REPORT

COST OF LIVING IN 1991 FOR LOW-INCOME FAMILIES IN WASHINGTON STATE

WASHINGTON STATE
DEPARTMENT OF
SOCIAL AND HEALTH SERVICES
PLANNING, RESEARCH &
DEVELOPMENT
OFFICE OF RESEARCH &
DATA ANALYSIS

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Washington State
Department of
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1991 COST OF LIVING FOR LOW-INCOME FAMILIES IN WASHINGTON STATE

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Summary

Purpose:

The purpose of this study is to estimate how much income low-income families need to maintain a minimum but adequate standard of living.

Methods used:

Consumption standards were set by experts and reviewed by an advisory committee. The consumption standards were then used to form a market basket of necessary goods and services. That market basket was priced throughout the state.

Findings:

According to this study, as of of June 1991, a family of three needs $1,088 per month to maintain a minimum but adequate standard of living in Washington State. This is $72 more than the 1991-92 Washington State cost-of-living standard, which is based on the 1984 Cost-of-Living Study, updated annually for inflation.

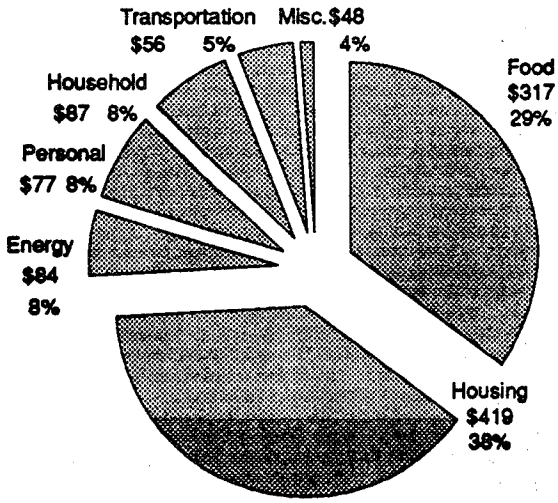
The adjacent charts show what proportions of goods and services make up a family of three's minimally adequate budget according to this study and according to the 1991-92 Washington State cost-of-living standard.

For other sized families, DSHS estimates the need standard by applying an equivalence scale to the cost estimate for a family of three. Using this equivalence scale, the cost of maintaining a minimum but adequate standard of living for different sized families is as follows:

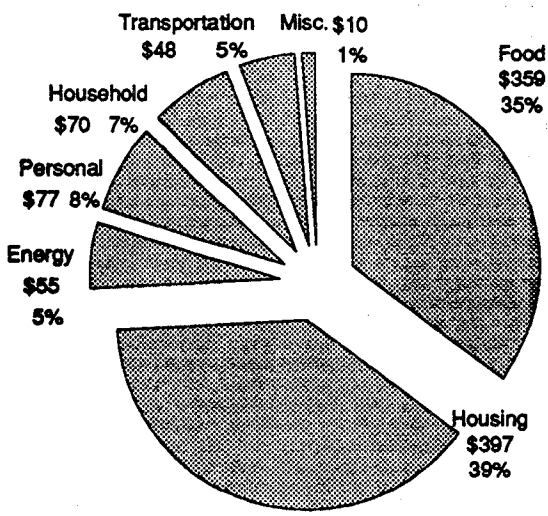
Family Size	Cost of Living Per Month
1	$ 695
2	879
3	1,088
4	1,279
5	1,474
6	1,673
7	1,932
8	2,139

The cost of living was estimated for various areas in the state. The following map shows the areas studied, and their associated costs. Each area figure is an average weighted by the number of AFDC clients in the counties of that particular area.

1991 Cost-of-Living Estimate: Family of Three $1,088 Per Month

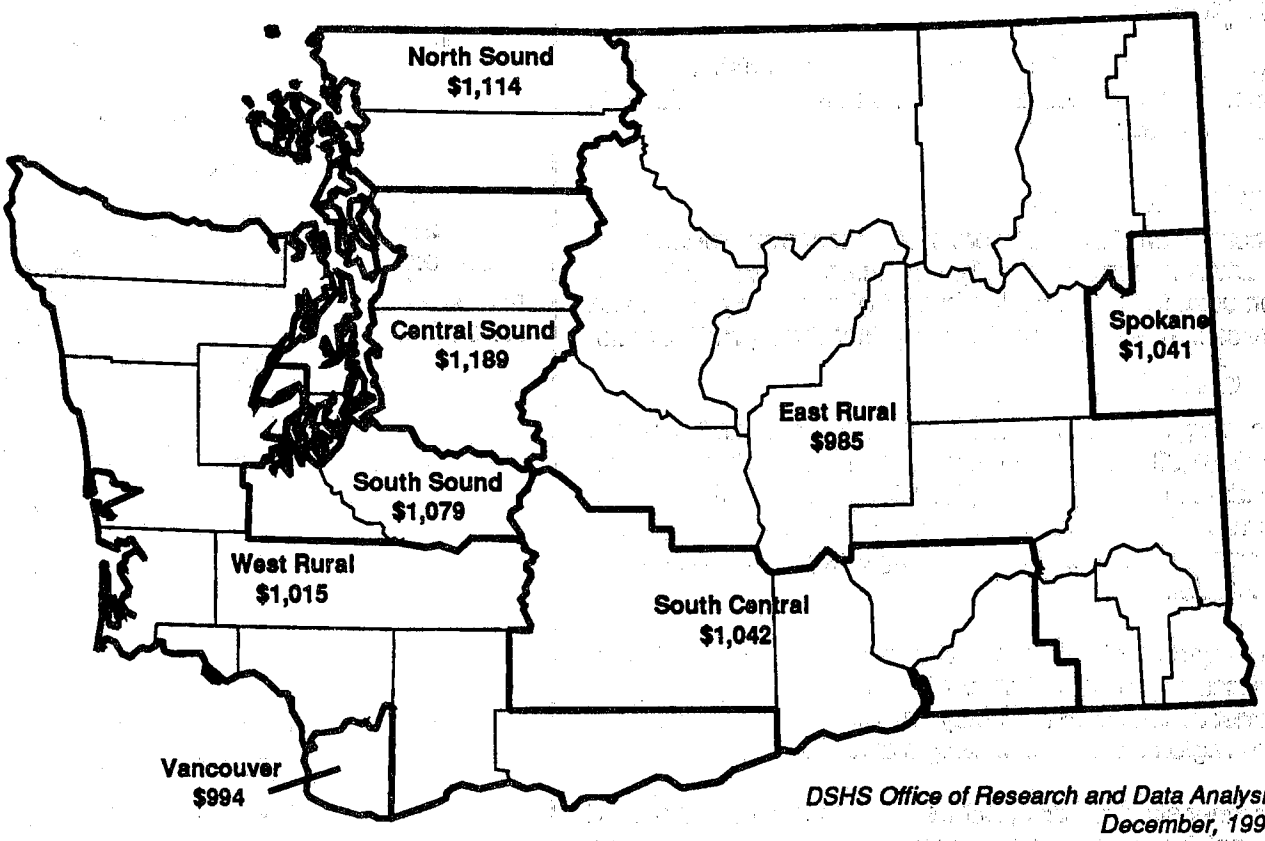


1991-92 Cost-of-Living Standard*: Family of Three $1,016 Per Month



*Differs from the 1991-92 Need Standard ($1,014) because of rounding.

MONTHLY COST OF LIVING BY STUDY AREA
FAMILY OF THREE



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Introduction and General Methods 1

I. Purpose

Washington State uses a market basket approach to estimate how much income low-income families need to maintain a minimum but adequate standard of living. Experts, using their judgment of what is minimum but adequate, specify what goods and services are necessary and belong in the market basket. The prices of the goods and services in the market basket are collected throughout the state. Finally, the cost of all the goods and services in the market basket are combined to form a single estimate of the cost of living for low-income families in Washington State.

Standards for public assistance to needy families (Aid to Families with Dependent Children) and individuals are determined by the Department of Social and Health Services. State law requires that the department establish such standards after conducting periodic studies of the cost of living for low-income families:

> *The department shall establish consolidated standards of need . . . [standards] shall be based on studies of actual living costs and generally recognized inflation indices and shall include reasonable allowances for shelter, fuel, food, transportation, clothing, household maintenance and operations, personal maintenance, and necessary incidentals.—RCW 74.04.770*

This is the first complete re-evaluation of the goods and services needed for a minimum but adequate standard of living since such standards were developed in 1980 (Lidman and Sykes, 1981). The 1984 cost-of-living update (Wolfhagen, 1984) re-estimated the cost of living for low-income families, but retained the 1980 study's minimum standards.

Specific objectives of this study are as follows:

(1) Revise the contents of the market basket to meet today's standards of what is needed to maintain a minimum but adequate standard of living. Examine the goods and services in the market basket from the 1980 study, then develop new standards that reflect current consumption patterns and that meet today's standards of what is minimum but adequate.

(2) Determine the most effective way to estimate the cost of maintaining a minimum but adequate standard of living. Evaluate the methods used in the 1980 and 1984 studies, and review recent cost-of-living studies in other states.

(3) Estimate the cost of maintaining a minimum but adequate standard of living for families of different sizes in Washington State.

(4) Develop regional estimates to show how these costs differ throughout the state.

II. The Market Basket Approach to Measuring Basic Needs

Previous Washington State Cost-of-Living Studies

The market basket approach to measuring the cost of living was the method adopted for the 1980 study (Lidman and Sykes, 1981) and for the 1984 update (Wolfhagen, 1984). Extensive lists of necessary goods and services were compiled in the 1980 study, and their costs were estimated. In subsequent years, the cost-of-living was estimated by annually updating the 1980 market basket according to inflation. The 1984 study provided a more thorough update of the cost of living by repricing the 1980 market basket. Since 1984, the cost of living has again been updated annually to account for inflation. Except for changes in the composition of the market basket, most of the methods used in the earlier studies are employed in this report.

Recent Studies

Few other states use the market basket approach to develop need standards for low-income families. The most recent cost-of-living studies were conducted in Utah (1985) and Nebraska (1986). Both studies borrowed significantly from Washington State's methodology and offered no improvements to the overall methodology.

Market Basket Methodology

The market basket methodology is relatively uncomplicated: First, a list of items is compiled that meets basic needs and reflects the consumption patterns of low-income families. Then the items are priced in retail outlets and with service providers that low-income families are likely to patronize.

Developing the market basket is considered a normative process because it relies more on professional expertise and social norms than on objective data on what low-income families actually consume. This is sometimes a point of criticism from those who do not trust the judgment of experts, and who would rather set standards according to actual consumption. There is, however, no guarantee that observed consumption levels provide a minimum but adequate standard of living. So decisions must be made regarding what low-income families ought to be able to consume, regardless of the actual consumption choices they might make. At the same time, the market basket should not deviate dramatically from reality. To this end, most of the items included in the 1991 market basket reflect some compromise between what people ought to be able to consume and what they actually consume.

Setting Minimum Standards

To minimize project staff influence in determining what is a minimum but adequate standard of living, the market basket of goods and services was developed using the published studies of experts in the areas of housing, energy, and transportation. A nutritionist and expert on family consumption, Dorothy Price, Ph.D., of Washington State University, specified the necessary quantities and qualities of foods, personal, and household items. The market basket contents were then reviewed by the study's advisory committee.

In this report assumptions are frequently made about the consumption patterns and basic needs of low-income families. When available, other studies and reports are used to examine these assumptions. One study referred to at several points in this report is the Washington State Institute for Public Policy's Family Income Study.The Family Income Study is a longitudinal study of approximately 2,000 low-income Washington households receiving public assistance or at risk of receiving assistance. Information is available on such topics as child care, health, education, family composition, housing, and food and utilities expenditures. The data referred to in this report are from Family Income Study interviews conducted between July 1988 and March 1989.

In no way does the market basket approach presume that low-income families must purchase the market basket specified in this study. It only shows what level of funds is sufficient for a family to maintain a minimum but adequate standard of living.

Composition of The Market Basket

The market basket is comprised of six budget categories: food, shelter, transportation, household, personal, and miscellaneous expenses. The six budget categories in the market basket and their components are outlined below. Each category is described in detail in Chapter 2.

- FOOD
- SHELTER (Housing and Energy)
- TRANSPORTATION
- HOUSEHOLD (Supplies, Housewares, and Operations)
- PERSONAL (Clothing, Grooming and Medical Supplies, and School Expenses)
- MISCELLANEOUS (Newspaper and Children and Family Activities)

Excluded from the Market Basket

The market basket does not include home ownership, repair, or decoration; the purchase or repair of major appliances, furniture, or entertainment equipment; the cost of vacation or local recreational travel; charitable or religious contributions; alcohol or tobacco; restaurant meals; or the purchase of an automobile. Medical care is not included because those needs are assumed to be met through publicly funded health programs.

Some of these items, for instance vacation and tobacco, are excluded from the market basket because they are not considered necessary for maintaining a minimum but adequate standard of living. Purchases of expensive durable items are not part of the market basket. It is assumed the model family already owns a car, furniture, and other necessary durable goods, and will not need to replace them during the time they are receiving AFDC. According to a recent DSHS caseload characteristics study, over 75 percent of the state's AFDC families are on public assistance for three years or less.

III. The Model Family

Rather than develop a market basket for every possible family size, a sound methodology exists that allows the cost of living for one sized family to be extrapolated to other family sizes. A model family that represents the client population was developed for this study.

The model family consists of a single parent with two children. Two-child, single-parent families are 29 percent of the state's Aid to Families with Dependent Children (AFDC) population. Though one-child, single-parent families are a larger share of the population, including two children in the model family better represents the diversity of children in the client population.

The market basket was developed for one model family: a female-headed household with two children. The woman is 35 years old, the children are a toddler and a nine-year old girl. This family's composition is representative of a large number of AFDC families.

This study focuses on the needs of non-working AFDC families. Though throughout this study references are made to low-income families, their needs are not necessarily the same as non-working AFDC families. Families that work would clearly have different requirements for such things as clothing and transportation. References to low-income families in this report are actually references to non-working AFDC families.

IV. Geographical Considerations

Living costs can vary appreciably by location. Local climate, urbanization, economic conditions, and other considerations contribute to cost differences between localities. Whenever possible, costs were estimated for every county. But prices of food and some consumption rates, such as essential travel mileage, are not readily available at the county level. Still, the costs of those items must be sampled in different locations to develop an accurate state-wide average cost. To that end, the state was divided into eight study areas. Where county-level costs are not available, costs estimated in one study area are assumed to be the same for all the counties in that study area.

The boundaries of the study areas are based on on assumptions about the similarity of costs between the counties in each area. Why boundaries were set as they are is discussed in more detail in Chapter 3. The state-wide and study-area costs reported here are weighted averages calculated to give counties, or study areas, with the largest public assistance caseloads greater influence. The study areas are as follows:

Study Area: County or counties in the study area.

Central Sound: King, Snohomish, and Island Counties.

South Sound: Pierce, Kitsap, and Thurston Counties.

North Sound: Whatcom, Skagit, and San Juan Counties.

Western Rural: Clallam, Jefferson, Mason, Grays Harbor, Pacific, Lewis, Wahkiakum, Cowlitz, Skamania, and Klickitat Counties.

Vancouver: Clark County.

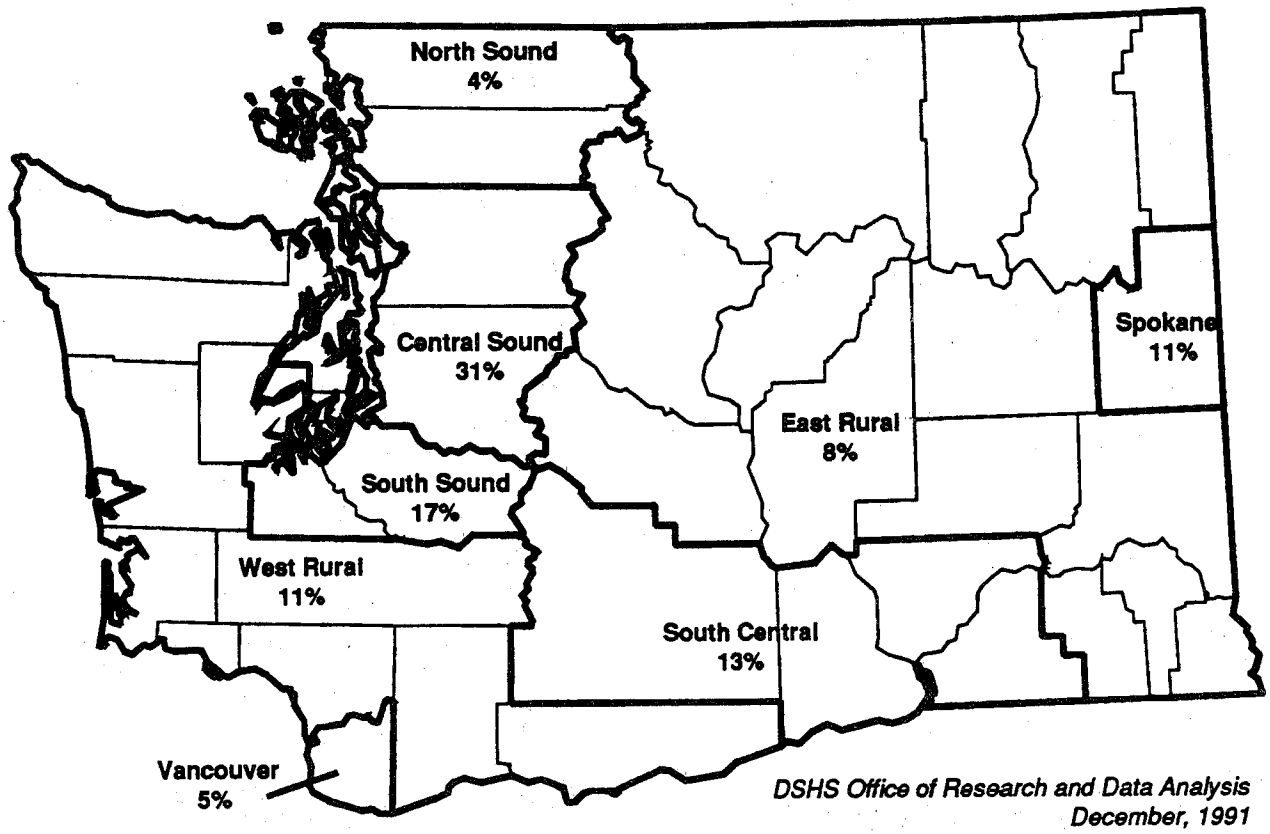
Spokane: Spokane County.

South Central: Yakima, Benton, Franklin, and Walla Walla Counties.

Eastern Rural: Adams, Asotin, Chelan, Columbia, Douglas, Ferry, Garfield, Grant, Kittitas, Lincoln, Okanogan, Pend Oreille, Stevens, and Whitman Counties.

Figure 1.

PERCENT OF TOTAL AFDC FAMILIES BY STUDY AREA



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V. Pricing

Price data were collected in a number of ways: In-store data collection by project staff or the staff of a contracted pricing firm, published sources of price information, telephone or mail surveys of vendors, and mail-order catalogs. All appropriate taxes were included. Data were collected during a six-week period in June and July, 1991.

Ideally, prices for every budget category would be collected in every county. For a number of reasons, this is not done for every component of the budget: (1) Data may not be readily available at the county level; (2) the cost of a particular component may not vary from county to county (driver's license, for example), or has shown little geographic variation in the past, as is the case for clothing and household goods (Lidman and Sykes, 1981; Wolfhagen, 1984); or (3) a particular budget component is so small relative to the total budget that pricing in every county makes little difference to the final cost estimate.

For each budget category, prices were collected at one of three levels: county, study area, or state-wide. For items expected to show large geographic price variation, such as housing, data were collected in each county. Items expected to show only moderate price variation or that did not have price data readily available on the county level, such as food, were priced only in a sample of counties in each study area. Components that have historically shown little geographic variation in prices, such as clothing and household goods, were priced at only one location. How prices were collected for each budget category is fully described in Chapter 2.

Table 2 shows how different items in the market basket were priced.

Table 2.

WHERE ITEMS WERE PRICED TO CAPTURE GEOGRAPHIC COST DIFFERENCES

	Smallest Area Surveyed		
Items	County	Area	State
Food		x	
Housing	x		
Utilities	x		
Transportation		x	
Supplies			x
Operations			x
Sewing Supplies			x
Laundry		x	
Banking		x	
Telephone	x		
Utensils			x
Linens			x
Clothing			x
Grooming/Med Supplies			x
School Expenses			x
Newspaper		x	
Family Activities*			x

*No prices were collected for this item. This component cost is estimlated as a percentage of total expenses -- derived from the *Consumer Expenditure Survey* (United States, 1990).

VI. Equivalence Scales

Equivalence scales are used to translate the cost estimate for the model family into the cost of market baskets for families of various sizes. After estimating the cost of the market basket for the model family, the cost of living can be estimated for families of other sizes by applying the appropriate value from the equivalence scale. For further explanation of equivalence scales, see Chapter 4.

Table 3 shows the equivalence scale currently used by Washington State to set need standards for different sized families. To estimate costs for other sized families, multiply the cost of living for the model family of three by the equivalence scale value for the desired family size. For instance, if a family of three needs $1,000 a month to maintain a certain living standard, a two-person family would need ($1,000 X .808) $808 per month to achieve the same standard of living.

Table 3.

EQUIVALENCE SCALE FOR
FAMILIES WITH CHILDREN

Persons	Scale
1	0.639
2	0.808
3	1.000
4	1.176
5	1.355
6	1.538
7	1.776
8	1.966
9	2.159
10	2.346

Source: Division of Income Assistance, DSHS

VII. Data Analysis

Data analysis produced cost-of-living estimates for each county, study area, and for the entire state. A data base was constructed that matched each county with the following: the share of AFDC families living in that county, consumption or replacement rates of each item in the market basket, and the price of every item in the market basket. Prices of items in the market basket are multiplied by their respective consumption or replacement rates to arrive at a cost estimate for each county. For some budget categories, prices and consumption (or replacement) rates are the same for all counties in the state, or for all the counties within a particular study area.

After costs are estimated for each county, costs of items in the budget may be calculated for each study area or the entire state. These area or state-wide costs are weighted averages based on the number of clients in each county.

Individual Budget Categories: Detailed Methods and Findings 2

Introduction

In the following sections, each of the six budget categories that make up the market basket—food, shelter, transportation, personal, household, and miscellaneous—are examined in detail. For each category, the methods used to establish minimum standards, estimate costs, and collect data are described in full. The resulting cost estimates for the study areas and the state are displayed at the end of each section.

I. Food

Minimum Standard

The United States Department of Agriculture's *Thrifty Food Plan* was designed to provide adequate nutrition while reflecting the consumption habits of low-income families. It has been widely criticized for being nutritionally inadequate for periods of longer than a few months and because it does not reflect contemporary food preferences or preparation methods (Lane and Vermeersch, 1979; Super and Super, 1991).

The plan used here is a highly modified approach to the *Thrifty Food Plan*. The nutrition expert hired for this study developed a full month of menus for the model family, from which were derived individual food items, pricing units, and monthly consumption amounts. This modified plan, the *1991 Washington Food Plan*, differs from the *Thrifty Food Plan* in that it allows for larger servings and it provides for what the nutritionist claims are more wholesome foods. It also allows for a diversity of ethnic foods and provides greater convenience of preparation rather than the meals-from-scratch approach of the *Thrifty Food Plan*.

Meals away from home are not part of the *Washington Food Plan*. The *Family Income Study* (page 4) shows that an AFDC family of three spends about 13 percent of its food budget on meals away from home. The *Washington Food Plan*, however, does not preclude a family's buying meals away from home. The nutritionist who compiled this food plan asserts that some meals in the plan could be purchased away from home at equivalent cost, and with no significant loss in nutrition. The menus and individual food items of the *Washington Food Plan* are shown in Appendices A and B.

Cost Estimate

Food costs were estimated for each of the eight study areas. Because of the large number of food items in the food budget, a random sample of only 30 food items was priced in every study area. These thirty items were selected to be representative of the 195 separate items in the food budget. A food cost index was generated by comparing the cost of the 30 sample items priced in each study area with the same items priced in *South Sound*.

Food-Cost Index (*South Sound*= 1.00)

Study Area	Food Cost Index
South Sound	1.00
Central Sound	1.06
North Sound	0.98
Western Rural	0.96
Vancouver	0.95
Spokane	0.99
South Central	0.98
Eastern Rural	0.98

Prices were collected for all food items only in *South Sound*. Total food costs for the remaining areas were estimated by applying each study area's food cost index to *South Sound's* total food cost.

Data Collection

Prices were collected for each study area. Representative sample counties were selected for each study area. Food prices were collected at two grocery chain stores in a major city of each sample county. The prices collected in sample counties were averaged to form the cost estimate of the entire region. The table in Appendix C shows which cities were used to collect food prices.

Food price data were collected in two ways:

(1) Jensen Price Surveys, a retail pricing consulting firm in Bellevue, Washington, regularly and frequently conducts price surveys of grocery stores throughout Washington State. Jensen Price Surveys publishes comprehensive, timely information on prices charged by specific grocery stores in different cities of the state. Where their data correspond to any of the eight study areas, prices were taken directly from Jensen Price Surveys lists.

(2) In cities where Jensen Price Surveys does not regularly collect data, staff collected prices by visiting stores. The table in Appendix C shows how data were collected for different study areas.

