

# Technical Notes

for

## Economic Well-Being in Hawai'i: Family and Individual Self-Sufficiency— AUW Report

by  
Shi-Jen He  
Sarah Yuan  
Prabodh Illukpitiya  
Sylvia Yuen



University of Hawai'i at Mānoa  
Center on the Family

Honolulu, HI

March 2007

## TABLE OF CONTENTS

INTRODUCTION .....	4
METHODOLOGY .....	5
Housing.....	5
Child Care.....	5
Food .....	7
Transportation .....	8
Health Care .....	11
Miscellaneous.....	13
Taxes.....	14
ESTIMATES OF BASIC LIVING EXPENSES.....	20
APPENDIX A. Primary Data Sources .....	22
APPENDIX B. Child Care Cost Estimation, 2002-2005.....	23
APPENDIX C. Food Cost Estimation, 2002-2005 .....	25
APPENDIX D. Transportation Cost Estimation, 2002-2005 .....	27
APPENDIX E. Health Care Cost Estimation, 2002-2005 .....	31
APPENDIX F. Tax Credits, 2002-2005 .....	32
REFERENCES.....	35

## LIST OF TABLES

Table 1.	Median Rent for a Two-Bedroom Partly Furnished Apartment by County, 2002-2005 .....	5
Table 2.	Estimated Monthly Child Care Cost for a Pre-School Child and a School-Age Child by County, 2002-2005.....	6
Table 3.	Estimated Monthly Food Cost by Family Type and County, 2002-2005 .....	8
Table 4.	Estimated Monthly Public Transportation Cost by Adult vs. Youth and by Family Type, Honolulu, 2002-2005.....	9
Table 5.	Estimated Monthly Cost of Owning and Operating a Vehicle, Hawai'i, Maui, and Kaua'i Counties, 2002-2005 .....	11
Table 6.	Estimated Monthly Health Care Cost by Family Type, 2002-2005 .....	13
Table 7.	Estimated Monthly Miscellaneous Cost by Family Type and County, 2002-2005 .....	14
Table 8.	Federal and Hawai'i State Tax Credits, 2002-2005 .....	15
Table 9-1.	Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Honolulu, 2002-2005.....	18
Table 9-2.	Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Hawai'i, 2002-2005.....	18
Table 9-3.	Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Maui, 2002-2005 .....	19
Table 9-4.	Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Kaua'i, 2002-2005 .....	19
Table 10-1.	Estimated Monthly Expenses by Family Type, Honolulu, 2002-2005 .....	20
Table 10-2.	Estimated Monthly Expenses by Family Type, Hawai'i, 2002-2005 .....	20

Table 10-3.	Estimated Monthly Expenses by Family Type, Maui, 2002-2005 .....	21
Table 10-4.	Estimated Monthly Expenses by Family Type, Kaua'i, 2002-2005 .....	21
Table A-1.	Primary Data Sources by Cost Category .....	22
Table B-1.	Average Monthly Child Care Cost by Age Group and Geographic Area, 2005 .....	23
Table B-2.	Average Monthly Child Care Cost by Child Type and County, 2005.....	23
Table B-3.	A-Plus's Monthly Fee by County, 2005 .....	23
Table B-4.	Average Hourly Rate for Private Child Care by County, 2005 .....	23
Table B-5.	Average Monthly Child Care Cost by Child Type and County, 2005.....	23
Table B-6.	Estimated Monthly Child Care Costs for a Pre-School Child and a School-Age Child by County, 2002-2005 .....	24
Table C-1.	Monthly Food Cost by Family Type and District, 2003 .....	25
Table C-2.	Average Monthly Food Cost and Food Cost Ratio by Family Type and County, 2003.....	25
Table C-3.	Weekly and Monthly Food Cost by Age Group, Honolulu Metropolitan Area, 2002- 2005 .....	26
Table C-4.	Estimated Monthly Food Cost by Family Type and County, 2002-2005 .....	26
Table D-1.	Bus Fare Chronology for the City and County of Honolulu .....	27
Table D-2.	Average Monthly Bus Fare for the City and County of Honolulu, 2002-2005 .....	27
Table D-3.	Sample Annual Car Insurance Premiums by County, 2005 .....	27
Table D-4.	Estimated Annual Car Insurance Premiums by County, 2002-2005 .....	27
Table D-5.	Estimated Annual Car Registration Fees and Taxes, 2002-2005 .....	28
Table D-6.	Estimated Monthly Fixed Cost by County, 2002-2005 .....	28
Table D-7.	Estimated Monthly Fuel Cost, Hawai'i, Maui, and Kaua'i Counties, 2002-2005 .....	28
Table D-8.	Estimated Average Monthly Maintenance Cost, Hawai'i, Maui, and Kaua'i Counties, 2002-2005 .....	29
Table D-9.	Estimated Monthly Cost of Owning and Operating a Vehicle, Hawai'i, Maui, and Kaua'i Counties, 2002-2005 .....	29
Table D-10.	Monthly Private Transportation Cost by Family Type, Hawai'i, Maui, and Kaua'i Counties, 2002-2005 .....	30
Table D-11.	Monthly Transportation Cost by Family Type and County, 2002-2005 .....	30
Table E-1.	Average Employee Contribution for Family Coverage by Employment Sector, State of Hawai'i, 2002-2005 .....	31
Table E-2.	Median Out-of-Pocket Medical Expenses by Age Group and Family Type, State of Hawai'i, 2002-2005 .....	31
Table E-3.	Estimated Monthly Health Care Cost by Family Type, State of Hawai'i, 2002-2005 .....	31
Table F-1.	References Used in Tax Credits Estimation .....	32
Table F-2.	Selected Parameters Relating to Federal Tax Credit for Child and Dependent Care Expenses, 2002-2005 .....	32
Table F-3.	Selected Parameters Relating to Child Tax Credit, 2002-2005 .....	33
Table F-4.	Income Criteria for Earned Income Credit for a Family With Two Qualifying Children, 2002-2005 .....	33
Table F-5.	Selected Parameters Relating to Additional Child Tax Credit, 2002-2005 .....	33
Table F-6.	Income Criteria for Selected Tax Credits in State of Hawai'i, 2002-2005 .....	33
Table F-7.	Selected Parameters Relating to State Tax Credit for Child and Dependent Care Expenses, State of Hawai'i, 2002-2005.....	34

## INTRODUCTION

This technical documentation is a supplement to *Economic Well-Being in Hawai'i: Family and Individual Self-Sufficiency—AUW Report (2007)*, developed by Aloha United Way in collaboration with the Center on the Family and Hawai'i Kids Count (available at [www.uhfamily.hawaii.edu/publications/publications.asp](http://www.uhfamily.hawaii.edu/publications/publications.asp)). It documents the methodology, assumptions, and data sources used in estimating the basic living expenses for two prototype families in Hawai'i's four counties from 2002 to 2005. It also provides detailed tables of these estimates.

We defined individual and family economic self-sufficiency as having the amount of money required to meet basic needs without governmental or other subsidies. We assumed all adults work and the sources of family income are work earnings and refundable tax credits. Basic living expenses consist of taxes and the necessary elements of a decent standard of living, including housing, child care, food, transportation, health care, and other necessities such as clothing and household products. We assumed a “no-frills” budget that is far from luxurious (see Bernstein, Brocht, & Spade-Aguilar, 2000; Pearce & Brooks, 2003). Fair-market rates from creditable sources were used to derive the costs for basic living expenses (see Appendix A).

Self-sufficiency incomes were estimated for two family types: (1) a single-parent family with one pre-school child and one school-age child, and (2) a two-parent family with one pre-school child and one school-age child. A single-parent family was assumed to be headed by a female, based on the fact that children in single-parent homes are three times more likely to live with a mother than a father (U.S. Census Bureau, 2004). A parent was assumed to be an adult younger than 65 years old, a school-age child was 5-12 years old, and a pre-school child was newborn to 4 years old. These family prototypes can be used as benchmarks for other families. Multiple-year estimations, from 2002 to 2005, were calculated at the county level where cost differentials for various geographic areas within the state were analyzed.

A comprehensive self-sufficiency standard for Hawai'i was developed in 2003 by Dr. Diana Pearce and Jennifer Brooks for the Hawai'i State Commission on the Status of Women. Our attempts to update the 2003 self-sufficiency standard using the Consumer Price Index did not yield satisfactory results due to the differential increases in various living-cost components in different geographic areas between 2002 and 2005. Moreover, complete replication of Pearce and Brooks's work was not feasible for this study due to the limitations of data availability.

This study therefore adopted Pearce and Brooks's methodology with modifications. The modifications were necessary because (a) the estimates in this study were done for multiple years at the county level rather than for a single year at the district level, as in Pearce and Brooks's 2003 standard; (b) more updated and reliable data sources were used whenever possible; and (c) the changes in data sources required appropriate adjustments in assumptions and estimation procedures in accordance with the nature of the available data. Essentially, the housing, health care, and transportation costs were calculated using different data sources than were used in Pearce and Brooks's 2003 standard, whereas food and child care costs, taxes, and tax credits were estimated using the same data sources. Due to the changes in data sources and methodology,

direct comparison between Pearce and Brooks’s 2003 estimates and the estimates in our report is not feasible and is therefore not suggested.

