Section IV: Methods and Analysis

Introduction

Governments, businesses, and social scientists use estimates of consumer prices and cost of living in a wide variety of applications, including inequality studies, wage comparisons and poverty assessments. These estimates address two basic cost parameters: changes over time and differences from place to place. The federal Consumer Price Index (CPI), the most extensive price-measurement program in the U.S., is an estimate of inflation. It measures changes in the cost of a specified "market basket" of goods over time in 87 urban areas based on analysis of approximately 80,000 individual prices collected monthly from more than 21,000 retail outlets. One of the best-known geographic differential methodologies is the ACCRA (American Chamber of Commerce Researchers Association) Cost of Living Index. ACCRA measures differences in cost of living among roughly 400 urban and suburban areas throughout the U.S.

Because the CPI and geographic-differentials research help determine how billions of dollars in public and private services, salaries and other investments are allocated, the process of critiquing and refining these methodologies is ongoing. Alaska, however, remains something of a special case. Whereas many of methodological adjustments have been designed to address expanding consumer choices, much consumer behavior in Alaska is driven, instead, by an absence of choices. Things regarded as common necessities in parts of Alaska, a car for example, either can't be had or are of limited use in other communities. Such radical differences in local needs and options affect both the cost and quality of life.

This section of the report discusses some of the methodological considerations that have been addressed in the past few years in the consumer-price and cost of living literature and how they relate, or fail to relate, to Alaska.

Designing Consumer-Price and Cost of Living Studies

A consumer-price study measures changes in the prices of identical products over time or from place to place. A cost of living study is more complex. It measures changes in the cost of a defined standard of living over time or from place to place.[1] "Standard of living" means "identical utility" (in the economic sense) or, more generally, an identical level of well-being. This means that, while consumer price studies are concerned only with variations in the price of goods and services, cost of living studies include analysis of household consumption patterns as well as consumer prices. The CPI methodology, while not aspiring to measure true cost of living, combines methods to track pure price inflation with methods for consumption weighting to produce a more accurate estimate of the impact of inflation on real families.

Consumer-price and cost of living studies share a number of challenges, including the following:

- For various reasons, different stores in the same community may charge different prices for the same goods. Both consumer-price and cost of living studies must find ways of determining how much to weight prices from one store compared to prices from another.
- Changes in product design, technology and availability mean that the set of goods and services to be compared is not identical over time and often varies from place to place as well. In Alaska, for example, sales of new outboard motors have evolved over the past few years from predominantly two-stroke engines to predominantly four-stroke engines (with associated changes in price and performance).

Regional cost of living studies must confront special challenges, including the following:

- Consumer spending is affected not just by market prices and consumer preferences, but by non-market goods such as public infrastructure, climatic conditions, the crime rate, etc. For example, the outboard engines described above are virtual necessities in many parts of the state and virtually irrelevant in others. This variability affects both price and demand.
- Some sectors of consumer spending vary significantly from place to place, or are so complex that it becomes difficult to identify comparable products and prices. One example is medical care, where prices vary depending on what types of services and third-party payers are available.

In Alaska, differences in climate, transportation, service availability, and other factors can be so extreme as to make it virtually impossible to define key components of a standard of living in diverse communities. An example is housing. In most communities in rural Alaska, building and maintaining a house that is average for Anchorage would be prohibitively expensive for all but the wealthiest families. The Alaska GDS approach developed to address this and other challenges is described later in this section.

[1] Hoffmeister, Onno. "Cost of Living and Real Income Differentials in Russia's Provinces: Evidence from the Russia Longitudinal Monitoring Survey," Institute for Eastern European Studies, Berlin, 2003.

Developing Cost of Living Indexes

Like many economic measures, cost-of-living indexes must be interpreted within a set of assumptions that limits their application. If all consumers had the same preferences and income, price differentials would be wholly sufficient. Since preferences and income are affected by demographics, location, ethnicity, technology, access to information, and many other factors, even the most sophisticated cost of living methodologies, such as the CPI, fall short of pinpoint accuracy. Following is a brief discussion of how the field has tried to address three fundamental components of cost of living studies:

- Consumption weights
- Sampling
- Market basket

Consumption Weights

Price differentials, alone, can be a useful indicator of the cost of living. It is more accurate, however, to "weight" prices using information about consumption: what people actually buy. Consumption is affected by price, but also by need and preference. All three factors (price, need, and preference) vary from place to place and over time. Determining which goods, services, and prices are most relevant and important — and therefore deserve the most weight — is a key part of cost-of-living methodologies.

Two of the most common indexes for comparing cost of living are known as the Laspeyres Index and the Paasche Index. The two methods differ principally in what set of circumstances is used for the base calculation and what is used as the comparison. Each method leads to a slightly different mathematical result. A third method computes a geometric mean of the Laspeyres and Paasche Indexes. This is also known as the Fisher Ideal index.[2]

In practice, most cost of living studies use the Laspeyres Index because it relies on consumption patterns from the base region or base time period. Typically, base consumption patterns are known or represent the least cost to obtain. The Paasche Index requires consumption patterns from each new comparison region or time period, and the Fisher Index requires both. This means that, the Paasche and Fisher indexes require new consumption data for each new computation, while the Laspeyres Index may be computed for multiple time periods or locations using a single set of (base) consumption data.

Sampling

The ideal data for establishing geographic cost of living differentials would be a record of all household purchases (including all prices and all quantities) for all households in all regions of interest. It is clearly impractical to obtain data for all households, nor is it practical to obtain all prices and quantities. Cost of living indexes address these data shortcomings by sampling in a variety of ways, and an extensive body of literature has developed that evaluates the pros and cons of different methods.[3] All the sampling methods must address three basic parameters for both the base region and comparison region:

[2] Ibid. pages 23-24.
[3] Many of the basic issues involved in constructing and updating price indexes are summarized in the book, *At What Price*, by the National Research Council's Panel on Conceptual, Measurement, and Other Statistical Issues in Developing Cost-of-Living Indexes (2002, National Academy Press).

1. How does a representative household distribute its expenditures across all possible purchases?

2. What subset of items provides the best proxy for the range of actual items purchased?

3. What subset of local prices provides the best proxy for the range actual prices paid?

Typical methodologies include data collection from a sample of households (regarding purchases) and a sample of retail outlets (regarding prices and sales). In all cases, sampling plans must address the weighting considerations described above.

Market Basket

The concept of pricing comparable market baskets to measure price differences from time to time or place to place is deceptively simple. In practice, it is impossible to price a broad enough set of precisely the same items to obtain a wholly accurate comparison of overall living costs. Following is a brief discussion of some of the more material adjustments that may need to be considered in market basket methodologies.