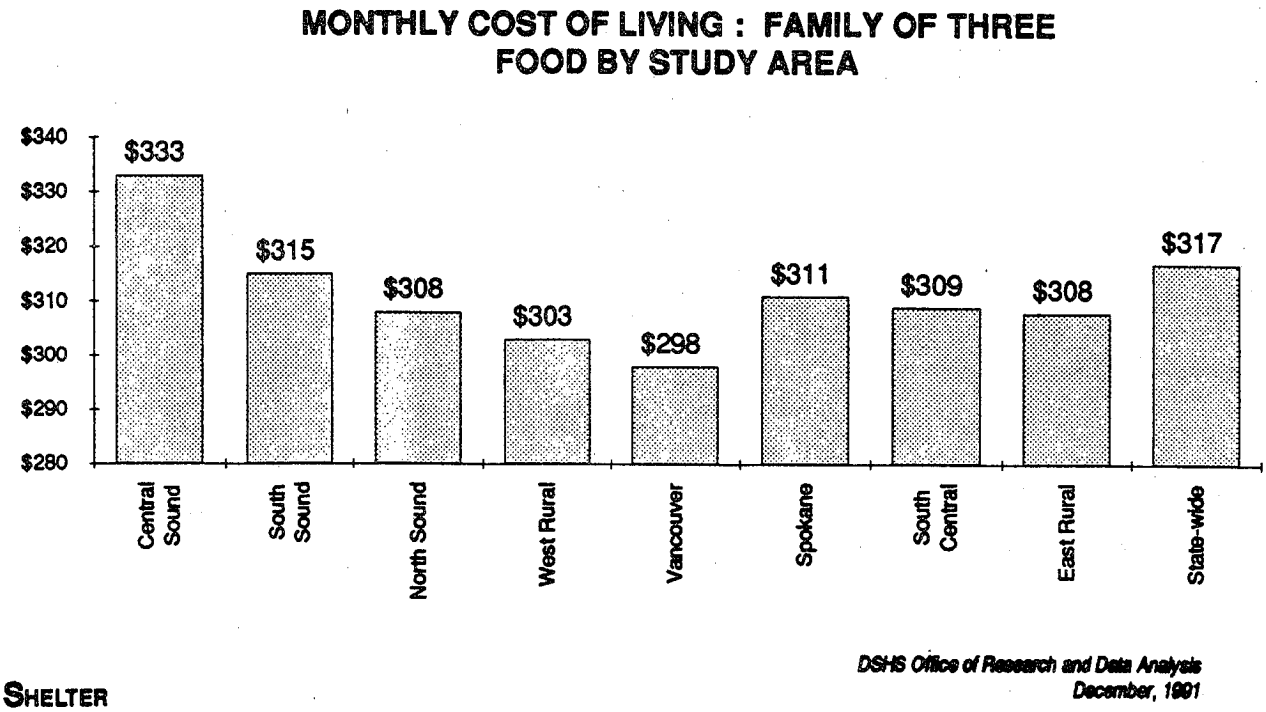
One particular grocery store chain (*Store-1*) was priced in every sample county. *Store-1* is a widely available, moderately priced store, and also the grocery store that many other stores look to in setting their own prices. Jensen Price Surveys regularly collects prices at *Store-1*. The second store (*Store-2*) priced at each location was not constrained to being a particular chain. *Store-2* varied from location to location depending on what was available in each city, but was in most cases a relatively large grocery store, comparable and competitive to *Store-1*.

Seasonality

Food prices are subject to seasonality, most noticeably with produce. Jensen Price Surveys shows that produce prices are generally ten percent higher in winter months than other times of the year. Because pricing was done in mid-summer, produce costs would be underestimated unless some adjustment was made. To eliminate this bias, the average cost of produce—only for the four months of winter—was increased by 10 percent.

Figure 2 shows food cost estimates for each area and the state-wide weighted average.

Figure 2.



II. SHELTER

Shelter is the largest expense category. The two basic shelter components, Housing and Energy, together comprise about 45 percent of the total budget.

A. HOUSING

Minimum Standard

The *Family Income Study* indicates that over 88 percent of AFDC families rent either a single family home, mobile home, or apartment. For this study, rental shelter is used as the standard. According to the Department of Housing and Urban Development (HUD), a three-person family qualifies for a two-bedroom rental unit. For this study, the number of bedrooms to adequately house the three-person model family is also set at two.

Much consideration has been given in the study whether a one- or two-bedroom unit should be the residential standard. The two-bedroom was the standard in earlier studies. Earlier studies, however, used a four-person model family instead of this study's three-person family. HUD does not consider a one bedroom apartment to be overcrowded until it has more than four occupants. On the other hand, a two-bedroom unit would provide a bedroom for the adult and a shared bedroom for the two children. The living room could serve as a third sleeping area, which is especially important if the children are of opposite sex and are older than the model family's. Such an option would not be available with only one bedroom. Additionally, data published by HUD indicates that two bedrooms are the mode among low-income families. As a result of this analysis, the two-bedroom unit was selected to be the housing standard.

Cost Estimate

Quality standards are set by HUD in identifying properties that qualify for government subsidies. HUD's standards are set to assure that housing is decent, safe, and sanitary. There are specific requirements regarding lighting, electrical wiring, plumbing, heating, ventilation, and other structural considerations. The cost of this housing is regularly estimated by HUD. Those estimates will be the basis of the cost estimate for the housing component of this study.

HUD estimates fair market rents for qualified housing in each county according to the number of bedrooms. Their rent estimates are based on census data, updated with data from local housing surveys or the consumer price index when available. HUD uses a complex formula to calculate fair market rents.

Fair market rents are set at the 45th percentile of recently occupied rental units meeting HUD quality standards. This means that 45 percent of recently occupied rentals that met HUD standards in a given county were available for a price at or below the fair market rent. Setting the housing standard for this study at the fair market rent, assures that the model family can afford the rent on about 45 percent of available housing that meets HUD standards.

Fair market rents include the cost of water, sewage, garbage, and energy. For this study, HUD's energy allowance ($93 per month) is subtracted from their fair market rent, and a separate energy allowance is calculated in the following section.

HUD's fair market rents are released provisionally and subjected to review and comment. Revised fair market rents are then set for the year and published in the *Federal Register.* Fair market rents are calculated for each county in the United States, so area and state-wide weighted averages are easily obtained.

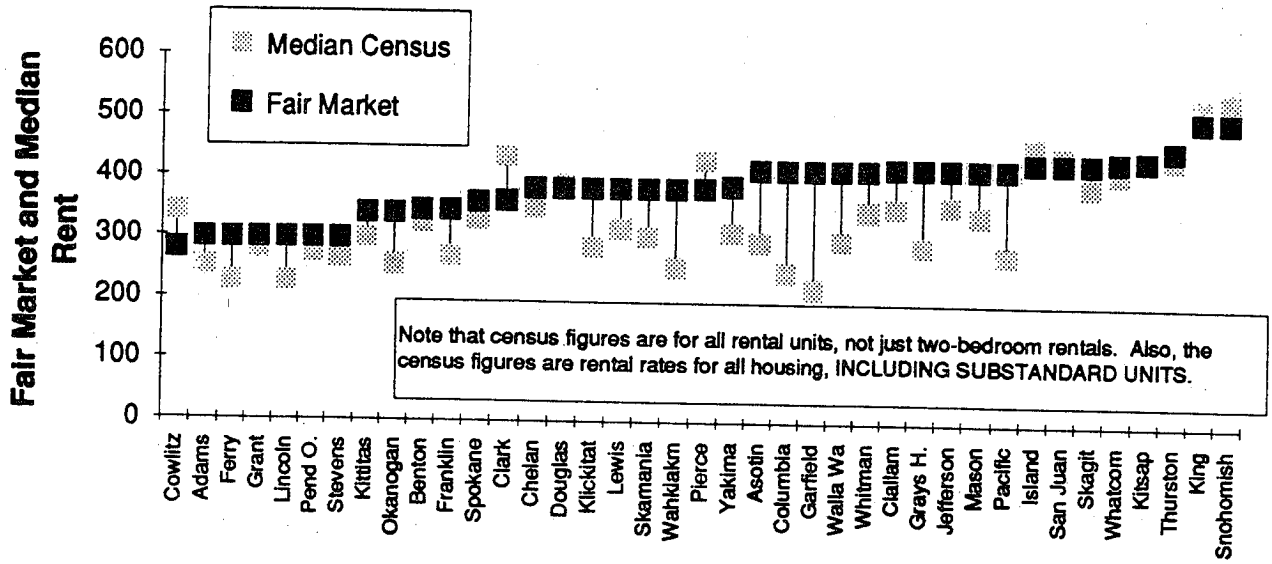
Accuracy of Fair Market Rents

Because some of HUD's fair market rent estimates are based only on cost-of-living updates of the 1980 census, there is some question as to the accuracy of fair market rents in certain counties. Overestimates typically occur in rural counties (such as Grays Harbor and Garfield), apparently because HUD estimates rent increases in those counties by using the Western Cities Consumer Price Index. That index is heavily influenced by southern California cities, where local housing markets have been far more inflationary than markets in rural Washington State. In metropolitan counties such as King, Pierce, Thurston, Spokane, Clark, and Yakima, HUD estimates of fair market rents take into account recent local housing surveys or local consumer price indices. Therefore, in urban counties, fair market rents are more accurate because they reflect local housing conditions.

Figure 3 compares each county's two-bedroom fair market rent to the county's median rent for units of all sizes reported in the 1990 census. Fair market rents are lower than census figures in eight counties: Cowlitz, Clark, Pierce, and too a lesser extent, Douglas, Island, San Juan, King, and Snohomish Counties. In highly populated counties (for example King, Pierce, Thurston, Kitsap, and Snohomish) fair market rents are closer to census figures than in the predominantly rural areas. Since the majority of AFDC families live in these highly populated counties, fair market rents are reasonably accurate for the majority of AFDC families. Because fair market rents are subject to local review and comment, it is unlikely that HUD substantially underestimates rents in any particular county.

Figure 3.

Fair Market Rents for Two-bedroom Rental Units Compared to the 1990 Census Median Rent*



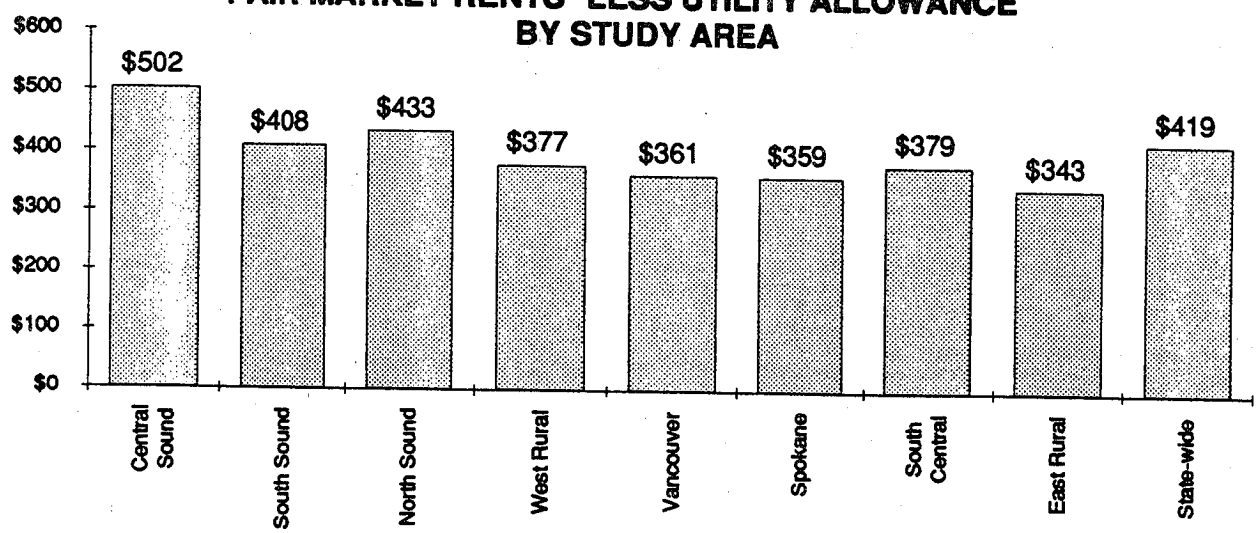
*Census data was updated to 1991 dollars.

DSHS Office of Research and Data Analysis, December 1991

Fair market rents are the best available data at this time. The only other county-by-county housing data available are from the 1990 census. The census rent data, however, are based on all housing, including sub-standard rental units. There is no way to adjust the census data to account for the lower rental costs of sub-standard units. In any case, census data rental rates by the number of rooms are not available this year. Because HUD updates fair market rents regularly, they are well suited for this study. Any overestimated rents in rural counties will eventually be eliminated after HUD incorporates 1990 census figures into their current estimates. The following figure shows the fair market rents for the sample areas and a state-wide average.

Figure 4.

MONTHLY COST OF LIVING: FAMILY OF THREE
FAIR MARKET RENTS* LESS UTILITY ALLOWANCE
BY STUDY AREA



April 1991, updated to June 1991 by the shelter component of the CPI

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B. ENERGY: SPACE HEAT AND OTHER UTILITIES

The energy component is comprised of space heat, lighting, water heating, and other household energy consumption. Sewer, water, and garbage—traditionally part of the rent contract—are included in the earlier estimate of housing costs.

Minimum Standard

The standard was set at how much energy an average household uses for heating and other essential purposes. Data used to set the energy standard are based on 1980 average household energy consumption in Washington State. These data provide a heating and utility standard that was the norm for all families in 1980. According to the Washington Energy Office, Washington State Department of Community Development, and the Utilities and Transportation Commission, energy use estimates for the low-income population are unlikely to have changed considerably since the 1980s, because that population does not often occupy newer and more efficient housing. Therefore, energy costs for low-income families can be reasonably estimated using 1980 household energy consumption data, but at 1991 prices.

Cost Estimate

The Washington State Energy Office provided figures on quantities of energy consumed in the state's average household, by energy type: electricity, natural gas, and heating oil (Hinman 1982). Other energy sources were reported: wood, propane, and coal. Because these sources are a small share of household energy consumption, prices were only collected for electricity, natural gas, and fuel oil.

The Energy Office also provided data on non-heating energy costs. The non-heating portion of total energy costs was derived by using the Energy Office's report on the average amount of energy consumed for water heating, cooking, refrigeration, lighting, television, and fans. This standard does not include energy for central air conditioning or other non-essential uses.

An average home was created where the mix of energy sources—electricity, natural gas, and oil—was proportional to the mix of energy sources used across the state. No such home exists, but this greatly simplifies the estimate of the state-wide average energy consumption. Table 4 shows the end uses and the types of energy consumed by the average house. Note that in reality the types of energy consumed vary from county to county. For instance, some areas do not have natural gas service and therefore residents of those counties would use only electricity, or electricity and fuel oil. Reliable information on energy use by source was not available at the county level, so the average household use shown in Table 4 is used for all counties.

Table 4.

Average Household Monthly Energy Use Weighted by Source

Sources:	Electric kWh/Mo	Gas Thms/Mo	Oil Gals/Mo
Uses:			
Space Heating	623.77	16.15	8.03
Water Heating	323.36	1.93	
Cooking	76.92	0.26	
Refrigeration	138.45		
Lighting	83.07		
Television	53.84		
Fans	53.51		
Weighted Total	**1352.91**	**18.34**	**8.03**
	(1820.26 if all electric)		

Source: Washington State Energy Use Profile, 1960-1983. Washington State Energy Office. June 1984. Table 110: Residential Average Annual Energy Consumption by End Use--1982.

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Prices of each type of energy were collected by a survey of utility and fuel providers. The cost of delivering the average home's 1,352.91 kilowatt-hours of electricity, 18.34 therms of natural gas, and 8.03 gallons of fuel oil were calculated based on the prevailing utility rates (including taxes) in each county. Appropriate per-unit utility rates were developed in counties where energy rates depend on the quantity of energy consumed.

Electricity and natural gas prices were collected by county. In areas where there is no natural gas service, prices of the nearest natural gas provider were used. Fuel oil providers were surveyed only in sample counties of each study area, and those prices were attributed to the remaining counties in the study area.

Adjusting Survey Cost to Model Family

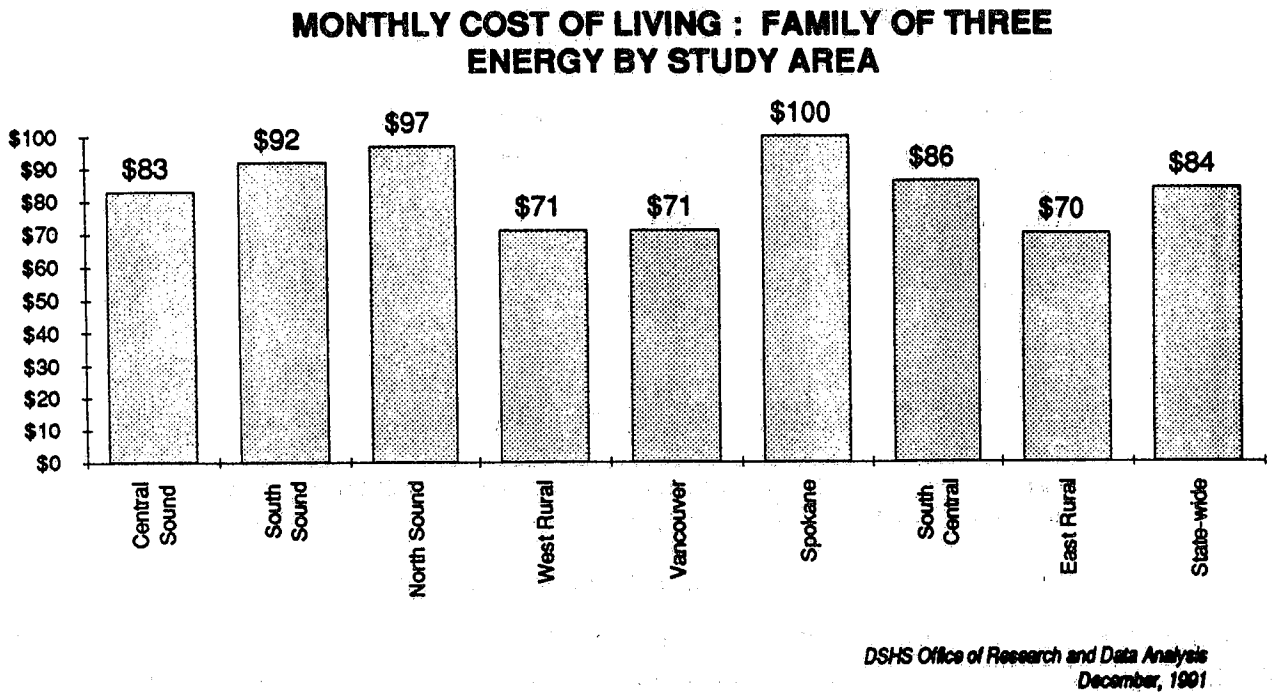
Information published by the Washington State Energy Office allows an estimate of energy use for all households (Hinman, 1982). The 1980 census data show that a family of three in a two-bedroom apartment, such as the model family, spends 92 percent of the average household expenditure on energy. Here, the model family's energy costs are estimated by multiplying the average household energy cost by 0.92.

Adjusting for Differences in Climate

Some counties are colder than others, so households in those counties require more heating energy. The differences in heating requirements between counties were accounted for by adjusting heating costs according to each county's heating degree days. Heating degree days are a measure of heating requirements based on an accumulation of each degree that the daily average temperature in a given county is below 65 degrees Fahrenheit. The Washington Energy Office provided the number of heating degree days for each county. Each county's heating energy costs were increased or decreased at the same proportion that the county's heating degree days differed from the state average.

Energy cost estimates are shown in Figure 5. Note that the variation in energy costs from area to area (or county to county as shown in Chapter 3) is due in large part to the different rates charged by public and private utilities. The $84 state-wide average estimated here is close to the $82 per month for a family of three derived from the *Family Income Study.*

Figure 5



III. Transportation

Minimum Standard

The *Family Income Study* found that over 65 percent of AFDC families own a car or truck. It is not known how many of the other 35 percent share or have regular access to a vehicle. It is assumed that the model family owns a seven- to twelve-year-old compact automobile.

It is reasonable to assume that many of those families who do not own or have access to a car live in areas served by public transportation. A $56 per month transportation allowance (that is eventually estimated here) is sufficient to purchase a monthly adult bus pass and occasional bus fare for the children.

Only essential costs are considered in setting the transportation need standard. Essential costs include the estimated cost of maintaining, repairing, and operating an automobile (from U.S. Department of Transportation cost estimates of scheduled and unscheduled maintenance); and the cost of oil, tires, gasoline, licensing, and registration. Because Washington State drivers are required to prove financial responsibility, the premium for minimum liability insurance is also included as an essential cost. Excluded are vehicle purchase cost or depreciation, title, garaging, accessories, and parking.

Mileage Estimates: State-wide

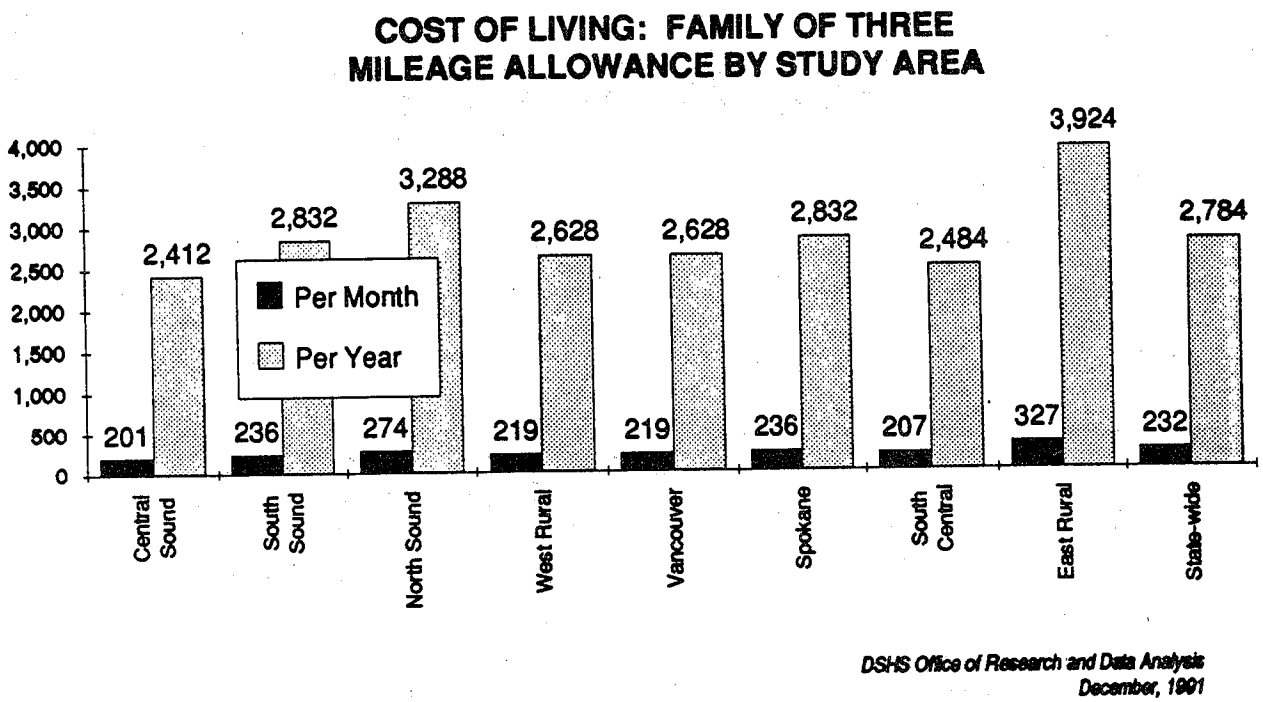
A state-wide mileage allowance that includes only essential travel was estimated using data provided by the U.S. Department of Transportation (USDOT) (United States, Nov. 1985). Essential family and personal travel includes shopping, medical, civic, educational, and religious related travel. A mileage allowance was set at the weighted average of essential mileage reported by the USDOT for the under-$10,000 and $10,000-to-$20,000 income groups, adjusted for a family with one licensed driver. Based on those calculations, the state-wide mileage allowance for essential travel is 2,780 miles a year, or approximately 53 miles a week. This figure does not include work or recreational travel.

Study-Area Mileage Adjustments

County-by-county data on distances to essential destinations are not available. Study area mileage standards were estimated by adjusting the 2,780-mile standard according to the travel data collected by the Washington State Department of Transportation (WSDOT) that was used in the 1984 study (Wolfhagen, 1984). The 1984 Cost-of-Living study sample areas closely correspond to the areas used in this study. In the few instances where they differ, area mileages were recalculated using a weighted average of the mileage attributed to each county in the 1984 study.

The WSDOT survey reported shopping mileage for different areas in the state, but none for the other essential travel purposes—medical, civic, educational, and religious related travel. Shopping is approximately 40 percent of the state-wide mileage allowance. Only the shopping miles embedded in the 2,780-mile standard were adjusted according to the WSDOT data. There is no reason to believe that the differences in shopping mileage would be the same for trips to the doctor, school, and other essential destinations. Figure 6 shows the mileage allowance for each of the eight study areas:

Figure 6.



