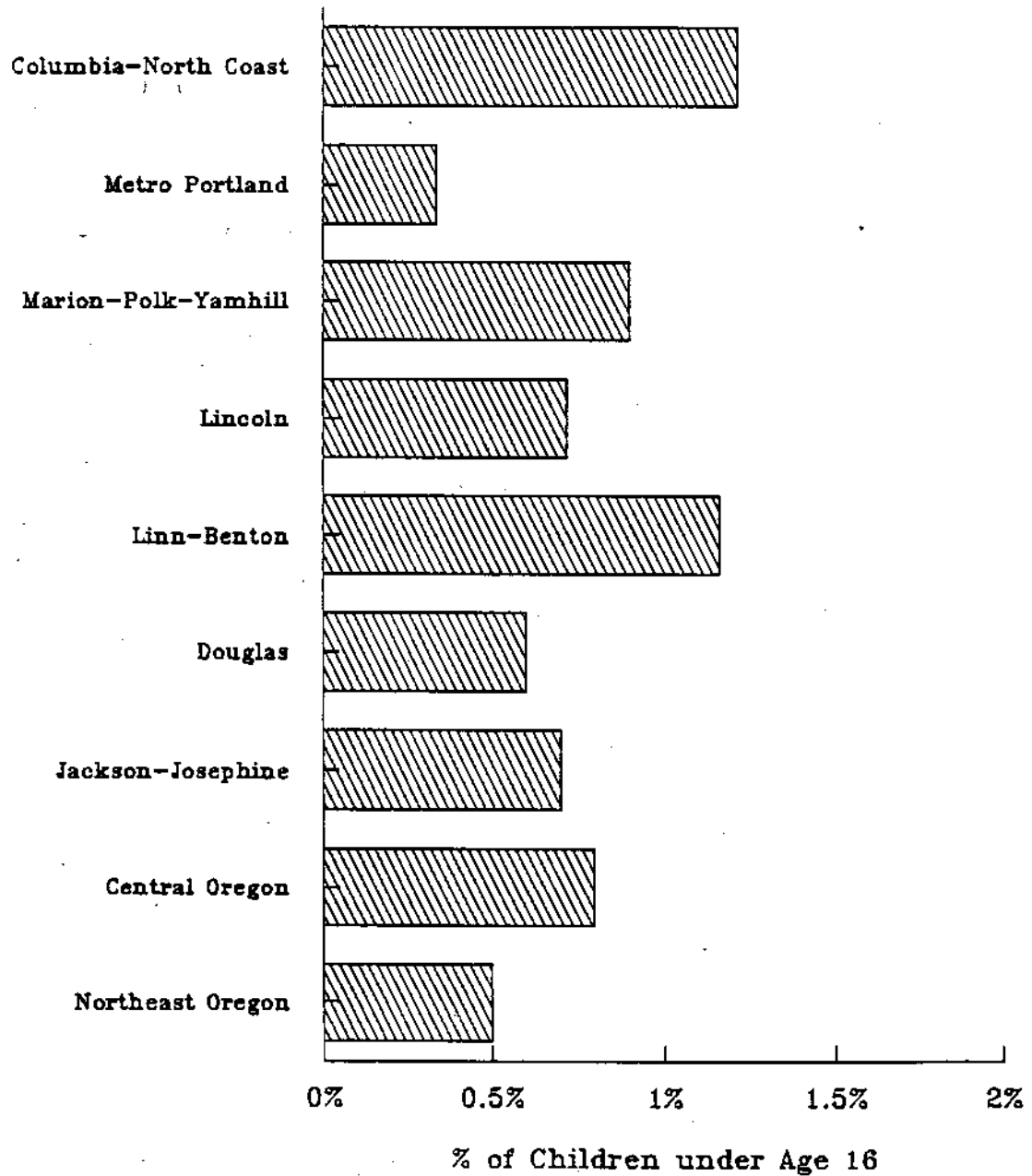
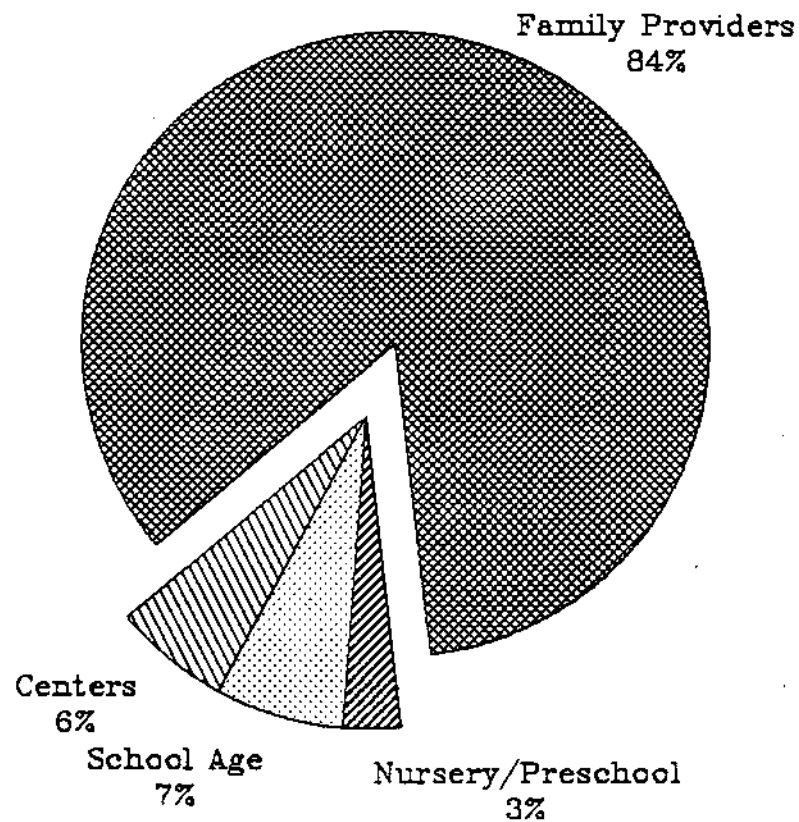


Table 1d
CCRR Enrolled Child Care Providers
(CCRR Data - July 1990 to March 1991)



Appendix L - Summary of Child Care Resource and Referral Activities
 Schedule 2 - Providers of Hard to Find Child Care Services

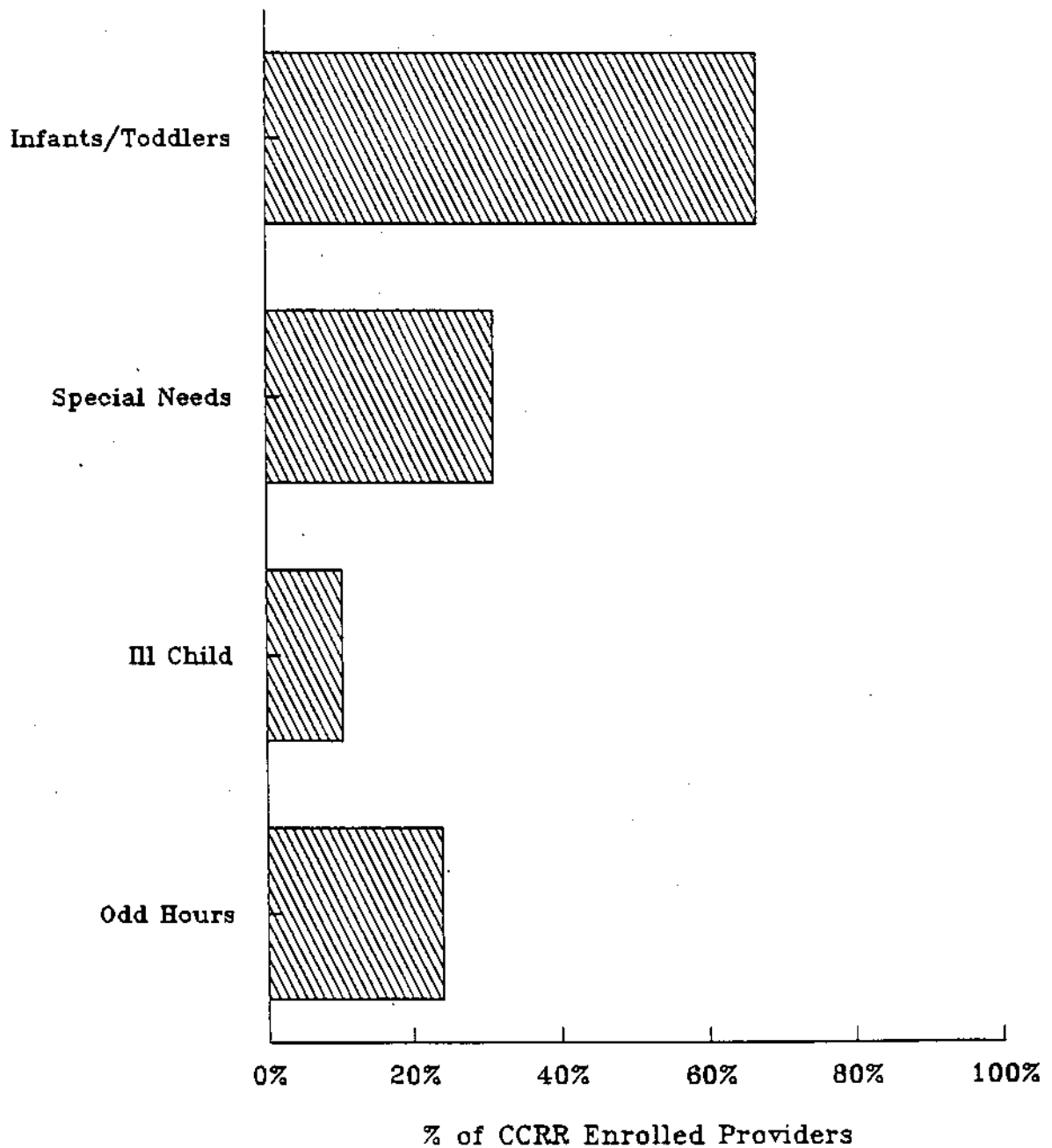
Description	CCRR Service Delivery Areas ----->										TOTAL
	#01	#02	#03	#04	#05	#07	#09	#12	#15		
Infant and Toddler Care											
Family Providers	161	575	364	21	211	115	210	230	50	1937	
Centers and Others	4	33	20	2	6	1	0	3	1	70	
Care of Children with Limited Abilities and Special Needs											
Family Providers	95	167	232	15	76	30	110	71	31	827	
Centers and Others	9	28	41	4	5	0	9	12	0	108	
Care of Ill Children											
Family Providers	28	63	56	3	58	16	46	30	10	310	
Centers and Others	0	1	3	0	0	0	0	3	0	7	
Care during Odd Hours											
Family Providers	82	124	162	4	87	58	129	42	28	716	
Centers and Others	1	3	5	1	0	0	1	0	0	11	