SUBSTITUTION

Substitution refers to the fact that, over time or from place to place, consumers may purchase certain goods and services in lieu of others. For example, Delicious apples may substitute for Gala apples depending on season or location. This means that it is seldom possible to recreate in the comparison time period or region precisely the same market basket as was priced in the base. As a result, the BLS began using geometric instead of arithmetic averaging to combine individual prices in approximately 60 percent of the market basket strata used in the CPI.[4]

Substitution occurs over time, but is even more of a challenge from place to place. There are more substitution possibilities in urban areas than in rural areas.[5] Also, Curran et al (2006) argued that the set of choices available to different consumers is not the same. For example, wealthier households can afford to exercise greater choice not just because they can spend more, but because they are more mobile. Low-income households cannot respond as quickly to geographic price differences because they tend to have less money to cover moving costs, less information about work opportunities, less human capital (for example, less developed networks), and generally less capacity to explore options.

QUALITY

The effect of quality differences in similar goods and services is related to that of substitution. When two items are similar but one is of higher quality, the price premium for that quality reflects delivery of greater benefits to the consumer. If the benefits realized by the consumer are different, then the increase in price cannot, at least entirely, be attributed to inflation or an increased cost of living. Quality of life also increases as a result of the new benefits. For example, differences in the cost of cable television service may reflect increases in the amount of and quality of programming, high-definition picture, pay-per-view options, etc.

[4] Schultze and Mackie, Editors, *At What Price,* Panel on Conceptual, Measurement, and Other Statistical Issues in Developing Cost-of-Living Indexes, National Academy Press, 2002.
[5] Ravallion, Martin and Dominique van de Walle, "Urban-Rural Cost-of-Living Differentials in a Developing Economy," Journal of Urban Economics 29, 113-127, 1991.

CHOICE OF RETAIL OUTLET

Cost-of-living methodologies must try to estimate the effects on pricing of the types of retail outlets where people actually shop. To the extent possible, sample prices should be weighted to reflect the proportion of consumers who shop at, for example, box stores (lower prices) versus full-service specialty stores (higher prices). Ideally, a COLI methodology should also account for the decline in "utility" (increase in cost of living) for consumers who prefer to shop in a full-service outlet, but who have found those stores driven out of business by the new outlets. However, the BLS has found the latter type of adjustment to be impractical and of minor impact.[6]

AGGREGATING DATA FROM INDIVIDUAL HOUSEHOLDS

Every household faces a unique cost of living (and, arguably, a unique rate of inflation). That is, no two households make precisely the same set of purchases, and, in theory, one could create an individual cost of living index for each household.[7] To produce an aggregated index requires averaging across households, and this may be done either with a simple average (equal weight to each household) or a weighted average (with households that spend more given more weight. The former is known as a "democratic" index, the latter as "plutocratic."

The practical limitation to either democratic or plutocratic aggregation across all households is simply the task of collecting individual data from all households. Schultze and Mackie suggest that the BLS consider an intermediate approach for the CPI, namely aggregating sub-indexes for defined groups, such as the poor and the elderly. They also point out, however, that there is not yet conclusive evidence such groups experience significantly different inflation rates over extended time periods.

HOUSING

Housing is a heterogeneous good. That means there is no single measure that represents the quantity consumed. Instead, observed market prices more accurately represent expenditures on a bundle of diverse housing attributes such as age of structure, climate, location (for example, roaded vs. non-roaded, distance to markets, or distance to green space), quality (of windows, toilet, kitchen, water, laundry, etc.), size, cultural attributes (traditional vs. modern building methods), etc. Housing is also a matter of consumer choice and income. Ravallion and van de Walle use a hedonic rent model to deal with some of the problems posed by heterogeneity.[8] In practice, however, a hedonic housing-cost-index would be time-intensive, difficult to calculate, and expensive.

Unlike other consumer goods, housing is not traded spatially (cannot be moved from place to place), which can greatly amplify price differentials.

MEDICAL CARE

Schultze and Mackie describe the issues associated with developing the medical care component of the CPI as more difficult than those of any other component. Technological progress and institutional evolution result in changing quality of care. Further complexity is introduced by the fact that many factors besides type and

[6] Schultze and Mackie, op. cit. page 251.
[7] "The Boskin Commission Report: Toward a More Accurate Measure of the Cost of Living," Report to the Senate Finance Committee, 1996:5.
[8] Hedonic pricing varies according to the qualities or attributes associated with individual purchases.

quality of care determine an individual's health. This leads to the question whether cost-of-living measures should be associated with inputs (a prescription, a physician visit, or a day in the hospital) or outputs, namely changes in health. Other questions abound, for example how an index should treat a relatively inexpensive condition that many people face, such as conjunctivitis, versus a more rare, but much more expensive condition such as heart disease. Finally, the issues are compounded by the different ways in which consumers pay for medical care, including variations in insurance coverage and cost and who pays the premiums. Even for a study of the scale of the CPI, substantial uncertainty exists about the precision of current methods. However, recommendations in Schultze and Mackie for potential improvements would require extensive analysis of medical outcomes under multiple treatment scenarios.[9]

Differentials Research in Alaska

As noted above, computing regional cost of living differentials requires generalizing about a variety of communities using sample data from households and retail outlets. The Alaska GDS methodology includes many design elements to address the special challenges of conducting this research in Alaska to the extent practical. However, extraordinary time and resources would be needed to overcome all of them completely, for example:

- The challenge of obtaining price data on site in far-flung, isolated communities.
- The challenge of supplementing telephone survey data about household expenditures with more detailed information from, for example, expenditure diaries, and lengthy personal interviews. Both of these supplementary methods are employed in CPI research.
- The fact that many items considered essential in some communities are either not available or not needed in other communities, due to differences in geography and lifestyle.
- The large impact that transportation, shipping, climate, and other factors can have on prices and consumption in specific areas of the state. For example, recent research by the Institute for Social and Economic Research (ISER) demonstrated that shipping anomalies, storage capacity, and other factors can result in large differences in fuel costs between communities that are located relatively close to one another.

[9] Schultze and Mackie, op. cit. pages 188 – 190.

Introduction

The methodology employed in the study involved two primary research tasks, a Household Consumption Survey (HCS) and a Retail Price Survey (RPS). The HCS provided data on the relative importance (percentage) of various components of the household budget and how the importance of those components varies from community to community. (Household budget components include such broad categories as housing, food, transportation, etc., each of which is composed of several subcategories, and each subcategory is composed of numerous market basket items.) The RPS provided data on how prices for various items in the household budget differ between communities, or collections of communities, and Anchorage. It is the blend of HCS and RPS data that produces the geographic cost differential. This concept is illustrated in the following table.