Cost Estimate

The USDOT provides data on the per-mile cost of automobile repairs and maintenance (United States, 1982). Per-mile repair and maintenance costs for a seven- to ten-year old compact automobile were adjusted according to labor rates charged in each study area. The mileage allowance for each study area was multiplied by the adjusted USDOT per-mile cost figure to estimate the cost of repairs and maintenance in each study area. Gasoline prices were obtained from AAA surveys of eastern and western Washington. The automobile's fuel consumption was assumed to be 20 miles per gallon, as verified by a Thurston County Chevrolet dealer and the Washington State Department of Transportation.

Prices for oil, tires, and labor were collected during the survey of other goods and services. Two oil and filter changes are assumed each year. Tires are replaced at a rate of one a year. Drivers' licenses cost the same throughout the state. Registration costs are the same everywhere, except in King and Spokane counties where registration costs include the cost of emissions testing.

Cost of Insurance

Since it is assumed that the model family already owns a car, it is also assumed that they have continuing insurance coverage. Insurance costs were estimated by taking the average rate for a *minimum limits* policy charged by the three leading automobile insurance companies in the state. *Minimum limits*, the state's requirement for coverage shown in the example below, are defined in RCW 43.29.090. Rates reported by brokers in sample counties were based on the model family, the year and make of the automobile, location, and annual mileage. It is assumed that the driver has had no accidents or moving violations in the past three years. Brokers were presented the following scenario and asked to quote rates for different cities across the state:

> What is the 6-month rate your company would charge to provide a minimum limits automobile liability policy—$25,000/$50,000 and $10,000 (no other coverage)—for the following customer?
>
> > Single woman, 35 years old, no accidents or tickets, unemployed but currently insured with your company.
> >
> > Drives a 1981 Chevy Chevette for shopping and other non-work errands, less than 5,000 miles a year. There are no other drivers in the household.

Table 5 itemizes the cost of the transportation standard. Costs are also shown in Figure 7.

Table 5.

MONTHLY COST OF LIVING: FAMILY OF THREE
TRANSPORTATION COSTS

	Area: Central Sound	South Sound	North Sound	West Rural	Vancouver	Spokane	South Central	East Rural	State-wide
Mileage	201	236	274	219	219	236	207	327	232
Items:*									
Liability Insurance	$20.43	$20.97	$15.13	$13.27	$18.53	$19.40	$13.14	$12.26	$17.75
Registration Fee & Excise Tax	$4.15	$4.15	$4.15	$4.15	$4.15	$4.15	$4.15	$4.15	$4.15
Vehicle Emissions Test Fee	$0.67					$0.67			$0.28
Driver's License Renewal Fee	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29	$0.29
Gas (20 MPG)	$11.38	$13.60	$16.41	$12.48	$12.08	$13.91	$11.91	$19.12	$13.07
Repairs and Maintenance**	$14.74	$15.72	$18.20	$14.43	$16.56	$17.91	$13.54	$17.68	$14.65
Oil and Oil filter***	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78
Steel-belted radial, all weather tire****	$3.32	$3.32	$3.32	$3.32	$3.32	$3.32	$3.32	$3.32	$3.32
Total	$57	$60	$59	$50	$57	$61	$48	$59	$55

*For a 1981 Chevrolet Chevette
**Cost of Owning and Operating Automobiles and Vans, 1982", U.S. Department of Transportation, Federal Highway Administration, Office of Highway Planning, Highway Statistics Division, updated with current mechanic's labor costs.
***Two oil changes per year with four quarts of oil per oil change.
****One replacement tire per year.

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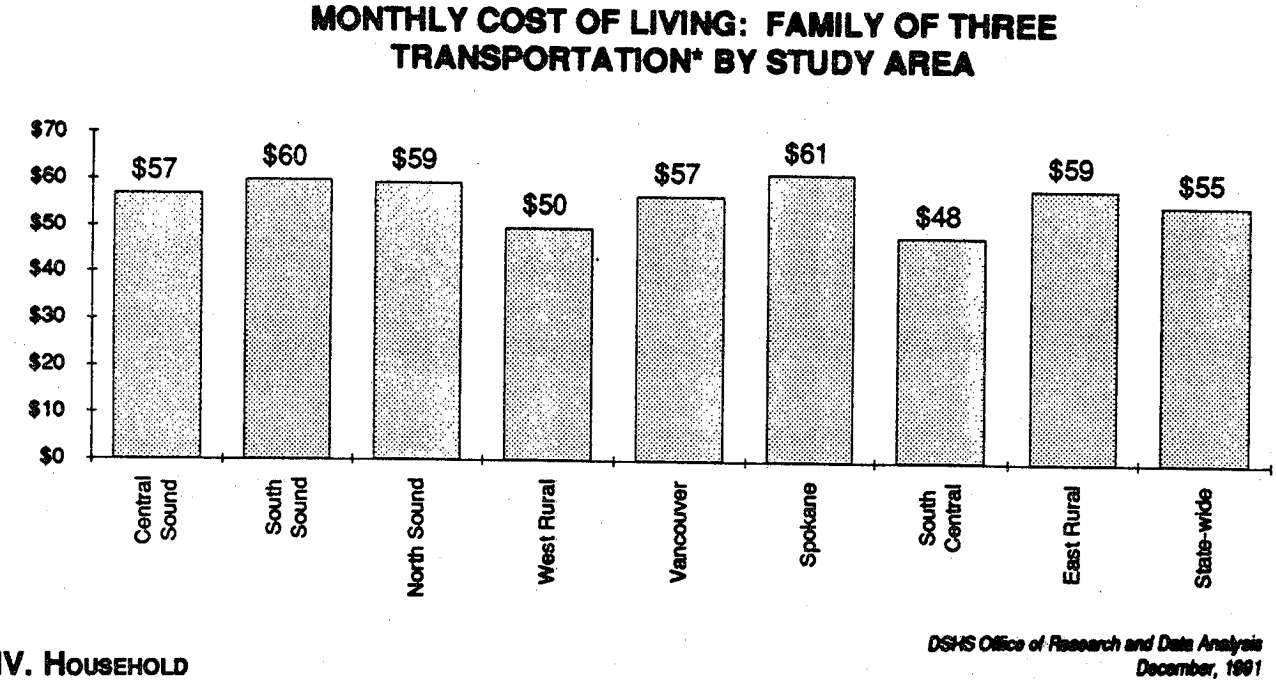
Figure 7.



IV. HOUSEHOLD

Minimum Standard

This part of the budget is intended only to meet replacement costs of necessary goods and services. It does not represent the total stock of household goods the model family needs. The consultant on family consumption hired for this study compiled a list of the minimum but adequate goods and services needed to run a household. The list includes items such as household supplies, housewares, and linens; and household operations such as laundry, banking, and telephone services. All items are listed in Appendix D.

Cost Estimate:

The household items found in grocery stores—detergent, paper towels, and other similar household supplies—were priced along with foods. Prices for the remaining items were collected at discount department stores or out of mail-order catalogs. Costs of services were determined by telephone surveys of providers in sample counties.

In the 1980 Cost of Living Study, prices of household items showed little variation between areas (Lidman and Sykes, 1981). Prices at department store chains are set not by local managers, but in regional offices. Prices may vary because of clearance sales and special local promotions, but these differences are difficult to measure, and may occur in any area at any time. Because of the relatively small contribution of these budget components to the entire market basket, and the difficulty in collecting prices state-wide, a single set of household goods prices was used for the state. Prices of goods at two Thurston County discount department stores were used to establish a state-wide cost. The stores selected are widely accessible and carry a large selection of moderate to low priced items.

Some small, remote communities do not have a nearby department store. Because items in this part of the budget are purchased less frequently than food, trips to better-stocked, more reasonably-priced stores are assumed. For more discussion on geographic cost differences, see Chapter 3.

The following describes in more detail the components in the household category and describes the method of data collection for each. Costs are summarized in Figure 8 at the end of this section.

A. SUPPLIES

This category includes consumable household items. Cleaning and kitchen supplies such as bleach, detergent, paper towels, light bulbs, foil, and other similar goods were listed by the consultant and given monthly consumption rates. They are itemized in Appendix D. Prices for these items were collected from Jensen Price Surveys' published lists.

B. OPERATIONS

This category covers expenses essential to the operation and administration of the home:

1. Sewing Supplies
Materials required to make small repairs and alterations to the household clothing stock were recommended by the consultant. It is not assumed that these families make their own clothes; accordingly, there is no allowance for tailoring. Prices for sewing items were collected from Jensen Price Surveys' lists.

2. Household Management
This component includes items a family needs to carry out essential correspondence: stamps, stationery, envelopes, tape, glue, etc. Prices for these items were collected from Jensen Price Surveys' price lists and at local department stores.

3. Laundry
It is assumed that laundry needs are met by using self-service laundromats and dry cleaning services. Four weekly loads of regular washing and dry cleaning (a skirt, jacket, and blouse once a year) were approved by the consultant. None of the items in the minimum clothing budget require dry cleaning, but the dry cleaning allowance recognizes the possible need to clean an existing suit used for job interviews. Detergent costs are included in the household supplies component. Prices were collected by telephoning commercial laundromats and dry cleaners in each sample county.

4. Banking
This expense includes checking account fees and costs per check. The minimum standard was set at ten checks per month. The state's three largest banks were surveyed for their checking account fees and cost of check printing.

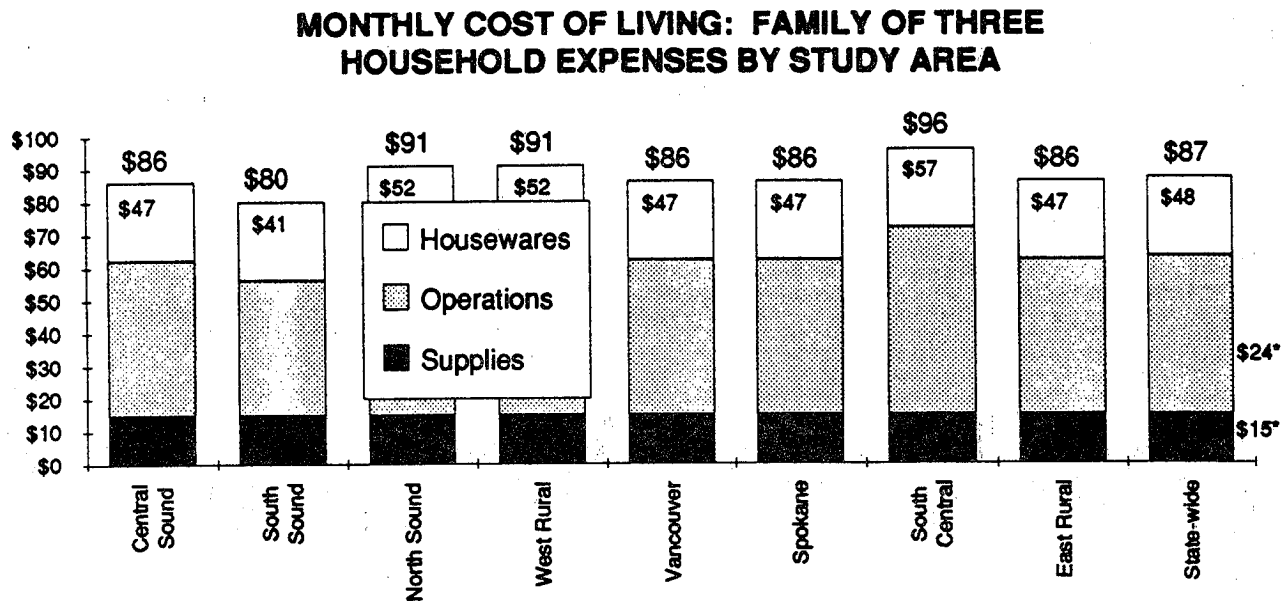
5. Telephone
Rates were collected from Washington's Utilities and Transportation Commission. A program available to people on AFDC—The Washington Telephone Assistance Program—guarantees that no public assistance family will pay more than eight dollars per month for telephone service. As all actual rates were over eight dollars, the state-wide cost was set at $8.00 per month. The costs of long-distance and custom services are excluded.

C. HOUSEWARES/LINENS

Housewares and linens are more durable than the goods listed under household supplies, yet they require replacement to meet adequate living standards. Housewares include small-ticket items with relatively long replacement cycles such as kitchenware and utensils. Linens include such items as bed sheets, towels, and table cloths.

This category also includes a $13 allowance to replace one small appliance (i.e. toaster, iron, hand-mixer, etc.) annually. Prices for these items were collected at discount department stores in Thurston County and out of mail-order catalogs.

Figure 8.



Items priced only at the state-wide level.

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V. Personal

The consultant on family consumption hired for this study also constructed a family budget for personal expenses: clothing, personal care, and other items used by individuals in the family.

In the 1980 study, most of these items showed only small geographic price differences. As in the 1984 study, the prices of these goods are assumed constant throughout the state. All personal goods were priced along with the goods in the household category at two Thurston County discount department stores. Costs of services were determined by telephone surveys of providers in sample counties.

The following are descriptions of components in the personal category and the methods of data collection for each. Estimates of personal expenses are summarized in Figure 8 at the end of this section.

A. Clothing

The consultant developed clothing budgets for each member of the model family. One third of the clothing need is met through the purchase of used clothing. The remaining items are purchased new. Much of the toddler's clothing needs are met through hand-me-downs.

Previous research found that used clothing (50 percent of the clothing in this budget) reduces the total clothing cost (if priced new) by one-sixth (Lidman and Sykes, 1981). The clothing budget was priced as if all items were new, then reduced by one-sixth to account for savings from purchasing used clothing.

Further reliance on used clothing was rejected because of the inflexibility of the second-hand market. It is difficult to find the right sizes when needed, and, aside from being undesirable, used shoes, socks, or undergarments are not readily available. Also, used clothing will wear out sooner, and may not be as economical as the same items purchased new. The clothing items and their replacement rates are shown in Appendix D.

These items were priced in Olympia discount department stores. Stores that provide a large selection of moderately priced items of reasonable quality were selected for data collection.

B. GROOMING AND MEDICAL SUPPLIES

Except for hair cuts, which are a service, the items in this component are goods, such as soap, toothpaste, nail files, and other items often found in a bathroom cabinet. This budget allows adequate grooming supplies for a person who may be seeking work, though not working regularly. The budget also supplies enough to maintain a medicine cabinet that sufficiently provides for routine minor illness and first aid. These items are listed in Appendix D.

Prices of retail goods were taken from Jensen Price Surveys publications and through in-store data collection. Hair cuts were priced with telephone calls to providers in sample counties. Four hair cuts a year were allowed for both the woman and the nine-year old.

C. SCHOOL EXPENSES:

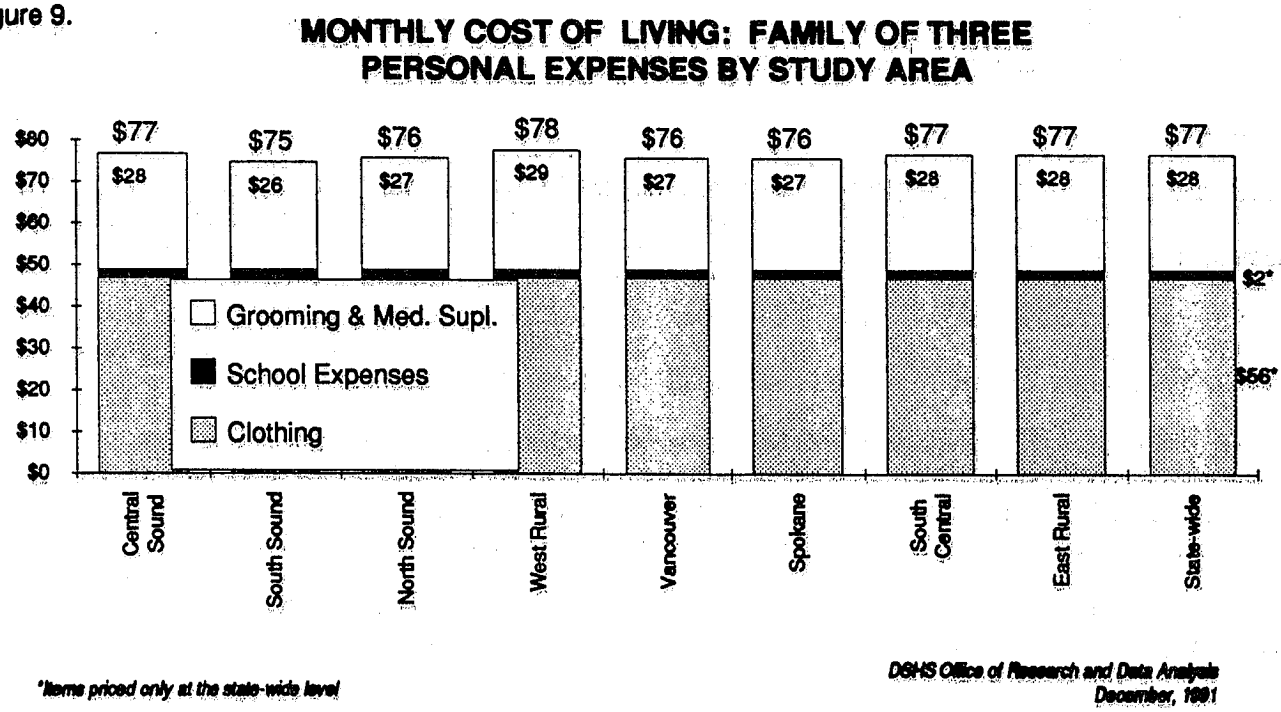
Supplies

The school budget for the school-aged child includes items that are not typically provided by the school. This includes, for example, pens, pencils, glue, and paper. School administrators across the state were asked to review a list of such items. Their comments were used to construct the list of school supplies. The school items are listed in Appendix D, and were priced along with items in the food and household budgets.

Fees

While there are no mandatory school fees, some fees are necessary if the student is to participate in a full range of school activities. School administrators were asked about special school fees, and their most common response became the cost estimate for this item. The office of Washington State's Superintendent of Public Instruction agreed that the $10.00 school fee estimate was reasonable. Remember, this is a fee for a child in elementary school, where many field trips and activities may still be free.

Figure 9.



VI. MISCELLANEOUS

A. CHILDREN AND FAMILY ACTIVITIES:

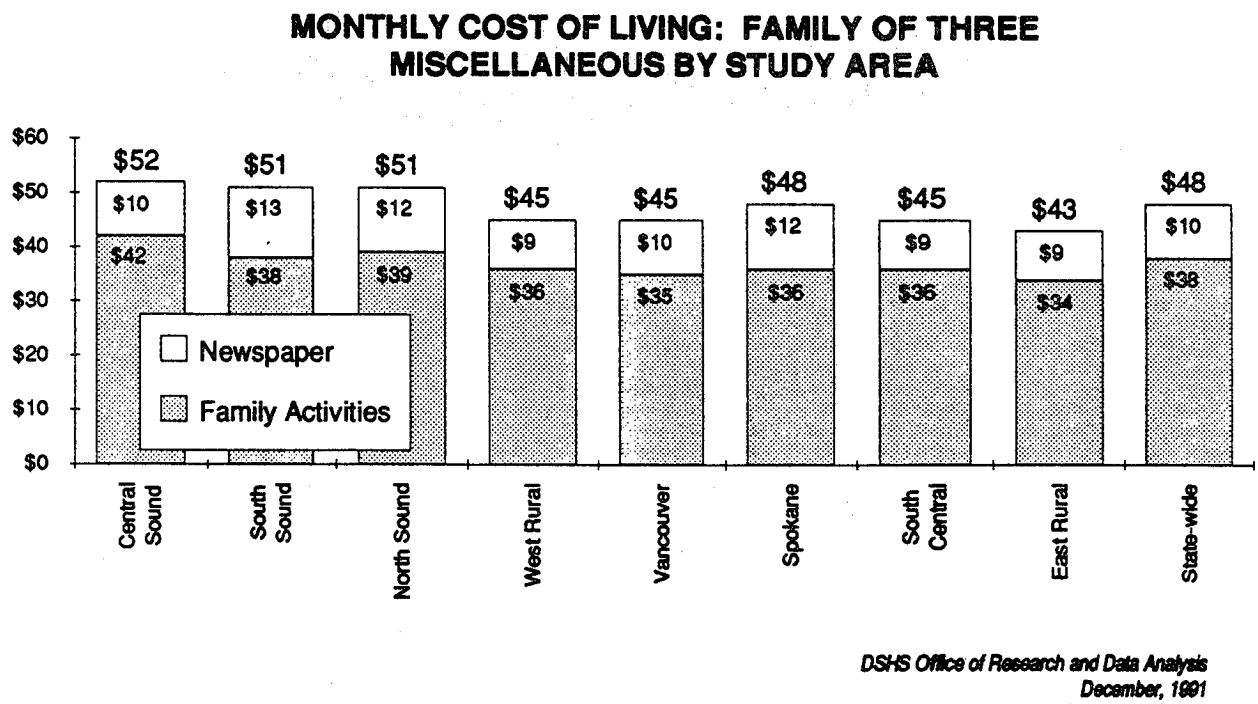
Included here is an allowance to cover a minimum but adequate level of educational toys and gifts for children, reading materials, and access to educational activities such as visits to museums, community centers, and zoos. According to the Bureau of Labor and Statistics *Survey of Consumer Expenditures, 1989*, families reporting annual incomes between $5,000 and $9,999 allocate approximately 3.5 percent of their total expenditures to such activities. Instead of setting specific standards for such activities, 3.5 percent of the total budget is allowed for this family expense. After the total budget for all other goods and services is calculated, it is increased by 3.5 percent to account for these expenditures.

B. NEWSPAPER SUBSCRIPTION:

A newspaper provides access to job listings, sales, coupons, and other important information. The minimum but adequate standard allows for a subscription to a major daily newspaper. (The Bureau of Labor and Statistics does not include newspapers as part of the reading materials in the family activities budget described above).

The price of a subscription to the major daily newspaper in each sample county was gathered with telephone calls.

Figure 10.



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Geographic Cost Differences 3

I. Introduction: Economic Geography of the Eight Study Areas

General Economic Geography

The study areas used in this report were created to be somewhat representative of the state's diverse economy. A general discussion of Washington State's basic economic geography follows.

East and West

As a whole, the economy of western Washington is characterized by its greater reliance on durable goods manufacturing (especially aerospace and wood products), transportation, services, state government, and the military. The east, except for a few urban centers, is dominated by agriculture and food processing industries. Western Washington comprises five study areas west of the Cascade Mountains: *North Sound, Central Sound, South Sound, Western Rural,* and *Vancouver.* Eastern Washington comprises three study areas east of the Cascade Mountains: *Spokane, South Central,* and *Eastern Rural.*

Rural and Non-rural

Rural economies in Washington State tend to be dominated by wood products and agricultural industries. The *Western Rural* and *Eastern Rural* study areas fall into this category. Non-rural economies are dominated by durable goods manufacturing, transportation, and business services. The *Central Sound, South Sound, Vancouver,* and *Spokane* study areas fall into this category. While elements of both types of economies influence every area in the state, the *North Sound* and *South Central* study areas tend to be more evenly influenced by both non-rural and rural economies.

The Gap in Economic Growth

During the last decade, the gap has widened between the economic prosperity of eastern and western Washington, and between rural and non-rural communities of the state. Led by the economic growth in the Puget Sound region, western Washington has performed well compared to the eastern half of the state. In general, non-rural areas in the state have been more prosperous than rural communities. Primarily because of a declining timber industry, rural communities have been subjected to relatively poor economic conditions over the past ten years.

Eight Study Areas

The eight study areas were chosen based on the economic geography of the state. Boundaries for the study areas are intended to isolate regions that share a similar economic base and, perhaps, similar costs of living.

Central Sound (Island, King, and Snohomish Counties): This study area contains King County, the most industrialized and most populous county of the state, and its two neighboring counties, Snohomish and Island. Snohomish County also has a large population and a local economy dominated by the manufacturing sector. Island County's economic base shares few similarities with the economies of King and Snohomish Counties. Nevertheless, Island County is included in this study area because of its relatively dense population.

North Sound (San Juan, Skagit, and Whatcom Counties): The counties in this area are considerably less populous than the counties in *Central Sound.* They are isolated from the other study areas by the Cascade Mountains to the east, the counties of *Central Sound* to the south, and the Puget Sound to the west. The economic base of the counties in this area is a mixture of wood products, manufacturing, agriculture, and tourism.

South Sound (Kitsap, Pierce, and Thurston Counties): This study area comprises three counties that have high concentrations of state and federal employees. The State Capital is in Thurston County. Pierce and Kitsap Counties both have a large military presence. Manufacturing, wood products, and transportation are also key elements in this area's economic base.

Western Rural (Clallam, Cowlitz, Grays Harbor, Jefferson, Klickitat, Lewis, Mason, Pacific, Skamania, and Wahkiakum Counties): Compared to other counties in western Washington, the counties in this study area tend to be sparsely populated. The economies of the counties in this area are heavily dependent on the wood products industry.

Vancouver (Clark County): Clark County was not included in the *Western Rural* study area only because of its high population density and its proximity to the Portland Metropolitan area.

Spokane (Spokane County): The City of Spokane is the largest commercial center in eastern Washington; agriculture, manufacturing, transportation, business services, and the military are all important elements in Spokane's economy. The county's relatively large population and its diverse economic base differentiate it from surrounding counties.