Our methods of estimation, including cost components and estimation procedures, assumptions, data sources, and estimated expenses, are described in detail below. Note that estimations were rounded to the nearest whole number at the final step of our calculations; however, for ease of presentation we show rounded numbers in some intermediate tables, and as a result they may not produce the exact totals shown in the final tables. This technical document does not touch upon the background information or the application of the family self-sufficiency standard, which can be found in other reports, including those by Bernstein, Brocht, and Spade-Aguilar (2000) and Pearce and Brooks (2003).

## METHODOLOGY

### Housing

Housing cost refers to the rental cost (shelter rent plus utilities) for a privately owned, decent, safe, and sanitary rental housing unit of a modest (non-luxury) nature with suitable amenities. Housing cost was based on the prevailing long-term rent of partly furnished apartments including utilities of water and electricity, but not cable or telephone services. Two-bedroom apartments were assumed for both single-parent and two-parent families with two children, under the assumption that parents do not share a bedroom with children.

Housing cost data for each county were compiled by Prudential Locations LLC and Hawaii Information Service based on the advertisements for long-term rentals of partially furnished two-bedroom apartments listed in the newspapers with the largest circulation in each county (Table 1). Data for the years 2002-2004 for the City and County of Honolulu, 2002 for Hawai‘i County, and 2002-2003 for Maui and Kaua‘i Counties were provided by Prudential Locations LLC. The rest of the data were provided by Hawaii Information Services. The listed advertisements might or might not include electricity, and some included parking. It was assumed that the aggregated average rent should approximate that of shelter rent plus basic utilities.

**Table 1. Median Rent for a Two-Bedroom Partly Furnished Apartment by County, 2002-2005**

Year	Honolulu	Hawai‘i	Maui	Kaua‘i
2002	\$1,000	\$1,020	\$1,100	\$1,125
2003	\$1,250	\$1,100	\$1,317	\$1,100
2004	\$1,350	\$1,263	\$1,349	\$1,308
2005	\$1,703	\$1,293	\$1,475	\$1,368

Sources: Hawaii Information Service; Prudential Locations LLC

## Child Care

Child care expense is the cost incurred for families to keep children in private care and before- and after-school child care programs while parents are at work. It was assumed that pre-school children receive full-time private care (8 hours/day, 5 days/week, and 4.33 weeks/month) from either family child care homes (FCC) or group child care centers (GCC). School-age children, on the other hand, were assumed to receive two hours/day before-school private care and to be enrolled in the Department of Education’s A-Plus after-school program (\$55/month) during school days (9 months), and to receive full-time private care during school breaks and summer vacation (3 months).

Age- and county-specific child care costs for FCC and GCC for the year 2005 were obtained from the provider statistics published by PATCH. The child care expense for a pre-school child was approximated by taking the simple average of all types of private care for children 3-4 years old and 4-5 years old. Note that if the child care rates for infants and toddlers were considered in the calculations, the estimates would increase up to \$20 from the current estimates. For a school-age child, the monthly rate of private care was the average cost of all types of private care for children 5-10 years old. Since PATCH reported on two districts for Hawai’i County, their mean value was taken as the county average. Monthly child care expenses for the years 2002-2004 were estimated by deflating the 2005 figures using the annual Honolulu Consumer Price Index for urban wage earners and clerical workers (HCPI-W) (DBEDT’s *State of Hawaii data book 2005*). Mathematically, the monthly child care cost was calculated using the following formulas:

$$CCC = (CCC_{PS} + CCC_{SA}) * HCPI-W_{2005}$$

$$CCC_{PS} = (CCC_{0304} + CCC_{0405}) / 2$$

$$CCC_{SA} = [(CCC_{0510} / 8 * 2 + CCC_{APLUS}) * 9 + CCC_{0510} * 3] / 12$$

where

- CCC = Average monthly child care cost
- CCC<sub>PS</sub> = Average monthly child care cost for a pre-school child
- CCC<sub>SA</sub> = Average monthly child care cost for a school-age child
- CCC<sub>0304</sub> = Average monthly child care cost for a child aged 3-4
- CCC<sub>0405</sub> = Average monthly child care cost for a child aged 4-5
- CCC<sub>0510</sub> = Average monthly child care cost for a child aged 5-10
- CCC<sub>APLUS</sub> = Monthly fees for the A-Plus Program (\$55/month)
- HCPI-W<sub>2005</sub> = 2005-based annual Honolulu CPI-W deflator

Table 2 shows the estimated monthly child care cost for a pre-school child and a school-age child by county for the years 2002-2005. See Appendix B for more details.

**Table 2. Estimated Monthly Child Care Cost for a Pre-School Child and a School-Age Child by County, 2002-2005**

Year	Honolulu	Hawai’i	Maui	Kaua’i	HCPI-W <sub>2005</sub>
2002	721	597	648	611	0.91582
2003	735	609	661	624	0.93458
2004	759	629	682	644	0.96450
2005	787	652	707	668	1.00000

Sources: DBEDT’s *State of Hawaii data book 2005*; DOE, 2005; PATCH, 2005

## Food

The food cost represents the expense of a family's meeting the minimum nutritional standards as defined by the Department of Agriculture's *Official USDA Food Plans: Cost of Food at Home at Four Levels*. The food plans assume all meals and snacks are purchased at stores and prepared at home. The "low-cost plan" was believed to be more realistic than the "thrifty," as it is the second lowest-level food plan and still represents a very basic diet (Pearce & Brooks, 2003). Thus, the low-cost plan was adopted for the food-cost calculation.

To calculate the monthly food cost for the two family prototypes in each county, five adjustments were made based on USDA recommendations and some assumptions. First, USDA reports food costs for individuals in four-person families on a monthly basis. We followed USDA's advice of using the food cost for June as the average monthly food cost and of adding a 5% adjustment to the cost for each individual in a three-person family. Second, food costs for individual family members are based on age-specific estimates for children and age- and sex-specific estimates for adults as provided in USDA's low-cost food plan. The food cost for a female adult was assumed for the adult in a single-parent family. The estimates for the following age groups were used: 20-50 years old (for adults), 6-8 years old and 9-11 years old (where the simple average was taken) for school-age children, and 3-5 years old (for pre-school children). If food cost rates for infants and toddlers were considered in the calculations, the estimates would decrease up to \$12 from the current estimates. Third, the monthly food cost for a family was derived from the sum of the weekly costs associated with each individual family member, multiplied by a factor of 4.33. Fourth, USDA estimates for the low-cost plan are for the United States as a whole. To reflect the higher food costs in the Honolulu Metropolitan area, we used the same procedure as the USDA does of increasing the national estimates by 43.7% (Nord, Andrews, & Carlson, 2005 & 2006). Fifth, the food cost for the Honolulu Metropolitan area was assumed to approximate that of the City & County of Honolulu, to which we applied county food-cost ratios to take county variations into account and obtain county-specific food costs. The ratio is based on the food-cost estimates for each district in Hawai'i in 2003 as reported by Pearce and Brooks (2003) and was calculated as the ratio of the average cost of all districts in a county to the average cost of all districts in the City and County of Honolulu. Mathematically, the monthly food costs for the two family types were derived from the following formulas:

### *Single-Parent Family:*

$$FC_{1PF} = [FC_{AF} + FC_{KID0305} + (FC_{KID0608} + FC_{KID0911}) / 2] * 105\% * 4.33 * 143.7\% * \text{CountyR}$$

### *Two-Parent Family:*

$$FC_{2PF} = [FC_{AF} + FC_{AM} + FC_{KID0305} + (FC_{KID0608} + FC_{KID0911}) / 2] * 4.33 * 143.7\% * \text{CountyR}$$

where

$FC_{1PF}$  = Average monthly food cost for a single-parent family

$FC_{2PF}$  = Average monthly food cost for a two-parent family

$FC_{AF}$  = Average weekly food cost for a female adult aged 20-50

$FC_{AM}$  = Average weekly food cost for a male adult aged 20-50

$FC_{KID0305}$  = Average weekly food cost for a pre-school child aged 3-5

$FC_{KID0608}$  = Average weekly food cost for a child aged 6-8

$FC_{KID0911}$  = Average weekly food cost for a child aged 9-11

105% = Family-size adjustment factor for individuals in a three-person family  
 4.33 = Conversion factor for weekly food cost to monthly food cost  
 143.7% = Hawai'i food-cost adjustment factor  
 CountyR = County food-cost ratio benchmarked against City & County of Honolulu for the year 2003

Table 3 shows estimated monthly food cost by family types and county for the years 2002-2005. See Appendix C for details of the estimation.