Table IV-1: Simplified Geographic Cost Differential Model

	Household Expenditure Category Weight Community "A" (Data from HCS)	Price Differential Community "A" vs. Anchorage (Data from RPS)	Community "A" Cost of Living Differential Factor
Housing	35%	1.35	0.47
Food	20	1.45	0.29
Transportation	15	1.40	0.21
Clothes	5	1.20	0.06
All other	25	1.10	0.28
Total budget	100%		
Community "A" Cost of Living Differential			1.31

Household Consumption Survey

The HCS included 2,547 surveys with randomly selected households located in 74 communities throughout Alaska. Sample blocks were defined for purposes of sample distribution and to ensure sufficient sample sizes in various regions and among communities with common demographic and geographic characteristics. The largest communities (Anchorage, Fairbanks and Juneau) and most populous boroughs (Matanuska-Susitna and Kenai Peninsula) formed their own sample blocks. Smaller communities, similar in terms of location and/or size, were grouped together into sample blocks, and household surveys were distributed within those block in proportion to each community's population.

Alaska's largest population centers were allocated approximately 1,500 of the 2,547 surveys. Anchorage, Fairbanks and Juneau had sample sizes of 300 surveys each. Mat-Su, the Kenai Peninsula Borough, and the Ketchikan/Sitka areas each had 200 surveys. Of the 200 Mat-Su surveys, 13 Talkeetna surveys were allocated to a different sample block, resulting in an actual sample size of 187 for Mat-Su excluding Talkeetna.

Table IV-2: Household Consumption Survey Sample Sizes

Sample Block	Sample Size
1: Anchorage	300
2: Fairbanks	300
3: Parks/Elliott/Steese Highways	65
4: Glennallen Region	50
5: Delta Junction/Tok Region	76
6: Roadless Interior	51
7: Juneau	300
8: Ketchikan/Sitka	200
9: Southeast Mid-Size Communities	104
10: Southeast Small Communities	52
11: Mat-Su	187
12: Kenai Peninsula	200
13: Prince William Sound	100
14: Kodiak	104
15: Arctic Region	153
16: Bethel/Dillingham	151
17: Aleutian Region	77
18: Southwest Small Communities	77

The 50-question HCS collected data on household spending related to housing (including mortgage and rent payment, property taxes, insurance and all utilities), food, transportation, health care, and clothing. The survey also collected data on household size and income. The survey was fielded during October and November 2008.

HCS data management was handled in the statistical software package SPSS. An extensive data cleaning process removed outlier or other irregular values from the analysis. The data management process and SPSS syntax are described in detail in the Statistical Analysis section of this report.

Perhaps the most important data management tool employed was weighting the HCS data so that it represented the demographics of communities more accurately than through a strictly random sample telephone survey data collection effort. For example, telephone survey research is likely to produce disproportionate representation of older, higher income, home-owning households. Younger households are typically more active and therefore less likely to be at home when a surveyor calls. As another example of potential age bias, approximately 12 to 13 percent of Alaska households have only cell phone service, with no conventional land-line phone service. These households (typically urban) would not be captured in a random sample survey (because lists of cell phone numbers are not available for purposes of survey research). These cell-phone-only households are likely to be younger, less likely to own a home, and probably somewhat lower-income than their older neighbors.

To adjust for these potential biases in the survey data, community-level data was weighted using 2000 census information on the proportion of homeowners versus renters. For example, 77 percent of the Anchorage household survey sample were homeowners, while 23 percent were renters. However, the 2000 census found that 60 percent of the occupied housing units in Anchorage are owner-occupied and 40 percent

renter-occupied. (More recently, the 2006 American Community Survey found a 61 percent home ownership rate in Anchorage.) Therefore Anchorage survey data was weighted so that household spending patterns of owners and renters were accurately reflected in the analysis.

Retail Price Survey

The Retail Price Survey (RPS) included 634 retail outlets in 58 communities throughout Alaska, plus numerous providers of various services, including health care, transportation, communications, insurance, and others. A market basket of approximately 200 goods and services was priced in each community where they were available. Data was collected in person and by telephone in the communities listed in the following table.

Table IV-3: Communities included in Retail Price Survey (RPS)

Community	In Person	Phone/Fax
Anchor Point	X	
Anchorage	X	
Aniak		X
Barrow		X
Bethel		X
Cantwell		X
Central		X
Chitina		X
Cordova	X	
Craig	X	
Delta Junction	X	
Dillingham		X
Eagle		X
Emmonak		X
Fairbanks/North Pole	X	
Fort Yukon		X
Galena		X
Glennallen	X	
Gustavus	X	
Haines	X	
Healy	X	
Homer	X	
Hoonah	X	
Juneau	X	
Kenai	X	
Ketchikan	X	
King Cove		X
Klawock	X	
Kodiak	X	

Community	In Person	Phone/Fax
Kotzebue		X
Manley Hot Springs		X
McGrath		X
Metlakatla	X	
Nenana	X	
Ninilchik	X	
Nome	X	
Palmer	X	
Pelican		X
Petersburg	X	
Saint Mary's		X
Sand Point		X
Seldovia		X
Seward	X	
Sitka	X	
Skagway	X	
Soldotna	X	
Talkeetna	X	
Teller		X
Tenakee Springs		X
Tok	X	
Unalakleet		X
Unalaska/Dutch Harbor		X
Valdez	X	
Wasilla	X	
Whittier		X
Willow	X	
Wrangell	X	
Yakutat		X

Multiple retail outlets were surveyed for each category of retail items. Using groceries as an example, eight stores were surveyed in Anchorage, six in Juneau and six in Fairbanks. In other communities, depending on

the size of the community (and number of local retail outlets), as many as four grocery outlets were surveyed, though in the smallest communities, the survey was necessarily limited to one or two local stores.

All RPS pricing data was compiled and managed in Excel. This data also underwent an extensive cleaning process in which outlier values were removed prior to calculating average prices among specific items. Average prices for a particular item in each community were compared to the average price for the same item in Anchorage to produce a price differential. These individual item price differentials were then averaged with price differentials for other items in the same subcategory of items. For example, the price differential for hot dogs was averaged with the price differential for boneless chicken breasts and several other meat products to determine a subcategory "meats, poultry and fish" average-price differential.

When communities were grouped together to produce sample block or district differentials, all pricing data was weighted according to community population. Where applicable, sales taxes were applied to all retail items. Detailed information regarding the RPS methodology is provided in the Data Collection Methodology section.

Methods and Analysis by Budget Component

Housing

Calculation of housing cost differentials differs from other components of the household budget in that all supporting data was derived from the HCS. Extensive data related to housing costs was collected, including electric power costs, home heating oil costs, etc., but this information was used only as a tool to cross-reference the results of the HCS, which collected detailed housing cost data. In the HCS, households were asked:

- If they own or rent their home.
- The amount of their monthly mortgage or rental payment.
- If their mortgage payment includes property taxes and insurance, and if not, the amount of those annual payments.
- The size of their home, in terms of square feet and number of bedrooms.
- Total monthly or annual payments for electricity, heating oil, natural gas, propane, water, sewer, and garbage disposal.

With this information, sample block and community-level averages were calculated for monthly shelter costs, including mortgage (with property taxes and insurance, when applicable) and rent, and total monthly utilities costs. Community and sample block averages are weighted according to the percentage of owners and renters.