South Central (Benton, Franklin, Walla Walla, and Yakima Counties): This study area includes three major urban areas in south eastern Washington: Yakima, the Tri-Cities area (Richland, Kennewick, and Pasco) and Walla Walla. A relatively densely populated corridor of small towns joins the City of Yakima to the Tri-Cities area. Immediately to the east is Walla Walla County. This study area is heavily dependent on agriculture, but benefits from the more diverse economies of its three urban areas.

Eastern Rural (Adams, Asotin, Chelan, Columbia, Douglas, Ferry, Garfield, Grant, Kittitas, Lincoln, Okanogan, Pend Oreille, Stevens, and Whitman Counties): Compared to other counties in eastern Washington, the counties contained in this study area are sparsely populated. The economies of the counties in this area rely almost exclusively on agriculture.

II. County and Area Cost Estimates

Table 6 shows each study area, the share of AFDC families in each area, and cost estimates of the major components of the market basket. Total cost data for each study area and each county are shown in Figures 11 and 12 respectively. More detailed county-by-county costs for each component are displayed in Table 8 at the end of this chapter. Area and state-wide weights are based on the client caseloads in each county.

Western non-rural areas—*North, Central,* and *South Sound*—tend to have the highest costs of living, averaging $1,189, $1,079, and $1,114 respectively. *Eastern Rural* counties have the lowest costs, averaging $985 per month. County cost estimates range from the low of $895 per month in Cowlitz county, to highs of $1,190 per month in King and Snohomish Counties. The median cost, $1,051, is found in Yakima and Pierce Counties.

Table 6.

MONTHLY COST OF LIVING: FAMILY OF THREE
SUMMARY OF AREA COSTS

Area	% of Total AFDC Families*	Food	Housing	Energy	Transportation, Personal, Household, & Misc.	Total
Central Sound	31.35%	$333	$502	$83	$271	$1,189
South Sound	17.39%	$315	$408	$92	$265	$1,079
North Sound	3.78%	$308	$433	$97	$277	$1,114
West Rural	11.15%	$303	$377	$71	$263	$1,015
Vancouver	5.10%	$298	$361	$71	$263	$994
Spokane	10.60%	$311	$359	$100	$271	$1,041
South Central	12.55%	$309	$379	$86	$268	$1,042
East Rural	8.08%	$308	$343	$70	$264	$985
State-wide	100.00%	$317	$419	$84	$268	$1,088

**Based on the average monthly caseload for State fiscal year 1990: "Annual Program Briefing Book", Division of Income Assistance, Management Reports & Data Analysis Section, December, 1990, p42.*

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Figure 11.

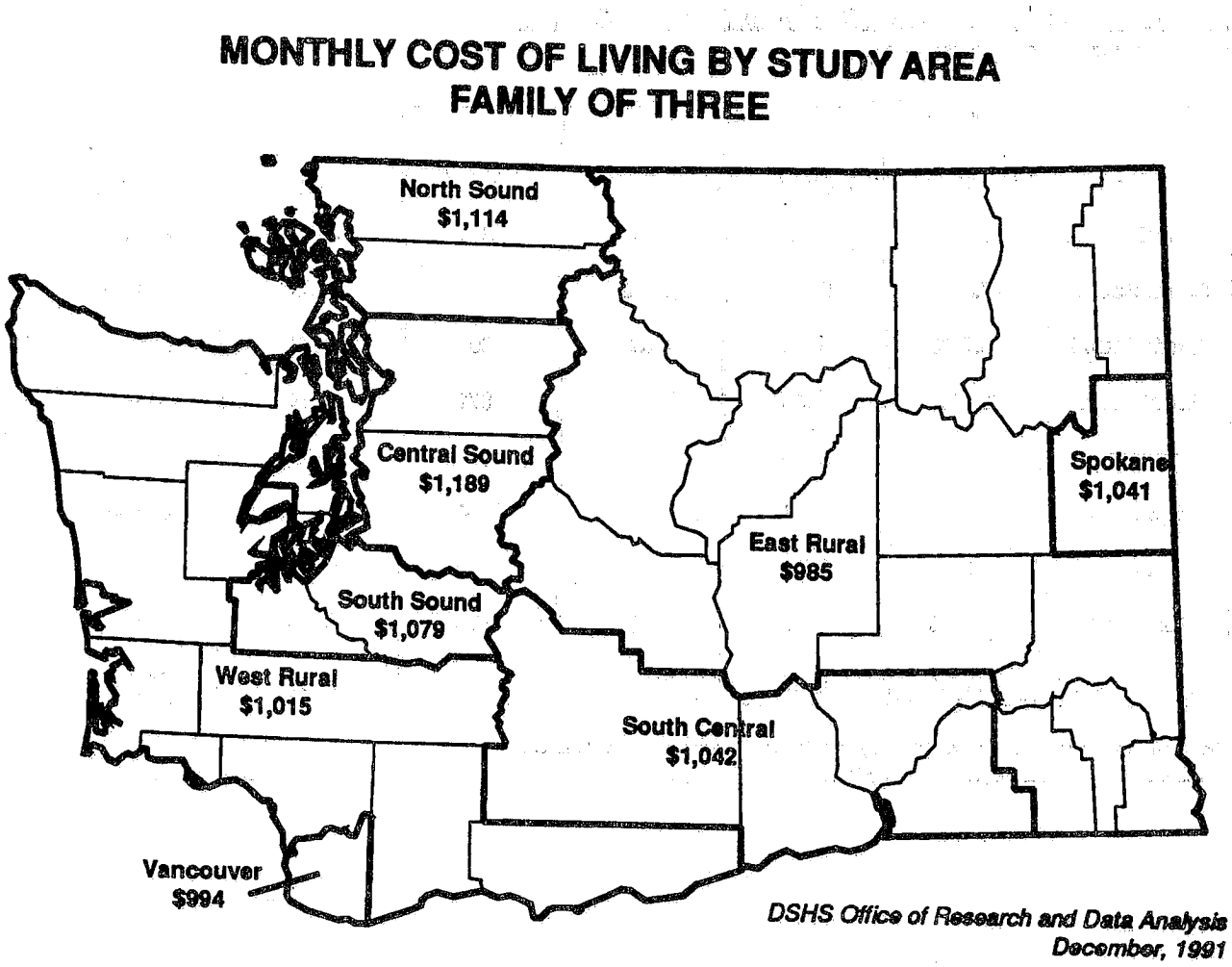
MONTHLY COST OF LIVING BY STUDY AREA
FAMILY OF THREE
North Sound
$1,114
Central Sound
$1,189
South Sound
$1,079
West Rural
$1,015
Vancouver
$994
East Rural
$985
South Central
$1,042
Spokane
$1,041
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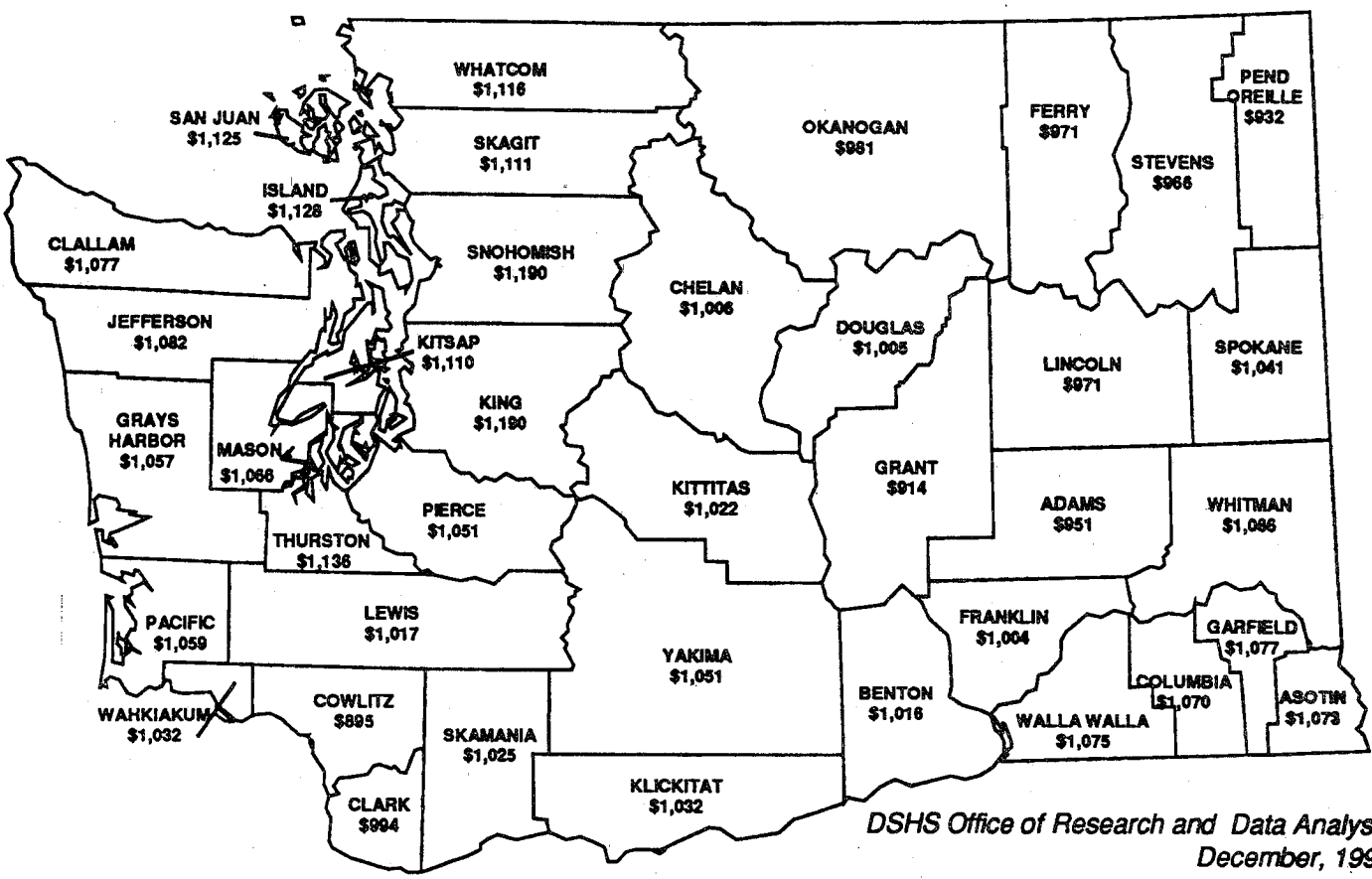
Figure 12.

COST OF LIVING BY COUNTY
FAMILY OF THREE



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III. Sources of Geographic Cost Differences

Food, housing, and energy costs comprise over 75 percent of the total budget. The bulk of the variation in costs from county to county and area to area is explained by these three components. Together, they explain over 99 percent of the variation in total costs from county to county. Statistical analysis (linear regression) indicates that housing was the largest contributor to cost differences, followed by food, then energy.

Geographic Variation in Housing Costs

Statewide, the average housing cost is $419 per month. Housing costs are by far the largest single contributor to geographic cost differences. They represent over 38 percent of the total budget, and vary substantially, from the low of $280 in Cowlitz County to $503 in King and Snohomish Counties.

Geographic Variations in Energy Costs

State-wide, energy costs average $84 per month. Energy is only about eight percent of the total budget, but is the most volatile budget category, ranging from $46 a month in Grant County to $110 per month in San Juan County. This variation in energy costs is due mostly to the different rates charged by power companies throughout the state, especially the different rates charged by public as apposed to private utilities.

Geographic Variations in Food Costs

Food costs account for over 29 percent of the budget. While housing and energy costs were estimated for each county, food costs, because of the large number of items to be priced, were estimated only for the eight study areas. Food-cost estimates do not stray far from the state's $317 per month average. They range from $333 per month in the *Central Sound* to $298 per month in *Vancouver*. In general, food costs are higher in non-rural areas. But with a food-cost estimate of $298 per month, densely populated *Vancouver* is an exception.

Food Prices in Small, Remote Rural Stores

Only ten percent of the total AFDC population live in the remote rural areas. To show this, remote rural areas of the state were identified by Zipcode. This analysis associated each zipcode with one of six degrees of urbanization in the state. Besides remote rural, the other five degrees of urbanization are: (1) Central urban cores of metropolitan counties (Seattle, Tacoma, Everett, and Spokane); (2) Counties with mid-sized(populations of 50 to 100 thousand) central cities such as (Tri-Cities, Olympia, Yakima and Bellingham); (3) Small (10 to 50 thousand) central cities in non-metropolitan counties (such as Walla Walla, Aberdeen, Mount Vernon, and Centralia); (4) Suburban areas in metropolitan counties within a one-hour drive of central metropolitan core; and (5) Rural, all other areas in counties with a mid-sized city (such as in Benton, Franklin, Thurston, Yakima, and Lewis Counties).

Note that the term "remote rural" should not be confused with what are referred to as rural counties in this study. Remote rural areas can exist in any county of the state, and are set apart by their being far removed from towns that may support a large grocery store. Most people in rural counties live in incorporated areas that are large enough to support one or two large grocery stores; therefore, they are not subjected to the higher prices charged by the small grocery stores that characterize remote rural areas.

To estimate food costs, food prices were collected in the larger communities of the eight study areas. These prices likely underestimate the costs of food in remote areas served only by small grocers and general stores (Bellanger and Haas, 1990).

Small rural grocery stores were surveyed to learn how much higher their prices were than the supermarket chains used in this study. Eight communities were selected based on their being more than 25 miles from the nearest large grocery store. One small grocery store in each community was surveyed.

On average, prices at large supermarkets were 33 percent lower than the prices at small rural stores. This means that, instead of the $1,088 per month state-wide average total cost of living calculated in this study, people living in remote rural areas could face a $154 higher cost of living due to higher food costs. (Housing costs, though not estimated for remote rural areas, may be lower in rural areas, thus mitigating the higher food costs.) Nevertheless, a small increase in the budget for all AFDC families would not help the few who live in remote rural areas meet their food budget.

Geographic Variations in Other Components

Some parts of the budget—household supplies, housewares, clothing, and school supplies and fees—were assumed to cost the same throughout the state. Therefore, they do not contribute to geographic cost differences as measured in this study. Other parts of the budget—transportation, household operations, grooming, newspaper, and family activities—vary slightly from area to area, but are such a small part of the budget that no individual component contributes significantly to geographic variation in total costs. Table 2 shows which goods and services were priced at the county, area, or state level.

IV. Summary of Costs in Each Study Area

Central Sound: Island, King, and Snohomish Counties.

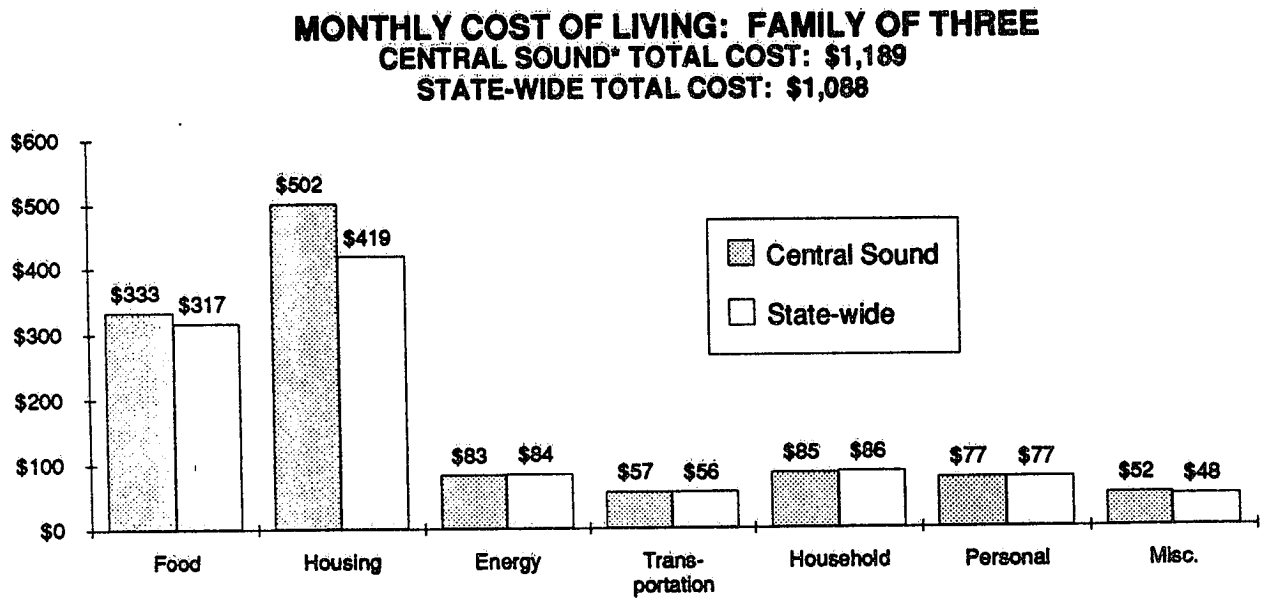
Of the eight study areas, *Central Sound* has the highest total cost of living for the model family at $1,189 per month. With 31.4 percent of the state's AFDC families, *Central Sound* also has the greatest impact of any area on the state-wide average cost of living, because it carries the greatest area weight.

Central Sound's $502 per month average housing costs are the highest of any area, which is not surprising for this heavily populated urban region. HUD estimates of housing costs for King and Snohomish Counties are both $503 per month. Island County's $430 per month housing costs are overshadowed by the much larger populations and considerably higher rental rates in King and Snohomish Counties. The lower housing costs in Island County indicate that this county may have fit better with the *North Sound* counties than with King and Snohomish.

Food costs of $333 per month are the highest in the state. These relatively high food prices are probably due to the urban nature of this highly populated area. Food prices for this area were collected primarily in King County.

Central Sound's $83 per month energy costs are near the $84 state-wide average. Energy costs in *Central Sound* are low relative to neighboring *North Sound* and *South Sound* counties, because of the lower rates charged by the public utility that services the City of Seattle.

Figure 13.



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**Central Sound counties: Island, King, Snohomish.*

NORTH SOUND: SAN JUAN, SKAGIT, AND WHATCOM COUNTIES

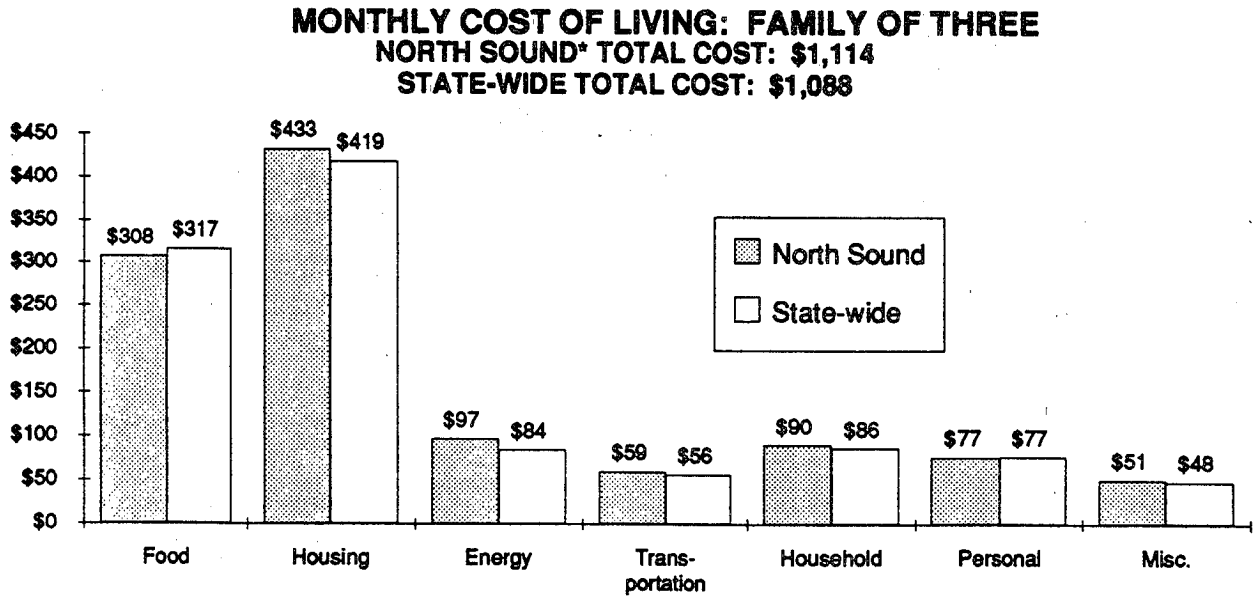
At $1,114 per month, the *North Sound* study area has the second highest cost of living. It also has the smallest share of clients in the eight study areas; only 3.78 percent of the state's AFDC families live in *North Sound.* One of this area's counties, San Juan, has only 40 AFDC families.

North Sound has the second highest housing costs at $433 per month. The three counties in this area share similar rental rates, between $430 and $435 per month.

This area also has the second highest energy costs at $97 per month. Energy costs in *North Sound* are higher than average because of the area's dependence on a higher-cost private utility. Isolated San Juan County has the highest energy costs ($110 per month) in the state.

The $308 food-cost estimate for *North Sound* is low compared to the other two areas on Puget Sound's Interstate-5 corridor—*Central Sound* and *South Sound.* The stronger rural elements of this area probably contribute to its lower food costs, which is why *North Sound* food costs are similar to the *Western Rural, Eastern Rural,* and *Spokane* study areas. Food prices for *North Sound* were collected in the Bellingham area.

Figure 14.



North Sound counties: San Juan, Skagit, Whatcom.

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SOUTH SOUND: KITSAP, PIERCE, AND THURSTON COUNTIES

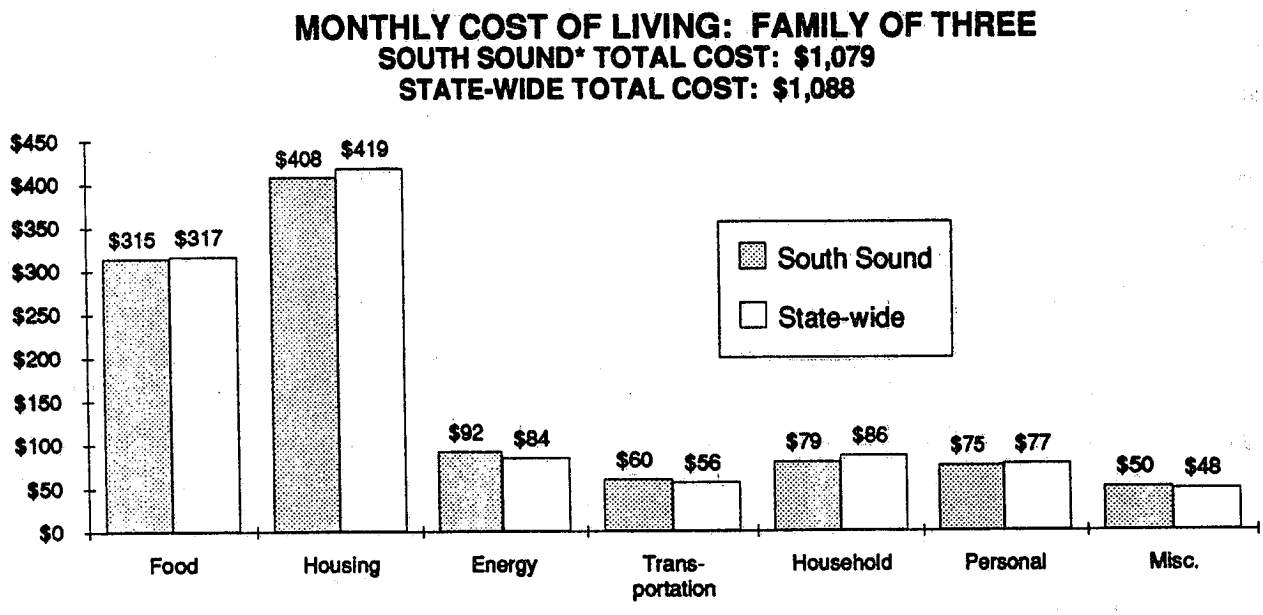
South Sound has the third highest cost of living at $1,079 per month. The area is home to 17.39 percent of the state's AFDC families, the second highest concentration of client families in the eight study areas.

Food costs in *South Sound*, at $315 per month, are below the state-wide weighted average food cost of $317, but they are higher than any other study area outside of *Central Sound*. The cost of food in this second largest urban area is somewhat lower than in *Central Sound* because of numerous large discount groceries that are present in all three *South Sound* counties. *South Sound* food prices were collected primarily in the Tacoma area.

At $408 per month, this area has the third highest housing costs. Housing is less expensive in *South Sound* than in *North Sound* and *Central Sound* because of the considerably lower rental rates available in Pierce County. Pierce County's $384 fair market rent is considerably lower than the $455 for Thurston County and $437 for Kitsap County. Nevertheless, the cost of housing in Pierce County is still higher than in the *Spokane*, *South Central*, *Vancouver*, *Western Rural*, and *Eastern Rural* study areas.

Energy costs in *South Sound*—$92 per month—are higher than average because, as with *North Sound*, much of this area is served by higher priced private utilities.

Figure 15.



South Sound counties: Kitsap, Pierce, Thurston.