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Key to Service Delivery Areas:

- No. 1 Columbia-Clatsop-Tillamook
- No. 2 Clackamas-Multnomah-Washington
- No. 3 Marion-Polk-Yamhill
- No. 4 Lincoln
- No. 5 Linn-Benton
- No. 7 Douglas
- No. 9 Jackson-Josephine
- No. 12 Crook-Deschutes-Jefferson
- No. 15 Baker-Grant-Union-Wallowa

Table 2
Providers of Hard to Find Care
(CCRR Data - July 1990 to March 1991)



Appendix I - Summary of Child Care Resource and Referral Activities
 Schedule 3 - Status of Family Providers

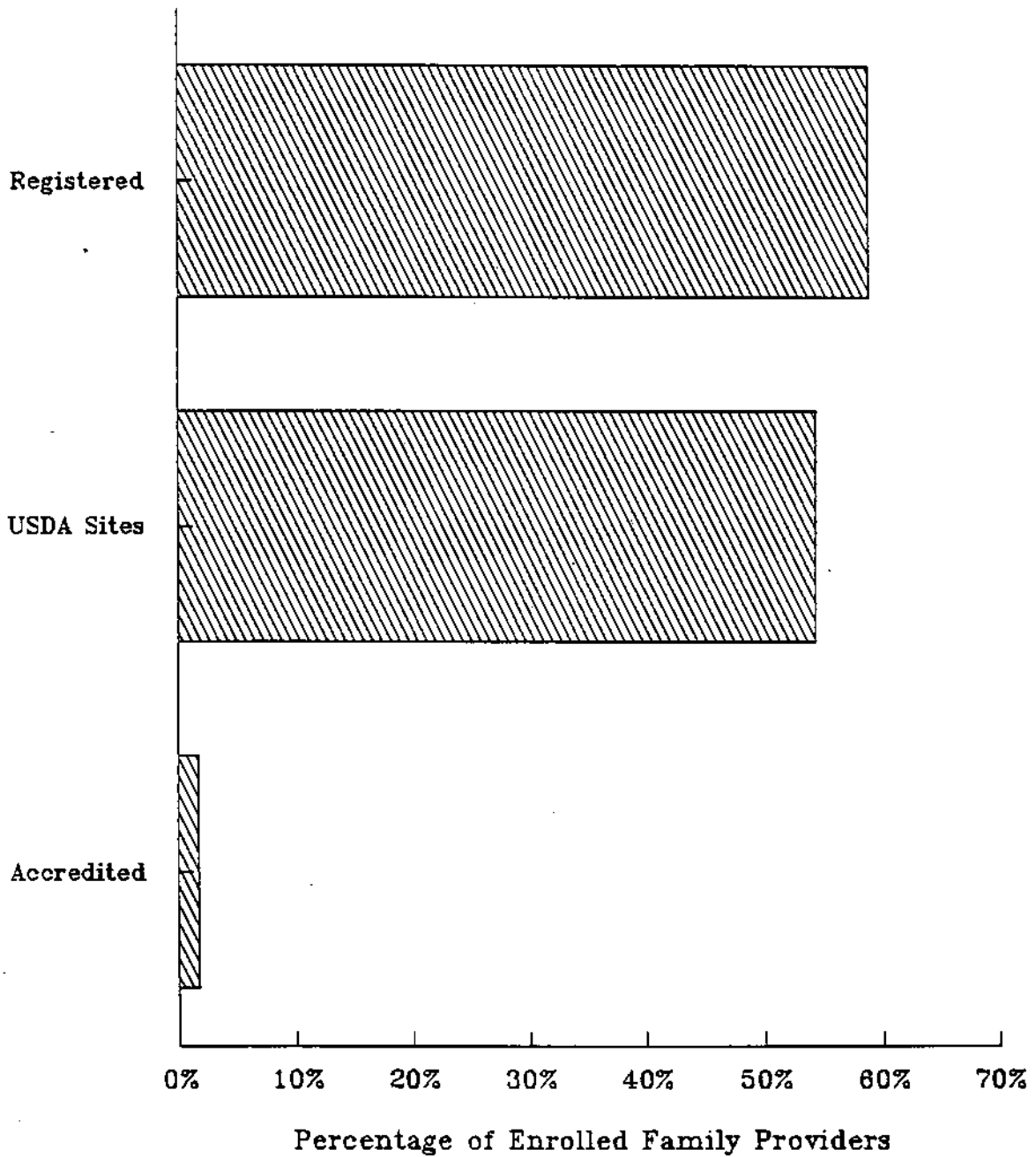
Description	CCRR Service Delivery Areas ----->									
	#01	#02	#03	#04	#05	#07	#09	#12	#15	TOTAL
Registered with the State										
Number of Providers	106	472	239	15	137	113	233	75	40	1490
% of Enrolled Providers	44.4%	69.7%	50.2%	29.4%	42.0%	90.4%	79.3%	45.5%	63.5%	58.8%
USDA Food Program Participants										
Number of Providers	103	294	230	9	95	82	491	35	39	1378
% of Enrolled Providers	43.1%	43.4%	38.6%	17.6%	29.1%	65.6%	167.0%	21.2%	61.9%	54.3%
Accredited Providers										
Number of Providers	0	3	21	2	2	2	12	3	0	45
% of Enrolled Providers	0.0%	0.4%	3.5%	3.9%	0.6%	1.6%	4.1%	1.8%	0.0%	1.8%

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Key to Service Delivery Areas:

- No. 1 Columbia-Clatsop-Tillamook
- No. 2 Clackamas-Multnomah-Washington
- No. 3 Marion-Polk-Yamhill
- No. 4 Lincoln
- No. 5 Linn-Benton
- No. 7 Douglas
- No. 9 Jackson-Josephine
- No. 12 Crook-Deschutes-Jefferson
- No. 15 Baker-Grant-Union-Wallowa

Table 3
Status of Enrolled Family Providers
(CCRR Data - July 1990 to March 1991)



Appendix L - Summary of Child Care Resource and Referral Activities
 Schedule 4 - Information on Enrolled Child Care

Description	CCRR Service Delivery Areas ----->									TOTAL
	#01	#02	#03	#04	#05	#07	#09	#12	#15	
Enrolled Child Care Spaces										
Family Providers	1383	4380	3287	258	1339	693	1751	912	326	14329
Centers and Others	650	1062	5315	126	2976	355	602	1365	60	12511
Child Care Spaces Enrolled with CCRR as a Percent of Total Estimated Spaces										
Family Providers	40.2%	10.4%	24.0%	19.6%	22.9%	21.8%	25.7%	22.6%	15.6%	15.1%
Centers and Others	82.7%	5.5%	64.5%	11.0%	66.4%	19.5%	13.8%	54.8%	14.7%	26.2%
Density of CCRR Enrolled Spaces (Spaces as a % of Children under Age 16)										
Family Providers	6.4%	1.7%	4.1%	3.2%	3.9%	3.2%	3.9%	3.8%	2.6%	2.5%
Centers and Others	3.0%	0.4%	6.6%	1.6%	8.6%	1.6%	1.3%	5.7%	0.5%	2.2%