Average monthly shelter costs, monthly heat/utilities costs, and total monthly housing costs are provided in the following table for each sample block and for selected individual communities. Table IV-4 also provides the average total cost per square foot of living space for each sample block and community.

HCS sample sizes are also provided for each sample block and community. Readers should refer to the HCS methodology discussion in Section V for information on the margin of error associated with various sample sizes.

Table IV-4: Average Total Monthly Housing Costs and Average Monthly Cost Per Square Foot

Sample Block/Community	HCS Sample Size	Shelter Cost	Heat/ Utilities Cost	Total Housing Cost
Sample Blocks				
1 Anchorage	300	$1,303	$242	$1,545
2 Fairbanks	300	1,097	422	1,519
3 Parks/Elliott/Steese Highways	65	578	415	993
4 Glennallen Region	50	590	546	1,136
5 Delta Junction/Tok Region	76	712	434	1,146
6 Roadless Interior	51	352	545	897
7 Juneau	300	1,263	386	1,649
8 Ketchikan/Sitka	200	1,033	389	1,422
9 Southeast Mid-Size Communities	105	689	443	1,132
10 Southeast Small Communities	51	579	433	1,012
11 Mat-Su	187	1,047	279	1,326
12 Kenai Peninsula	200	719	301	1,020
13 Prince William Sound	100	892	528	1,421
14 Kodiak	104	1,019	478	1,497
15 Arctic Region	153	942	452	1,394
16 Bethel/Dillingham	151	995	661	1,656
17 Aleutian Region	77	1,006	639	1,645
18 Southwest Small Communities	77	402	606	1,008
Communities				
Barrow	66	$1,022	$295	$1,317
Bethel	106	1,073	667	1,740
Cordova	37	733	497	1,230
Dillingham	45	805	646	1,450
Homer	26	799	449	1,248
Ketchikan	107	1,044	391	1,435
Kotzebue	44	815	536	1,351
Nome	48	1,049	550	1,599
Petersburg	30	815	354	1,169
Sitka	80	1,015	387	1,402
Unalaska/Dutch Harbor	51	1,235	597	1,832
Valdez	60	995	555	1,549

Total monthly housing costs were used to calculate the percentage of the total household budget that is spent on housing. To calculate the contribution of housing costs to the overall sample block/community geographic cost differential, housing's share of the total household budget was multiplied by the housing cost differential.

The housing cost differential was calculated as:

(Sample block or community monthly housing costs per square foot) /
(Anchorage monthly housing costs per square foot) =
Sample block or community housing cost differential

For example, the average per-square-foot cost of housing in Anchorage was measured at $1.09. The average cost in Juneau was $1.24. Dividing the Juneau average cost by the Anchorage average cost produced a cost differential of 1.14. The calculations are the same for an area with lower housing costs than Anchorage. For example, the average cost of housing in the Mat-Su Borough was measured at $0.86 per square foot. Dividing that figure by the Anchorage average cost produced a cost differential of 0.79.

Table IV-5: Average Monthly Housing Costs Per Square Foot and Housing Cost Differential

	Sample Block/Community	Ave. Housing Square Foot	Average Cost per Square Foot	Housing Cost Differential
Sample Blocks				
1	Anchorage	1,651	$1.09	1.00
2	Fairbanks	1,597	1.06	0.98
3	Parks/Elliott/Steese Highways	1,444	0.81	0.74
4	Glennallen Region	1,511	0.79	0.72
5	Delta Junction/Tok Region	1,614	0.99	0.91
6	Roadless Interior	1,102	0.88	0.81
7	Juneau	1,493	1.24	1.14
8	Ketchikan/Sitka	1,581	1.10	1.01
9	Southeast Mid-Size Communities	1,609	0.80	0.74
10	Southeast Small Communities	1,558	0.73	0.67
11	Mat-Su	1,726	0.86	0.79
12	Kenai Peninsula	1,561	0.85	0.78
13	Prince William Sound	1,725	0.98	0.90
14	Kodiak	1,594	1.12	1.03
15	Arctic Region	1,208	1.32	1.22
16	Bethel/Dillingham	1,276	1.68	1.54
17	Aleutian Region	1,296	1.54	1.42
18	Southwest Small Communities	1,327	0.82	0.75
Communities				
	Barrow	1,360	$1.17	1.08
	Bethel	1,242	1.88	1.73
	Cordova	1,741	0.87	0.80
	Dillingham	1,357	1.16	1.06
	Homer	1,673	0.86	0.79
	Ketchikan	1,639	0.97	0.89
	Kotzebue	1,053	1.55	1.42
	Nome	1,200	1.34	1.24
	Petersburg	1,673	0.80	0.74
	Sitka	1,496	1.27	1.17
	Unalaska/Dutch Harbor	1,182	1.80	1.65
	Valdez	1,738	1.06	0.97

Note: The average cost-per-square foot data presented in this table cannot be generated from other data provided in this and the preceding tables. In the housing cost differential model, all of the various calculations are performed separately for homeowners and renters until a weighted average cost per square foot is calculated.

A range of housing-related data was collected to support the analysis of housing cost differentials, including electric power rates, home heating fuel prices, and natural gas prices. This information is included in the appendices.

Food

Calculation of the food portion of geographic cost differentials involved collecting data on weekly or monthly household food expenditures in seven subcategories and retail price data for a market basket of 80 individual food items. These two sets of data were modeled to produce cost differentials in six food subcategories:

- Meats, poultry, and fish
- Cereals and breads
- Dairy products
- Fruits and vegetables
- Other food items
- Food away from home.

The HCS queried households on their weekly spending in the following food categories:

- Meats, poultry, and fish
- Cereals and breads
- Dairy products
- Fruits and vegetables
- Soups, frozen meals, and snacks
- Nonalcoholic beverages other than milk.

The HCS also collected data on households' monthly spending at restaurants and on take-out food. HCS data was not collected on household expenditures on alcohol or tobacco. The following table provides total monthly spending on food for each sample block and selected communities. Total monthly food costs range from a low of approximately $600 to a high of approximately $1,300. These costs reflect the price of food in each sample block or community, as well as average household incomes (higher-income households are likely to spend more on food than lower income households, all other factors being equal).