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SOUTH CENTRAL: BENTON, FRANKLIN, YAKIMA, AND WALLA WALLA COUNTIES

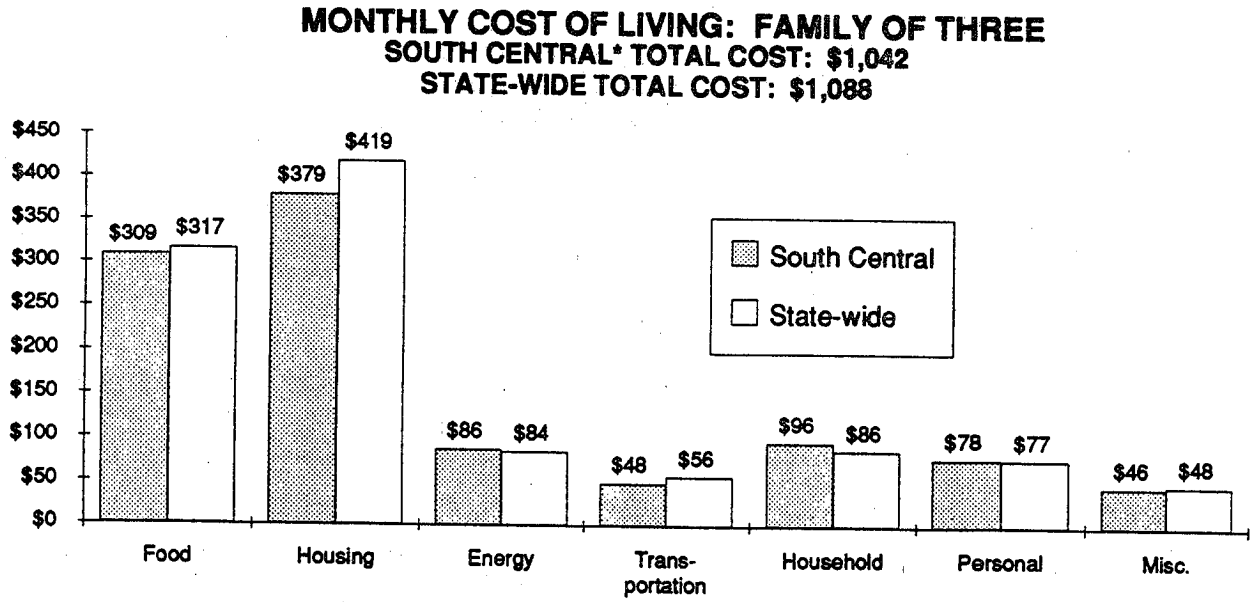
The *South Central* area's total cost of living—$1,042 per month—is the fourth highest of the eight study areas. It has the highest cost of living in eastern Washington, but is only one dollar higher than the cost estimate for *Spokane*. Both *South Central* and *Spokane* are considerably more urban than the rest of eastern Washington. *South Central* counties hold 12.55 percent of the state's AFDC families.

The $309 food cost estimate for the *South Central* area is only slightly higher than the rest of eastern Washington. That food costs in the *South Central* area are low compared to the state average may be a reflection of the heavy influence rural communities have on this area's costs. Food prices for the *South Central* area were collected in Yakima and Richland.

Housing costs—$379 per month—are considerably higher, on average, than the rest of eastern Washington. According to HUD, Walla Walla County has the highest housing costs in the *South Central* area. Walla Walla's rents are probably overestimated because of a bias in HUD's update methodology for some rural counties. (See the discussion of housing costs beginning on page 11.) In reality, housing costs in Walla Walla are likely to be closer to those in Benton and Franklin Counties. Because of Walla Walla County's relatively low client population compared to Yakima, Benton, and Franklin Counties, overestimating its housing costs does not have a great impact on the total housing cost estimate for the *South Central* area.

South Central's $86 per month energy costs are close to the state-wide average. Energy costs would be higher were it not for a lower-priced public utility that services this area.

Figure 16.



Area 7 counties: Benton, Franklin, Walla Walla, Yakima.

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SPOKANE: SPOKANE COUNTY

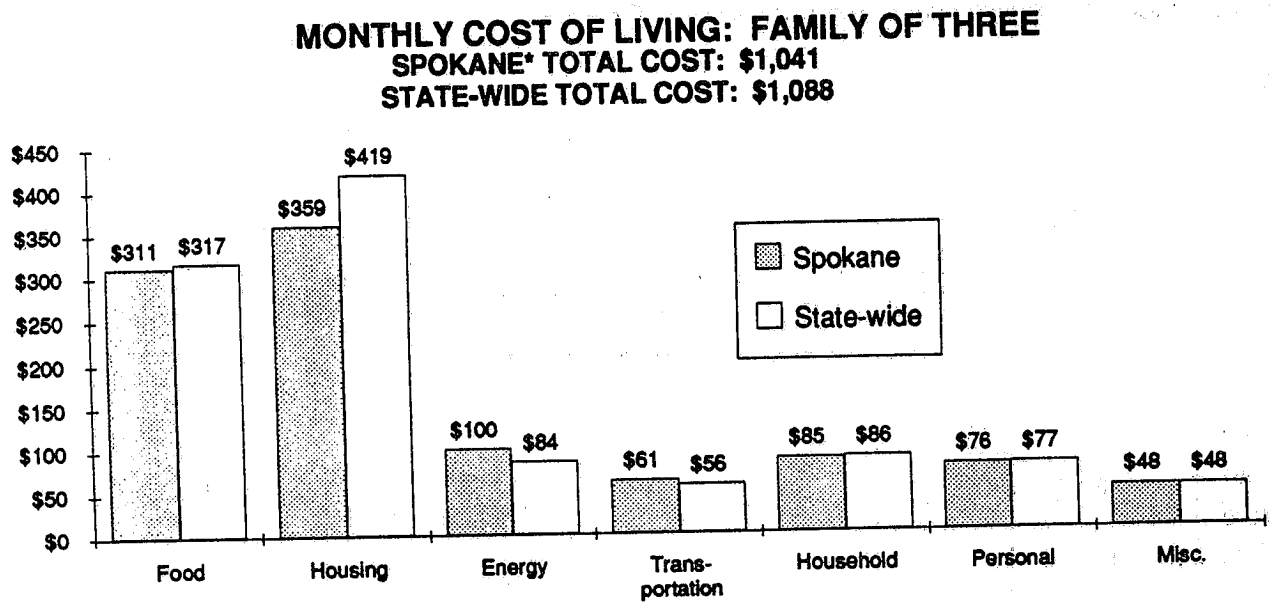
The total cost-of-living estimate for *Spokane*, $1,041 per month, is only one dollar less than the *South Central* estimate. While there is no practical difference between the two totals, the costs of some components differ considerably. *Spokane* is home to 10.6 percent of AFDC families.

Housing costs are only $359 per month in *Spokane*, $20 less per month than in the *South Central* area.

Energy costs make up for most of the difference in housing costs between the *Spokane* and *South Central* areas. At $100 per month, *Spokane* energy costs are the highest of the eight study areas. The higher energy costs are a product of the higher rates charged by this area's private power company.

Spokane's $311 per month food costs are slightly higher than the rest of eastern Washington. Food costs are probably higher because the City of Spokane is the largest urban area in the east.

Figure 17.



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*Spokane county: Spokane

WESTERN RURAL: CLALLUM, COWLITZ, GRAYS HARBOR, JEFFERSON, KLICKITAT, LEWIS, MASON, PACIFIC, SKAMANIA, AND WAHKIAKUM COUNTIES.

On average the *Western Rural* area has the third lowest area cost estimate—$1,015 per month. This area contains the lowest cost county in the state, Cowlitz. The cost of living there was estimated to be $895 per month. The area comprises the predominantly rural counties in western Washington and is home to 11.15 percent of the state's AFDC families.

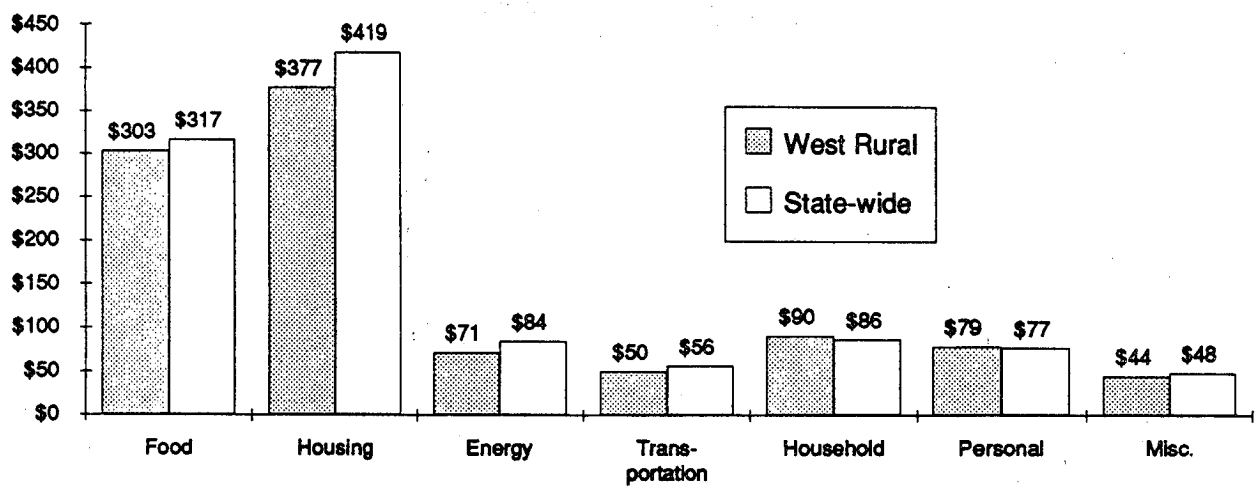
The $303 per month food cost estimate for the *Western Rural* area is the second lowest food cost in the state, higher only than the *Vancouver* area. Food prices for the *Western Rural* area were collected at three cities: Port Angeles, Aberdeen, and Kelso.

Housing costs, estimated by HUD at $377 per month, are very likely overestimated because of the bias in HUD update methodology. (See the housing discussion beginning on page 11.) The estimate shown for Cowlitz County is probably a more accurate reflection of actual housing costs in this area.

Energy costs ($71) are nearly identical in the three lowest cost areas, and once again reflect the differences in rates charged by public and private utilities across the state.

Figure 18.

MONTHLY COST OF LIVING: FAMILY OF THREE
WEST RURAL* TOTAL COST: $1,015
STATE-WIDE TOTAL COST: $1,088



**West Rural counties: Clallam, Cowlitz, Grays Harbor, Jefferson, Klickitat, Lewis, Mason, Pacific, Skamania, Wahkiakum.*

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VANCOUVER: CLARK COUNTY

At $994 per month, *Vancouver* has the second lowest cost of living of the study areas. 5.1 percent of the state's AFDC families live in the *Vancouver* study area. Because of its relatively high population density and proximity to Portland, this county was kept separate from those in the *Western Rural* study area. It appears, however, to have costs similar to the *Western Rural* counties.

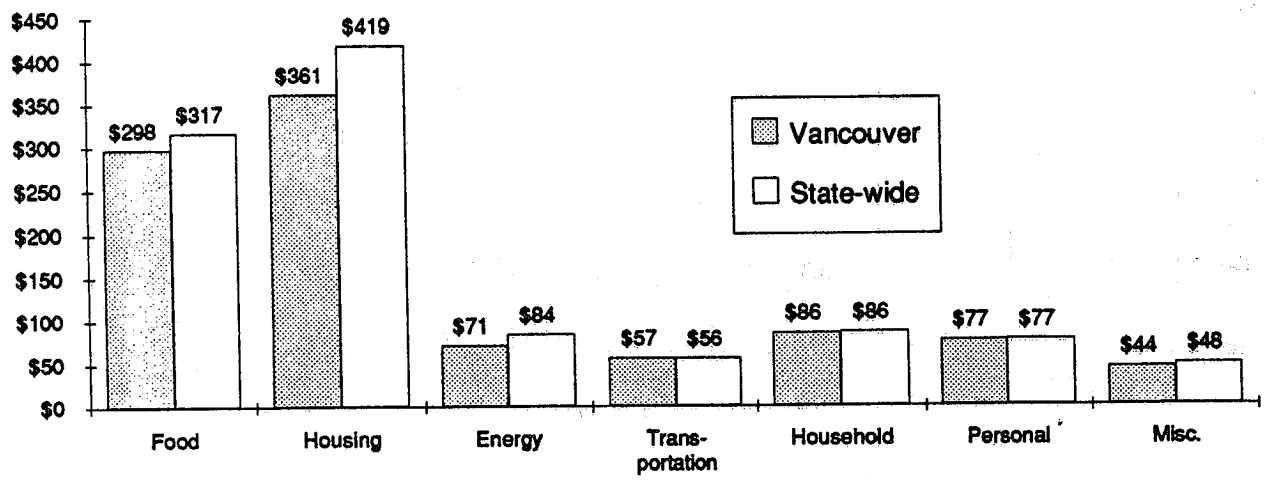
One reason the total cost estimate for *Vancouver* is lower than the *Western Rural* estimate may be the way HUD sets Clark County's fair market rents. (See the housing discussion beginning on page 11.) HUD estimates housing costs more accurately in large metropolitan areas, but tends to overestimate costs in rural counties. For HUD purposes, Clark County is part of the Portland metropolitan area. Therefore, *Vancouver* housing estimates, while relatively accurate, are less than the housing cost estimates for *Western Rural* counties, many of which are overestimated.

Food costs in *Vancouver* are the lowest of the eight study areas at only $298 per month. This may be due to the study area's proximity to Portland, Oregon.

Energy costs in *Vancouver* are equal to the $71 per month estimate for the *Western Rural* area, showing that *Vancouver* also has access to inexpensive public utilities.

Figure 19.

MONTHLY COST OF LIVING: FAMILY OF THREE
VANCOUVER* TOTAL COST: $994
STATE-WIDE TOTAL COST: $1,088



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*Vancouver county: Clark.

EASTERN RURAL: ADAMS, ASOTIN, CHELAN, COLUMBIA, DOUGLAS, FERRY, GARFIELD, GRANT, KITTITAS, LINCOLN, OKANOGAN, PEND OREILLE, STEVENS, AND WHITMAN COUNTIES.

The *Eastern Rural* study area, at $985 per month, has the lowest cost of living of the eight study areas. This large area, composed of sparsely populated, predominantly agricultural counties, has 8.08 percent of the state's AFDC families.

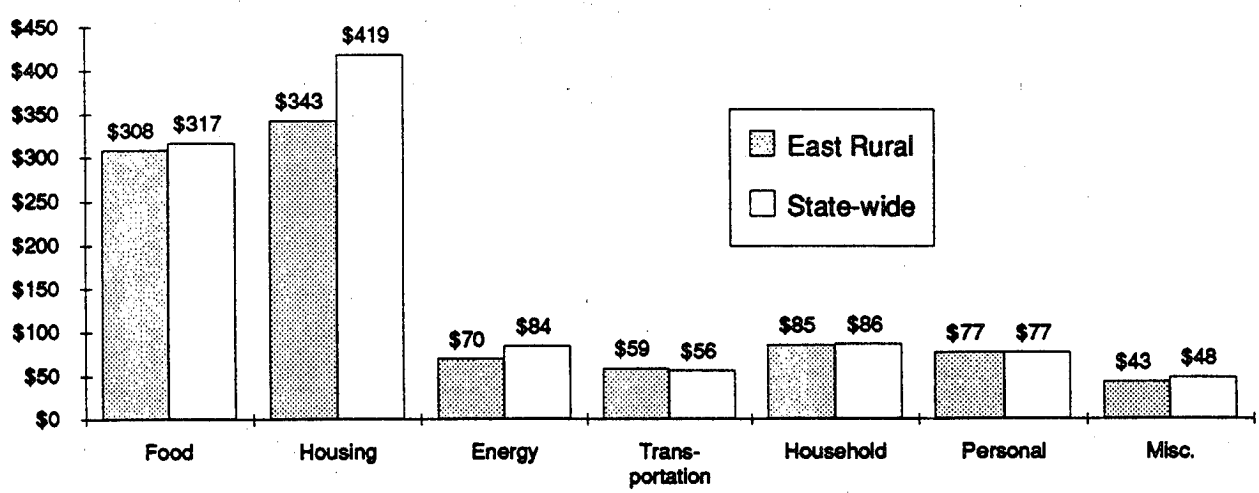
Housing costs in this area, $343 per month, are the state's lowest. Housing costs in the *Eastern Rural* area are probably even lower than $343 per month, because HUD tends to overestimate its fair market rents in rural counties (see page 11). The housing cost estimates for Grant and Kittitas Counties are probably a more accurate reflection of housing costs in most of the counties in this area.

Eastern Rural food costs, at $308 per month, are similar to the other study areas outside of *Central South* and *South Sound*. Food prices were collected in four cities in the *Eastern Rural* area: Clarkston, Ephrata, Wenatchee, and Colville.

The area's $70 per month energy costs are the lowest in the state. Because of the variety of energy providers, private and public, in this region, energy costs in this area range from $46 to $108 per month. The cost of energy in the *Eastern Rural* area may seem too low to those familiar to the cold weather of eastern Washington. But the per-month energy cost is an average over twelve months, and would be higher than $70 during the winter months. Also, some of the state's lowest cost energy is available in this area, reducing energy costs even though consumption is higher because of the area's cold weather.

Figure 20.

MONTHLY COST OF LIVING: FAMILY OF THREE
EAST RURAL* TOTAL COST: $985
STATE-WIDE TOTAL COST: $1,088



**East Rural counties: Adams, Asotin, Chelan, Columbia, Douglas, Ferry, Garfield, Grant, Kittitas, Lincoln, Okanogan, Pend Oreille, Stevens, Whitman.*

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V. GEOGRAPHIC VARIATION IN COSTS

There are substantial differences in the costs of living between King and Snohomish Counties and rural counties such as Cowlitz, Grant, Pend Oreille, Adams, Stevens, and Ferry. These six low-cost counties which represent over six percent of the client population are, on average, $252 per month (21 percent) less expensive than King County. A single cost estimate set at the state-wide weighted average of $1,088 would be $102 (eight percent) a month less than the estimated cost of living in King and Snohomish Counties. That single cost estimate would also overestimate costs in Cowlitz, the lowest cost county, by $193 per month.

It is important to keep several things in mind when examining geographic variation in costs. Though data were not collected below the county level, there may be substantial differences in costs between communities within a single county. And while there are measurable cost differences between counties or regions of the state, there may also be differences in access to important services that were not part of this study. For instance, the cost of living in rural counties may be lower (in part) because of a lack of important services in rural areas.

Measuring the Relative Efficiency of Separate Cost Estimates

The preceding example shows how a single cost estimate will understate and overstate costs in different counties. One measure of how effective a single cost estimate is could be the total dollars overestimated and underestimated: the dollar value of geographic variation in cost. The lower the dollar value of geographic variation for a given single cost estimate, the better that cost estimate represents costs for all families.

A single cost-of-living estimate will necessarily under- and overestimate costs in most of the counties. For example, a single cost estimate of $1,088 understates costs in King and Snohomish Counties by $102 per month. There are 23,614 AFDC families in those two counties, so the total dollars underestimated is $2,408,628. This single cost estimate also overstates costs in Cowlitz County by $193 per month. There are 2,008 families in that county, so the total dollars overestimated is $387,557. Calculating these errors for all counties, the total dollar value of geographic variation is $5,426,185 per month.

This measure can be used to compare the relative effeciency of separate cost estimates for different combinations of counties. The lower the dollar value of geographic variation, the lower the total errors in estimating costs for individuals in a given combination of counties.

Examples of Separate Cost Estimates

If two cost estimates are made for the state—one estimate for one group of counties and another estimate for the remaining counties—by this measure, the most efficient cost estimates are $1,190 for King and Snohomish Counties, and $1,041 for the rest of the state. Both cost estimates are the weighted averages of the counties in each cluster. Here the dollar value of geographic variation is $1,966,935, which is considerably less than the dollar value of variation for the single cost estimate of $1,088. Compare this to a different two-area clustering composed of the three highest cost of living counties (King, Snohomish, and Thurston) in one cluster and the rest of the state in the other. There the dollar value of geographic variation would be $2,060,640.

Further subdividing—increasing the number of cost estimates—will generally further reduce the dollar value of geographic variation. The extreme case would be a separate cost estimate for each county where the dollar value of geographic variation would be zero.

Possibly the most efficient three-standard clustering is King—Snohomish at $1,190, Thurston, Island, San Juan, Whatcom, Skagit, and Kitsap at $1,120, and the rest of the state at $1,026. The dollar value of geographic variation in this example is $1,586,608, an improvement over the previous option using two cost estimates. Pierce County is noticeably absent in the middle, five-county cluster. Because Pierce County is considerably less expensive than the other Puget Sound-area counties, adding it to the middle cluster would increase the dollar value of geographic variation to $1,901,528.

Table 7 shows the areas discussed here and the dollar value of variation for different geographic cost estimates.

Table 7.

Some Possible Geographic Areas and Their Measures of Geographic Variation

Number of Areas	Area Composition	Cost* Estimates	Dollar Value of Geographic Variation
One Area	Entire State	$1,088	$5,426,185
Two Areas	(1) King, Snohomish	$1,190	$1,966,935
	(2) Balance of state	$1,041	
Two Areas	(1) King, Snohomish, Thurston	$1,185	$2,060,640
	(2) Balance of state	$1,036	
Three Areas	(1) King, Snohomish	$1,190	$1,586,608
	(2) Island, Kitsap, San Juan, Skagit, Thurston,and Whatcom	$1,120	
	(3) Balance of state	$1,026	
Three Areas	(1) King, Snohomish	$1,190	$1,901,528
	(2) Island, Kitsap, San Juan, Skagit, Thurston, Whatcom, and Pierce	$1,086	
	(3) Balance of state	$1,026	

*Cost estimates are the weighted averages of the counties in a given area.

County by County Cost Estimates for Each Budget Component

Table 8 shows cost estimates for each county and study area. The first column of the table is the client population, followed by the percent of total clients that was used to generate area and state-wide weighted average costs. Each component in the budget is then listed in the following twelve columns.

MONTHLY COST OF LIVING: FAMILY OF THREE
ALL COMPONENTS BY COUNTY

	# AFDC Families*	% of Total AFDC Families	Food	Shelter		Transportation	Household	
				Housing	Energy		Supplies	Operations
Central Sound	**23,972**	**31.35%**	**$333**	**$502**	**$83**	**$57**	**$15**	**$47**
Island	358	0.47%	$333	$430	$96	$57	$15	$47
King	17,866	23.37%	$333	$503	$83	$57	$15	$47
Snohomish	5,748	7.52%	$333	$503	$82	$57	$15	$47
South Sound	**13,299**	**17.39%**	**$315**	**$408**	**$92**	**$60**	**$15**	**$41**
Kitsap	2,739	3.58%	$315	$437	$92	$60	$15	$41
Pierce	8,094	10.59%	$315	$384	$89	$60	$15	$41
Thurston	2,466	3.23%	$315	$455	$100	$60	$15	$41
North Sound	**2,887**	**3.78%**	**$308**	**$433**	**$97**	**$59**	**$15**	**$52**
San Juan	40	0.05%	$308	$430	$110	$59	$15	$52
Skagit	1,222	1.60%	$308	$430	$97	$59	$15	$52
Whatcom	1,625	2.13%	$308	$435	$97	$59	$15	$52
West Rural	**8,528**	**11.15%**	**$303**	**$377**	**$71**	**$50**	**$15**	**$52**
Clallam	1,179	1.54%	$303	$419	$90	$50	$15	$52
Cowlitz	2,008	2.63%	$303	$280	$53	$50	$15	$52
Grays Harbor	1,817	2.38%	$303	$419	$71	$50	$15	$52
Jefferson	294	0.38%	$303	$419	$94	$50	$15	$52
Klickitat	518	0.68%	$303	$383	$83	$50	$15	$52
Lewis	1,330	1.74%	$303	$383	$68	$50	$15	$52
Mason	751	0.98%	$303	$419	$79	$50	$15	$52
Pacific	393	0.51%	$303	$419	$73	$50	$15	$52
Skamania	205	0.27%	$303	$383	$76	$50	$15	$52
Wahkiakum	33	0.04%	$303	$383	$83	$50	$15	$52
Vancouver	**3,901**	**5.10%**	**$298**	**$361**	**$71**	**$57**	**$15**	**$47**
Clark	3,901	5.10%	$298	$361	$71	$57	$15	$47
Spokane	**8,102**	**10.60%**	**$311**	**$359**	**$100**	**$61**	**$15**	**$47**
Spokane	8,102	10.60%	$311	$359	$100	$61	$15	$47
South Central	**9,594**	**12.55%**	**$309**	**$379**	**$86**	**$48**	**$15**	**$57**
Benton	1,691	2.21%	$309	$346	$94	$48	$15	$57
Franklin	1,010	1.32%	$309	$346	$83	$48	$15	$57
Walla Walla	914	1.20%	$309	$416	$82	$48	$15	$57
Yakima	5,979	7.82%	$309	$389	$85	$48	$15	$57
East Rural	**6,176**	**8.08%**	**$308**	**$343**	**$70**	**$59**	**$15**	**$47**
Adams	263	0.34%	$308	$298	$82	$59	$15	$47
Asotin	717	0.94%	$308	$416	$82	$59	$15	$47
Chelan	846	1.11%	$308	$383	$50	$59	$15	$47
Columbia	62	0.08%	$308	$416	$78	$59	$15	$47
Douglas	269	0.35%	$308	$383	$49	$59	$15	$47
Ferry	130	0.17%	$308	$298	$101	$59	$15	$47
Garfield	26	0.03%	$308	$416	$85	$59	$15	$47
Grant	1,286	1.68%	$308	$298	$46	$59	$15	$47
Kittitas	315	0.41%	$308	$340	$108	$59	$15	$47
Lincoln	105	0.14%	$308	$298	$102	$59	$15	$47
Okanogan	942	1.23%	$308	$340	$68	$59	$15	$47
Pend Oreille	317	0.41%	$308	$298	$63	$59	$15	$47
Stevens	618	0.81%	$308	$298	$96	$59	$15	$47
Whitman	280	0.37%	$308	$416	$94	$59	$15	$47
State-wide	**76,459**	**100.00%**	**$317**	**$419**	**$84**	**$56**	**$15**	**$48**

**Average monthly caseload for State fiscal year 1990: "Annual Program Briefing Book", Division of Income Assistance, Management Reports & Data Analysis Section, December, 1990, p42.*

MONTHLY COST OF LIVING: FAMILY OF THREE CONT. . .