**Table 3. Estimated Monthly Food Cost by Family Type and County, 2002-2005**

Year	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	Honolulu	Hawai'i	Maui	Kaua'i	Honolulu	Hawai'i	Maui	Kaua'i
2002	\$578	\$560	\$714	\$714	\$795	\$770	\$982	\$982
2003	\$590	\$571	\$728	\$728	\$812	\$786	\$1,002	\$1,002
2004	\$624	\$604	\$771	\$771	\$858	\$831	\$1,059	\$1,059
2005	\$631	\$611	\$779	\$779	\$869	\$841	\$1,073	\$1,073

Sources: Pearce & Brooks (2003); USDA, 2002-2005

## Transportation

Transportation cost is based on the cost either of using public transportation or of owning and operating a car for work trips, linking trips to daycare sites, trips for shopping, etc. Whenever public transportation is widely available, it was assumed to suffice for a family's basic transportation needs; thus, the cost of riding the bus was taken as the estimate of transportation cost. When public transportation is very limited or not available, transportation cost was estimated based on the cost of owning, maintaining, and operating a privately owned vehicle, including fixed and variable costs. For a two-parent family, we assumed both parents work and each needs a car to travel to and from their respective places of work on their respective work schedules.

For the City and County of Honolulu, transportation cost was the cost of public transportation, namely the monthly cost of bus passes. Although it would cost less to buy one annual pass than to buy 12 monthly passes, we assumed most people purchase bus passes on a monthly basis. Due to bus fare changes in 2002-2005, the average monthly cost for the bus was calculated by adding the cost of a monthly pass for each month of the year and dividing by 12. Children under 6 years old ride the bus free, and children 6-17 years old pay a 50% discounted bus fare. Mathematically, the monthly transportation costs for the two family types in the City and County of Honolulu were calculated using the following formulas:

*Single-Parent Family:*

$$TC_{1PB} = TC_{PBA} + TC_{PBY}$$

*Two-Parent Family:*

$$TC_{2PB} = TC_{PBA} * 2 + TC_{PBY}$$

where

- $TC_{1PB}$  = Monthly public transportation cost for a single-parent family
- $TC_{2PB}$  = Monthly public transportation cost for a two-parent family
- $TC_{PBA}$  = Monthly adult bus pass cost
- $TC_{PBY}$  = Monthly youth bus pass cost

Table 4 shows the estimated monthly cost of bus passes for a single-family and a two-parent family with one pre-school child and one school-age child.

**Table 4. Estimated Monthly Public Transportation Cost by Adult vs. Youth and by Family Type, Honolulu, 2002-2005**

Year	Adult	Youth	1 Adult + 1 Pre-School Child + 1 School-Age Child	2 Adults + 1 Pre-School Child + 1 School-Age Child
2005	\$40	\$20	\$60	\$100
2004	\$40	\$20	\$60	\$100
2003	\$31	\$15	\$46	\$77
2002	\$27	\$14	\$41	\$68

Source: DBEDT's *State of Hawaii data book 2005*

For other counties, due to the limited availability of public transportation, transportation cost was estimated based on the cost of private transportation. The private transportation cost covers the owning or fixed cost, including registration, taxes, and insurance; and the operation or variable cost, including fuel, maintenance, and repairs. The vehicle was assumed to run on regular gasoline. The maintenance and repair costs cover normal and preventive maintenance to assure sound and economical operation during the retention cycle of the vehicle. It was assumed that the vehicle has been acquired prior to the year for which the cost estimation is made and therefore no purchase and depreciation costs were included in the fixed cost. Also excluded from the fixed cost were such opportunity costs as safety cost and congestion cost. Mathematically, the monthly costs of private transportation for the two family types were calculated using the following formulas:

*Single-Parent Family:*

$$TC_{1PR} = (FC+VC)/12$$

*Two-Parent Family:*

$$TC_{2PR} = (FC+VC)/12*2$$

$$FC = (INS+REG)$$

$$INS = (PRVD_1+PRVD_2+PRVD_3+PRVD_4)/4*HCPI-W_{2005}$$

$$REG = TRR/NPCR$$

$$VC = (GC+MC)$$

$$GC = GAS\$*GAS$$

$$MC = MPM*AMY$$

$$MPM = MPM_{2003} * HCPI-W_{2003}$$

where

$TC_{1PR}$  = Monthly private transportation cost for a single-parent family

$TC_{2PR}$  = Monthly private transportation cost for a two-parent family

FC = Monthly cost of owning a vehicle (fixed cost)

VC = Monthly operation cost (variable cost)  
 INS = Annual auto insurance premium  
 REG = Annual registration fees and taxes  
 PRVD<sub>1</sub>-PRVD<sub>4</sub> = 2005 sample premiums of four major Hawai'i-based auto insurers  
 HCPI-W<sub>2005</sub> = 2005-based annual Honolulu CPI-W deflator  
 TRR = State annual registration revenue  
 NPCR = Total number of passenger cars registered  
 GC = Cost of gasoline  
 MC = Cost of maintenance and repair  
 GAS\$ = Average gas price per gallon  
 GAS = Average number of gallons of gas consumed per vehicle per year  
 MPM = Estimated cost of maintenance and repair per mile traveled  
 AMY = Average number of miles traveled per vehicle per year  
 MPM<sub>2003</sub> = Estimated cost of maintenance and repair per mile for the year 2003  
 HCPI-W<sub>2003</sub> = 2003-based annual Honolulu CPI-W adjustment factor

A number of sources were used in estimating the above costs. For auto insurance, the 2005 Sample Annual Premiums from the Department of Commerce and Consumer Affairs (DCCA) was used. The sample premiums were based on a 2004 Honda Accord DX, 4-door sedan or equivalent, with a clean record assumed. Annual auto insurance cost (INS) in each county was estimated to be the average of the sample premiums offered by four of the major or Hawaii-based automobile insurance companies—First Security Insurance of Hawaii, Inc., GEICO Indemnity Co., Government Employees Insurance Co., and Hawaiian Insurance & Guaranty Co., Ltd. The annual auto premiums for the years 2002-2004 were estimated by deflating the 2005 premiums with the HCPI-W.

Annual registration fees (REG) were estimated by dividing the state's annual registration fees and taxes received (TRR) (DOT's *Highway statistics*, 2002-2005) by the total number of passenger cars registered (NPCR) (DBEDT's *State of Hawaii data book*, 2002-2005).

The fuel cost (GC) was calculated by multiplying the per-gallon gas price by the number of gallons of gas consumed. The average per-gallon prices of regular gasoline (GAS\$) for each county for the years 2003-2005 were calculated based on the American Automobile Association's regular gasoline historical price data (as reported in DBEDT's weekly fuel price charts to June 25, 2006). Prices in Hilo and Wailuku were assumed to approximate the averages of Hawai'i County and Maui County respectively. Also assumed was that price of gas in Kaua'i County was the same as that in Maui County. Due to the lack of data, the prices in 2002 were estimated by multiplying the 2003 prices by the average rate of price change per year between 2003 and 2005. DBEDT's *State of Hawaii data book*, 2002-2005, was the source for the average number of gallons of gas a vehicle consumed annually (GAS).

Maintenance and repair costs (MC) were estimated by multiplying the per-mile maintenance cost by the number of miles traveled. For the year 2003, the per-mile maintenance cost in Honolulu (MPM<sub>2003</sub>) estimated by Runzheimer International was assumed to be applicable to all other counties (DBEDT's *State of Hawaii data book 2005*). The estimated cost was based on a typical intermediate-size vehicle, represented by the 2003 Ford Taurus SEL sedan, driven 15,000 miles per year and

retained for four years. The rate for 2003 was then adjusted for 2002, 2004, and 2005 (MPM) by applying HCPI-W. The annual average number of miles traveled per vehicle (AMY) was obtained from DBEDT's *State of Hawaii data book, 2002-2005*.

Table 5 shows the estimated monthly cost for owning and operating a vehicle. The total monthly cost for a 2-parent family is two times the amount shown in table 5 because we assumed both parents work and each needs a car to travel to and from work. See Appendix D for the details of each cost category relating to private and public transportation.

**Table 5. Estimated Monthly Cost of Owning and Operating a Vehicle, Hawai'i, Maui, and Kaua'i Counties, 2002-2005**

Year	County	Fixed Cost	Variable Cost	Total Monthly Cost
2002	Hawai'i	\$56	\$130	\$186
2002	Maui	\$52	\$120	\$172
2002	Kaua'i	\$45	\$120	\$166
2003	Hawai'i	\$58	\$145	\$203
2003	Maui	\$54	\$142	\$195
2003	Kaua'i	\$46	\$138	\$184
2004	Hawai'i	\$61	\$151	\$212
2004	Maui	\$56	\$138	\$195
2004	Kaua'i	\$49	\$146	\$195
2005	Hawai'i	\$63	\$168	\$232
2005	Maui	\$59	\$180	\$239
2005	Kaua'i	\$51	\$139	\$191

Sources: DBEDT's *State of Hawaii data book, 2002-2005*; DBEDT's weekly fuel price charts to June 25, 2006; DCCA, 2005; DOT's *Highway statistics, 2002-2005*

## Health Care

Health care cost includes health-insurance premiums and out-of-pocket medical expenses. The employee's share of the premium was assumed for the premium cost, as employers in Hawai'i are mandated to provide health insurance for all full-time employees and all adults in our prototype families were assumed to work full time. Each family was assumed to purchase one family health plan providing coverage for every family member. The out-of-pocket medical expenses were payments by individual family members and families for medical and health services received and medicines purchased.