See table next page

Table IV-6: Average Monthly Household Expenditures on Food

Sample Block/Community		Groceries	Food Away From Home	All Food
Sample Blocks				
1	Anchorage	$667	$134	$801
2	Fairbanks	643	111	753
3	Parks/Elliott/Steese Highways	599	81	680
4	Glennallen Region	754	55	810
5	Delta Junction/Tok Region	526	68	594
6	Roadless Interior	719	66	785
7	Juneau	697	119	817
8	Ketchikan/Sitka	706	98	804
9	Southeast Mid-Size Communities	717	86	803
10	Southeast Small Communities	596	88	683
11	Mat-Su	626	91	717
12	Kenai Peninsula	590	73	663
13	Prince William Sound	790	130	920
14	Kodiak	616	91	706
15	Arctic Region	1,003	106	1,109
16	Bethel/Dillingham	821	95	916
17	Aleutian Region	994	137	1,131
18	Southwest Small Communities	870	48	918
Communities				
	Barrow	$1,166	$141	$1,307
	Bethel	838	107	946
	Cordova	709	133	842
	Dillingham	782	65	847
	Homer	670	83	753
	Ketchikan	747	101	848
	Kotzebue	1,110	91	1,201
	Nome	713	76	789
	Petersburg	689	102	791
	Sitka	645	93	739
	Unalaska/Dutch Harbor	1,106	162	1,268
	Valdez	832	128	960

The 80-item RPS food market basket was priced in 634 different retail outlets throughout the state, with a combination of in-person and telephone price data collection. A listing of items in the food market basket is provided in the Appendix. Prices were collected for a combination of specific brand items and for most popular items (as indicated by item placement and allocation of self-space). Prices were collected from two to as many as eight stores in each community, depending on the population of the community.

The following steps were taken to develop geographic price differentials for each of the six food subcategories:

- Collect price data from multiple stores for each of the 80 items in the market basket.
- Clean data to ensure comparability of prices for specific items. In some instances, price data for specific items was excluded from the analysis if the price was an obvious outlier (the price was far below or far above prices for the same item in other stores in that community). Sale prices were not included in the sample.
- Calculate a weighted average price for each item, with prices weighted according to the results of question 25 in the HCS, which asked respondents where they did a majority of their grocery shopping. This step was necessary to ensure that the price of an item at a small convenience store did not have the same affect on average pricing as does the price of the same item from a store where many more people shop and the item is sold in much greater quantities.
- Apply sales tax in locations where such taxes are levied. This increased the price of each item by the sales tax rate and produced the actual price paid by the consumer.
- Calculate price differentials for each item by dividing each item's weighted average price by the weighted average price of the same item in Anchorage.
- Calculate the average price differential for all items in each subcategory.
- Minimize the potential for an unrepresentative price or set of prices for a particular item to skew the overall differential for a food subcategory. This was accomplished by removing the highest and lowest average prices for specific food items from the calculation of the average price differential for each subcategory. In a majority of cases (but not all), the average differential without the high and low weighted average prices was nearly identical to the average differential including all items in the subcategory.

Summary data for food cost geographic differentials are presented in the following table. The table presents the total expenditure weight for the food portion of the household budget (ranging between 14 percent and 20 percent) and the overall average price differential for all food items (ranging from 1.00 to 1.84).

See table next page

Table IV-7: Food Cost Expenditure Weights and Price Differentials

Sample Block/Community	Expenditure Weights	Price Differential
Sample Blocks		
1 Anchorage	0.17	1.00
2 Fairbanks	0.16	1.03
3 Parks/Elliott/Steese Highways	0.16	1.10
4 Glennallen Region	0.20	1.09
5 Delta Junction/Tok Region	0.14	1.09
6 Roadless Interior	0.17	1.55
7 Juneau	0.15	1.03
8 Ketchikan/Sitka	0.17	1.17
9 Southeast Mid-Size Communities	0.18	1.22
10 Southeast Small Communities	0.18	1.22
11 Mat-Su	0.16	1.03
12 Kenai Peninsula	0.19	1.15
13 Prince William Sound	0.17	1.31
14 Kodiak	0.17	1.33
15 Arctic Region	0.18	1.69
16 Bethel/Dillingham	0.15	1.70
17 Aleutian Region	0.18	1.46
18 Southwest Small Communities	0.19	1.79
Communities		
Barrow	0.18	1.78
Bethel	0.15	1.72
Cordova	0.15	1.42
Dillingham	0.16	1.64
Homer	0.18	1.13
Ketchikan	0.17	1.18
Kotzebue	0.19	1.84
Nome	0.17	1.51
Petersburg	0.14	1.25
Sitka	0.17	1.15
Unalaska/Dutch Harbor	0.17	1.43
Valdez	0.18	1.26

Transportation

The transportation category includes seven subcategories:

- Fuel for all vehicles
- Car/truck ownership
- All other vehicle ownership
- Auto insurance
- Vehicle maintenance
- Interstate air travel
- Instate air/ferry travel

In the HCS, households were asked for:

- Monthly spending on fuel for all vehicles
- Monthly payments for vehicles of all types (by type of vehicle)
- Total spending in the last 12 months on maintenance for all vehicles
- Total spending in the last 12 months on insurance for all vehicles
- Total spending in the last 12 months on plane tickets for destinations outside of Alaska, not including business travel
- Total spending in the last 12 months on plane tickets for destinations within Alaska, not including business travel. (Average total annual household spending on ferry travel was compiled directly from AMHS data.)

Total vehicle expense (including vehicle payments on loans, fuel, maintenance, and insurance) ranged from a low of $424 a month to a high of $959. A variety of factors influence vehicle-related spending, including the extent of road infrastructure in and around each community, cost of fuel, geographic setting (with boats more prevalent in some areas, and snowmachines and four-wheelers more prevalent in others), average household income (with higher income households likely to own more vehicles), and other factors. It is important to note that record high fuel prices in 2008 are reflected in this data and that differences in costs between urban and rural areas are likely exaggerated relative to previous years (or future years) when prices are more moderate.

See table next page

Table IV-8: Average Monthly Transportation Costs

Sample Block/ Community		Total Vehicle Payments	Total Fuel	Vehicle Maintenance	Vehicle Insurance	Total Vehicle Expense
Sample Blocks						
1	Anchorage	$173	$257	$79	$119	$629
2	Fairbanks	297	335	110	140	881
3	Parks/Elliott/Steese Highways	192	281	111	142	726
4	Glennallen Region	251	360	95	106	812
5	Delta Junction/Tok Region	259	323	99	125	806
6	Roadless Interior	213	381	65	55	715
7	Juneau	190	250	67	92	599
8	Ketchikan/Sitka	137	187	61	89	474
9	Southeast Mid-Size Communities	145	242	59	84	531
10	Southeast Small Communities	70	212	68	74	424
11	Mat-Su	217	351	84	124	776
12	Kenai Peninsula	207	258	68	98	631
13	Prince William Sound	266	417	85	125	893
14	Kodiak	191	212	62	80	545
15	Arctic Region	169	211	78	78	536
16	Bethel/Dillingham	121	311	85	95	611
17	Aleutian Region	117	267	98	89	572
18	Southwest Small Communities	202	461	76	47	786
Communities						
	Barrow	$187	$244	$98	$101	$629
	Bethel	112	295	84	97	587
	Cordova	217	538	81	123	959
	Dillingham	142	348	87	89	667
	Homer	194	211	93	119	617
	Ketchikan	166	209	70	97	543
	Kotzebue	109	139	56	44	349
	Nome	221	255	81	91	648
	Petersburg	130	189	59	94	471
	Sitka	94	155	46	77	373
	Unalaska/ Dutch Harbor	87	277	105	93	562
	Valdez	302	351	88	127	869

Annual household expenditures on air and ferry travel ranged from a low of about $800 to a high of nearly $6,000. Logically, households in hub communities spend less on in-state travel than remote communities. Again, households in communities with higher average incomes spend more on travel, especially out-of-state travel, than households with lower average incomes. Areas reporting very low in-state travel spending include communities on the Southcentral and Interior Alaska highway network. Households on the highway network

probably travel to hub communities more often than households off the highway network, but their travel costs are captured in the vehicle expense data presented above.