	Household Cont . . .	Personal			Miscellaneous	Total
	Housewares	Clothing	Grooming & Med. Supplies	School Expenses		
Central Sound	**$24**	**$47**	**$28**	**$2**	**$52**	**$1,189**
Island	$24	$47	$28	$2	$49	$1,128
King	$24	$47	$28	$2	$52	$1,190
Snohomish	$24	$47	$28	$2	$52	$1,190
South Sound	**$24**	**$47**	**$26**	**$2**	**$50**	**$1,079**
Kitsap	$24	$47	$26	$2	$52	$1,110
Pierce	$24	$47	$26	$2	$49	$1,051
Thurston	$24	$47	$26	$2	$52	$1,136
North Sound	**$24**	**$47**	**$27**	**$2**	**$51**	**$1,114**
San Juan	$24	$47	$27	$2	$51	$1,125
Skagit	$24	$47	$27	$2	$50	$1,111
Whatcom	$24	$47	$27	$2	$51	$1,116
West Rural	**$24**	**$47**	**$29**	**$2**	**$44**	**$1,015**
Clallam	$24	$47	$29	$2	$47	$1,077
Cowlitz	$24	$47	$29	$2	$40	$895
Grays Harbor	$24	$47	$29	$2	$46	$1,057
Jefferson	$24	$47	$29	$2	$47	$1,082
Kickitat	$24	$47	$29	$2	$45	$1,032
Lewis	$24	$47	$29	$2	$44	$1,017
Mason	$24	$47	$29	$2	$46	$1,066
Pacific	$24	$47	$29	$2	$46	$1,059
Skamania	$24	$47	$29	$2	$45	$1,025
Wahkiakum	$24	$47	$29	$2	$45	$1,032
Vancouver	**$24**	**$47**	**$27**	**$2**	**$44**	**$994**
Clark	$24	$47	$27	$2	$44	$994
Spokane	**$24**	**$47**	**$27**	**$2**	**$48**	**$1,041**
Spokane	$24	$47	$27	$2	$48	$1,041
South Central	**$24**	**$47**	**$28**	**$2**	**$46**	**$1,042**
Benton	$24	$47	$28	$2	$45	$1,016
Franklin	$24	$47	$28	$2	$45	$1,004
Walla Walla	$24	$47	$28	$2	$47	$1,075
Yakima	$24	$47	$28	$2	$46	$1,051
East Rural	**$24**	**$47**	**$28**	**$2**	**$43**	**$985**
Adams	$24	$47	$28	$2	$42	$951
Asotin	$24	$47	$28	$2	$46	$1,073
Chelan	$24	$47	$28	$2	$44	$1,006
Columbia	$24	$47	$28	$2	$46	$1,070
Douglas	$24	$47	$28	$2	$44	$1,005
Ferry	$24	$47	$28	$2	$43	$971
Garfield	$24	$47	$28	$2	$47	$1,077
Grant	$24	$47	$28	$2	$41	$914
Kittitas	$24	$47	$28	$2	$45	$1,022
Lincoln	$24	$47	$28	$2	$43	$971
Okanogan	$24	$47	$28	$2	$43	$981
Pend Oreille	$24	$47	$28	$2	$41	$932
Stevens	$24	$47	$28	$2	$43	$966
Whitman	$24	$47	$28	$2	$47	$1,086
State-wide	**$24**	**$47**	**$28**	**$2**	**$48**	**$1,088**

DSHS Office of Research and Data Analysis
December, 1991

Equivalence Scales 4

I. Introduction

After estimating the cost of living for the project's model family of three, equivalent costs for other sized families can be calculated using an equivalence scale. Using the scale saves considerable effort. Without it, a separate market basket would have to be estimated for every family size. Ideally, an equivalence scale will accurately reflect the differences in the costs faced by a three-person family as compared to a family of one, two, four, five, and so on.

Most states, including Washington, use equivalence scales to determine need standards for families of different sizes. This chapter provides the reader a basic understanding of equivalence scales: their purpose, origins, and alternatives.

The following table shows the equivalence scale currently used by Washington State. To estimate costs for other sized families, multiply the cost of living for a family of three by the scale next to the desired family size. If a family of three needs $1,088 a month to maintain a certain standard, a two-person family would need $1,088 times .81—or $881 per month—to achieve the same standard of living. A four-person family would need $1,088 times 1.18—or $1,284 per month.

Table 9.

WASHINGTON STATE EQUIVALENCE SCALE

Persons	Scale	Cost of Living Estimate
1	0.64	$ 696
2	0.81	$ 881
3	1.00	$1,088
4	1.18	$1,284
5	1.35	$1,469
6	1.54	$1,676

Source: Division of Income Assistance, DSHS

Recent History

Many equivalence scales have been developed since Mollie Orshansky published her pioneering measures of poverty prevalence in 1965 (Orshansky, 1965). The methods she developed for the Social Security Administration in the 1960s for setting poverty standards for different sized families were adopted as the official poverty measure for the United States.

Orshansky's estimates were based on food plans, developed by the USDA, that described minimum but adequate nutrition for families of different sizes. Orshansky assumed that families spending a similar proportion of their income on food are similarly well off. An earlier consumption study indicated that, on average, families allocate approximately one-third of their total expenditures to food. So the USDA food costs were multiplied by three to arrive at an estimate of the total budget required for a minimum standard of living for each family size.

To account for inflation, the thresholds are updated with the consumer price index every year. Nevertheless, today's official poverty thresholds are essentially unchanged (proportionally) from Orshansky's original estimates.

II. WHAT EQUIVALENCE SCALES MEASURE

Larger families do need more income than smaller families to maintain the same standard of living. How much more is not as obvious. It is generally accepted that per-person costs decline as family size increases. There are a number of ways per-person costs may decrease as family size increases. Many household goods are purchased regardless of family size, and these do not become more expensive as family size increases. For instance, a two-person family need not purchase a larger ironing board if they become a three-person family. The same ironing board will suffice, and its cost is now divided among three people instead of two. An additional family member doesn't mean buy another pot, it means put more food in the pot you have.

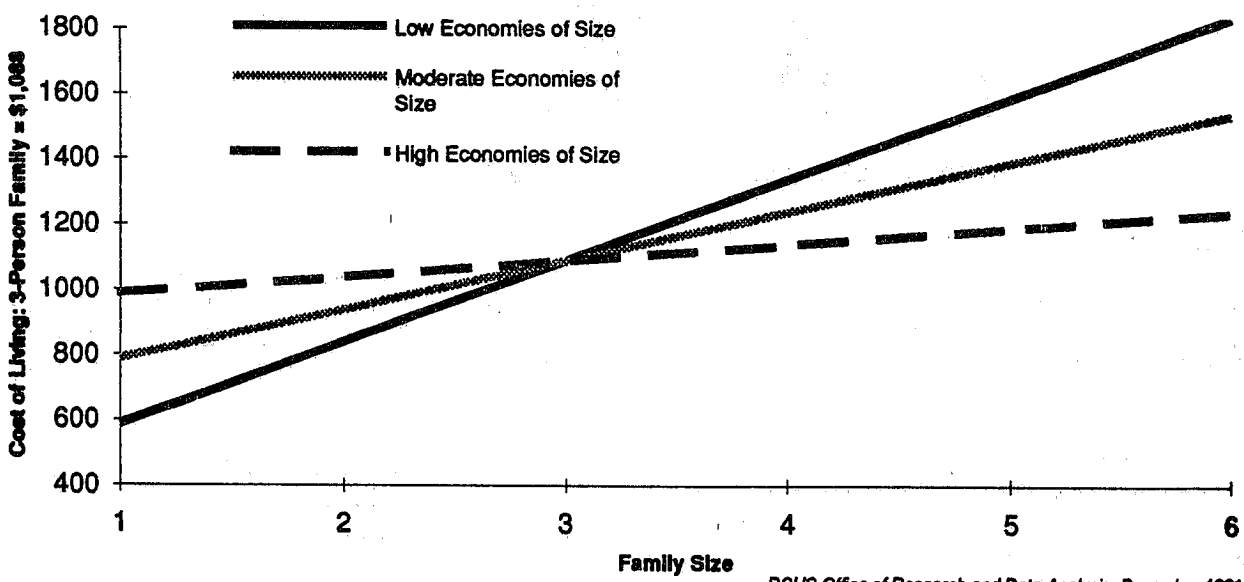
Larger families are also able to purchase greater quantities of items at lower per-unit costs, and they have more opportunities for waste-saving measures such as handing down clothing. Families that reduce per-person costs as family size increases are said to benefit from economies of scale (also called economies of size). Equivalence scales indicate different costs for various family sizes because, to varying degrees, they account for these economies of size.

The various items households use or consume may be subject to higher or lower economies of size depending on the item. Because an extra ironing board does not need to be purchased with the addition of each new family member, the cost savings for this item are large. Therefore, the use of an ironing board is subject to high economies of size. And so it is with many housewares. Food, on the other hand, must be purchased in ever larger quantities as family size increases. Though there are some savings in purchasing groceries in bulk, food is subject to relatively low economies of size. The overall economies of size that families experience depend on the economies of size in all the items they consume.

The following graph shows the cost of maintaining a minimum but adequate standard of living for different sized families based on three hypothetical equivalence scales with low, moderate, and high economies of size.

Figure 21.

The Effect of the Economies of Size Implied by Different Hypothetical Equivalence Scales on the Cost of Living for Families of Various Sizes



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The equivalence scale used to generate the solid line demonstrates low economies of size because every increase in family size increases costs considerably. At the other extreme, the dashed line shows very small cost increases for ever larger families. Therefore, the equivalence scale used to generate the dashed line carries with it an assumption of high economies of size. An equivalence scale that reflects true economies of size is almost certainly somewhere between these two extremes.

If, hypothetically, the shaded line represents true economies of size, it is clear how the choice of equivalence scales may effect the relative welfare of different sized families. If an equivalence scale that underestimates economies of size is used (the solid line), then costs to small families are underestimated and costs to large families are overestimated. Conversely, if an equivalence scale overestimates economies of size (the dashed line), then costs to small families are overestimated and costs to large families are underestimated. It is important to treat families of different sizes equitably, so the choice of an equivalence scale is important.

III. Types of Equivalence Scales

Equivalence scales can be derived in three ways: expertly, empirically, and subjectively.

Expert Scales:

These scales are implicit in income eligibility ceilings—when they vary according to family size—for social programs, official poverty lines, or grant standards. To estimate these scales, basic needs are determined by experts: how much food is adequate, what is adequate shelter, and so on. Different budgets can be designed for different sized families. Equivalence scales are then derived by comparing the differences in family budgets. Scales derived from the Bureau of Labor and Statistics' Family Budgets, Orshansky's, and Washington State's scale fall into this category.

Empirical Scales:

Using actual spending patterns of low-income households, equivalence scales are estimated by comparing how actual expenditures change in relation to household size. This method reflects true consumption patterns, but because it is based on actual consumption, there is no consideration of whether or not basic needs are being met. For instance, data from actual expenditures may include spending on substandard housing and inadequate nutrition. The Bureau of Labor and Statistics frequently updated Consumer Expenditure Survey is often used by economists to generate and analyze equivalence scales under various assumptions.

Subjective Scales:

Subjective equivalence scales are developed by surveying people on such questions as, *How much would you need to make ends meet?*(Minimum Income Question) or *How would you rate your ability to get by with an income of 'X' amount?*(Income Evaluation Question). With an appropriate battery of questions, a subjective equivalence scale can be derived by relating responses to family size.

Table 10 compares Washington State's equivalence scale (WA) with published scales from each of these three categories. The scales were applied to the this study's estimate of $1,088 per month for a family of three to show how each scale would estimate costs for various family sizes. Washington State's scale is shown in the first column.

Table 10.

COST OF LIVING FOR VARIOUS FAMILY SIZES USING DIFFERENT EQUIVALENCE SCALES: ALL START AT $1,088 FOR A FAMILY OF THREE*

	Expert							Empirical		Subjective											
Family Size	WA	Ave	Ors	BLS	Tax	Net1	Can	VS.	LM.	TG.	LR.	BNS	ISD	B-1	B-2	Bel*	Den*	Fra*	WGr*	UK*	Net*
	($$ Per Month)							($$ Per Month)		($$ Per Month)											
1	696	762	642	544	783	707	609	653	838	816	881	729	653	816	707	903	870	957	805	892	860
2	881	914	870	914	936	1012	816	838	892	979	990	947	968	979	881	1023	1012	1034	968	1012	990
3	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088	1088
4	1284	1208	1306	1360	1240	1186	1251	1306	1240	1186	1164	1208	1197	1175	1338	1142	1153	1121	1175	1142	1153
5	1469	1349	1534	1632	1404	1306	1458	1393	1425	1251	1240	1316	1284	1240	1567	1186	1208	1153	1251	1186	1219
6	1676	1480	1752	1893	1567	1404	1588	1458		1327	1295	1404	1349			1240	1251	1175	1295	1229	1282
7	1937		1980	2132		1523	1752	1523		1371		1491									
8	2132		2187	2372						1436		1556									

NOTES:

WA: Washington State equivalence scale.

Ave: Implicit in average AFDC payment by number of children--nationwide. (United States, 1989)

Ors: Orshansky's scale implicit in the US official poverty line. Based on food budgets for different family sizes.

BLS: Bureau of Labor & Statistics, scales derived from their family budgets. (Colasanto, et al, c.1983)

Tax: Implied by U.S. income tax schedules. (Ruggles, 1990)

Net1: Based on The Netherlands Statutory Minimum Income, 1975. (Van Praag, et al, 1982)

Can: Canada Low-income Cut-offs. (Statistics Canada, 1987)

VS: Based on analysis of consumer expenditures. (Van Der Gaag and Smolensky, 1980)

LM: Estimated demand using Conumer Expenditure Survey. (Lazear and Michael, 1980)

TG: Based on minimum income question, The Netherlands. (Theo Goedhart, 1977)

LR: Based on minimum income question, Boston Social Standards Survey. (Rainwater, 1974)

BNS: Wisconsin Basic Needs Study. (Colasanto, et al, c.1983)

ISD: Calculated from 1979 Income Survey Development Program--Minimum income question. (Danziger, et al, 1984)

B1-2: B-1--Subjective scale by Blaylock, forthcoming. B-2--Based on minimum food question. (Blaylock and Smallwood, 1986)

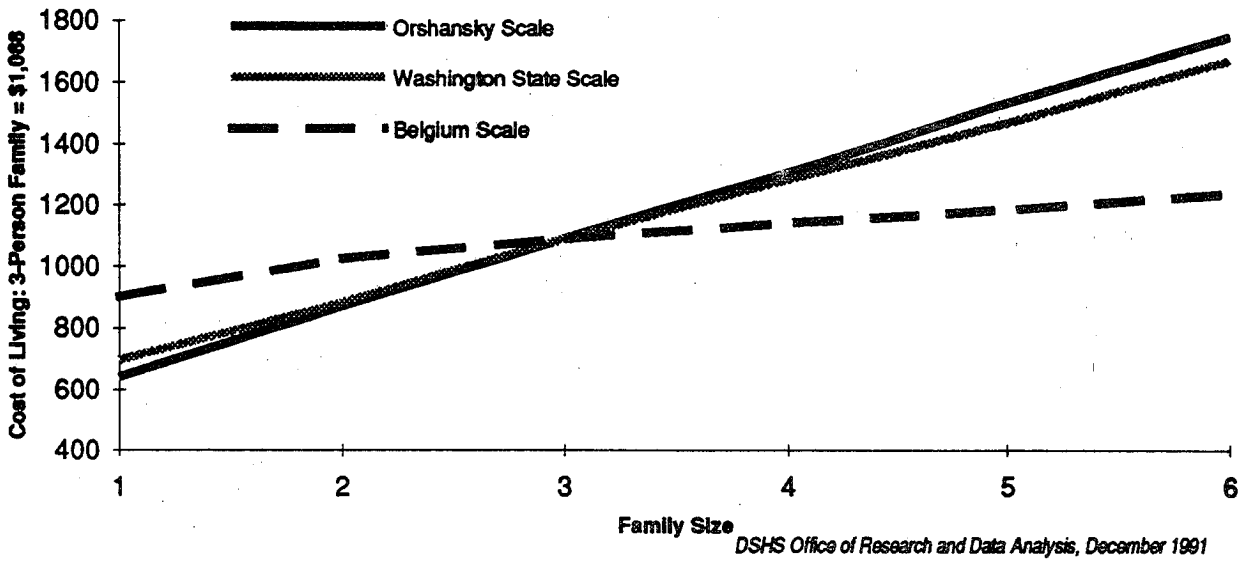
___* Based on income evaluation question in survey of listed countries(Belgium, Denmark, France, W. Germany, United Kingdom, and The Netherlands). (Van Praag, et al, 1982)

If the cost estimates from each equivalence scale were graphed in Figure 21, all would fit somewhere between the solid and dashed lines. Some would tend to be flat, like the dashed line that shows the result of high economies of size. A few would nearly approximate the solid line that results from low economies of size. Most would fall somewhere between the two extremes.

The following chart shows how three of the equivalence scales in Table 10 estimate costs for different sized families. The Orshansky scale closely approximates the low economies of size shown in Figure 21. The Belgian scale is very close to the high economies of size example. Washington State's scale, similar to Orshansky's, falls between the two.

Figure 22.

The Effect of the Economies of Size Implied by Three Equivalence Scales (Orshansky, Washington State, and Belgium) on the Cost of Living for Families of Various Sizes



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Without graphing them, an indication of the economies of size implied by a particular equivalence scale can be seen by examining the cost estimates for one- and five-person families in Table 10. A scale that results in relatively low cost estimates for one person and high cost estimates for a family of five indicates that the equivalence scale implies low economies of size. The reverse is true for scales demonstrating high economies of size.

For instance, the Bureau of Labor and Statistics (BLS) equivalence scale provides the lowest cost estimate for a one-person family and the highest cost estimate for a five-person family. Therefore, the BLS scale demonstrates the lowest economies of size of any of the equivalence scales shown. According to this scale, a family of five needs $1,088 more per month than the one-person household.

In general, the expert equivalence scales imply relatively low economies of size because they tend to provide lower cost estimates for small families and higher cost estimates for larger families. The Washington State scale lies approximately in the middle of the expert scales.

Subjective equivalence scales tend to provide relatively high cost estimates for small families and low estimates for large families. On average, they seem to imply high economies of size compared to the expert scales. The Belgium equivalence scale (Bel) has the highest economies of size of all the listed scales, with only $286 per month separating the basic needs of one person and the family of five.

The empirically derived equivalence scales fall somewhere between the expert and subjective scales in terms of their implied economies of size.

Conclusion

In comparing the costs each of the above equivalence scales estimates for various family sizes, it is clear that some scales favor small families, some favor large ones, and others are relatively neutral. Unfortunately, that is the limit of analysis. There are no objective criteria with which to judge the merits of any equivalence scale or groups of scales. After considerable research by many experts on the topic, true household equivalence scales remain unknown.

Because the market basket approach is often used to estimate expert equivalence scales, it makes sense to apply an expert scale to this market basket cost estimate. As shown in Figure 22, the Washington State scale is very similar to the widely used Orshansky scale. It is also similar to the other expert scales shown in Table 10. There is no reason to believe that the Washington State equivalence scale is inappropriate for this study.

Conclusion and Update Methodology 5

I. Conclusion

According to this study, as of June 1991, the cost of maintaining a minimum but adequate living for a family of three was $1,088 per month. This was $72 more than the Washington State 1991-92 cost-of-living standard of $1016 per month, which is based on the 1980 study market basket, the 1984 update, and annual updates with the CPI.

Comparing the Cost-of-Living Estimate with the Current Standard

The importance of periodically revising the contents of the market basket is apparent by comparing this study's cost estimate to the Washington State 1991-92 cost-of-living standard. Most of the major budget categories have changed. Table 11 shows how the cost of each component estimated in this study differs from the 1991-92 Washington State cost-of-living standard.

Table 11.

1991 Cost-of-Living Estimate vs 1991-92 Cost-of-Living Standard: Component-by-Component Comparison

Component	1991-92 Cost-of-Living Standard*	1991 Cost-of-Living Estimate	Difference
Housing	$ 397	$ 419	$ 22
Food	359	317	-42
Energy	55	84	29
Transportation	48	56	8
Household	70	87	17
Personal	77	77	0
Miscellaneous	10	48	38
Total	$1,016	$1,088	$ 72

*Source: Division of Income Assistance. Differs from the 1991-92 Cost-of-Living Standard ($1,014) because of rounding.

Note that each component in the Washington State standard, which is based on a four-person model family, was multiplied by .85 so that it could be compared to the three-person cost estimates of the 1991 study. The .85 conversion comes from the equivalence scales shown in Table 9. It is the ratio of the equivalence scale for a four-person family to a three-person family. Because there is no reason to believe that a change in family size causes an identical proportional change in each component, some comparability is lost. For instance, if a newspaper subscription is $12 for a family of four, it would be shown as a $10.20 ($12 x .85) component for a three-person family, though the newspaper still costs $12 no matter how few people read it. This is, however, the only available means of comparison.

Because of the conversion from a four-person family to a three-person family, the following comparisons of the component cost estimates from this study against the Washington State cost-of-living standard are only speculative:

- This study's housing cost estimate is $22 higher than the state standard primarily because the 1991 Cost-of-Living standard is a two-bedroom rental for a family of three, instead of a two-bedroom rental for a family of four.

- The new food cost estimate is $42 less than the state's current standard, but it is not because this study underestimated food costs. The new estimate ensures that the model family could afford a better diet than what is provided by the USDA Thrifty Food Plan. According to the USDA, as of June 1991, the Thrifty Food Plan for the model family cost $251. (The more nutritious USDA Low-Cost Food Plan cost $313 per month.) The food cost estimate from the 1980 study was 21 percent higher than the 1980 Thrifty Food Plan. This study's estimate is 26 percent higher than the 1991 Thrifty food Plan. The state standard, however, is 43 percent higher than the Thrifty Food Plan. One possibility is that the CPI component indices used by the state to update food costs may have overestimated price increases over the years.

- The new estimate of energy costs is $29 more than the state standard . That is due primarily to this study's different approach to converting average household energy consumption to fit the model family. Here, the three-person model family was assumed to use 92 percent of the energy consumed by the average household, while the 1985 study assumed it was 90 percent for a four-person family. The assumption of 92 percent used in this study was verified with 1980 census data Also, this study used a more complete representation of the state's power companies, including more of the higher-cost private utilities.

- The new estimate for minimum but adequate transportation costs is $8 more than the state standard. This is due mostly to the higher but more realistic estimate of essential mileage used in this study.

- The household component of the new cost-of-living estimate is $17 higher than the state standard. New items (a small appliance) and higher consumption rates (for instance, considerably more detergent) contributed to the increase in this component.

- The costs of minimum but adequate personal expenditures are the same.

- The miscellaneous budget is $38 higher than the state standard because a component for children and family activities equal to 3.5 percent of total expenses was added to the new estimate. It provides a modest allowance for educational toys and gifts for children, reading materials, and educational activities such as zoo visits.

The previous table suggests that the entire market basket study should be periodically repeated. The annual process of updating accounts for price changes over time, but does not account for changes in living standards. Revising the contents of the market basket is an opportunity to incorporate what is currently held to be a minimum but adequate standard of living. It is also an opportunity to incorporate more recent and accurate measures of consumption.

II. Update Methodology

To keep the cost-of-living estimate in line with changing price levels, it must be updated once a year. It is not necessary to price all items in the market basket to arrive at a reasonable update. While it is advisable to periodically re-evaluate the market basket, the cost of living can be adjusted annually for inflation by updating it with the Consumer Price Index.

General Update Methodology

Each component in the market basket is updated annually according to the Bureau of Labor and Statistics', U.S. City Consumer Price Index for all Urban Consumers (CPI). The items priced in this study are divided into 22 components and each is updated with the appropriate CPI component index. The updated costs of the market-basket components are then summed, yielding a new updated cost-of-living estimate. To update the cost of living, it is necessary to forecast inflation into half of the upcoming year. If forecasts of the CPI are unavailable for this purpose, a forecast of the Implicit Price Deflator is used.

The advantage of the update procedure is that it ensures the annual updates are based on inflation for only the items included in the market basket. It also incorporates the weights inherent in the market basket, instead of the weights used to calculate the overall CPI—which is not based on the spending patterns of low-income consumers.