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Key to Service Delivery Areas:

- No. 1 Columbia-Clatsop-Tillamook
- No. 2 Clackamas-Multnomah-Washington
- No. 3 Marion-Polk-Yamhill
- No. 4 Lincoln
- No. 5 Linn-Benton
- No. 7 Douglas
- No. 9 Jackson-Josephine
- No. 12 Crook-Deschutes-Jefferson
- No. 15 Baker-Grant-Union-Wallowa

Table 4a
CCRR Enrolled Child Care Spaces
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area

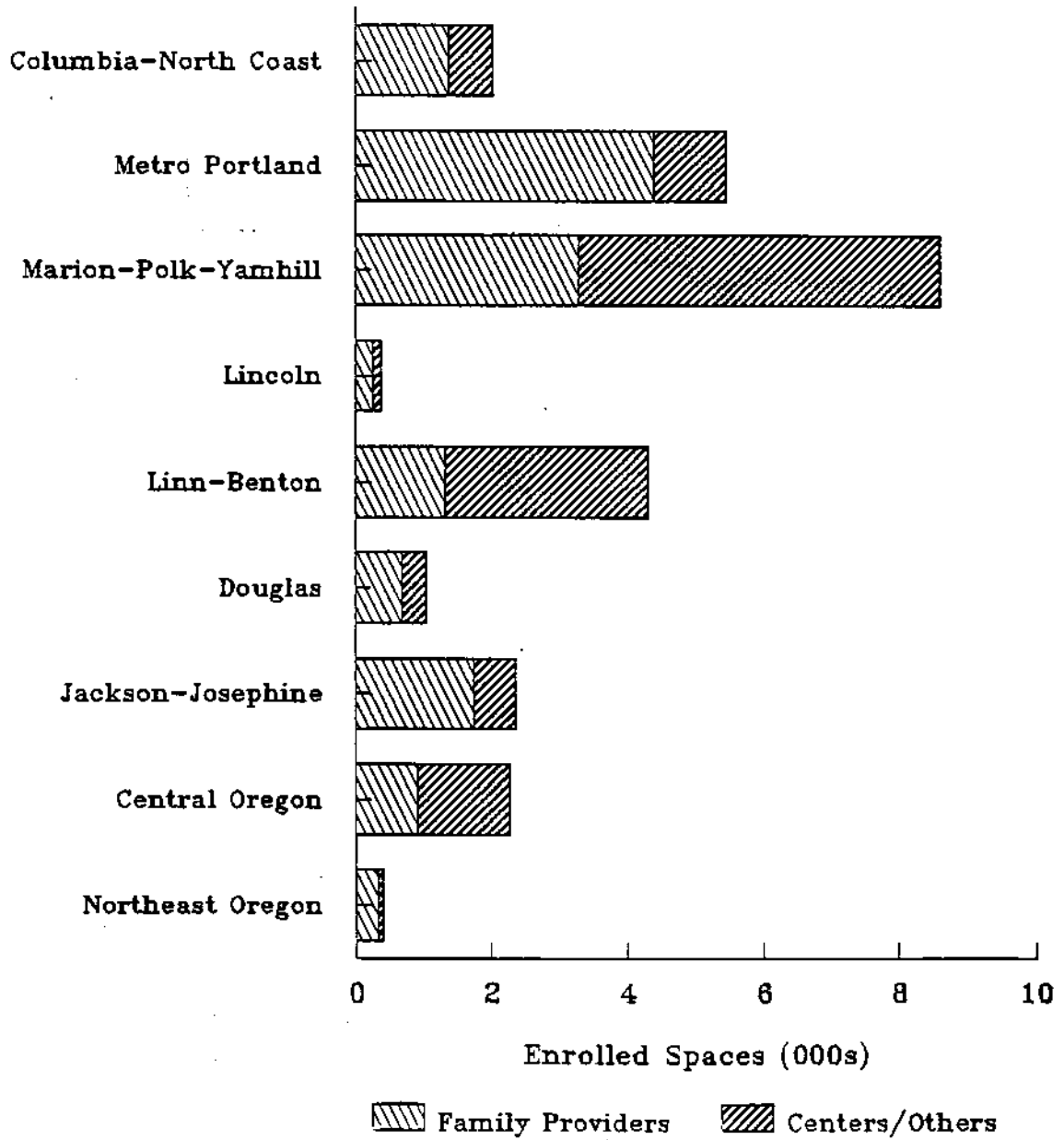


Table 4b
 Percent of Spaces Enrolled with CCRR
 (CCR Data - July 1990 to March 1991)

Service Delivery Area

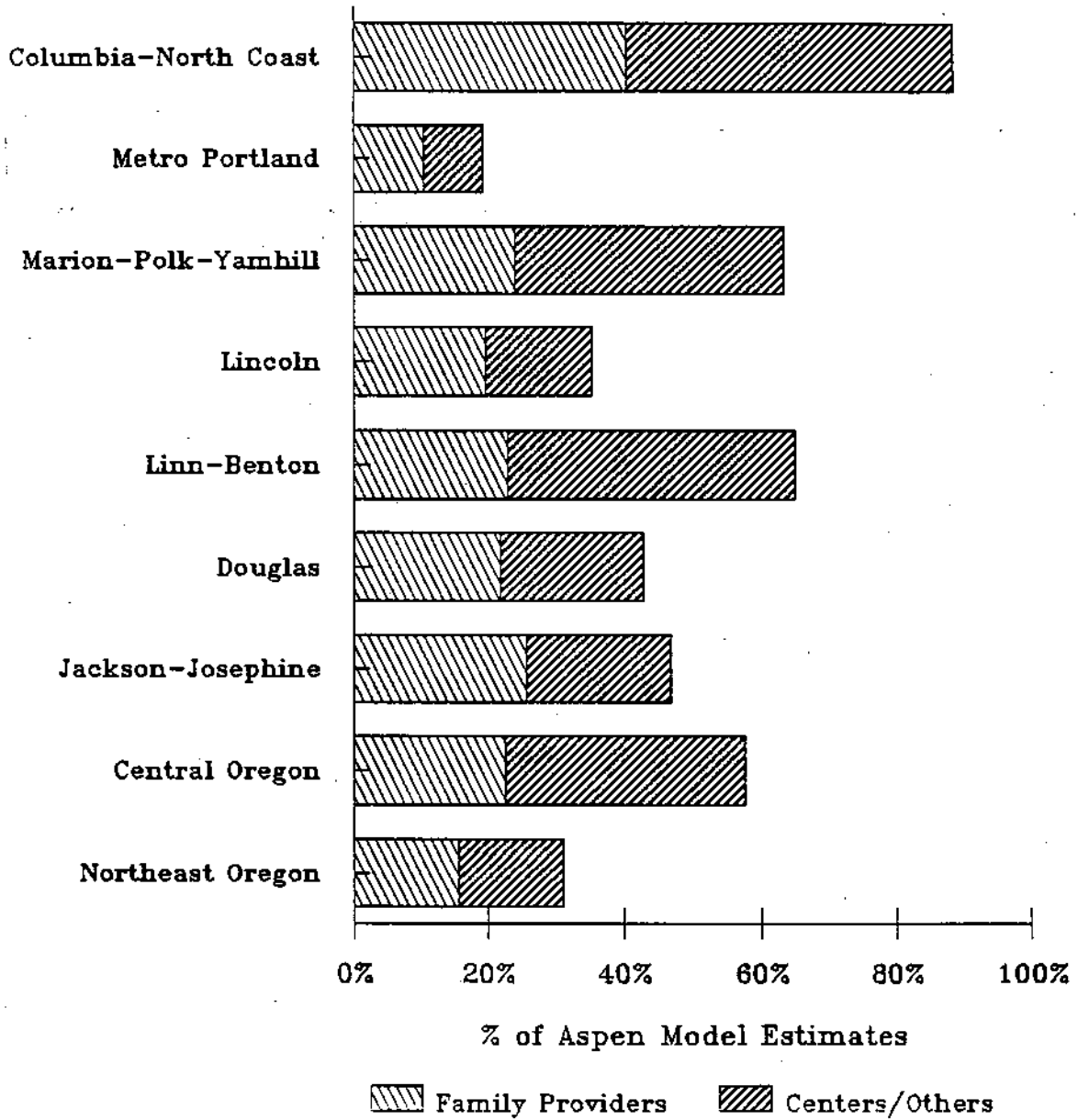


Table 4c
 Density of Enrolled Child Care Spaces
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area