The health-insurance premium rate was a weighted average of the premiums for a family plan paid by employees in the private sector, state and local governments, and federal government. The average private-sector rates for Hawai'i for 2002-2004 were obtained from the National Medical Expenditure Panel Survey (MEPS), and the 2005 rate was estimated by inflating the 2004 rate with the HCPI-W change in 2004-2005. The medical CPI was not used as the inflation factor because it was not available for 2005. The public-sector rate was the average of Kaiser and HMSA family plans offered to government employees in Hawai'i. The rates for federal employees for 2002-2005 were

those published by the U.S. Office of Personnel Management. The rates for state and local government employees for each fiscal year from 2003 to 2005 were published by Hawaii Employer-Union Health Benefits Trust Fund (EUTF), and the missing data for 2002 was estimated by deflating the 2003 rate by the rate of increase in 2002-2003 federal rates. The average employee premiums for the private sector, state and local governments, and federal government were first weighted by their respective proportions of total employees in each of these sectors in Hawai'i (0.80, 0.15, and 0.05 respectively) and then summed up to obtain the average health insurance cost. The weights were calculated based on 2004 employment statistics provided by MEPS and DBEDT's *State of Hawaii data book*.

The out-of-pocket expenses for a family were the sum of such spending by individual family members. The MEPS provides age-specific out-of-pocket medical spending data for Hawai'i from 2002 to 2004. The age groups that represented the closest approximation for members of our prototype family were included in this calculation: 0-4 years (pre-school children), 5-17 years (school-age children), and 25-44 years and 45-64 years (combined for adults). The MEPS reports the amount of out-of-pocket spending in five categories, with the estimated number of people in each spending category. We calculated the median spending for adults, pre-school children, and school-age children for 2002-2004 and inflated the 2004 figures to 2005 figures using HCPI-W change in 2004-2005. Mathematically, the monthly health care costs for the two family types were derived from the following formulas:

*Single-Parent Family:*

$$HCC_{1PF} = (IP + OPE_{1PF})/12$$

*Two-Parent Family:*

$$HCC_{2PF} = (IP + OPE_{2PF})/12$$

$$IP = PSR*0.80 + SGR*0.15 + FGR*0.05$$

$$SGR = (HMSA + Kaiser) / 2 * 12$$

$$FGR = (HMSA_{HIGH} + Kaiser_{HIGH}) / 2 * 12$$

$$OPE_{1PF} = OPE_{A2564} + OPE_{KID0004} + OPE_{KID0517}$$

$$OPE_{2PF} = OPE_{A2564} * 2 + OPE_{KID0004} + OPE_{KID0517}$$

where

$HCC_{1PF}$  = Average monthly health care cost for a single-parent family

$IP$  = Average annual employee premium for a family health insurance plan

$OPE_{1PF}$  = Average annual out-of-pocket expense for a single-parent family

$HCC_{2PF}$  = Average monthly health care cost for a two-parent family

$OPE_{2PF}$  = Average annual out-of-pocket expense for a two-parent family

$PSR$  = Average annual premium rate for a family health insurance plan for private-sector employees

0.80 = Weight for the private sector's premium rate

$SGR$  = Average annual premium rate for a family health insurance plan for state and local government employees

0.15 = Weight for the state and local governments' premium rate

$FGR$  = Average annual premium rate for a family health insurance plan for federal government employees in Hawai'i

0.05 = Weight for the federal government's premium rate

HMSA = State and local government employee’s monthly premium for HMSA family plan  
 Kaiser = State and local government employee’s monthly premium for Kaiser family plan  
 HMSA<sub>HIGH</sub> = Federal employee’s monthly premium for HMSA high family plan  
 Kaiser<sub>HIGH</sub> = Federal employee’s monthly premium for Kaiser high family plan  
 OPE<sub>A2564</sub> = Median annual out-of-pocket expense for an adult aged 25-64  
 OPE<sub>KID0004</sub> = Median annual out-of-pocket expense for a child aged 0-4  
 OPE<sub>KID0517</sub> = Median annual out-of-pocket expense for a child aged 5-17

Table 6 shows the average monthly health care costs for both family types during the period 2002-2005. See Appendix E for more details.

**Table 6. Estimated Monthly Health Care Cost by Family Type, 2002-2005**

Year	1 Adult + 1 Pre-School Child + 1 School-Age Child	2 Adults + 1 Pre-School Child + 1 School-Age Child
2002	\$191	\$205
2003	\$204	\$220
2004	\$233	\$248
2005	\$243	\$259

Sources: DBEDT’s *State of Hawaii data book 2004*; EUTF, 2003-2005; MEPS, 2002-2004; U.S. Office of Personnel Management, 2002-2005

## Miscellaneous

Included in this category were expenses for all other essentials, including clothing, personal hygiene and grooming, diapers, telephone service, household and cleaning products, and other items. The miscellaneous category was assumed to be 10% of the total of all other basic living costs except taxes (Pearce & Brooks, 2003). This is a conservative estimate, in comparison with the prevailing estimate of 15% in other studies on basic family budgets and the statistics reported by the Bureau of Labor Statistics based on the Consumer Expenditure Survey. Table 7 shows the average monthly spending in the miscellaneous category derived from the general formula below for the period 2002-2005.

$$\text{MISC} = (\text{Housing} + \text{CCC} + \text{FC} + \text{TC} + \text{HCC}) * 10\%$$

where

- MISC = Monthly spending in all other essentials
- Housing = Average monthly housing cost
- CCC = Average monthly child care cost
- FC = Average monthly food cost
- TC = Average monthly transportation cost
- HCC = Average monthly health care cost

**Table 7. Estimated Monthly Miscellaneous Cost by Family Type and County, 2002-2005**

Year	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	Honolulu	Hawai'i	Maui	Kaua'i	Honolulu	Hawai'i	Maui	Kaua'i
2002	\$253	\$250	\$282	\$280	\$279	\$289	\$327	\$325
2003	\$283	\$269	\$310	\$284	\$309	\$312	\$359	\$331
2004	\$303	\$323	\$323	\$315	\$331	\$373	\$373	\$365
2005	\$342	\$303	\$344	\$325	\$372	\$351	\$399	\$375

## Taxes

Taxes include the state general excise tax (GET), the federal Social Security and Medicare payroll taxes, state income taxes, and federal income taxes. Unlike the sales tax in other states, Hawaii's GET is applied to all businesses in Hawai'i and is a tax liability of individuals who conduct business. The law does not require that the tax be passed on to the customer. In practice, businesses involved in child care, medical services, and renting or leasing real estate tend not to collect GET from their customers, while most other businesses in wholesale and retail do. Thus GET of 4.16% was calculated only for food and miscellaneous expenses for the years 2002 to 2005.

Employees' contributions to the federal payroll taxes for Social Security and Medicare were calculated at 7.65% of each dollar earned for each year between 2002 and 2005.

State income taxes were calculated based on the N-11 forms, instructions, and related schedules for 2002-2005 from the Hawai'i State Department of Taxation. Federal income taxes were calculated based on 1040 forms, instructions, and related publications for 2002-2005 from the Internal Revenue Service of the U.S. Department of the Treasury. For each family prototype, income taxes were estimated after considering all applicable standard deductions, exemptions, non-refundable tax credits, and refundable tax credits.

Table 8 lists the non-refundable and refundable tax credits for state and federal income tax returns. Unlike non-refundable tax credits, which can only reduce tax owed to zero, refundable credits can reduce tax owed below zero and result in a refund or net payment.

**Table 8. Federal and Hawai'i State Tax Credits, 2002-2005**

Level	Non-Refundable Tax Credits	Refundable Tax Credits
Federal	<ul style="list-style-type: none"> <li>• Foreign tax credit<sup>a</sup></li> <li>• Child and dependent care expenses (CDCE)</li> <li>• Elderly or disabled<sup>a</sup></li> <li>• Education credits<sup>a</sup></li> <li>• Retirement savings contributions<sup>a</sup></li> <li>• Child tax credit (CTC)</li> <li>• Adoption credit<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Earned income credit (EIC)</li> <li>• Excess social security and tier 1 RRTA tax withheld<sup>a</sup></li> <li>• Additional child tax credit (ACTC)</li> </ul>
State	<ul style="list-style-type: none"> <li>• Energy conservation tax credit<sup>a</sup></li> <li>• Renewable energy technologies income tax credit<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Low-income refundable tax credit (HI_LIR)</li> <li>• Credit for low-income household renters (HI_LIHR)</li> <li>• Child and dependent care expenses (HI_CDCE)</li> <li>• Child passenger restraint system<sup>a</sup></li> <li>• Credit for \$1 general income tax (HI_GI)<sup>b</sup></li> </ul>

Notes: <sup>a</sup> Assumed to be zero for the prototype families in this study. <sup>b</sup> A one-time tax credit for the year 2002 only.