Table IV-9: Average Annual Household Expenditures on Air/Ferry Travel

Sample Block/Community	In-State Air/Ferry Travel	Out-of-State Air Travel	Total Travel
Sample Blocks			
1 Anchorage	$156	$1,639	$1,794
2 Fairbanks	255	1,831	2,086
3 Parks/Elliott/Steese Highways	395	1,694	2,089
4 Glennallen Region	12	815	827
5 Delta Junction/Tok Region	276	697	973
6 Roadless Interior	2,903	887	3,790
7 Juneau	430	1,760	2,190
8 Ketchikan/Sitka	367	1,536	1,903
9 Southeast Mid-Size Communities	509	1,055	1,565
10 Southeast Small Communities	1,009	1,056	2,065
11 Mat-Su	92	926	1,018
12 Kenai Peninsula	384	982	1,366
13 Prince William Sound	680	2,006	2,686
14 Kodiak	596	1,578	2,173
15 Arctic Region	2,233	2,170	4,403
16 Bethel/Dillingham	1,941	1,342	3,283
17 Aleutian Region	2,398	1,984	4,382
18 Southwest Small Communities	2,142	1,319	3,461
Communities			
Barrow	$3,219	$2,759	$5,978
Bethel	2,160	1,501	3,660
Cordova	755	2,255	3,010
Dillingham	1,432	974	2,407
Homer	327	877	1,204
Ketchikan	224	1,463	1,686
Kotzebue	2,469	2,823	5,292
Nome	1,099	1,145	2,244
Petersburg	475	1,506	1,981
Sitka	583	1,647	2,229
Unalaska/Dutch Harbor	2,711	2,391	5,103
Valdez	649	1,893	2,542

The RPS produced the following transportation-related price data, which was used to calculate cost differentials in each of the six transportation sub-categories:

- Regular unleaded gasoline and diesel fuel from service stations in 80 communities
- Purchase prices for a new truck, passenger car, snow machine, and four-wheeler
- Cost of an oil and filter change at a service station and the purchase price of motor oil, antifreeze, and a car battery

- Six-month premium for auto insurance (estimates from GEICO, Progressive and Allstate)
- Cost of a round-trip flight from each community to Seattle, including in-state air travel to a hub airport, if necessary
- Cost of a round-trip flight from each community to the nearest major hub (Anchorage, Fairbanks or Juneau). Price differentials for Juneau and Fairbanks were set at 1.0, equal to that of Anchorage.

Summary data for transportation cost geographic differentials are presented in the following table. The table presents the total expenditure weight for the transportation portion of the household budget (ranging between 12 percent and 24 percent) and the overall average price differential for all transportation goods and services (ranging from 1.00 to 2.35).

Table IV-10: Transportation Expenditure Weights and Price Differentials

Sample Block/Community	Expenditure Weights	Price Differential
Sample Blocks		
1 Anchorage	0.15	1.00
2 Fairbanks	0.21	1.04
3 Parks/Elliott/Steese Highways	0.20	1.10
4 Glennallen Region	0.24	1.14
5 Delta Junction/Tok Region	0.20	1.08
6 Roadless Interior	0.20	1.49
7 Juneau	0.14	1.09
8 Ketchikan/Sitka	0.13	1.10
9 Southeast Mid-Size Communities	0.16	1.16
10 Southeast Small Communities	0.12	1.19
11 Mat-Su	0.20	1.04
12 Kenai Peninsula	0.17	1.16
13 Prince William Sound	0.18	1.18
14 Kodiak	0.17	1.25
15 Arctic Region	0.15	1.72
16 Bethel/Dillingham	0.16	1.55
17 Aleutian Region	0.15	2.08
18 Southwest Small Communities	0.21	1.70
Communities		
Barrow	0.16	1.61
Bethel	0.14	1.56
Cordova	0.19	1.20
Dillingham	0.21	1.57
Homer	0.17	1.20
Ketchikan	0.14	1.09
Kotzebue	0.13	1.94
Nome	0.16	1.60
Petersburg	0.14	1.09
Sitka	0.12	1.10
Unalaska/Dutch Harbor	0.15	2.35
Valdez	0.17	1.17

Clothing

The HCS collected data on average monthly household spending on clothing, and the percentage spent locally versus outside the local area (including Internet and catalogue purchases). Clothing expenditure data for sample blocks and selected communities is presented in the following table. Average annual expenditures on clothing ranged from approximately $700 to more than $2,000.

Table IV-11: Clothing Expenditures, Percent Local and Nonlocal

Sample Block/Community	Average Annual Expenditures	Percent Local Purchases	Percent Nonlocal Purchases
Sample Blocks			
1 Anchorage	$973	77%	23%
2 Fairbanks	1,062	69	31
3 Parks/Elliott/Steese Highways	774	6	94
4 Glennallen Region	933	3	97
5 Delta Junction/Tok Region	685	4	96
6 Roadless Interior	1,535	1	99
7 Juneau	951	53	47
8 Ketchikan/Sitka	872	46	54
9 Southeast Mid-Size Communities	844	27	73
10 Southeast Small Communities	400	21	79
11 Mat-Su	732	56	44
12 Kenai Peninsula	706	44	56
13 Prince William Sound	1,033	16	84
14 Kodiak	697	50	50
15 Arctic Region	1,437	11	89
16 Bethel/Dillingham	971	24	76
17 Aleutian Region	1,431	6	94
18 Southwest Small Communities	1,580	7	93
Communities			
Barrow	$2,057	10%	90%
Bethel	961	23	77
Cordova	899	5	95
Dillingham	992	26	74
Homer	601	36	64
Ketchikan	844	53	47
Kotzebue	1,198	12	88
Nome	989	13	87
Petersburg	785	41	59
Sitka	913	38	62
Unalaska/Dutch Harbor	1,439	8	92
Valdez	1,128	22	78

The RPS included 23 clothing items. Not all items were available in all communities, but all items are available to all residents through mail order or Internet purchases. In cases where items were not available locally, a mail order or Internet price was identified and appropriate shipping costs applied to that price. Depending on the retailer, shipping costs ranged from free to 32 percent of the item's retail cost, with an average of about 10 percent on most items in most communities.