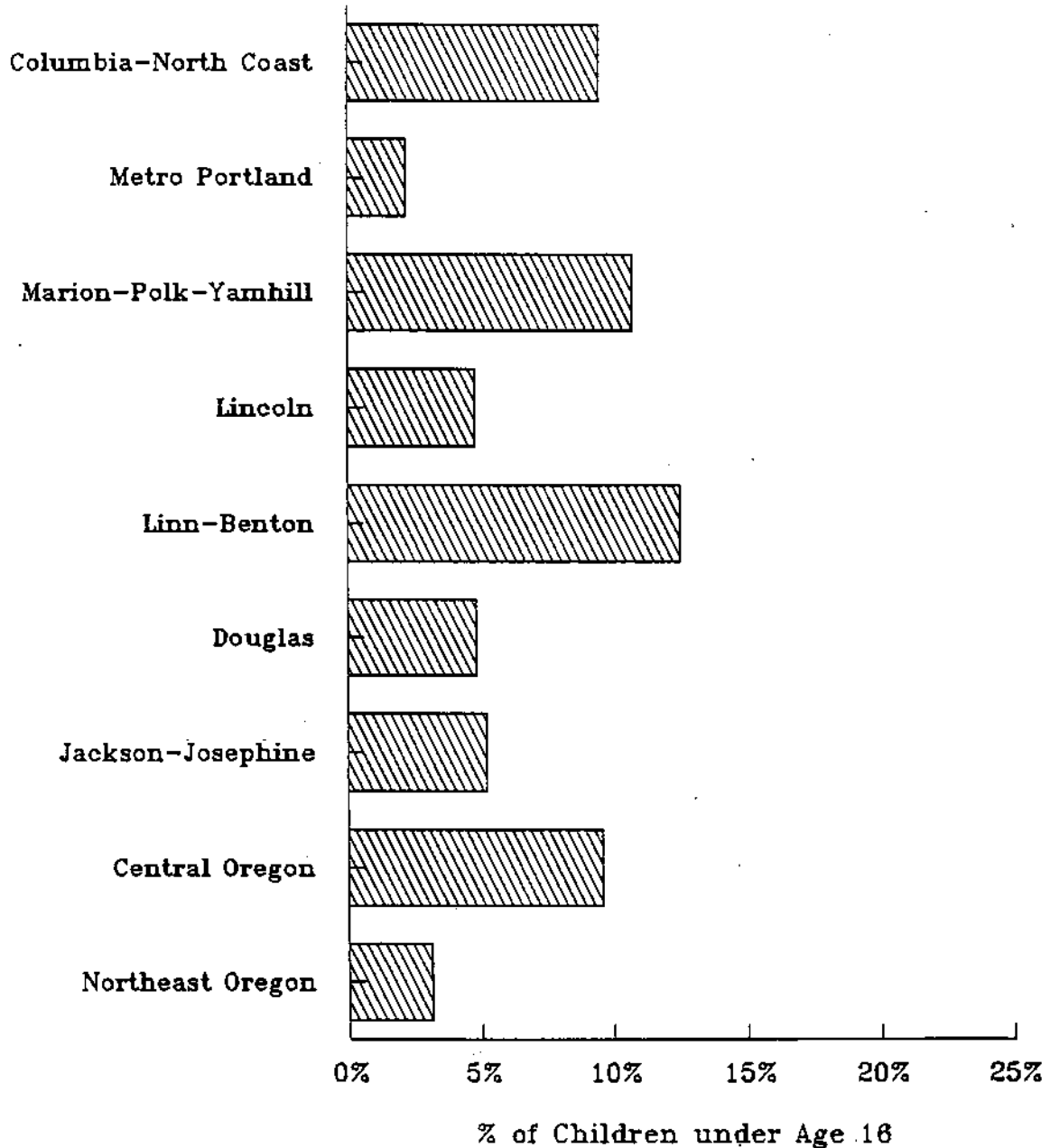
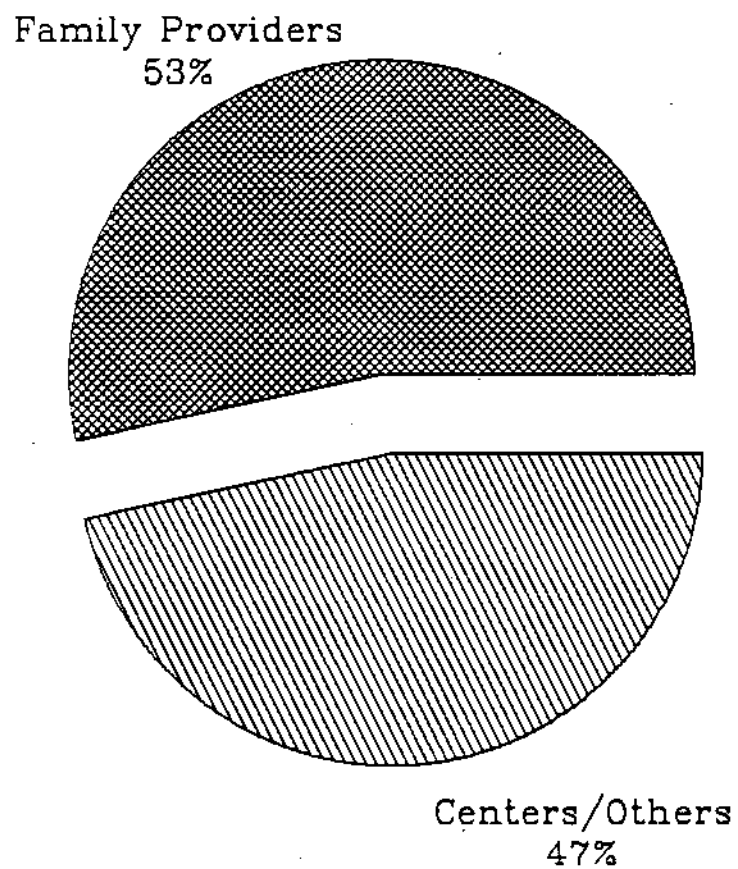


Table 4d
Enrolled Child Care Spaces
(CCRR Data - July 1990 to March 1991)



Appendix L - Summary of Child Care Resource and Referral Activities
 Schedule 5 - Information on Child Care Referrals

Description	CCRR Service Delivery Areas									TOTAL
	#01	#02	#03	#04	#05	#07	#09	#12	#15	
Referrals by Type of Child Care Provider										
Family Providers	234	458	1039	23	1349	287	284	119	49	3842
Centers and Others	82	193	720	65	662	111	155	32	36	2046
Referrals as a Percentage of Estimated Child Care Demand										
Family Providers	6.9%	1.1%	7.6%	1.7%	23.2%	9.1%	4.2%	3.0%	2.4%	4.1%
Centers and Others	1.5%	0.3%	3.5%	3.2%	7.4%	2.0%	1.4%	0.5%	1.1%	1.4%
Density of Child Care Referrals										
Family Providers	1.1%	0.2%	1.3%	0.3%	3.9%	1.3%	0.6%	0.5%	0.4%	0.7%
Centers and Others	0.4%	0.1%	0.9%	0.8%	1.9%	0.5%	0.3%	0.1%	0.3%	0.4%

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Key to Service Delivery Areas:	# of Months Reporting
No. 1 Columbia-Clatsop-Tillamook	7
No. 2 Clackamas-Multnomah-Washington	1
No. 3 Marion-Polk-Yamhill	9
No. 4 Lincoln	4
No. 5 Linn-Benton	9
No. 7 Douglas	6
No. 9 Jackson-Josephine	4
No. 12 Crook-Deschutes-Jefferson	5
No. 15 Baker-Grant-Union-Wallowa	4

Table 5a
Child Care Referrals
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area