The two prototype families were eligible for two non-refundable tax credits in the federal tax return, Child and Dependent Care Expenses (CDCE) and Child Tax Credit (CTC). The federal CDCE tax credit allows working parents to deduct a percentage of their child care costs from the income tax they owe. The federal CTC, on the other hand, allowed families with qualifying children to deduct up to \$600 per child in the year 2002 and up to \$1,000 per child for each year from 2003 to 2005. The families were also determined for their eligibilities for the following refundable tax credits: (a) Earned Income Credit (EIC) and Additional Child Tax Credit (ACTC) at the federal level and (b) Low-Income Refundable Tax Credit (HI\_LIR), Low-Income Household Renters Credit (HI\_LIHR), CDCE, and General Income Tax Credit (HI\_GI) at the state level. The remaining tax credits listed in Table 8 were assumed to be zero for the prototype families in this study.

For tax and tax credit estimations, we assumed that (a) single parents file as heads of household and married couples file jointly for their income tax returns; (b) all adults are over 25 years of age and are not qualifying children of another person; (c) the prototype families file resident income tax returns and claim standard deduction rather than itemized deduction; (d) the only sources of income are those wages, salaries, tips, etc. reported on the W-2 form; (e) the families have no income adjustment and no other tax liabilities; (f) all family members are U.S. citizens or resident aliens; (g) none of the family members is elderly or disabled; (h) the prototype families may be eligible for tax credits for child and dependent care expenses, child tax, earned income, low-income, low-income renters, and general income tax; and (i) the total income tax withholdings approximate the amount of owed tax minus refundable tax credits and, therefore, a family's tax refunds in any specific year approximate zero.

Estimation of taxes and tax credits was based on family income, family type, number of children, and other assumptions mentioned above. By definition, family self-sufficiency income must be able

to cover the sum of living expenses and tax liabilities. To fulfill this condition, the estimation of taxes and tax credits are done via a series of iterations. The initial iteration took the total cost of housing, child care, food, transportation, health care, and miscellaneous as the initial estimate of a family's earned income (SS\_FEI<sub>i</sub>), based on which the applicable taxes and non-refundable and refundable tax credits were calculated. If the sum of SS\_FEI<sub>i</sub> and refundable tax credits was unable to balance the sum of total living costs and tax liabilities, the second iteration would take place using a revised estimate of earned income (SS\_FEI<sub>2</sub> = SS\_FEI<sub>1</sub>+taxes–non-refundable tax credits<sub>1</sub>–refundable tax credits<sub>1</sub>) to re-estimate taxes and tax credits. The estimation iteration ended when the assumed condition of self-sufficiency was met; i.e., total family income = total living expenses + tax liabilities.

Based on the formulas below, taxes, refundable and non-refundable tax credits, and estimated self-sufficient income were derived. Tables 9-1 through 9-4 show the resulting estimates for each county for the years 2002-2005. Due to rounding and the fact that income taxes are calculated based on income brackets, the monthly taxes and self-sufficient income estimates potentially have a margin of error of ±\$2. Information relating to tax credit estimation is provided in Appendix F.

$$\begin{aligned}
 SS\_FEI_i &= (LV\$*_{12}+TAXES_i-TC\_NRF_i-TC\_RF_i) \\
 LV\$ &= \text{Housing}+CCC+FC+TC+HCC+MISC \\
 TAXES_i &= GET\_HI_i+FICA_i+\$TAX_i \\
 GET\_HI &= GE\_TAX\_RATE*(FC+MISC) \\
 FICA_i &= SS\_FEI_i*7.65\% \\
 \$TAX_i &= \$TAX\_HI_i+\$TAX\_FED_i \\
 \$TAX\_HI_i &= Fn\_Taxtable(TAXABLE\$\_HI) \\
 \$TAX\_FED_i &= Fn\_Taxtable(TAXABLE\$\_FED) \\
 TAXABLE\$\_HI_i &= SS\_FEI_i-SD\_HI-EXP\_HI \\
 TAXABLE\$\_FED_i &= SS\_FEI_i-SD\_FED-EXP\_FED \\
 TC\_NRF_i &= TC\_NRF\_FED_i+TC\_NRF\_HI_i \\
 TC\_NRF\_FED_i &= CDCE_i+CTC_i, \text{ if } \$TAX\_FED_i \geq (CDCE_i+CTC_i) \\
 TC\_NRF\_FED_i &= \$TAX\_FED_i, \text{ if } \$TAX\_FED_i < (CDCE_i+CTC_i) \\
 CDCE_i &= Fn\_CDCE(QP, CCC, SS\_FEI_i, \$TAX\_FED_i) \\
 CTC_i &= Fn\_CTC(QP, \$TAX\_FED_i, CDCE_i) \\
 TC\_NRF\_HI &= 0 \\
 TC\_RF_i &= TC\_RF\_FED_i+TC\_RF\_HI_i \\
 TC\_RF\_FED_i &= EIC_i+ACTC_i \\
 EIC_i &= Fn\_EIC(SS\_FEI_i, EIC\_Thresholds) \\
 ACTC_i &= Fn\_ACTC(SS\_FEI_i, CTC_i, QP, \$TAX\_FED_i) \\
 TC\_RF\_HI_i &= HI\_LIR_i+HI\_LIHR_i+HI\_CDCE_i+HI\_GI \\
 HI\_LIR_i &= Fn\_LIR(SS\_FEI_i, QP) \\
 HI\_LIHR_i &= Fn\_LIHR(SS\_FEI_i, Rent, QP) \\
 HI\_CDCE_i &= Fn\_CDCE(SS\_FEI_i, CCC, QP) \\
 HI\_GI &= QP*1
 \end{aligned}$$

Estimation iteration  $i = 1 \sim N$

$$SS\_FEI_1 = LV\$*_{12}$$

$$SS\_FEI_{i+1} = SS\_FEI_i + (TAXES_i - TC\_NRF_i - TC\_RF_i), \text{ if } (LV\$ * 12 + TAXES_i - TC\_NRF_i - TC\_RF_i) / SS\_FEI_i > 1, \\ \text{ else } SS\_FEI = SS\_FEI_i$$

where

SS\_FEI = Annual family self-sufficient earned income  
*i* = Estimation iteration index (*i*=1~N)  
LV\$ = Monthly basic living cost  
TAXES = Annual sum of taxes  
TC\_NRF = Annual sum of non-refundable tax credits  
TC\_RF = Annual sum of refundable tax credits  
Housing = Average monthly housing cost  
CCC = Average monthly child care cost  
FC = Average monthly food cost  
TC = Average monthly transportation cost  
HCC = Average monthly health care cost  
MISC = Monthly spending in all other essentials  
GET\_HI = Annual sum of General Excise Tax on food and miscellaneous expenses  
GE\_TAX\_RATE = Hawai'i State General Excise Tax rate (4.16%)  
FICA = Employee payroll taxes for Social Security and Medicare  
\$TAX = Total income taxes  
\_HI = Hawai'i State  
\_US = US Federal  
Fn\_Taxtable = Amount of income tax owed in reference to the tax table  
TAXABLE\$ = Taxable income  
SD = Standard deduction  
EXP = Tax exemption  
CDCE = Federal Child and Dependent Care Expenses Tax Credit  
CTC = Federal Child Tax Credit  
Fn\_CDCE = Amount of CDCE in reference to related parameters  
Fn\_CTC = Amount of CTC in reference to related parameters  
QP = Number of qualifying person(s)  
EIC = Federal Earned Income Tax Credits  
ACTC = Federal Additional Child Tax Credits  
Fn\_EIC = Amount of EIC in reference to related parameters  
Fn\_ACTC = Amount of ACTC in reference to related parameters  
HI\_LIR = Hawai'i State Low-Income Refundable Tax Credit  
HI\_LIHR = Hawai'i State Credit for Low-Income Household Renters  
HI\_CDCE = Hawai'i State Credit for Child and Dependent Care Expenses  
HI\_GI = Year 2002 Hawai'i State Credit for General Income Tax  
Fn\_LIR = Amount of LIR in reference to related parameters  
Fn\_LIHR = Amount of LIHR in reference to related parameters

**Table 9-1. Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Honolulu, 2002-2005**

	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
<b>Earned income</b>	\$38,784	\$42,835	\$46,677	\$54,161	\$42,498	\$46,275	\$50,390	\$57,893
<b>Federal taxes</b>								
FICA	\$2,967	\$3,277	\$3,571	\$4,144	\$3,251	\$3,540	\$3,855	\$4,429
Income tax	\$2,931	\$3,501	\$4,024	\$5,069	\$2,794	\$2,986	\$3,526	\$4,539
<b>Federal tax credits</b>								
CDCE	-\$960	-\$1,260	-\$1,200	-\$1,200	-\$960	-\$1,200	-\$1,200	-\$1,200
CTC	-\$1,200	-\$2,000	-\$2,000	-\$2,000	-\$1,200	-\$1,786	-\$2,000	-\$2,000
ACTC	\$0	\$0	\$0	\$0	\$0	-\$214	\$0	\$0
EIC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>State taxes</b>								
GE tax	\$415	\$435	\$463	\$486	\$536	\$560	\$594	\$619
Income tax	\$1,998	\$2,306	\$2,598	\$3,182	\$1,999	\$2,273	\$2,585	\$3,155
<b>State tax credits</b>								
LIR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LIHR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CDCE	-\$768	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720
GI	-\$3	\$0	\$0	\$0	-\$4	\$0	\$0	\$0