One outcome of this approach is that some mid-size communities, where all the items in the clothing market basket are available locally, are shown to have higher clothing cost differentials than more remote communities where some of the items are unavailable. This is because items may be available through mail order at a lower cost than prices in mid-size communities.

The challenge with developing price differentials for clothing is the tendency to buy clothing while traveling or via mail order/Internet, even among urban residents. Clothing prices for small communities on the highway system, in particular, have price differentials that match nearby hub communities because that is where most of the clothing shopping occurs. In any case, survey research suggests that clothing is a comparatively small part of the household budget (relative to housing, food and transportation) and therefore applying significantly higher (or lower) clothing price differentials would have negligible effects on a community's overall geographic cost differential.

See table next page

Table IV-12: Clothing Expenditure Weights and Price Differentials

Sample Block/Community	Expenditure Weight	Price Differential
Sample Blocks		
1 Anchorage	0.017	1.00
2 Fairbanks	0.017	1.17
3 Parks/Elliott/Steese Highways	0.013	1.11
4 Glennallen Region	0.021	1.00
5 Delta Junction/Tok Region	0.013	1.16
6 Roadless Interior	0.021	1.24
7 Juneau	0.013	1.02
8 Ketchikan/Sitka	0.013	1.12
9 Southeast Mid-Size Communities	0.017	1.23
10 Southeast Small Communities	0.010	1.21
11 Mat-Su	0.014	0.93
12 Kenai Peninsula	0.015	1.17
13 Prince William Sound	0.014	1.06
14 Kodiak	0.014	0.94
15 Arctic Region	0.015	1.29
16 Bethel/Dillingham	0.017	1.09
17 Aleutian Region	0.019	1.09
18 Southwest Small Communities	0.023	1.11
Communities		
Barrow	0.022	1.29
Bethel	0.017	1.03
Cordova	0.012	1.11
Dillingham	0.018	1.25
Homer	0.012	1.21
Ketchikan	0.012	1.00
Kotzebue	0.014	1.30
Nome	0.011	1.27
Petersburg	0.012	1.40
Sitka	0.013	1.31
Unalaska/Dutch Harbor	0.019	1.08
Valdez	0.015	1.04

Medical

The HCS collected household medical-related expenditure data in two subcategories:

- Monthly spending on medical insurance, not including payments covered by employers
- Spending in the last 12 months on medical expenses not covered by insurance, not including travel costs.

Table IV-13 provides annual medical-related spending for each sample block and selected communities. Total reported spending ranges widely, from approximately $1,700 to nearly $5,700 annually. Access to

medical care, insurance coverage and household income are factors affecting medical-related household spending averages.

Table IV-13: Annual Medical Expenditures

Sample Block/Community	Medical Insurance	Medical Expenses Not Covered by Insurance	Total Medical Expenditures
Sample Blocks			
1 Anchorage	$1,796	$1,465	$3,260
2 Fairbanks	2,033	1,371	3,404
3 Parks/Elliott/Steese Highways	3,010	2,657	5,667
4 Glennallen Region	866	1,116	1,982
5 Delta Junction/Tok Region	1,940	1,090	3,030
6 Roadless Interior	1,407	1,136	2,543
7 Juneau	1,826	1,262	3,088
8 Ketchikan/Sitka	1,876	1,567	3,443
9 Southeast Mid-Size Communities	2,221	1,916	4,137
10 Southeast Small Communities	1,545	859	2,404
11 Mat-Su	1,749	1,979	3,729
12 Kenai Peninsula	1,524	1,520	3,044
13 Prince William Sound	2,584	2,219	4,803
14 Kodiak	1,523	1,085	2,608
15 Arctic Region	872	856	1,728
16 Bethel/Dillingham	1,717	1,340	3,057
17 Aleutian Region	1,590	1,747	3,336
18 Southwest Small Communities	1,047	985	2,032
Communities			
Barrow	$737	$996	$1,733
Bethel	1,668	1,254	2,922
Cordova	2,789	2,572	5,361
Dillingham	1,837	1,553	3,390
Homer	1,475	2,347	3,822
Ketchikan	2,166	1,936	4,102
Kotzebue	827	948	1,775
Nome	1,081	645	1,726
Petersburg	2,818	1,448	4,267
Sitka	1,423	1,036	2,459
Unalaska/Dutch Harbor	1,888	1,838	3,726
Valdez	2,487	2,057	4,544

The medical-related RPS market basket was composed of 14 services and goods. Health care providers were asked for billing rates by service and billing code, including the following:

- Adult physical exam (age 18-39, age 40-64, age 65+)
- Well-child physical (age 0-11 months, age 1-4, age 5-11, age 12-17)
- Physician office visit

- Hospital, one-bed day (Medical/surgical)
- Dental exam
- Dental cleaning (adult, child), filling
- Eye exam
- Eyeglasses, lens/frame.

To calculate price differentials, prices were averaged in four categories: adult exams, well-child exams, other medical (physician office visit, hospital stay, eye), and dental care. Averages in these categories were divided by Anchorage prices in the same categories to produce differentials. From these differentials, an average medical differential was calculated, as was an average dental differential. These were then averaged (weighted 75 percent medical and 25 percent dental) to produce one overall medical services differential.

Data to support calculation of price differentials for health insurance was not collected, as geography generally is not a factor in the cost of insurance premiums. As such, all sample blocks were given an insurance cost differential of 1.00.

Table IV-14 provides expenditure weights and price differentials for each sample block and selected community. The price differential for the medical category is the average of the medical services differential and the medical insurance differential (1.00 for all sample blocks).

See table next page

Table IV-14: Medical Expenditure Weights and Price Differentials

Sample Block/Community	Expenditure Weight	Price Differential
Sample Blocks		
1 Anchorage	0.05	1.00
2 Fairbanks	0.05	1.07
3 Parks/Elliott/Steese Highways	0.10	1.05
4 Glennallen Region	0.04	0.96
5 Delta Junction/Tok Region	0.04	1.01
6 Roadless Interior	0.05	1.03
7 Juneau	0.05	1.03
8 Ketchikan/Sitka	0.06	1.03
9 Southeast Mid-Size Communities	0.08	0.98
10 Southeast Small Communities	0.05	1.01
11 Mat-Su	0.06	1.00
12 Kenai Peninsula	0.07	0.98
13 Prince William Sound	0.07	0.93
14 Kodiak	0.04	0.94
15 Arctic Region	0.03	1.05
16 Bethel/Dillingham	0.03	1.05
17 Aleutian Region	0.04	1.00
18 Southwest Small Communities	0.03	1.03
Communities		
Barrow	0.02	1.14
Bethel	0.03	1.04
Cordova	0.08	0.92
Dillingham	0.05	1.08
Homer	0.06	1.03
Ketchikan	0.06	1.04
Kotzebue	0.03	0.91
Nome	0.03	1.05
Petersburg	0.06	0.94
Sitka	0.05	1.02
Unalaska/Dutch Harbor	0.04	0.98
Valdez	0.07	0.92

All Other Household Expenditure Components

The components of the household budget described above (including housing, food, transportation, clothing, and medical) account for about 65 to 75 percent of the average household budget. The remainder of the typical household budget is composed of a broad range of goods and services. For purposes of this study, these have been grouped into the following categories:

- **Household furnishings and appliances**: furniture, furnishings, large and small appliances, tools, and household supplies. The category also includes televisions and other video equipment, stereos and other audio equipment, computers and related equipment.