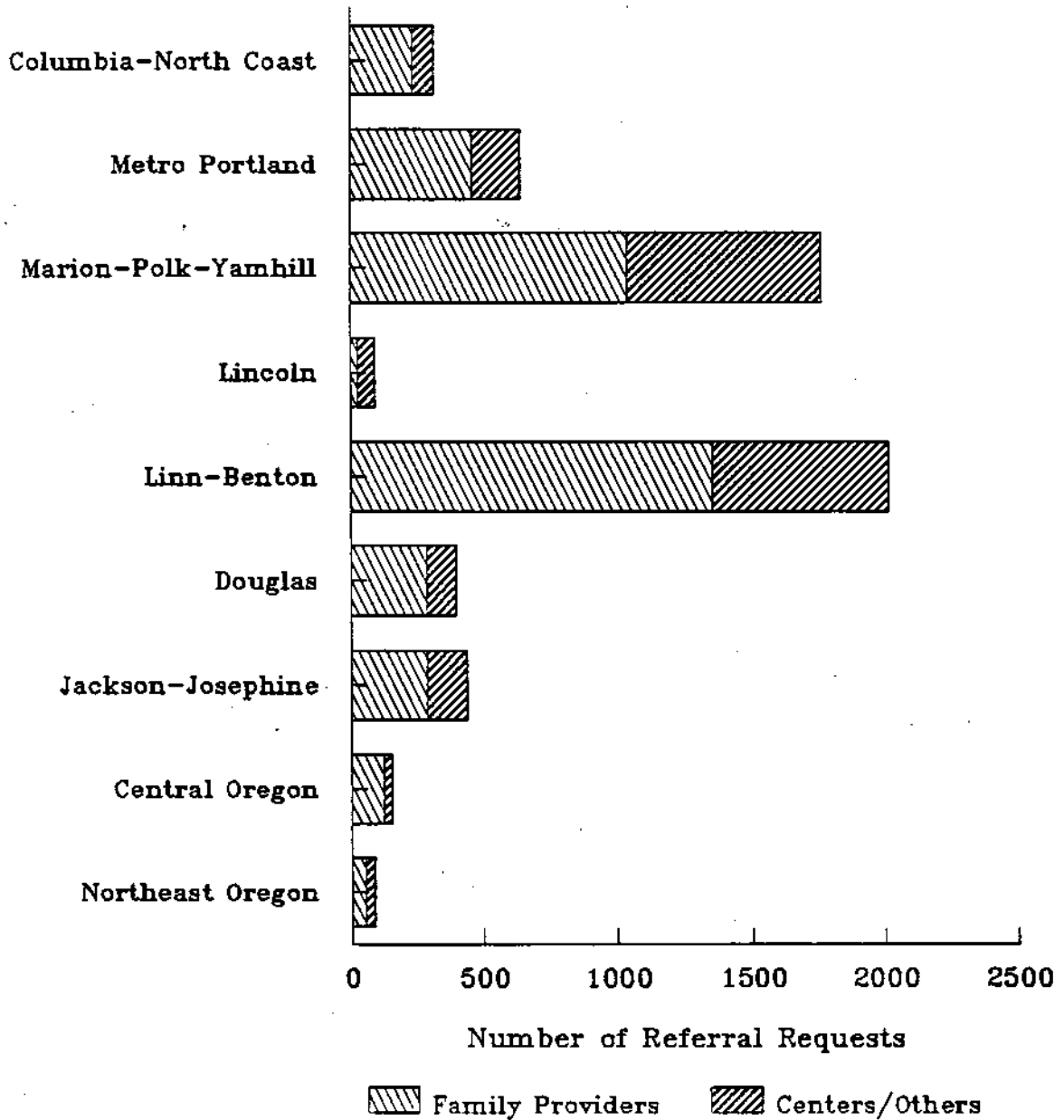


Table 5b
Referrals as a Percent of Demand
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area

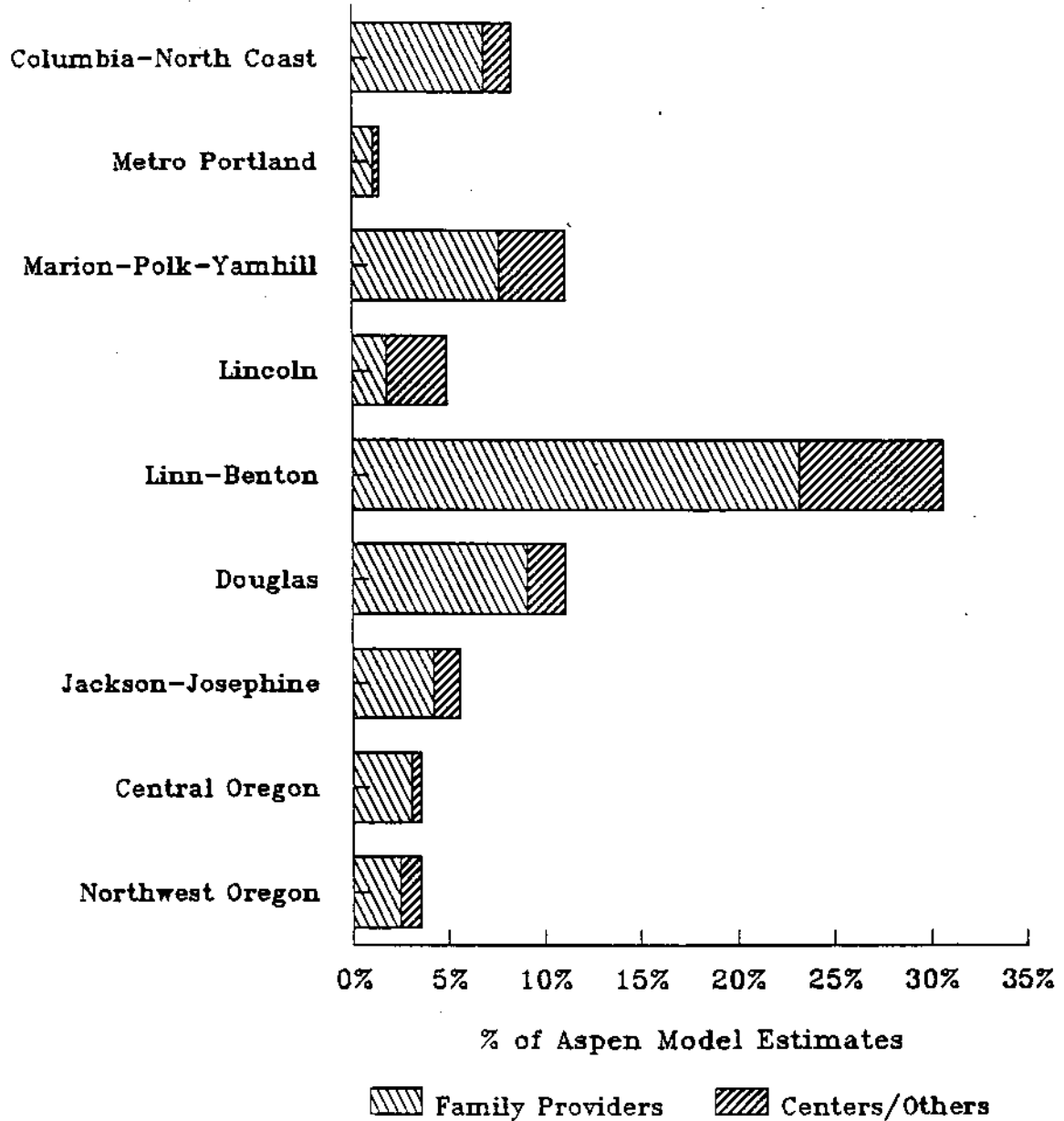
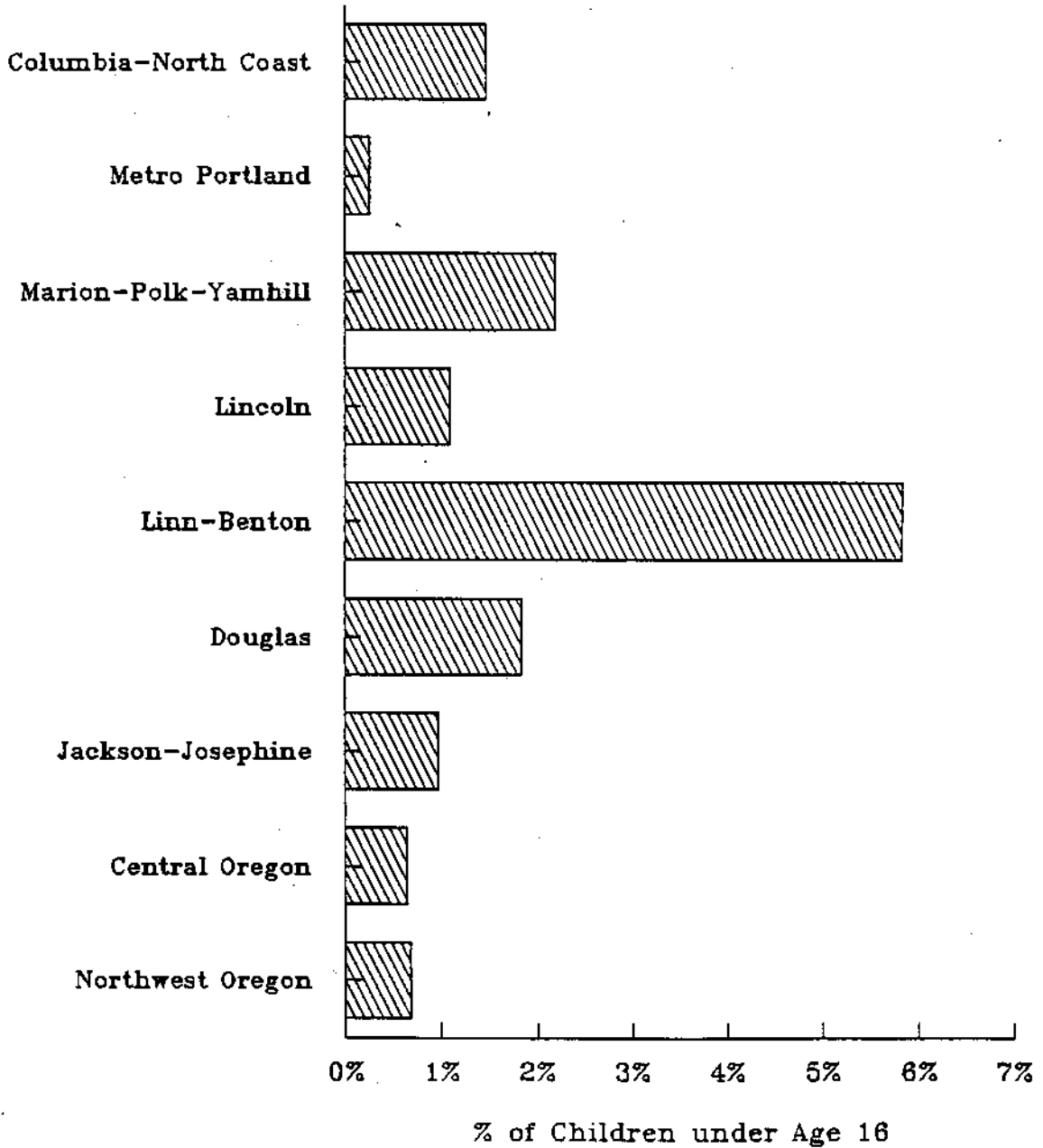