**Table 9-2. Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Hawai'i, 2002-2005**

	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
<b>Earned income</b>	\$39,227	\$40,116	\$45,042	\$46,658	\$45,826	\$46,778	\$51,888	\$53,909
<b>Federal taxes</b>								
FICA	\$3,001	\$3,069	\$3,446	\$3,571	\$3,506	\$3,579	\$3,969	\$4,125
Income tax	\$2,999	\$3,096	\$3,776	\$3,944	\$3,296	\$3,061	\$3,751	\$3,939
<b>Federal tax credits</b>								
CDCE	-\$960	-\$1,320	-\$1,200	-\$1,200	-\$960	-\$1,200	-\$1,200	-\$1,200
CTC	-\$1,200	-\$1,776	-\$2,000	-\$2,000	-\$1,200	-\$1,861	-\$2,000	-\$2,000
ACTC	\$0	-\$224	\$0	\$0	\$0	-\$139	\$0	\$0
EIC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>State taxes</b>								
GE tax	\$407	\$419	\$448	\$456	\$532	\$548	\$584	\$595
Income tax	\$2,032	\$2,097	\$2,473	\$2,598	\$2,240	\$2,311	\$2,699	\$2,855
<b>State tax credits</b>								
LIR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LIHR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CDCE	-\$768	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720
GI	-\$3	\$0	\$0	\$0	-\$4	\$0	\$0	\$0

**Table 9-3. Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Maui, 2002-2005**

	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
<b>Earned income</b>	\$44,542	\$48,342	\$50,658	\$54,644	\$51,933	\$55,842	\$58,390	\$63,257
<b>Federal taxes</b>								
FICA	\$3,407	\$3,698	\$3,875	\$4,181	\$3,973	\$4,272	\$4,467	\$4,841
Income tax	\$3,794	\$4,326	\$4,624	\$5,144	\$4,211	\$4,419	\$4,726	\$5,341
<b>Federal tax credits</b>								
CDCE	-\$960	-\$1,200	-\$1,200	-\$1,200	-\$960	-\$1,200	-\$1,200	-\$1,200
CTC	-\$1,200	-\$2,000	-\$2,000	-\$2,000	-\$1,200	-\$2,000	-\$2,000	-\$2,000
ACTC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EIC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>State taxes</b>								
GE tax	\$497	\$519	\$546	\$561	\$654	\$680	\$715	\$735
Income tax	\$2,435	\$2,724	\$2,901	\$3,217	\$2,703	\$2,999	\$3,193	\$3,565
<b>State tax credits</b>								
LIR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LIHR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CDCE	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720
GI	-\$3	\$0	\$0	\$0	-\$4	\$0	\$0	\$0

**Table 9-4. Estimated Annual Self-Sufficient Earned Income, Taxes, and Tax Credits by Family Type, Kaua'i, 2002-2005**

	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
<b>Earned income</b>	\$44,212	\$43,307	\$49,140	\$50,920	\$51,481	\$50,589	\$56,880	\$58,635
<b>Federal taxes</b>								
FICA	\$3,382	\$3,313	\$3,759	\$3,896	\$3,938	\$3,870	\$4,351	\$4,487
Income tax	\$3,749	\$3,576	\$4,391	\$4,581	\$4,144	\$3,631	\$4,501	\$4,651
<b>Federal tax credits</b>								
CDCE	-\$960	-\$1,200	-\$1,200	-\$1,200	-\$960	-\$1,200	-\$1,200	-\$1,200
CTC	-\$1,200	-\$2,000	-\$2,000	-\$2,000	-\$1,200	-\$2,000	-\$2,000	-\$2,000
ACTC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EIC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>State taxes</b>								
GE tax	\$497	\$505	\$542	\$551	\$653	\$666	\$711	\$723
Income tax	\$2,408	\$2,340	\$2,785	\$2,925	\$2,668	\$2,600	\$3,079	\$3,212
<b>State tax credits</b>								
LIR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LIHR	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CDCE	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720	-\$720
GI	-\$3	\$0	\$0	\$0	-\$4	\$0	\$0	\$0

## ESTIMATES OF BASIC LIVING EXPENSES

The following tables present the estimated monthly living expenses by major-cost item, taxes, and tax credits for each county for the years 2002 to 2005. Due to rounding, items in the tables may not add up to their totals.

**Table 10-1. Estimated Monthly Expenses by Family Type, Honolulu, 2002-2005**

Monthly Expenses	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
Housing	\$1,000	\$1,250	\$1,350	\$1,703	\$1,000	\$1,250	\$1,350	\$1,703
Child care	\$721	\$735	\$759	\$787	\$721	\$735	\$759	\$787
Food	\$578	\$590	\$624	\$631	\$795	\$812	\$858	\$869
Transportation	\$41	\$46	\$60	\$60	\$68	\$77	\$100	\$100
Health care	\$191	\$204	\$233	\$243	\$205	\$220	\$248	\$259
Miscellaneous	\$253	\$283	\$303	\$342	\$279	\$309	\$331	\$372
Taxes	\$693	\$793	\$888	\$1,073	\$715	\$780	\$880	\$1,062
Tax credits								
CDCE	-\$144	-\$165	-\$160	-\$160	-\$140	-\$160	-\$160	-\$160
CTC	-\$100	-\$167	-\$167	-\$167	-\$100	-\$149	-\$167	-\$167
ACTC	\$0	\$0	\$0	\$0	\$0	-\$18	\$0	\$0
GI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Self-Sufficiency Wage</b>								
• Hourly	\$18	\$20	\$22	\$26	\$10	\$11	\$12	\$14
• Monthly	\$3,232	\$3,570	\$3,890	\$4,513	\$3,542	\$3,856	\$4,199	\$4,824
• Annual	\$38,784	\$42,835	\$46,677	\$54,161	\$42,498	\$46,275	\$50,390	\$57,893

**Table 10-2. Estimated Monthly Expenses by Family Type, Hawai'i, 2002-2005**

Monthly Expenses	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
Housing	\$1,020	\$1,100	\$1,263	\$1,293	\$1,020	\$1,100	\$1,263	\$1,293
Child care	\$597	\$609	\$629	\$652	\$597	\$609	\$629	\$652
Food	\$560	\$571	\$604	\$611	\$770	\$786	\$831	\$841
Transportation	\$186	\$203	\$212	\$232	\$373	\$406	\$424	\$463
Health care	\$191	\$204	\$233	\$243	\$205	\$220	\$248	\$259
Miscellaneous	\$255	\$269	\$294	\$303	\$296	\$312	\$339	\$351
Taxes	\$703	\$723	\$845	\$881	\$798	\$792	\$917	\$960
Tax credits								
CDCE	-\$144	-\$170	-\$160	-\$160	-\$140	-\$160	-\$160	-\$160
CTC	-\$100	-\$148	-\$167	-\$167	-\$100	-\$155	-\$167	-\$167
ACTC	\$0	-\$19	\$0	\$0	\$0	-\$12	\$0	\$0
GI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Self-Sufficiency Wage</b>								
• Hourly	\$19	\$19	\$21	\$22	\$11	\$11	\$12	\$13
• Monthly	\$3,269	\$3,343	\$3,753	\$3,888	\$3,819	\$3,898	\$4,324	\$4,492
• Annual	\$39,227	\$40,116	\$45,042	\$46,658	\$45,826	\$46,778	\$51,888	\$53,909

Table 10-3. Estimated Monthly Expenses by Family Type, Maui, 2002-2005

Monthly Expenses	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
Housing	\$1,100	\$1,317	\$1,349	\$1,475	\$1,100	\$1,317	\$1,349	\$1,475
Child care	\$648	\$661	\$682	\$707	\$648	\$661	\$682	\$707
Food	\$714	\$728	\$771	\$779	\$982	\$1,002	\$1,059	\$1,073
Transportation	\$172	\$195	\$195	\$239	\$344	\$390	\$390	\$478
Health care	\$191	\$204	\$233	\$243	\$205	\$220	\$248	\$259
Miscellaneous	\$283	\$311	\$323	\$344	\$328	\$359	\$373	\$399
Taxes	\$844	\$939	\$996	\$1,092	\$962	\$1,031	\$1,092	\$1,207
Tax credits								
CDCE	-\$140	-\$160	-\$160	-\$160	-\$140	-\$160	-\$160	-\$160
CTC	-\$100	-\$167	-\$167	-\$167	-\$100	-\$167	-\$167	-\$167
ACTC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Self-Sufficiency Wage</b>								
• Hourly	\$21	\$23	\$24	\$26	\$12	\$13	\$14	\$15
• Monthly	\$3,712	\$4,029	\$4,222	\$4,554	\$4,328	\$4,653	\$4,866	\$5,271
• Annual	\$44,542	\$48,342	\$50,658	\$54,644	\$51,933	\$55,842	\$58,390	\$63,257