Housing is the only component in the market basket that may be updated differently. Housing costs should be updated by replacing the previous housing cost estimate with HUD's most recent fair market rents -- minus their energy allowance. This would depart from previous update methods which used the housing index of the CPI to update the housing component in the cost-of-living market basket. The advantage is that HUD provides its fair market rents for every county in the state.

While housing is strongly influenced by local economic conditions, the CPI would only reflect national trends in housing costs. Though not to perfection, HUD does incorporate local economic trends into their rent estimates--at least they regularly do so for large metropolitan areas. HUD has also begun to regularly survey rents in rural counties to estimate annual rent increases. This should eliminate much of the bias built into HUD's update methodology that has previously overestimated rents in rural counties. The weighted average of all county fair market rents (minus HUD's energy allowance) will be the new housing component of the cost of living. An updated total cost of living standard will result when the new housing estimate is added to the other components that were updated with the CPI.

Update Options

The U.S. CPI is used to update the cost of living because it is the best available measure of price changes over time. A Seattle-Tacoma index is published, but is based on small samples and has a larger margin of error than the national index. (United States, 1983). Another measure of price change is the Implicit Price Deflator (IPD). This index, however, is not consistent with the market basket methodology used in this study because the proportions of goods and services used to calculate of the IPD are allowed to change over time. Components of the CPI are occasionally revised, but they are essentially held constant from one period to the next. The IPD is used for updating the cost of living, but only as a short range forcaster of inflation.

Effectiveness of the Update Methodology

The annual update methodology was evaluated in the 1984 cost-of-living update, and it was shown to be accurate (Wolfhagen, 1984). Such an evaluation is not possible in this study because the contents of the market basket have changed.

Appendix A

The Washington Food Plan—Four Weeks of Meal Menus

Week I

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Meal 1	Orange Juice Home Fries Sausage Milk	Apple Juice Scr Eggs Toast	Apple Juice RTE Cereal Toast Milk	Oatmeal w/ Raisins Toast Milk	Grape Juice RTE Cereal Milk	Cn Pears Tst Bagels w/ Cream Cheese Milk	Tomato Juice French Toast Bacon Milk
Meal 2	PBJ Sand.on WW Bread Chick /Veg Soup Apple Milk	Macaroni & Cheese w/ tomato Green Salad Banana Beverage	Tuna Salad Sand. (on White Bread) Carrot Sticks Gingersnaps Beverage	Veg. Beef Soup Cheese on Crackers Zucchini Fruit Pie Beverage	Cheese Sand. (on WW Bread) Apple Milk	Fish Sandwich French Fries Green Salad Beverage	Tacos with Refried Beans, cheese, lettuce, tomato. Apple slices
Meal 3	Hamburger Fried Potatoes Cream Corn Pudding Beverage	Baked Chicken & Rice Casserole Green Beans Dinner Roll Milk	Spinach Lasagna Garlic Bread Yellow Squash Green Salad Beverage	Sweet/Sour Chicken Pork Fried Rice Carrot/Raisin Salad Oranges Beverage	Pizza, Cheese & Meat w/ tom., Green Salad Mixed Fruit Juice	Chicken pie w/ Vegetables Green Salad w/ tom.,gr. pepper Corn Bread Milk	Spanish Macaroni Coleslaw Cornbread Baked Pear Milk
Snacks	Peanut Butter Cookies Tomato Juice	Cheese on Wheat Crackers Apple Juice	Toasted Bagel w/ Peanut Butter Juice	Dorrito Chips Soda	Popcorn Koolade	Carrots	Oranges Graham Crackers

Week II

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Meal 1	Orange Juice French Toast Ham Milk	Apple Sauce RTE Cereal Milk	Orange Juice Fried Egg Muffin Home Fries	Bananas Hot Cereal Milk	Peaches Toast w/ Peanut Butter Milk	Orange Juice Hot Cereal Toast Milk	Apple Sauce Pancakes w/ bu. & syrup Bacon Milk
Meal 2	Tomato Soup (Prepared w/ milk) Crackers & Ch Beverage	Frankfurters on Bun Fries Beverage	Bean Soup Corn Bread Muffin Green Salad Beverage	Bean and Meat Burrito Beverage	Chicken w/ Rice & Tomatoes Greens Juice	Pork with Rice Green Vegetables Mixed Fruit Juice	Cheese Enchilada Refried Beans Mixed Vegetables Beverage
Meal 3	Hamburger Fried Potatoes Green Salad Apple Pie Beverage	Baked Chicken Broccoli Baked potato Dinner Roll Milk	Fish Sticks Scalloped Potatoes Corn Fruit Cocktail Beverage	Pizza, meat and cheese. Green Salad Soda	Taco Salad w/ Salsa Milk	Sweet/Sour Chicken w/ Rice & Veg. Carrot/Pineapple Salad Beverage	Beef Burrito w/ Rice and Beans Broccoli Custard Beverage
Snacks	Fruit Cocktail Cottage Cheese Soda	Celery and Carrot Sticks Raisins Koolade	Graham Crackers Milk	Peanut Butter on English Muffin Juice	Cookies Milk	Cheese on Wheat Crackers Soda	Grapes

Week III

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Meal 1	Orange Juice Biscuits & Gravy Sausage Beverage	Apple Juice Tst Bagel w/ Cr. Cheese Milk Beverage	Pears Ralston Toast w/ marg. & jam	Peaches Rice w/ Scr. Egg Beverage Homefries	Orange Juice Bran Muffin toasted w/ marg. & ja	Fruit Cocktail Cr. of Wheat made w/milk bu. & br. sugar Beverage	Tomato Juice Fried Egg w/ English Muffin Sausage
Meal 2	Rice & Pinto Beans Greens Milk	Cheese & Tomato Sandwich Apple Slices Milk	Hamburger w/ ch., tom., let. Fries Shake	Noodle/Veg Mix Chicken Beverage	Egg Salad Sand. (on WW bread) Carrot Sticks Milk	Luncheon Meat Sand. w/let., tom., mayo. (on WW bread) Milk	Split Pea Soup Cheese on br. Cookies Beverage
Meal 3	Chicken Ench. Refried Beans Rice w/ onions Beverage	Teriyaki Chicken Cooked Carrots Rice Brownie Beverage	Turkey Casserole Green Beans Dinner Roll Beverage	Pork Fried Rice w/ vegetables Beverage	Hamburger French Fries Baked Beans -Molasses Pudding Beverage	Chili Con Carne w/ beans, mac & Ch. Green Salad Dinner Roll Fruit Salad Beverage	Span. Mac. Coleslaw Cornbread Ice Cream Beverage
Snacks	Cheese & Crackers Koolade	Peanut Butter on Celery Apple Juice	Orange Slices Graham Crackers	Cinnamon Toast Milk	Cheese and Saltines Koolade	Cookies Milk	Banana Juice

Week IV

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Meal 1	Orange Juice Soft Ck Eggs on Toast Ham Milk	Apple Juice Cr. of Wheat made w/milk, bu. & br sugar Beverage	Grapefruit Half Cinnamon Roll Milk	Banana Cheese & Veg. Omelet Toast Beverage	Peaches Coffee Cake Sausage Milk	Fruit Cocktail Yogurt RTE Cereal	Grapefruit Half Pancakes w/ bu. & syrup Bacon Beverage
Meal 2	Pizza Chips Soda	Bologna Sandwich w/ tom, let, mayo. (on white bread) Pickles Cookies Beverage	Fried Chicken Mashed potato Green Salad Milk	Egg Salad Sand. on Wheat Bread Carrot and Celery Sticks Beverage	Turkey/Cheese Sand. w/ let., tom, mayo. Pickle Cookie Milk	Tuna Salad Sand. on WW bread Carrot Sticks Milk	Tomato Soup P.B. Sand. Green beans Beverage
Meal 3	Baked Chicken Ck Carrots Rice Beverage	Beef Stew Sliced Tomatoes Corn Bread Ice Cream Beverage	Fish Sticks French Fries Green Salad Fruit Cocktail Beverage	Pizza w/ ch, meat, tom.,Gr. Peppers Carrot Sticks Milk	Banquet Fried Chicken Green Beans Fried Potatoes Cake Beverage	Tuna Noodle Casserole w/ tomato Steamed Spinach Dinner Roll Pudding Beverage	Spaghetti w/ Meatballs Green Salad Garlic Bread Milk
Snacks	Cookies Koolade	Raisins/PB on celery	Soda	Apple Crackers Juice	Cheese and Crackers	Peanut Butter on Crackers Koolade	Carrots

Appendix B

Food Items and Consumption Rates from the Washington Food Plan

ITEM	DESCRIPTION	CONSUMPTION RATE MONTHLY	YEARLY
MEATS AND ALTERNATIVES			
1101	BEEF, GROUND, REGULAR, /LB.	5.0000	60.0000
1102	BEEF, POT ROAST, BLADE/CHUCK, /LB.	2.0000	24.0000
1103	BEEF, CHUCK STEAK, BONELESS, /LB.	2.0000	24.0000
1104	PORK SHOULDER BUTT, BONE-IN LB.	2.0000	24.000
1105	HAM, WHOLE BONELESS, /LB.	.5000	18.0000
1106	BACON, 1 LB.	1.0000	12.0000
1107	PORK SAUSAGE, LINK, SMALL, /LB	2.5000	30.0000
1108	WIENERS, ALL MEAT, 1 LB	0.7500	9.0000
1109	LUNCH MEAT, SLICED, 12 OZ.	1.1667	14.0000
1110	CHICKEN, FRYER, WHOLE, /LB.	4.0000	48.0000
1111	TURKEY, / LB.	0.2000	24.0000
1112	PORK AND BEANS, CANNED, 8 OZ.	1.0000	12.0000
1113	KIDNEY BEANS, CANNED, 8.75 OZ	0.9143	10.9700
1114	BLACKEYED PEAS, CANNED, 15 OZ. CAN	0.5000	6.0000
1115	BEANS, BABY LIMA, DRY, 2 LBS.	0.2500	3.0000
1116	BEANS, SMALL WHITE, DRY, 1 LB.	0.6250	7.5000
1117	BEANS, PINTO DRY, 1 LB.	0.3750	4.5000
1118	PEAS, SPLIT, DRY, 1 LB.	0.1875	2.2500
1119	PEANUT BUTTER, 36 OZ.	1.0000	12.0000
1120	FILLET OF RED SNAPPER, /LB	1.0000	12.0000
1121	TUNA FISH, CHUNK, 6.125 OZ.	1.7960	21.5500
1122	FISH STICKS, FROZEN, 20 OZ.	0.7500	9.0000
1123	MILK, FLUID 1%, 1/2 GAL.	1.2500	15.0000
1124	MILK, FLUID 2%, 1/2 GAL	1.7500	21.0000
1125	MILK, DRY, NON-FAT, 20 QT.	0.5000	6.0000
1126	EGGS, LARGE, GRADE AA, 1 DOZ.	4.5000	54.0000
1127	ICE CREAM, 1/2 GAL.	1.0000	12.0000
1128	CHEESE-TILLAMOOK, MED. CHEDDAR, 2 LBS.	2.0000	24.0000
1129	COTTAGE CHEESE, 1 LB.	0.5000	6.0000
1130	CREAM CHEESE, 3 OZ	2.0000	24.0000
1131	YOGURT, 8 OZ.	3.0000	36.0000
1132	CHICKEN, ASSORTED PIECES, /LB	4.0000	48.0000
1133	CHILE CON CARNE, 16 OZ. CAN	1.0000	12.0000
1134	PIZZA, FROZEN, 15 " ROUND, CHEESE & MEAT	1.5000	18.0000
1135	CHICKEN POT PIE, /EA.	3.0000	36.0000
1136	CREAM OF MUSHROOM SOUP, REG. CAN	1.0000	12.0000
1137	COD FILLETS, / LB.	0.9375	11.2500
1138	CHEESE, MOZZ., 1 LB. LOAF	0.5000	6.0000
1139	PRE-PREPARED FROZEN FRIED CHICKEN, /28 OZ. PKG., ASORT	1.0000	12.0000
1140	RAMEN-TYPE NOODLES, /PKG.	1.0000	12.0000
VEGETABLES			
1201	CABBAGE, FRESH, /LB.	4.1320	49.5800
1202	CARROTS, FRESH, / LB	3.6155	43.3900
1203	CELERY, FRESH, 30s, /BUNCH (2 LBS)	1.5495	18.5900
1204	LETTUCE, LEAF, /BUNCH (1.25 LBS)	1.6528	19.8300
1205	LETTUCE, ROMAINE, /HEAD (.75 LBS)	2.7547	33.0600
1206	ONIONS, YELLOW, LOOSE, /LB	2.6858	32.2300
1207	POTATOES, #1s, (10 LB. BAG)	1.5495	18.5900
1208	CUCUMBERS, OUTDOOR, /CUKE	2.0660	24.7900
1209	GREEN PEPPERS, LARGE, /LB. (1 = 1/4 LB.)	0.7748	9.3000
1210	GREENS (COLLARDS, TURNIPS, MUSTARD), /BUNCH	2.5825	30.9900
1211	PICKLES, DILL, 22 OZ.	0.5000	6.0000
1212	GREEN BEANS, 16 OZ. CAN	1.5625	18.7500
1213	GREEN BEANS, FROZEN, 9 OZ	2.7780	33.3400
1214	REFREID BEANS, 16 OZ. CAN	0.5000	6.0000
1215	MIXED VEGETABLES, FROZEN, 10 OZ.	4.8000	57.6000
1216	SAUERKRAUT, 8 OZ. CAN	1.0000	12.0000
1217	BEETS, SLICED, 8.75 OZ. CAN	0.9143	10.9700
1218	BAKED BEANS, 8 OZ. CAN	1.0000	12.0000
1219	BROCCOLI, FROZEN, 10 OZ.	2.0000	24.0000
1220	CORN, FROZEN, 10 OZ.	0.7000	8.4000

	ITEM DESCRIPTION	CONSUMPTION RATE MONTHLY	YEARLY
1221	SPINACH, FROZEN, 10 OZ.	0.7000	8.4000
1222	FRENCH FRIED POTATOES, FROZEN, 2 LBS	0.6250	7.5000
1223	PEAS, FROZEN, 10 OZ.	1.5000	18.0000
1224	CORN, CREAMED, 16.5 OZ. CAN	1.0000	12.0000
1225	LEMONS, MEDIUM, /EACH	2.0000	24.0000
1226	SQUASH, ZUCCHINI, /LB. (1 = 1/2 LB.)	1.5495	18.5900
1227	TOMATO SOUP, 10.5 OZ. CAN	3.0476	36.5700
1228	BROCCOLI, FRESH, /BUNCH	2.0000	24.0000
1229	SPINACH, FRESH, / BUNCH	1.0000	12.0000
FRUITS			
1301	GRAPES, FRESH, /LB. (1 BUNCH = 1 LB.)	1.0330	12.4000
1302	TOMATOES, FRESH, /LB	3.0990	37.1900
1303	APPLES, RD DEL, YELLOW, GRNY SMITH OR MAC'S, FRESH, /LB	8.2640	99.1700
1304	BANANAS, FRESH, /LB.	5.1650	61.9800
1305	ORANGES, LOOSE, FRESH, /LB.	4.4419	53.3000
1306	GRAPEFRUIT, FRESH, /LB. (1 EA. = 1 LB.)	3.0000	36.0000
1307	TOMATOES, WHOLE, 16 OZ. CAN	3.0000	36.0000
1308	TOMATOES, STEWED, 16 OZ. CAN	2.0000	24.0000
1309	TOMATO SAUCE, 8 OZ. CAN	4.0000	48.0000
1310	TOMATO PASTE, 6 OZ. CAN	2.6667	32.0000
1311	PEACHES, 29 OZ. CAN	3.0000	36.0000
1312	PEARS, 16 OZ. CAN	1.5000	18.0000
1313	FRUIT COCKTAIL, 16 OZ. CAN	3.6250	43.5000
1314	APPLESAUCE, 16 OZ. CAN	2.0000	24.0000
1315	PINEAPPLE, SLICED, 20 OZ. CAN	1.1250	13.5000
1316	TOMATO JUICE, 46 OZ. CAN	2.0000	24.0000
1317	ORANGE JUICE, FROZEN CONCENTRATE, 12 OZ.	3.0000	36.0000
1318	GRAPE JUICE, FROZEN CONCENTRATE, 12 OZ.	2.0000	24.0000
1319	VEGETABLE JUICE COCKTAIL, 11.5 OZ. CAN	1.0435	12.5200
1320	APPLE JUICE, FROZEN CONCENTRATE, 12 OZ.	2.0000	24.0000
1321	RAISINS, 15 OZ.	1.0000	12.0000
1322	PEARS, FRESH, /LB.	1.0000	12.0000
1323	PIE CHERRIES, 30 OZ. CAN	0.3333	4.0000
1324	CRAN-APPLE JUICE, 48 OZ. BOTTLE	1.0000	12.0000
STAPLE ITEMS			
1401	BUTTER, 1 LB.	1.5000	18.0000
1402	MARGARINE, 1 LB.	1.5000	18.0000
1403	SHORTENING, 3 LB.	0.5000	6.0000
1404	SALAD DRESSING, MAYO-TYPE, 32 OZ.	0.7500	9.0000
1407	SALAD DRESSING, FRENCH-TYPE, 16 OZ.	1.5000	18.0000
1406	SUGAR, GRANULATED, 5 LBS.	0.6000	7.2000
1407	HONEY, 16 OZ.	0.3125	3.7500
1408	SUGAR, BROWN, 1 LB.	2.0000	24.0000
1409	GELATIN, FLAVORED, 3 OZ.	1.0000	12.0000
1410	PUDDING MIX, LARGE (5.1 OZ.)	3.1373	37.6500
1411	STRAWBERRY JAM, 32 OZ.	0.7500	9.0000
1412	KOOLADE, DRY, SWEETENED MIX, 30 OZ.	0.6667	8.0000
1413	SYRUP, MAPLE, 24 OZ	0.6667	8.0000
1414	MOLASSES, 12 OZ.	0.2500	3.0000
1415	COFFEE, GROUND, 39 OZ.	0.4103	4.9200
1416	EA, 100 BAGS	0.5000	6.0000
1417	VINEGAR, CIDER, 32 OZ.	0.0938	1.1300
1418	MEAT TENDERIZER, 3.5 OZ	0.2857	3.4300
1419	BAKING SODA, 1 LB.	0.0313	0.3800
1420	BAKING POWDER, 7 OZ.	0.1914	2.3000
1421	CORN STARCH, 1 LB	0.0838	1.0100
1422	BOUILLON, CHICKEN, 1.5 OZ.	0.1800	2.1600
1423	BOUILLON, BEEF, 1.5 OZ.	0.1800	2.1600
1424	WORCESTERSHIRE SAUCE, 10 OZ	0.0840	1.0100
1425	CATSUP, 32 OZ.	0.3334	4.0000
1426	SOY SAUCE, 10 OZ.	0.0840	1.0100

	ITEM DESCRIPTION	CONSUMPTION RATE MONTHLY	YEARLY
1427	SALSA, 12 OZ.	0.5000	6.0000
1428	PICKLE RELISH, 11 OZ.	0.1818	2.1800
1429	MUSTARD, PREPARED, 9 OZ.	0.2500	3.0000
1430	TABASCO SAUCE, 2 OZ.	0.5000	6.0000
1431	BARBECUE SAUCE, 28 OZ	0.1071	1.2900
1432	BREAD CRUMBS, 10 OZ.	0.2000	2.4000
1433	VANILLA, IMITATION, 4 OZ	0.2500	3.0000
1434	SALT, IODIZED, 26 OZ	0.0577	0.6900
1435	PEPPER, BLACK, GROUND, 8 OZ	0.0625	0.7500
1436	OREGANO, GROUND, .65 OZ	0.0462	0.5500
1437	CHILI POWDER, 4 OZ.	0.0750	0.9000
1438	CINNAMON, GROUND, 4 OZ.	0.0500	0.6000
1439	ONION POWDER, SMALL (.9 OZ.)	0.3333	4.0000
1440	ARLIC POWDER, 2.5 OZ.	0.0800	0.9600
1441	SAGE, GROUND, .5 OZ	0.0300	0.3600
1442	THYME, GROUND, .87 OZ.	0.0575	0.6900
1443	NUTMEG, GROUND, 1.37 OZ.	0.0584	0.7000
1444	BASIL, SMALL (.25 OZ.)	0.2400	2.8800
1445	CUMIN (.65 OZ.)	0.0923	1.1100
1446	CAYENNE PEPPER, SMALL (.7 OZ.)	0.0174	0.2100
1447	LARD, 1 LB.	0.3750	4.5000
1448	MAYONNAISE, 8 OZ	0.6250	7.5000
1449	SODA, REGULAR, /2 LITER BOTTLE	3.7870	45.4400
1450	CHOCOLATE CHIPS, /LB	1.0000	12.0000
1451	kS CHOCOLATE, /PKG	1.0000	12.0000
1452	DRY ACTIVE YEAST, PKG OF 3 OZ.	1.0000	12.0000
1453	TARTER SAUCE, 8 OZ.	0.7500	9.0000
1454	PAPRIKA, .75 OZ.	0.0667	0.8000
BREADS AND CEREAL			
1501	FLOUR, WHITE ENRICHED, 5 LB. BAG	0.3000	3.6000
1502	FLOUR, WHOLE WHEAT, 5 LB. BAG	0.3000	3.6000
1504	CREAM OF WHEAT, 28 OZ. PKG.	0.7500	9.0000
1505	mCARONI, ELBOW, 22 OZ. PKG.	0.9091	10.9100
1506	RICE, LONG GRAIN WHITE, 32 OZ. PKG.	1.0000	12.0000
1507	RICE, LONG GRAIN BROWN, 28 OZ. PKG.	1.14291	3.7100
1508	GRITS, 9.6 OZ. PKG	0.5208	6.2500
1509	TORTILLAS, 8" DIAM., 12/PKG.	1.0000	12.0000
1510	HOTDOG BUNS, PKG. OF 8	1.0000	12.0000
1511	POPCORN, 2 LB. PKG.	0.3750	4.5000
1512	DORRITO CHIPS, 15 OZ. PKG	0.5333	6.4000
1513	CRACKERS, WHEAT TYPE, 16 OZ.	2.0000	24.0000
1514	PASTA, SPAGHETTI, 12 OZ. PKG	1.0000	12.0000
1515	PASTA, LASAGNE, 12 OZ. PKG.	1.0000	12.0000
1516	CORNMEAL, 5 LBS.	0.1000	1.2000
1517	BISQUICK, 40 OZ. PKG.	0.2500	3.0000
1518	MUFFIN MIX, 7 OZ.	2.0000	24.0000
1519	PANCAKE MIX, COMPLETE, 32 OZ.	0.5000	6.0000
1520	CAKE MIX, 1 PKG.	2.0000	24.0000
1521	CHICKEN-RICE SOUP, 10.5 OZ.	1.5238	18.2900
1522	MUFFIN MIX-CORN, 8.5 OZ	4.0000	48.0000
1523	BEAN SOUP WITH BACON, 11.5 OZ.	1.0000	12.0000
1524	VEGETABLE SOUP WITH BEEF, 10.5 OZ.	2.3810	28.5700
1525	BREAD, WHITE, 24 OZ. LOAF	3.5000	42.0000
1526	BREAD, WHEAT, 24 OZ. LOAF	3.5000	42.0000
1527	BREAD, FRENCH, 1 LB. LOAF	1.0000	12.0000
1528	BISCUITS, REFRIGERATOR, 7.5 OZ. PKG	1.0000	12.0000
1529	SALTINE CRACKERS, 1 LB. PKG.	1.0000	12.0000
1530	GRAHAM CRACKERS, 1 LB. PKG.	1.0000	12.0000
1531	COOKIES, OATMEAL W/ CHOCOLATE CHIPS, 16 OZ. PKG., 24 CT	1.0000	12.0000
1532	ENGLISH MUFFINS, WHOLE WHEAT/RASIN PKG. OF 6	1.1667	14.0000
1533	ALL-BRAN CEREAL, 13.5 OZ. PKG.	0.5797	6.9600
1534	GRAPE NUTS CEREAL, MED. PKG.	1.0000	12.0000
1535	HAMBURGER ROLLS, PKG. OF 8	1.0000	12.0000

ITEM	DESCRIPTION	CONSUMPTION RATE MONTHLY	YEARLY
1536	BAGELS, PKG. OF 6	1.3333	16.0000
1540	SHREDDED WHEAT CEREAL, 10 OZ. BOX	1.0000	12.0000
1541	CHEERIOS CEREAL, 15 OZ. BOX	1.0000	12.0000
1542	WHEATIES CEREAL, 18 OZ. BOX	1.0000	12.0000
1543	40% BRAN FLAKES CEREAL, 16 OZ. BOX	1.0000	12.0000
1544	WHEAT CHEX CEREAL, 23.5 OZ. BOX	1.0000	12.0000
1545	NATURE VALLEY GRANOLA CEREAL, 13 OZ. BOX	1.0000	12.0000
1546	CAKE MIX, COFFEE CAKE, /PKG.	0.5000	6.0000
1547	CAKE MIX, YELLOW WITH CHOC. FROSTING, /PKG.	1.0000	12.0000
1548	ROLLS, ENRICHED, COMMERCIAL CLOVERLEAF, /PKG. 36 CT	0.5556	6.6700
2100	HUD FMR FOR 2 BEDROOM APT. - $94 ENERGY ALLOWANCE	1.0000	12.0000
2210	HEATING COSTS—FUEL OIL, NATURAL GAS, ELECTRICITY	1.0000	12.0000
2211	OTHER ENERGY COSTS—FUEL OIL, NATURAL GAS, ELECTRICITY	1.0000	12.0000
3001	STEEL-BELTED RADIAL ALL WEATHER TIRE (175 7013)	0.0833	1.0000

Appendix C

Where food prices were collected for each sample area

Appendix C

The following table shows how and where food prices were collected for each sample area.