- **Communications**: telephones/cell phones and related services, Internet services, cable TV, postage and delivery services.
- **Recreation and education**: sporting goods, toys, reading materials (newspapers and magazines), photography. Also includes pet food and supplies, tuition and related fees, and child-care services.
- **Personal care and other**: personal-care products and services, laundry services, legal and financial services. Other includes tobacco and alcohol.

The HCS did not collect data relevant to these spending categories and limited RPS data was collected to support the analysis of cost differentials.

Weighting (to reflect relative importance in the household budget) of various components within this category was accomplished by weighting each component in the same proportion as those components occur in the Anchorage Consumer Price Index (CPI). For example, CPI data indicates that this category accounts for approximately 22 percent of the after-tax household budget in Anchorage. Within the category, about one-third (32 percent) of the budget is for household furnishings and appliances, 13 percent for communication, 33 percent for recreation and education, and 22 percent for personal care and other. Regardless of how much of a community's average household budget was captured by the HCS, the un-captured portion was distributed among the "all other" subcategories according to these percentages. Table IV-15 illustrates this methodology.

Table IV-15: Estimation of Expenditure Weights in Spending Categories not Measured in the HCS

(Hypothetical Sample Block where 30 percent of Household Budget was not captured in HCS)

	Relative Importance from CPI Anchorage Data	Relative Importance within "All Other" Category	"All Other" Subcategory Expenditure Weights for Sample Block
Household furnishings/ appliances	7%	32%	9.6%
Communication	3	13	4.0
Recreation/education	7	33	9.8
Personal care/other	5	22	6.7
Total all other	**21%**	**100%**	**30%**

For calculation of price differentials in the "all other" category, the RPS collected prices for 23 items in the household furnishings and appliances category, seven communications services, and nine personal care items. The RPS also collected prices for one brand of cigarettes, seven different drinks at a bar and six alcohol items for consumption at home.

The communication price differential was calculated as the average of the monthly cost of basic and preferred cable (or satellite), Internet dial-up, Internet-DSL, phone, long distance rate per minute (in-state), and monthly wireless. If a particular service was not available in a community, that service was not included in the average.

Calculating the price differential for the recreation/education category was a two-step process. First, a recreation price differential was calculated as the average (unweighted) of price differentials for food (to account for pet food), clothing (proxy for toys, reading material, small sporting goods) and appliances (proxy for larger sporting good items). The price differential for education was set at 1.00 for all sample blocks and

communities, as identifying a meaningful education market basket suitable for Alaska communities was considered by the study team to be impractical.

The second step in calculating the price differential for the recreation/education category was to calculate the average of the recreation component and the education component, with recreation weighted at two-thirds and education at one-third.

The price differential of the personal care/other subcategory is the weighted average of the personal care market basket in the RPS (excluding tobacco), tobacco, and alcohol, weighted personal care 60 percent, alcohol 25 percent, and tobacco 15 percent. In dry communities, alcohol was not included in the average.

Table IV-16 provides expenditure weights and price differentials for the "all other" category.

Table IV-16: All Other Expenditure Weights and Price Differentials

Sample Block/Community		Expenditure Weight	Price Differential
Sample Blocks			
1	Anchorage	0.28	1.00
2	Fairbanks	0.25	1.05
3	Parks/Elliott/Steese Highways	0.29	1.06
4	Glennallen Region	0.23	1.02
5	Delta Junction/Tok Region	0.31	1.09
6	Roadless Interior	0.33	1.43
7	Juneau	0.32	1.14
8	Ketchikan/Sitka	0.29	1.15
9	Southeast Mid-Size Communities	0.30	1.21
10	Southeast Small Communities	0.34	1.20
11	Mat-Su	0.27	1.01
12	Kenai Peninsula	0.28	1.05
13	Prince William Sound	0.28	1.11
14	Kodiak	0.27	1.06
15	Arctic Region	0.34	1.50
16	Bethel/Dillingham	0.34	1.38
17	Aleutian Region	0.29	1.40
18	Southwest Small Communities	0.34	1.53
Communities			
	Barrow	0.37	1.54
	Bethel	0.36	1.36
	Cordova	0.37	1.23
	Dillingham	0.29	1.44
	Homer	0.30	1.04
	Ketchikan	0.29	1.11
	Kotzebue	0.38	1.55
	Nome	0.29	1.40
	Petersburg	0.40	1.21
	Sitka	0.29	1.22
	Unalaska/Dutch Harbor	0.30	1.37
	Valdez	0.25	1.05

Note on Subsistence-Related Activity

Subsistence harvests are a critically important part of many households' budgets. Within the framework of this study, the cost of subsistence activity is captured in the categories of transportation (vehicles and fuel), furnishings and appliances (outdoor equipment and supplies), and recreation (which includes "sporting goods"). The HCS asked for the percentage of household food supply obtained from activities such as hunting, fishing, gardening or berry-picking. The results of that question for each sample block are provided in the following table.

While subsistence activity was not factored into the differentials for each GDP, it reinforces the wide variations in expenditures related to food, transportation and recreation activities.

Table IV-17: Importance of Hunting, Fishing, Gardening, and Gathering in Household Food Supply

Sample Block		None	Less than 25%	25% to 50%	51% to 75%	More than 75%
1	Anchorage	37%	41%	18%	3%	1%
2	Fairbanks	30	44	19	4	1
3	Parks/Elliott/Steese Highways	26	40	17	15	2
4	Glennallen Region	10	28	28	20	14
5	Delta Junction/Tok Region	12	41	24	17	5
6	Roadless Interior	2	18	31	35	12
7	Juneau	37	45	13	3	2
8	Ketchikan/Sitka	27	46	21	5	2
9	Southeast Mid-Size Communities	9	48	22	13	2
10	Southeast Small Communities	12	27	31	21	6
11	Mat-Su	27	34	28	7	4
12	Kenai Peninsula	15	46	31	7	2
13	Prince William Sound	13	37	33	12	3
14	Kodiak	13	32	39	10	3
15	Arctic Region	14	32	27	19	7
16	Bethel/Dillingham	12	30	28	21	7
17	Aleutian Region	25	39	30	5	1
18	Southwest Small Communities	-	17	32	31	18