Table 10-4. Estimated Monthly Expenses by Family Type, Kaua'i, 2002-2005

Monthly Expenses	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	2002	2003	2004	2005	2002	2003	2004	2005
Housing	\$1,125	\$1,100	\$1,308	\$1,368	\$1,125	\$1,100	\$1,308	\$1,368
Child care	\$611	\$624	\$644	\$668	\$611	\$624	\$644	\$668
Food	\$714	\$728	\$771	\$779	\$982	\$1,002	\$1,059	\$1,073
Transportation	\$166	\$184	\$195	\$191	\$331	\$368	\$389	\$381
Health care	\$191	\$204	\$233	\$243	\$205	\$220	\$248	\$259
Miscellaneous	\$281	\$284	\$315	\$325	\$325	\$331	\$365	\$375
Taxes	\$836	\$811	\$956	\$996	\$950	\$897	\$1,054	\$1,089
Tax credits								
CDCE	-\$140	-\$160	-\$160	-\$160	-\$140	-\$160	-\$160	-\$160
CTC	-\$100	-\$167	-\$167	-\$167	-\$100	-\$167	-\$167	-\$167
ACTC	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GI	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>Self-Sufficiency Wage</b>								
• Hourly	\$21	\$21	\$23	\$24	\$12	\$12	\$13	\$14
• Monthly	\$3,684	\$3,609	\$4,095	\$4,243	\$4,290	\$4,216	\$4,740	\$4,886
• Annual	\$44,212	\$43,307	\$49,140	\$50,920	\$51,481	\$50,589	\$56,880	\$58,635

## APPENDIX A

### Primary Data Sources

Table A-1. Primary Data Sources by Cost Category

Cost Category	Data Source
Housing	Hawaii Information Service; Prudential Locations, LLC
Child care	Hawai'i State Department of Education (DOE); PATCH
Food	Official USDA Food Plans
Health care	Hawai'i State Employer-Union Health Benefits Trust Fund (EUTF); National Medical Expenditure Panel Survey (MEPS); U.S. Office of Personnel Management
Transportation	American Automobile Association (AAA); Hawai'i State Department of Business, Economic Development and Tourism (DBEDT); Hawai'i State Department of Commerce and Consumer Affairs (DCCA); U.S. Department of Transportation
Taxes	Hawai'i State Department of Taxation; U.S. Department of the Treasury

## APPENDIX B

### Child Care Cost Estimation, 2002-2005

**Table B-1. Average Monthly Child Care Cost by Age Group and Geographic Area, 2005**

Age Group	Honolulu	Hawai'i (WH+EH)/2	Maui	Kaua'i	West Hawai'i (WH)	East Hawai'i (EH)
3 to 4 years	\$518	\$431	\$463	\$430	\$474	\$387
4 to 5 years	\$518	\$419	\$464	\$435	\$457	\$381
5 to 10 years	\$520	\$425	\$463	\$443	\$426	\$424

Source: Statistics on all types of child care from PATCH, 2005

**Table B-2. Average Monthly Child Care Cost by Child Type and County, 2005**

Child Type	Age Group	Honolulu	Hawai'i	Maui	Kaua'i
Pre-school	3 to 5 years	\$518	\$425	\$464	\$433
School-age	5 to 10 years	\$520	\$425	\$463	\$443

Notes: Costs were derived from Table B-1. Costs for pre-school children were based on the average of age groups 3-4 and 4-5.

**Table B-3. A-Plus's Monthly Fee by County, 2005**

Child Type	Honolulu	Hawai'i	Maui	Kaua'i
School-age	\$55	\$55	\$55	\$55

Source: DOE, 2005

**Table B-4. Average Hourly Rate of Private Child Care by County, 2005**

Child Type	Honolulu	Hawai'i	Maui	Kaua'i
School-age	\$3.00	\$2.45	\$2.67	\$2.56

Note: Rates based on Table B-2.

**Table B-5. Average Monthly Child Care Cost by Child Type and County, 2005**

Child Type	Honolulu	Hawai'i	Maui	Kaua'i
1 pre-school child	\$518	\$425	\$464	\$433
1 school-age child	\$269	\$227	\$244	\$235
2 children (1 pre-school and 1 school-age)	\$787	\$652	\$707	\$668

Notes: Child care cost for a pre-school child was based on full-time private care rate. For a school-age child, we assumed the use of A-Plus and 2 hours/day private care for school days (9 months) and full-time private care for school vacations and breaks (3 months).

**Table B-6. Estimated Monthly Child Care Costs for a Pre-School Child and a School-Age Child by County, 2002-2005**

Year	Honolulu	Hawai'i	Maui	Kaua'i	HCPI-W	HCPI-W <sub>2005</sub>
2002	\$720.52	\$597.06	\$647.77	\$611.37	180.6	0.91582
2003	\$735.28	\$609.29	\$661.04	\$623.89	184.3	0.93458
2004	\$758.82	\$628.80	\$682.21	\$643.87	190.2	0.96450
2005	\$786.75	\$651.94	\$707.31	\$667.56	197.2	1.00000

Note: Costs for 2005 were deflated by the HCPI-W<sub>2005</sub> to the costs for 2002-2004.

Sources: DBEDT's *State of Hawaii data book 2005*; DOE, 2005; PATCH, 2005

## APPENDIX C

### Food Cost Estimation, 2002-2005

**Table C-1. Monthly Food Cost by Family Type and District, 2003**

Family Type	Honolulu				Hawai'i		Maui		Kaua'i
	District				District		District		District
	1	2	3	4	5	6	7	8	9
1 adult + 1 pre-school child + 1 school-age child	\$579	\$579	\$579	\$579	\$622	\$499	\$715	\$715	\$715
2 adults + 1 pre-school child + 1 school-age child	\$796	\$796	\$796	\$796	\$856	\$686	\$983	\$983	\$983

Notes: District 1: East Honolulu, Waikīkī, and Urban Honolulu–Makai; District 2: Urban Honolulu–Mauka; District 3: Central and Windward; District 4: North Shore, Wai'anae, and Wahiawā; District 5: Kamuela, Kailua-Kona, Waikōloa, Keauhou, Hōlualoa; District 6: Hawai'i County, excluding District 5; District 7: City of Lahaina; District 8: Maui County, excluding District 7; District 9: Kaua'i County.

Source: Pearce & Brooks (2003)

**Table C-2. Average Monthly Food Cost and Food Cost Ratio by Family Type and County, 2003**

Family Type	Honolulu	Hawai'i	Maui	Kaua'i
1 adult + 1 pre-school child + 1 school-age child <sup>a</sup>	\$579.0	\$560.5	\$715.0	\$715.0
• Ratio1 <sup>b</sup>	1.0000	0.9680	1.2349	1.2349
2 adults + 1 pre-school child + 1 school-age child <sup>a</sup>	\$796.0	\$771.0	\$917.0	\$983.0
• Ratio2 <sup>b</sup>	1.0000	0.9686	1.2349	1.2349

Notes: <sup>a</sup> Average monthly cost for each county was derived from its district average (see Table C-1).

<sup>b</sup> Ratio1 and Ratio2 used the City and County of Honolulu as the benchmark.

**Table C-3. Weekly and Monthly Food Cost by Age Group, Honolulu Metropolitan Area, 2002-2005**

Year	Age Group	USDA Weekly Food Cost	USDA Honolulu Adjustment Factor	Honolulu Weekly Food Cost	Honolulu Monthly Food Cost	Honolulu Monthly Food Cost for an Individual in a 3-Person Family (+5%)
2002	Pre-school (3-5 years)	\$22.40	143.70%	\$32.19	\$139.38	\$146.35
	School-age	\$31.80	143.70%	\$45.70	\$197.87	\$207.76
	• 6-8 years	\$29.80				
	• 9-11 years	\$33.80				
	Adult (male)	\$39.30	143.70%	\$56.47	\$244.53	\$256.76
	Adult (female)	\$34.30	143.70%	\$49.29	\$213.42	\$224.09
2003	Pre-school (3-5 years)	\$22.80	143.70%	\$32.76	\$141.87	\$148.96
	School-age	\$32.45	143.70%	\$46.63	\$201.91	\$212.01
	• 6-8 years	\$30.40				
	• 9-11 years	\$34.50				
	Adult (male)	\$40.20	143.70%	\$57.77	\$250.13	\$262.64
	Adult (female)	\$35.00	143.70%	\$50.30	\$217.78	\$228.67
2004	Pre-school (3-5 years)	\$24.30	143.70%	\$34.92	\$151.20	\$158.76
	School-age	\$34.45	143.70%	\$49.50	\$214.36	\$225.07
	• 6-8 years	\$32.40				
	• 9-11 years	\$36.50				
	Adult (male)	\$42.30	143.70%	\$60.79	\$263.20	\$276.36
	Adult (female)	\$36.80	143.70%	\$52.88	\$228.98	\$240.43
2005	Pre-school (3-5 years)	\$24.40	143.70%	\$35.06	\$151.82	\$159.41
	School-age	\$34.80	143.70%	\$50.01	\$216.53	\$227.36
	• 6-8 years	\$32.70				
	• 9-11 years	\$36.90				
	Adult (male)	\$43.00	143.70%	\$61.79	\$267.56	\$280.93
	Adult (female)	\$37.40	143.70%	\$53.74	\$232.71	\$244.35