GROCERY PRICE DATA COLLECTION: SOURCES

Area	CITIES PRICED	ITEMS PRICED	Store #1	Store #2
1—King	Seattle	Sample	List—JPS	List—JPS
2—Thurston	Tacoma	All Items	List—JPSt	List—JPS
3—Whatcom	Bellingham	Sample	Visit—JPS	Visit—JPS
4—Rural West	Port Angeles	Sample	Visit—Staff	Visit—Staff
	Aberdeen	Sample	Visit—Staff	Visit—Staff
	Kelso	Sample	Visit—JPS	Visit—JPS
5—Vancouver	Vancouver	Sample	Visit—JPS	Visit—JPS
6—Spokane	Spokane	Sample	List—JPS	List—JPS
7—Tri-Cities	Richland	Sample	List—JPS	Visit—JPS
	Yakima	Sample	Visit—Staff	Visit—Staff
8—Rural East	Clarkston	Sample	Visit—Staff	Not Available
	Ephrata	Sample	List—JPS	Visit—JPS
	Wenatchee	Sample	Visit—Staff	Visit—Staff
	Colville	Sample	Visit—Staff	Visit—Staff

Key:
Items Priced: Refers to the basket of items priced in a sample county: sample of 30 or all items.
Store #1: a popular chain grocery store priced in every sample county.
Store #2: another popular grocery store priced in most counties. When not available in some locations, another comparably-sized store was priced.
List—JPS: Data collected from Jensen's published price lists.
Visit: Refers to data collected by visiting stores in sample counties. Visits were by project staff or Jensen (JPS) employees.

Appendix D

Household and Personal Items and Replacement Rates

ITEM	DESCRIPTION	REPLACEMENT RATE MONTHLY	YEARLY
TRANSPORTATION			
3002	10/30 OIL (BY QUART) (4 QUARTS PER OIL CHANGE)	0.6667	8.0000
3004	STATE REGISTRATION FEE + YEARLY EXCISE TAX	0.0833	1.0000
3005	REGULAR UNLEADED GASOLINE (BY GALLON) (20 MPG)	0.0500	0.6000
3006	REPAIRS AND MAINTENANCE	1.0000	12.0000
3007	DRIVER'S LISCENSE RENEWAL FEE (EVERY FOUR YEARS	0.0208	0.2500
3008	MOTOR VEHICLE EMMISSIONS TEST FEE	0.0417	0.5000
3009	OIL FILTER (PZ9A)	0.1667	2.0000
HOUSEHOLD SUPPLIES			
4101	POT SCRUBBER, PLASTIC BALL-TYPE	0.0833	1.0000
4102	PAPER TOWELS, 100 SHEETS	0.5000	6.0000
4103	PAPER NAPKINS, 1-PLY, PKG. OF 140	1.8333	22.0000
4104	ALUMINUM FOIL, 25 SQ. FT.	0.5000	6.0000
4105	PLASTIC WRAP, 100 SQ. FT.	0.5000	6.0000
4106	CELLULOSE SPONGE, 3-1/2" X 4-1/2" X 1/2", PKG OF2	0.1667	2.0000
4107	LIGHT BULBS, SOFT WHITE, 60 WATT, PKG. OF 4	0.1667	2.0000
4108	LIGHT BULBS, SOFT WHITE, 100 WATT, PKG OF 4	0.1667	2.0000
4109	BLEACH, LIQUID, 64 OZ	0.3333	4.0000
4110	LAUNDRY DETERGENT, POWDERED, 48 OZ., RECNZ'D NAME BRAND	2.0000	24.0000
4111	DISHWASHING DETERGENT, LIQUID, 22 OZ, RECNZ'D NAME BRND	1.0000	12.0000
4112	SUDSY AMMONIA, 28 OZ.	0.2500	3.0000
4113	POWDERED CLEANSER, 14 OZ., RECOGNIZED NAME BRAND	0.6667	8.0000
4114	FLOOR WAX, LIQUID, 27 OZ.	0.0833	1.0000
4115	STAIN REMOVER, LIQUID, 22 OZ. SPRAY BOTTLE	0.1667	2.0000
4116	DRAIN CLEANER, GRANULAR, 26 OZ.	0.0833	1.0000
4117	OVEN CLEANER, AEROSOL, 16 OZ. NET, RECNZ'D NAME BRAND	0.1667	2.0000
SEWING SUPPLIES			
4210	VELCRO, 30 INCHES	0.0714	0.8600
4211	SAFETY PINS, PKG. OF 50	0.0417	0.5000
4212	PINS, RUST PROOF, PKG. OF 250	0.0275	0.3300
4213	THREAD, COTTON-COVERED POLYESTER, 200 YDS	0.3646	4.3800
4214	PATCHES, IRON-ON, DENIM, 5 1/4" X 5 1/4", PKG. OF4	0.1042	1.2500
4215	MENDING TAPE, IRON-ON, 1-1/4" X 60"	0.0972	1.1700
4216	SNAPS, PKG. OF 24	0.0278	0.3300
4217	NEEDLES, SHARPS, #3-#9 ASSTD., PKG. OF 30	0.0556	0.6700
HOUSEHOLD MANAGEMENT			
4220	BALLPOINT PEN, MEDIUM POINT, PKG. OF 10	0.0833	1.0000
4221	PENCILS, #2, PKG. OF 7	0.1667	2.0000
4222	STATIONERY PAD, 9" X 6", 100 SHEETS	0.1500	1.8000
4223	ENVELOPES, 9-1/2" LONG, PKG. OF 50	0.1667	2.0000
4224	CELLOPHANE TAPE, 1/2" X 1100"	0.0833	1.0000
4225	WHITE GLUE, CASEIN, 4 OZ.	0.0833	1.0000
4226	POSTAGE, STAMPS, ROLL OF 100	0.1250	1.5000
4231	ASHER LOAD AT A SELF-SERVICE LAUNDROMAT	17.3333	208.0000
4232	DRYER LOAD (30 MINUTES) AT A SELF SERVICE LAUNDRY	17.3333	208.0000
4233	DRY CLEANING—1 WOOL BLEND LADIES SUIT & 1 RAYON BLOUSE	0.0833	1.0000
4241	CHECKING ACCOUNT FEE (10 CHECKS)	1.0000	12.0000
4242	CHECK PRINTING FEE (200 CHECKS)	0.0500	0.6000
4250	TELEPHONE — SUBSIDIZED BY WTAP	1.0000	12.0000
HOUSEWARES			
4301	SALT & PEPPER SHAKERS, PLASTIC	0.0208	0.2500
4302	PITCHER W/LID, PLASTIC, 2 QT.	0.0208	0.2500
4303	COLLANDER, FOOTED, METAL	0.0167	0.2000
4304	TUMBLERS, PLASTIC, 6 OZ	0.3333	4.0000
4305	RUBBER SPATULA (BOWL SCRAPER)	0.0417	0.5000
4306	POTATO PEELER, STAINLESS STEEL	0.0167	0.2000

ITEM	DESCRIPTION	REPLACEMENT RATE MONTHLY	YEARLY
4307	GRATER, STAINLESS STEEL	0.0142	0.1700
4308	PARING KNIFE, STAINLESS STEEL	0.0417	0.5000
4309	KNIFE, 8" BLADE	0.0417	0.5000
4310	MIXING SPOON, PLASTIC	0.0417	0.5000
4311	EGGBEATER, NYLON GEARS	0.0142	0.1700
4312	CAN OPENER	0.0208	0.2500
4313	KITCHEN SHEARS	0.0417	0.5000
4314	CUTLERY, STAINLESS STEEL, 40-PIECE, SERVICE FOR 80.0083	0.1000	
4315	PANCAKE TURNER, STAINLESS STEEL	0.0142	0.1700
4316	MEASURING CUP, PYREX, 1 CUP	0.0142	0.1700
4317	MEASURING CUPS, PLASTIC, SET OF 5	0.0275	0.3300
4318	MEASURING SPOONS, ALUMINUM, SET OF 4	0.0142	0.1700
4319	COOKIE SHEET, 10 1/4" X 15 1/4", LIGHT-WEIGHT, METAL	0.0167	0.2000
4320	BREAD PAN, 9" X 5", LIGHT-WEIGHT, METAL	0.0275	0.3300
4321	MUFFIN PAN, FOR 12 MUFFINS, LIGHT-WEIGHT, METAL0.0275	0.3300	
4322	CAKE PAN, ROUND, LIGHT-WEIGHT, METAL	0.0275	0.3300
4323	PIE PAN, METAL, 10", LIGHT-WEIGHT, METAL	0.0275	0.3300
4324	7 PC COOKWARE SET, STAINLESS STEEL, NOT "NO-STICK"	0.0083	0.1000
4325	MIXING BOWLS, PYREX, SET OF 3	0.0142	0.1700
4326	COFFEE-MAKER, ELECTRIC, 6 - 10 CUP	0.0142	0.1700
4327	CASSEROLE, W/LID, PYREX, 2 QT.	0.0142	0.1700
4328	TUMBLERS, GLASS, 12 OZ., PKG. OF 4	0.0833	1.0000
4329	DISHES, 20 PC. SERVICE FOR 4, CORELLE	0.0167	0.2000
4330	DISHPAN, HEAVY DUTY PLASTIC	0.0275	0.3300
4331	DISH DRAINER, RUBBER-COVERED WIRE, LARGE	0.0142	0.1700
4332	PAIL, PLASTIC, 11 QT	0.0275	0.3300
4333	DUST PAN, PLASTIC	0.0275	0.3300
4335	BROOM, SYNTHETIC BRISTLES	0.0417	0.5000
4336	SPONGE MOP	0.0208	0.2500
4337	SPONGE REPLACEMENT FOR MOP	0.1667	2.0000
4338	TOILET BOWL BRUSH, PLASTIC	0.0417	0.5000
4339	IRONING BOARD COVER AND PAD, SCORCH RESISTANT	0.0208	0.2500
4340	CLOTHES PINS, WOODEN, PKG. OF 30	0.0417	0.5000
4341	KITCHEN WASTEBASKET W/LID, PLASTIC, LARGE	0.0275	0.3300
4343	ONE-PINT PLASTIC CONTAINERS, PKG. OF 5	2.4000	28.8000
HOUSEHOLD LINENS			
4350	SHOWER CURTAIN, VINYL, 70" X 72"	0.0417	0.5000
4351	SCATTER RUG, POLYESTER, 21" X 36"	0.0275	0.3300
4352	BATHMAT, POLYESTER DEEP PILE, NON-SKID, 21" X 34" OVAL	0.0275	0.3300
4353	MATTRESS PAD, FULL SIZE, POLYESTER-BLEND	0.0083	0.1000
4354	MATTRESS PAD, TWIN SIZE, POLYESTER-BLEND	0.0250	0.3000
4355	BEDSPREAD, QUILTED, FULL SIZE	0.0142	0.1700
4356	BEDSPREAD, RIBBED, TWIN SIZE	0.0625	0.7500
4357	BLANKET, WOVEN SYNTHETIC, 72" X 90"	0.0167	0.2000
4358	BLANKET, WOVEN SYNTHETIC, 72" X 90"	0.0500	0.6000
4359	BED LINEN, SET FOR TWIN, 3 PCS., POLYESTER-BLEND	0.1250	1.5000
4360	BED LINEN, SET FOR FULL, 4 PCS., POLYESTER-BLEND	0.0417	0.5000
4361	BATH TOWEL, LIGHTWEIGHT COTTON	0.3333	4.0000
4362	HAND TOWEL, LIGHTWEIGHT COTTON	0.3333	4.0000
4363	WASH CLOTH, PKG. OF 12, LIGHTWEIGHT COTTON	0.0417	0.5000
4364	PLACEMATS, VINYL	0.1667	2.0000
4365	TABLECLOTH, VINYL, FLANNEL-BACKED, 52" X 70"	0.0417	0.5000
4366	DISH TOWELS, COTTON, LARGE, NON-TERRY	0.3333	4.0000
4367	SPOON, MIXING, STAINLESS STEE	0.1700	2.0400
4368	SPOON, SLOTTED, STAINLESS STEEL	0.1700	2.0400
4369	LADLE, STAINLESS STEEL	0.1700	2.0400
4370	FORK, MEAT-TYPE, STAINLESS STEEL	0.1700	2.0400
4371	WISK, 8 - 10 INCHES LONG, STAINLESS STEEL	0.1700	2.0400
CLOTHING			
5101	MITTENS, ACRYLIC KNIT, CHILD'S	0.0833	1.0000
5102	CAP, ACRYLIC KNIT, CHILD'S	0.0278	0.3300

	ITEM DESCRIPTION	REPLACEMENT RATE MONTHLY	YEARLY
5103	SHIRT, POLO, CHILD'S	0.1389	1.6700
5104	SHIRT, LONG-SLEEVED, PULLOVER, CHILD'S	0.0556	0.6700
5105	OVERALLS, DENIM, CHILD'S	0.0278	0.3300
5106	JEANS, ELASTIC WAIST, NO ZIPPER, CHILD'S	0.0278	0.3300
5107	SLACKS, CORDUROY W/LINING, CHILD'S	0.0556	0.6700
5108	OUTFIT, POLYESTER/COTTON TOP-CORDUROY SLACKS, CHILD'S	0.0278	0.3300
5109	SWEATSHIRT, PULLOVER, COTTON/POLYESTER KNIT, CHILD'S	0.0139	0.1700
5110	SNEAKERS, CANVAS, CHILD'S	0.1667	2.0000
5111	SHOES, VELCRO CLOSURE, MAN-MADE MATERIALS, CHILD'S	0.1667	2.0000
5112	BOOTS, OVER-SHOE, WATERPROOF MAN-MADE MATERIAL, CHILD'S	0.0833	1.0000
5113	SOCKS, TUBE-TYPE, TERRY (PKG. OF 6), CHILD'S	0.0417	0.5000
5114	SOCKS, ANKLETS, COTTON BLEND, (PKG. OF 3), CHILD'S	0.0833	1.0000
5115	UNDERPANTS, COTTON (PKG. OF 3), CHILD'S	0.1667	2.0000
5116	UNDERSHIRTS, COTTON (PKG. OF 3), CHILD'S	0.1667	2.0000
5117	PAJAMAS, 2 PIECE, KNIT-CUFF, CHILD'S	0.0278	0.3300
5118	SLEEPER, HEAVY, ACRYLIC, CHILD'S	0.0278	0.3300
5119	JACKET, LINED WINDBREAKER, CHILD'S	0.0278	0.3300
5120	SNOWSUIT, 2 PIECE WITH HOOD, NYLON SHELL, LINED, CHILDS	0.0139	0.1700
5121	DISPOSABLE DIAPERS, EXTRA-LARGE (1 PER NIGHT)	30.3000	363.6000
5130	GLOVES, ACRYLIC KNIT, GIRL'S	0.0417	0.5000
5131	HAT, ACRYLIC KNIT, GIRL'S	0.0417	0.5000
5132	BLOUSE, LONG-SLEEVED, DRESS, GIRL'S	0.0833	1.0000
5133	SHIRT, T-SHIRT STYLE, GIRL'S	0.1667	2.0000
5134	JEANS, DENIM W/ZIPPER, MEDIUM WEIGHT, GIRL'S	0.1667	2.0000
5135	SKIRT, GIRL'S	0.0833	1.0000
5136	OUTFIT, SHIRT/SLACKS, KNIT, GIRL'S	0.0833	1.0000
5137	SHORTS, GYM-STYLE, GIRL'S	0.1667	2.0000
5138	SWEATSHIRT, PULLOVER, COTTON/POLYESTER KNIT, GIRL'S	0.0417	0.5000
5139	SWEATER, CARDIGAN, BULK KNIT, GIRL'S	0.0417	0.5000
5140	SLIPPERS, WASHABLE, PILE-LINED, GIRL'S	0.0417	0.5000
5141	BOOTS, MAN-MADE MATERIAL, MIDCALF, WATERPROOF, GIRL'S	0.0833	1.0000
5142	SHOES, CASUAL, MAN-MADE MATERIALS, GIRL'S	0.0833	1.0000
5143	SHOES, RUNNING STYLE, GIRL'S	0.1667	2.0000
5144	SOCKS, ANKLETS, GIRL'S	0.3333	4.0000
5145	SOCKS, CREWSCOKS, COTTON (PKG OF 3), GIRL'S	0.0833	1.0000
5146	UNDERPANTS, COTTON (PKG. OF 3), GIRL'S	0.1667	2.0000
5147	SLIP, FULL-LENGTH, SYNTHETIC, GIRL'S	0.0417	0.5000
5148	UNDERSHIRT, VEST-STYLE, COTTON (PKG. OF 3)GIRL'S	0.1108	1.3300
5149	BATHROBE, VELOUR, GIRL'S	0.0275	0.3300
5150	NIGHTGOWN, GIRL'S	0.0417	0.5000
5151	JACKET, WINDBREAKER, W/LINING, GIRL'S	0.0417	0.5000
5152	JACKET, SKI-TYPE WITH HOOD, W/LINING, GIRL'S	0.0417	0.5000
5160	GLOVES, ACRYLIC KNIT, W/GRIPPER PALMS, MISSES	0.0417	0.5000
5161	HAT, ACRYLIC KNIT, MISSES	0.0417	0.5000
5162	PURSE, MAN-MADE MATERIALS, SHOULDER BAG	0.0417	0.5000
5163	BLOUSE, LONG SLEEVED, TAILORED, OXFORD CLOTH, MISSES	0.0833	1.0000
5164	SHIRT, CASUAL, MISSES	0.0833	1.0000
5165	SHIRT, T-SHIRT STYLE, MISSES	0.1667	2.0000
5166	SHORTS, GYM-STYLE, MISSES	0.0833	1.0000
5167	SLACKS, DRESS, MISSES	0.0147	0.1800
5168	JEANS, MEDIUM WEIGHT, DENIM, MISSES	0.0833	1.0000
5169	SWEATER CARDIGAN, MEDIUM WEIGHT, MISSES	0.0278	0.3300
5170	DRESS, MISSES	0.0833	1.0000
5171	SKIRT, SOLID COLOR, MISSES	0.0417	0.5000
5172	RAINCOAT WITH ZIP-OUT LINING, FULL LENGTH, MISSES	0.0083	0.1000
5173	COAT, SHORT, WINTER, W/LINING, MISSES	0.0083	0.1000
5174	JACKET, LIGHT WEIGHT, W/ LINING, MISSES	0.0208	0.2500
5175	SLIPPERS, WASHABLE TERRYCLOTH, WOMENS	0.0208	0.2500
5176	SHOES, CANVAS, TENNIS, WOMENS	0.0417	0.5000
5177	SHOES, CASUAL, MAN-MADE MATERIALS, WOMENS	0.0833	1.0000
5178	SHOES, PUMP, MEDIUM HEEL, WOMENS	0.0417	0.5000
5179	BOOTS, ABOVE ANKLE, LINED, WOMENS	0.0208	0.2500
5180	SWEATSHIRT, COTTON/POLYESTER KNIT, PULLOVER, MISSES	0.0417	0.5000
5181	WINTER UNDERWEAR (TOP & BOTTOM), COTTON/SYNTHETIC KNT M	0.0278	0.3300
5182	SOCKS, CREW, COTTON/SYNTHETIC (PKG. OF 3 PR.), MISSES	0.1389	1.6700

ITEM	DESCRIPTION	REPLACEMENT RATE MONTHLY	YEARLY
5183	NYLONS, KNEE-HIGH	0.0833	1.0000
5184	PANTY-HOSE	0.5000	6.0000
5185	UNDERPANTS, NYLON/ACETATE (PKG. OF 3), MISSES	0.1108	1.3300
5186	BRA, SYNTHETIC, UNPADDED	0.1667	2.0000
5187	SLIP, FULL LENGTH, MISSES	0.0417	0.5000
5188	NIGHTGOWN, NYLON, CAP-SLEEVED, MISSES	0.0417	0.5000
5189	BATHROBE, VELOUR, MISSES	0.0167	0.2000
5201	ADULT HAIRCUT	0.3333	4.0000
5202	CHILDREN'S HAIRCUT	0.3333	4.0000
5203	COLD/SINUS MEDICATION, 24 CAPSULES	0.0833	1.0000
5204	'ASPIRIN, 100 TABLETS OF 5 GRAINS EACH	0.1108	1.3300
5205	ANTACID, LIQUID, 12 OZ.	0.0833	1.0000
5206	PETROLEUM JELLY, 7.5 OZ.	0.0417	0.5000
5207	DIARRHEA MEDICATION, LIQUID, 8 OZ	0.0833	1.0000
5208	ADHESIVE BANDAIDS, PKG. OF 50 ASSTD.	0.1667	2.0000
5209	RUBBING ALCOHOL, ONE PINT	0.0417	0.5000
5210	FIRST AID KIT, COMPACT	0.0417	0.5000
5211	CHILDREN'S NON-ASPIRIN, 36 TABLETS OF 1.25 GRAINS EACH	0.1667	2.0000
5212	COTTON BALLS, PKG OF 65	0.1667	2.0000
5213	TWEEZERS	0.0142	0.1700
5214	HOT WATER BOTTLE	0.0083	0.1000
5215	COTTON SWABS, PKG OF 300	0.0417	0.5000
5220	SHAMPOO, 16 OZ.	0.9167	11.0000
5221	HAIR SPRAY, AEROSOL, 8-10 OZ. NET	0.1667	2.0000
5222	HOME PERMANENT KIT, SINGLE APPLICATION	0.0833	1.0000
5223	TOOTHPASTE, FLOURIDE, 6.4 - 7 OZ.	0.8333	10.0000
5224	DENTAL FLOSS, UNWAXED, 50 YDS	0.3333	4.0000
5225	TOOTHBRUSH, ADULT SIZE	0.3333	4.0000
5226	TOOTHBRUSH, CHILD SIZE	0.1667	2.0000
5227	SHAVING CREAM, AEROSOL, 11 OZ.	0.2500	3.0000
5228	HAND LOTION, 10 OZ.	0.1667	2.0000
5229	DEODORANT, ROLL-ON 1.5 OZ.	0.5000	6.0000
5230	COLD CREAM, 3.5 OZ	0.0417	0.5000
5231	TAMPONS, PKG. OF 40	0.3333	4.0000
5232	SANITARY NAPKINS, REGULAR, PKG. OF 30	0.2500	3.0000
5233	TOILET PAPER, 2-PLY, PKG. OF 4 ROLLS	3.3333	40.0000
5234	FACIAL TISSUE, 2-PLY, PKG. OF 200	0.6667	8.0000
5235	BABY POWDER, 9 OZ.	0.0833	1.0000
5236	HAND SOAP, BAR, 3.5 OZ	2.2500	27.0000
5237	SHOE LACES, 24", 2 PAIR	0.3333	4.0000
5238	SHOE POLISH, PASTE, 1 1/8 OZ.	0.0833	1.0000
5239	MAKEUP, LIQUID FOUNDATION, 1 OZ.	0.1667	2.0000
5240	LIPSTICK, TUBE	0.0833	1.0000
5241	NAIL FILE, METAL, LONG	0.0275	0.3300
5242	FINGERNAIL/TOENAIL CLIPPERS	0.0142	0.1700
5243	RAZORS, SINGLE EDGE, DISPOSABLE, PKG. OF 10	0.1250	1.5000
5244	BLOW DRYER	0.0167	0.2000
5245	HAIR BRUSH, PLASTIC	0.0417	0.5000
5246	COMB, NYLON, 9" INCLUDING HANDLE	0.0833	1.0000
5301	LOOSE-LEAF BINDER, 3 RING, 1 1/2" CAPACITY, CANVAS COV	0.0833	1.0000
5302	LOOSE-LEAF PAPER, 10 1/2" X 8", WIDE RULE, 200 CT	0.0729	0.8700
5303	SPIRAL-WIRE NOTEBOOK, 120 SHEETS	0.0694	0.8300
5304	FOLD WITCKETS	0.1667	2.0000
5305	BALL POINT PEN, MEDIU PKG. OF 10	0.0500	0.6000
5306	PENCILS, #2, PACKAGE OF 7	0.1667	2.0000
5307	CRAYONS, BOX OF 24	0.0833	1.0000
5308	RULER, WOODEN W/METAL EDGE, METRIC/STANDARD, 12"	0.0833	1.0000
5309	GLUE, WHITE, CASEIN 4 OZ	0.0833	1.0000
5310	SCHOOL SCISSORS, BLUNT TIPPED	0.0833	1.0000
5311	ERASER, 3"	0.0833	1.0000
5312	BACKPACK, CHILD'S SIZE	0.0833	1.0000
5320	AVERAGE ANNUAL SCHOOL FEE	0.0833	1.0000
6200	ONE MONTH SUBSCRIPTION TO DAILY NEWSPAPER	1.0000	12.0000
6300	FAMILY ACTIVITIES ALLOWANCE (3.5% OF TOTAL BUDGET)	1.0000	12.0000

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