Table 5c
 Density of Child Care Referrals
 (CCRR Data - July 1990 to March 1991)

Service Delivery Area



Appendix L - Summary of Child Care Resource and Referral Activities
 Table 6 - Statewide Summary of Child Care Referrals

Description	Count	% Share	Description	Count	% Share
A. Households Served:			E. Type of Care Requested:		
# Households Served	3991		Centers	1308	20.68%
# Households Subscrib	3373		Family Providers	3842	60.75%
# Children Served	5157	1.2922	In-Home Care	436	6.89%
Household Structure:			School Age	580	9.17%
Two-Adult Households	1862	55.95%	Nursery/Preschool	158	2.50%
One-Adult Households	1466	44.05%	Special Service Requests:		
B. Causes of Demand:			Sick Child	52	1.80%
Employment-Related	2468	66.72%	Special Needs	112	3.87%
Education & Training	848	22.93%	Special Conditions	2731	94.34%
Parent-Respite	190	5.14%	F. Household Income:		
Child & Other	193	5.22%	Under \$10,000	773	37.71%
C. Ages of Children:			\$10-19,999	631	30.78%
0-2 Years	2407	44.81%	\$20-29,999	337	16.44%
3-5 Years	1708	31.80%	\$30-39,999	161	7.85%
6-8 Years	798	14.86%	\$40,000 or more	148	7.22%
9 Years & Older	458	8.53%	G. Who Pays for Care:		
D. Requested Schedules:			Family Sources	1698	76.11%
Full Time (+30 Hours)	2018	35.09%	Employer Sources	8	0.36%
Part Time (-30 Hours)	2560	44.51%	Government Sources	469	21.02%
Odd Hours	925	16.08%	Other Sources	56	2.51%
Flexible Hours	248	4.31%			

Source: Carefinder Data Files maintained by Child Care Resource and Referral Agencies
 Activity from July 1990 through March 1991

Table 6a
Households and Children Served by CCRR
 (CCRR Data - July 1990 - March 1991)

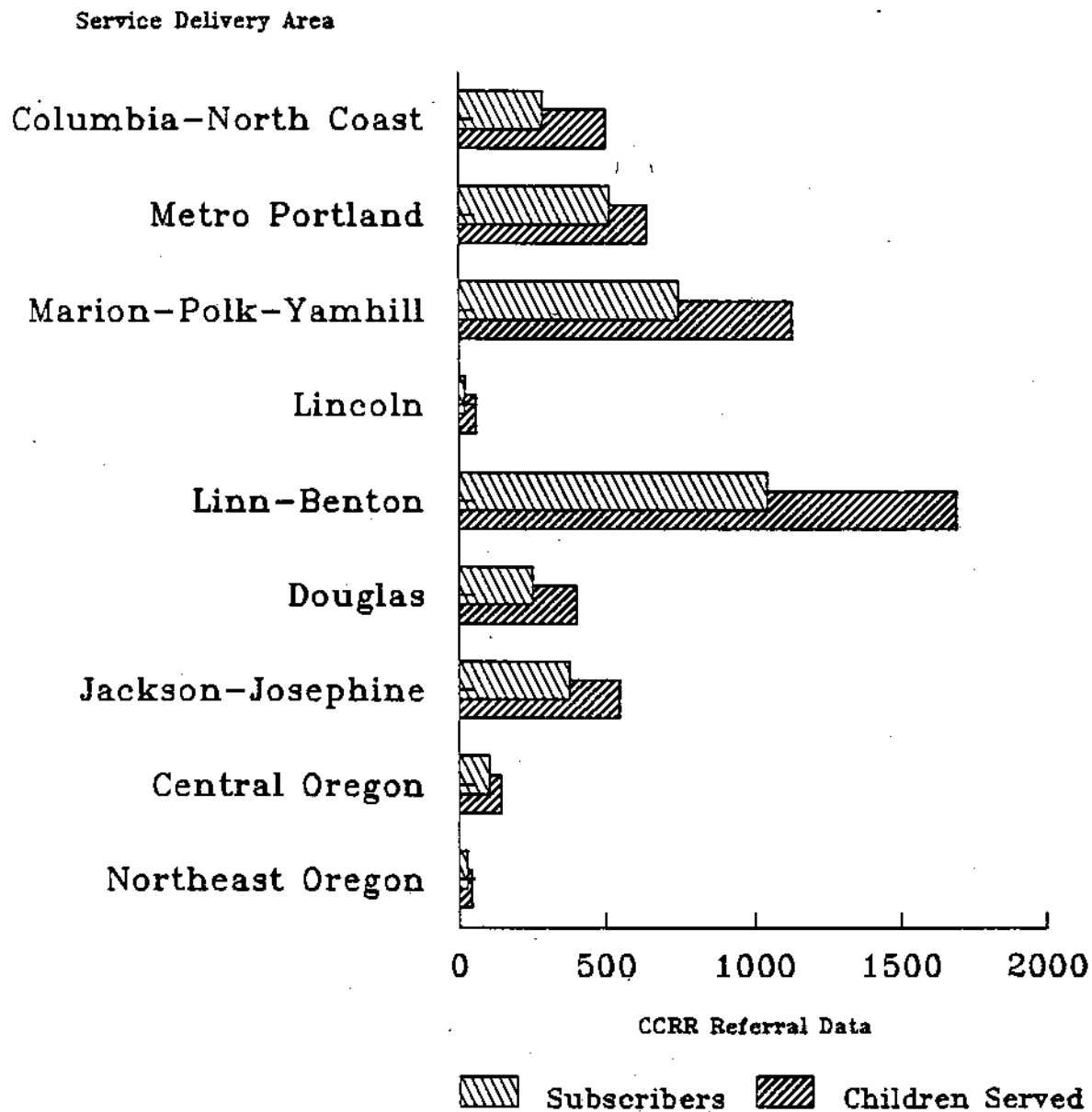


Table 6b
Referrals by Type of Household
(CCRR Data - July 1990 to March 1991)

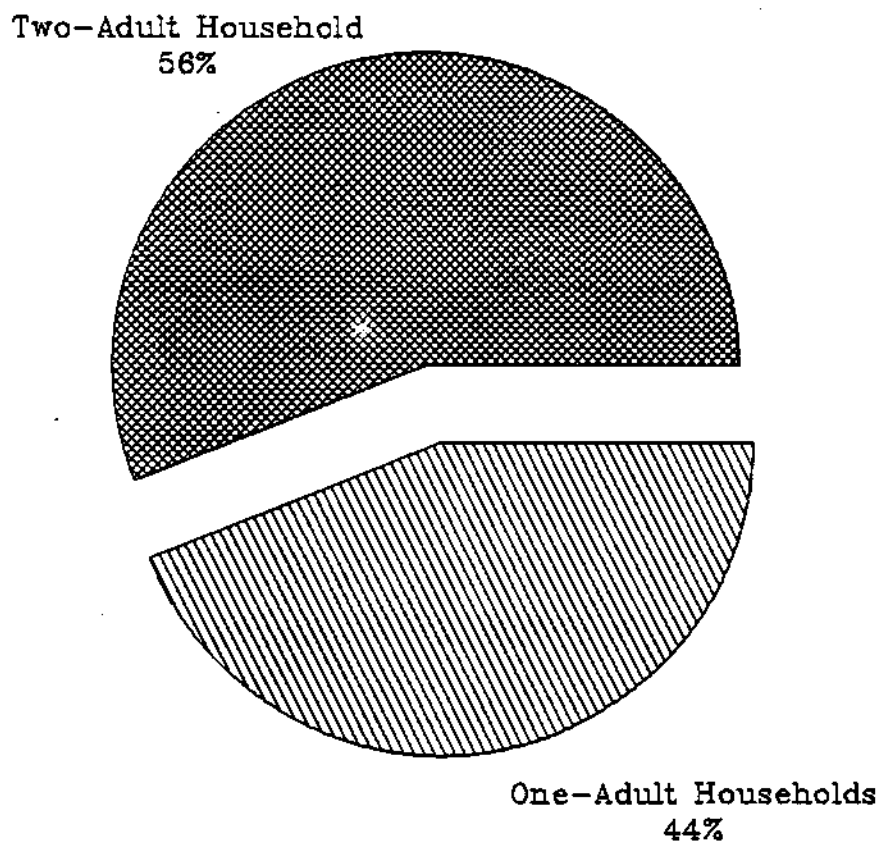


Table 6c
Referrals by Cause of Child Care Need
(CCRR Data - July 1990 to March 1991)

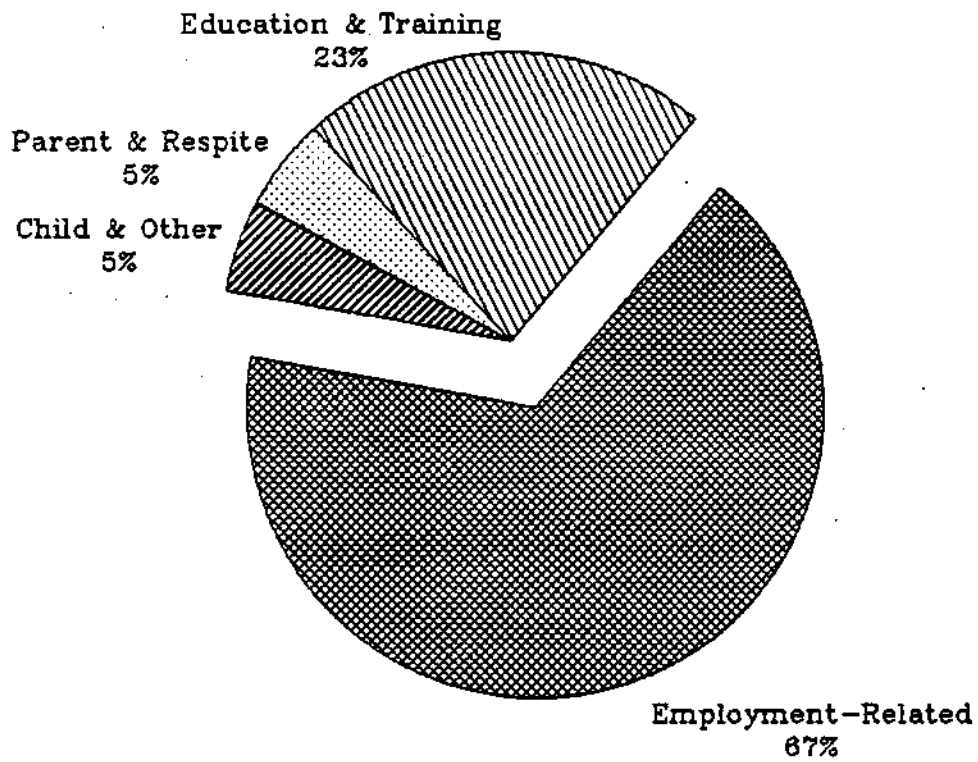


Table 6d
Referrals by Age of Children Served
(CCRR Data - July 1990 to March 1991)

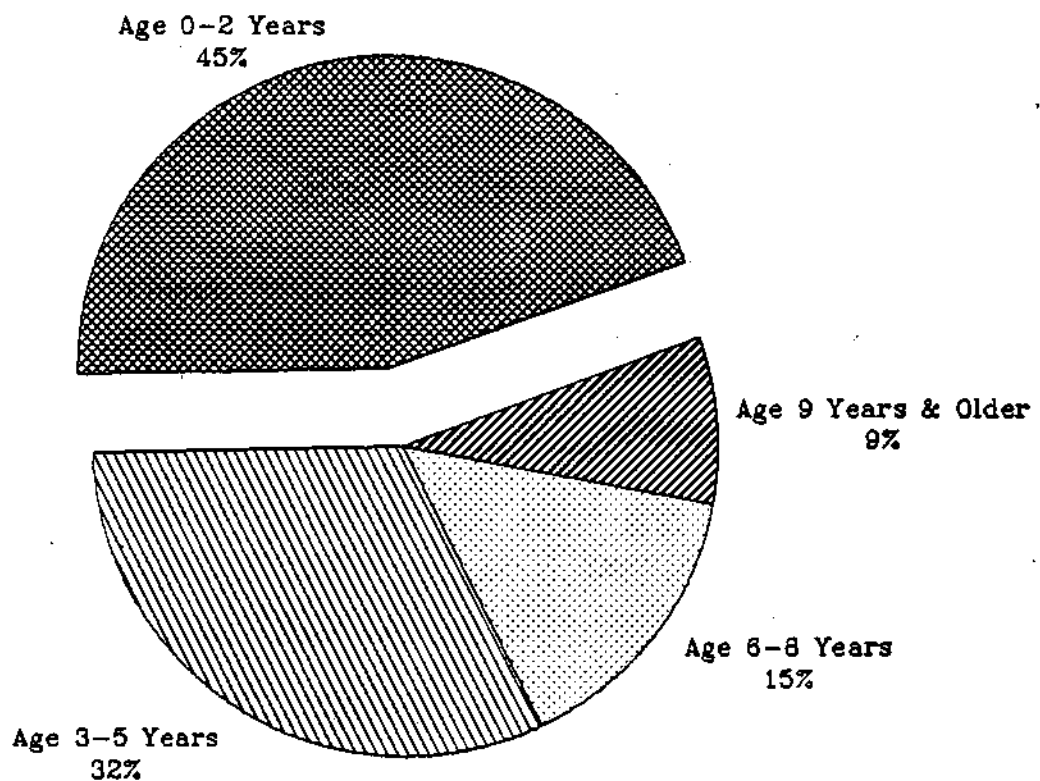


Table 6e
Referrals by Hours of Requested Care
(CCRR Data - July 1990 to March 1991)

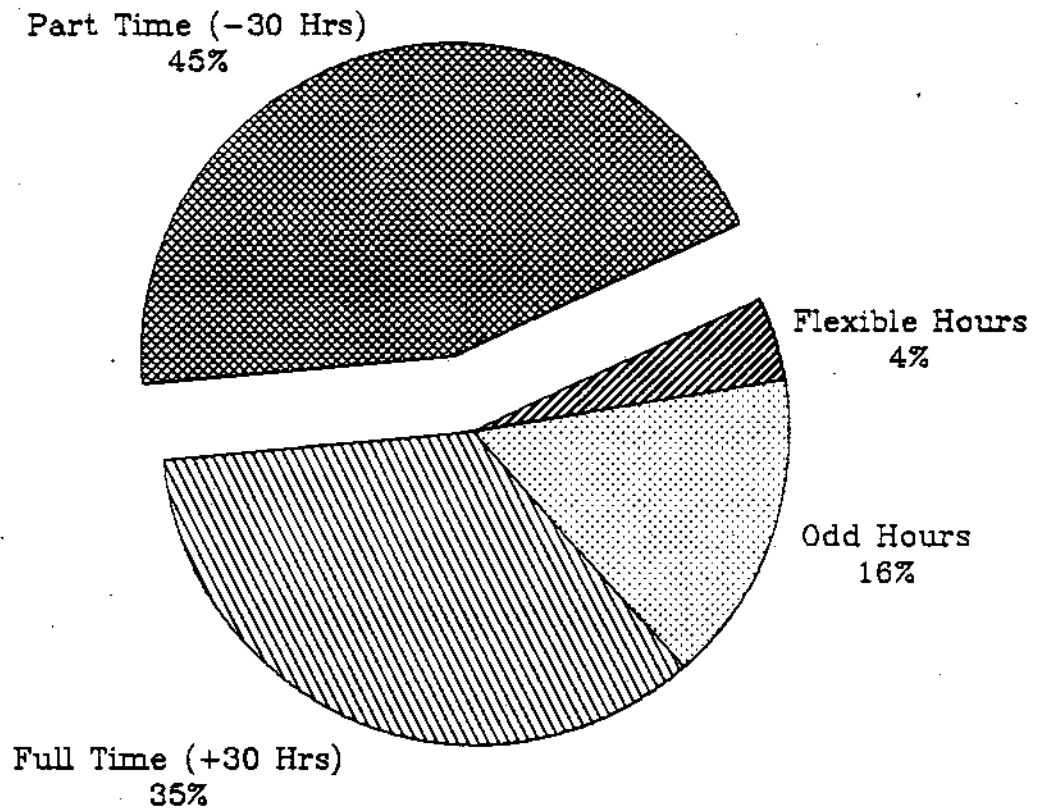


Table 6f
Referrals by Type of Care Provider
(CCRR Data - July 1990 to March 1991)

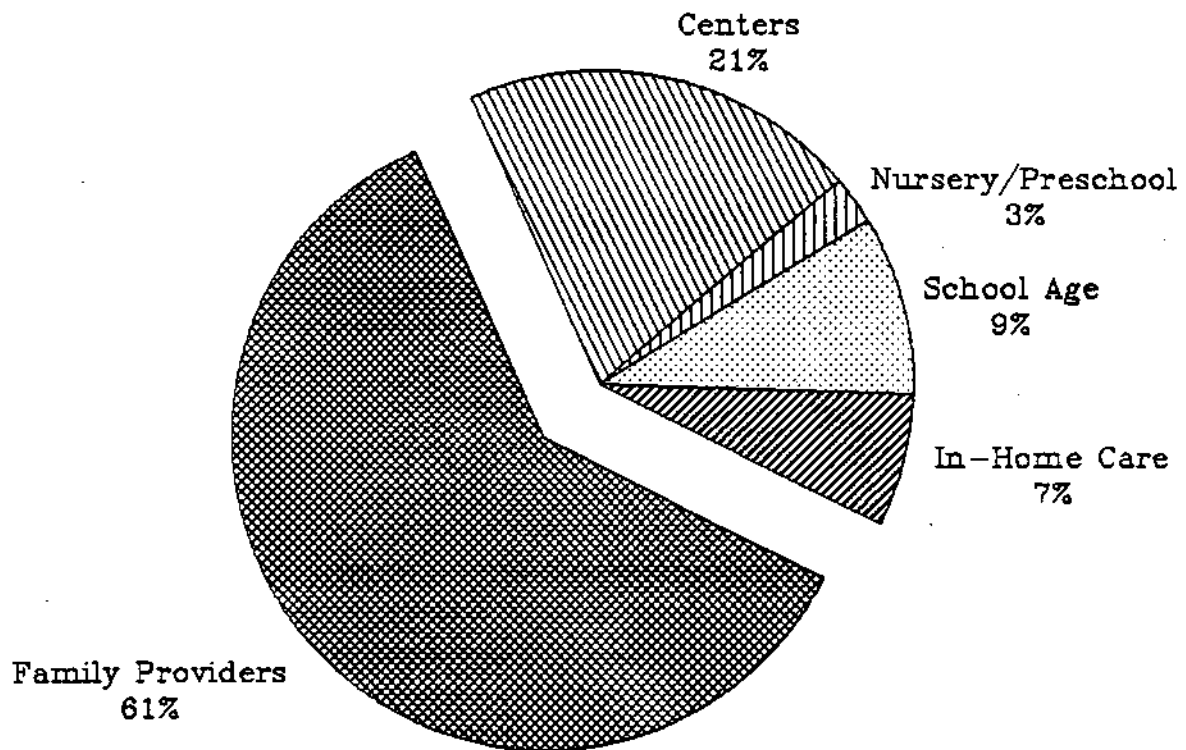
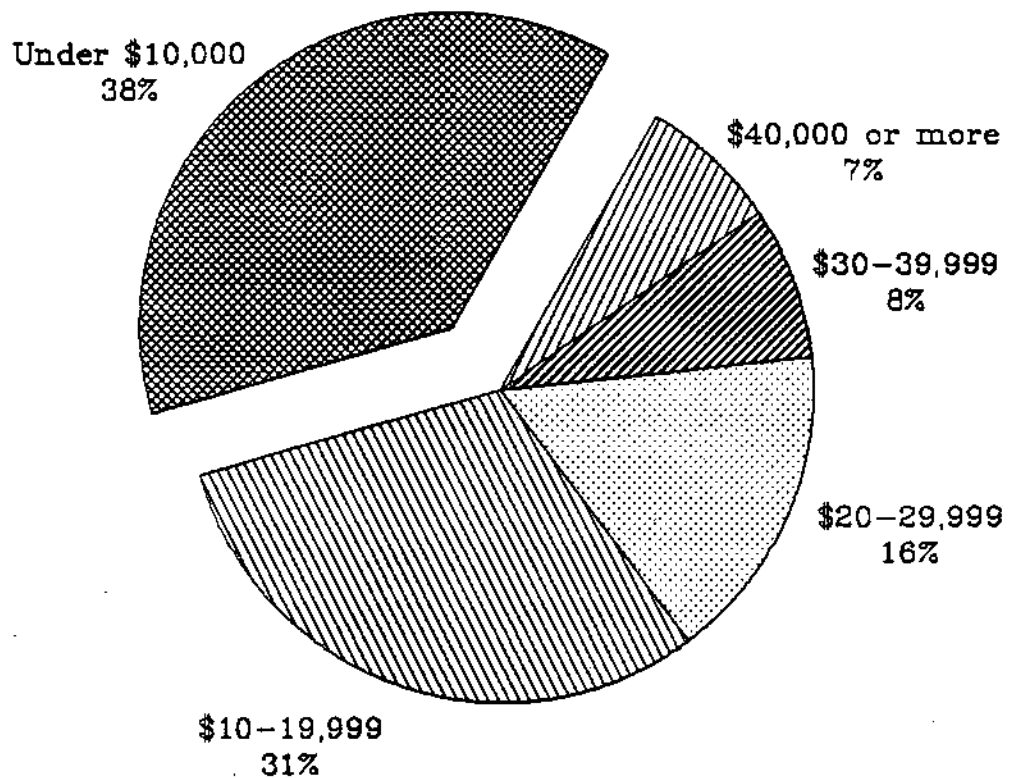
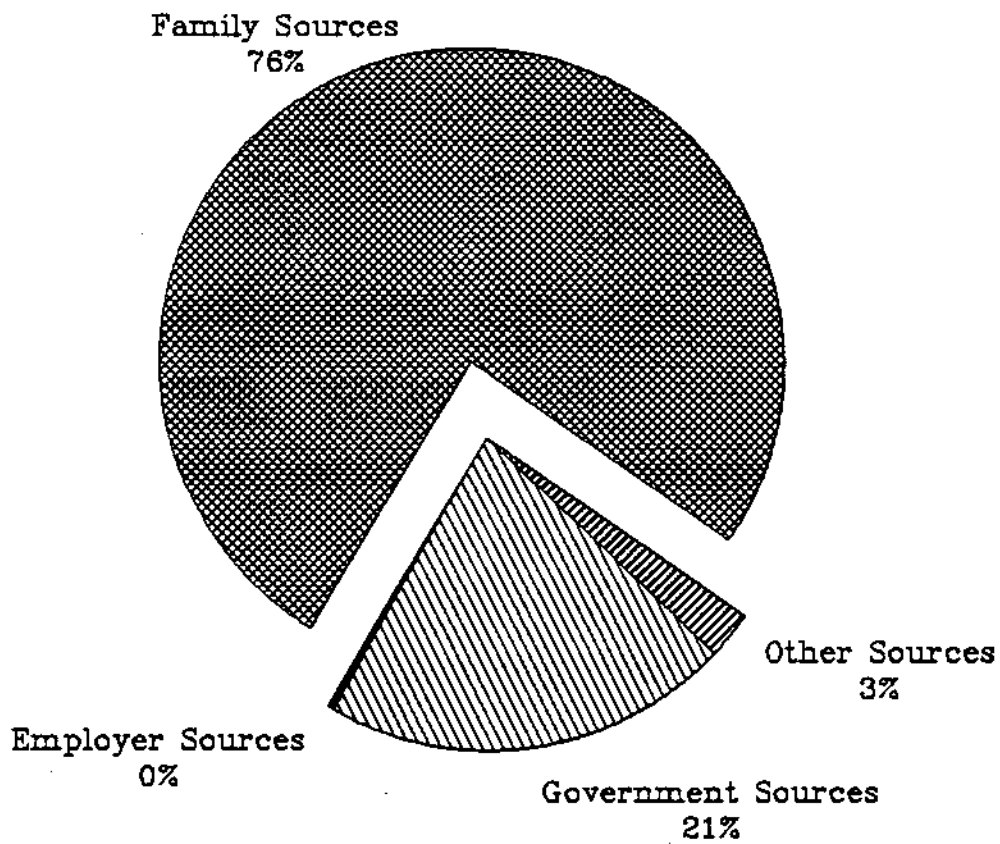


Table 6g
Referrals by Income of Households Served
(CCRR Data - July 1990 to March 1991)



Based on 60% of households served
and reporting household income.

Table 6h
Source of Payments for Care Services
(CCRR Data - July 1990 to March 1991)



Based on 60% of households served
and reporting household income.