Sources: Nord et al. (2005 & 2006); USDA low-cost food plan, 2002-2005

**Table C-4. Estimated Monthly Food Cost by Family Type and County, 2002-2005**

Year	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	Honolulu	Hawai'i	Maui	Kaua'i	Honolulu	Hawai'i	Maui	Kaua'i
2002	\$578	\$560	\$714	\$714	\$795	\$770	\$982	\$982
2003	\$590	\$571	\$728	\$728	\$812	\$786	\$1,002	\$1,002
2004	\$624	\$604	\$771	\$771	\$858	\$831	\$1,059	\$1,059
2005	\$631	\$611	\$779	\$779	\$869	\$841	\$1,073	\$1,073

Notes: Costs in the Honolulu Metropolitan area shown in Table C-3 were assumed to approximate those of the City and County of Honolulu. Food cost ratios shown in Table C-2 were applied to the estimates for the City and County of Honolulu to obtain the estimates for other counties. It was assumed that food cost variation across counties remained constant between 2002 and 2005.

Sources: Pearce & Brooks (2003); USDA, 2002-2005

## APPENDIX D

### Transportation Cost Estimation, 2002-2005

**Table D-1. Bus Fare Chronology for the City and County of Honolulu**

Effective Date	Monthly Pass	
	Adult	Youth
July 1, 2001	\$27.00	\$13.50
July 1, 2003	\$30.00	\$13.50
October 1, 2003	\$40.00	\$20.00

Source: DBEDT's *State of Hawaii data book 2005*

**Table D-2. Average Monthly Bus Fare for the City and County of Honolulu, 2002-2005**

Year	Adult	Youth	1 Adult + 1 Youth	2 Adults + 1 Youth
2002	\$27	\$14	\$41	\$68
2003	\$31	\$15	\$46	\$77
2004	\$40	\$20	\$60	\$100
2005	\$40	\$20	\$60	\$100

Notes: Values were derived from the average cost of 12 monthly passes in any given year. The averages are rounded to the nearest whole number.

**Table D-3. Sample Annual Car Insurance Premiums by County, 2005**

Provider	Honolulu	Hawai'i	Maui	Kaua'i
First Security Insurance of Hawaii, Inc.	\$724	\$754	\$626	\$573
GEICO Indemnity Co.	\$692	\$668	\$651	\$506
Government Employees Insurance Co.	\$470	\$497	\$476	\$361
Hawaiian Insurance & Guaranty Co., Ltd.	\$616	\$639	\$596	\$543
<b>Average</b>	\$626	\$640	\$587	\$496

Source: Hawai'i State Department of Commerce and Consumer Affairs (DCCA)

**Table D-4. Estimated Annual Car Insurance Premiums by County, 2002-2005**

Year	Honolulu	Hawai'i	Maui	Kaua'i	HCPI-W <sub>2005</sub>
2002	\$573	\$586	\$538	\$454	0.91582
2003	\$585	\$598	\$549	\$463	0.93458
2004	\$603	\$617	\$566	\$478	0.96450
2005	\$626	\$640	\$587	\$496	1.00000

Note: 2002-2004 figures were estimated by deflating the 2005 figures with HCPI-W.

**Table D-5. Estimated Annual Car Registration Fees and Taxes, 2002-2005**

Year	Registration Fees Receipts (in Thousands)	Passenger Vehicles Registered	Registration Fees/Vehicle
2002	\$71,566	792,482	\$90
2003	\$77,952	830,672	\$94
2004	\$96,094	867,120	\$111
2005	\$108,453	906,799	\$120

Sources: DBEDT's *State of Hawaii data book*, 2002-2005; DOT's *Highway statistics*, 2002-2005

**Table D-6. Estimated Monthly Fixed Cost by County, 2002-2005**

Year	Honolulu	Hawai'i	Maui	Kaua'i
2002	\$55	\$56	\$52	\$45
2003	\$57	\$58	\$54	\$46
2004	\$60	\$61	\$56	\$49
2005	\$62	\$63	\$59	\$51

Note: Monthly fixed cost was the sum of car insurance premiums (Table D-4) and car registration fees (Table D-5), divided by 12.

**Table D-7. Estimated Monthly Fuel Cost, Hawai'i, Maui, and Kaua'i Counties, 2002-2005**

Year	County	Highway Fuel Consumption, Gallons/Vehicle	Gas Price/Gallon	Annual Gas Price % Change	Estimated Annual Change <sup>a</sup>	Estimated Gas Price/Gallon	Monthly Fuel Cost/Vehicle
2002	Hawai'i	563			88.63%	\$1.84	\$86
2002	Maui	474			88.91%	\$2.01	\$79
2002	Kaua'i	443			88.91%	\$2.01	\$74
2003	Hawai'i	583	\$2.08	90.08%		\$2.08	\$101
2003	Maui	534	\$2.26	88.59%		\$2.26	\$101
2003	Kaua'i	480	\$2.26	88.59%		\$2.26	\$90
2004	Hawai'i	548	\$2.31	87.18%		\$2.31	\$105
2004	Maui	452	\$2.55	89.24%		\$2.55	\$96
2004	Kaua'i	456	\$2.55	89.24%		\$2.55	\$97
2005	Hawai'i	541	\$2.65	100.00%		\$2.65	\$119
2005	Maui	531	\$2.86	100.00%		\$2.86	\$127
2005	Kaua'i	378	\$2.86	100.00%		\$2.86	\$90

Note: <sup>a</sup> Values were based on the average % change of 2003 and 2004.

Sources: DBEDT's *State of Hawaii data book*, 2002-2005; DBEDT's weekly fuel price charts to June 25, 2006

**Table D-8. Estimated Average Monthly Maintenance Cost, Hawai'i, Maui, and Kaua'i Counties, 2002-2005**

Year	County	Miles of Travel/Vehicle	2003 Cost-per-Mile Maintenance Cost	HCPI-W Adjustor	Monthly Maintenance Cost
2002	Hawai'i	9,733	\$0.055	0.97992	\$44
2002	Maui	8,958	\$0.055	0.97992	\$40
2002	Kaua'i	10,292	\$0.055	0.97992	\$46
2003	Hawai'i	9,726	\$0.055	1.00000	\$44
2003	Maui	8,952	\$0.055	1.00000	\$41
2003	Kaua'i	10,291	\$0.055	1.00000	\$47
2004	Hawai'i	9,729	\$0.055	1.03201	\$46
2004	Maui	8,941	\$0.055	1.03201	\$42
2004	Kaua'i	10,287	\$0.055	1.03201	\$49
2005	Hawai'i	10,043	\$0.055	1.06999	\$49
2005	Maui	10,932	\$0.055	1.06999	\$54
2005	Kaua'i	10,066	\$0.055	1.06999	\$49

Source: DBEDT's *State of Hawaii data book*, 2002-2005

**Table D-9. Estimated Monthly Cost of Owning and Operating a Vehicle, Hawai'i, Maui, and Kaua'i Counties, 2002-2005**

Year	County	Fixed Cost	Variable Cost	Total Monthly Cost
2002	Hawai'i	\$56	\$130	\$186
2002	Maui	\$52	\$120	\$172
2002	Kaua'i	\$45	\$120	\$166
2003	Hawai'i	\$58	\$145	\$203
2003	Maui	\$54	\$142	\$195
2003	Kaua'i	\$46	\$138	\$184
2004	Hawai'i	\$61	\$151	\$212
2004	Maui	\$56	\$138	\$195
2004	Kaua'i	\$49	\$146	\$195
2005	Hawai'i	\$63	\$168	\$232
2005	Maui	\$59	\$180	\$239
2005	Kaua'i	\$51	\$139	\$191

Notes: Cost estimation based on data from Tables D-6, D-7, and D-8. Items may not add up exactly to their totals due to rounding.

**Table D-10. Monthly Private Transportation Cost by Family Type, Hawai'i, Maui, and Kaua'i Counties, 2002-2005**

Year	County	1-Adult Family	2-Adult Family
2002	Hawai'i	\$186	\$373
2002	Maui	\$172	\$344
2002	Kaua'i	\$166	\$331
2003	Hawai'i	\$203	\$406
2003	Maui	\$195	\$390
2003	Kaua'i	\$184	\$368
2004	Hawai'i	\$212	\$424
2004	Maui	\$195	\$390
2004	Kaua'i	\$195	\$389
2005	Hawai'i	\$232	\$463
2005	Maui	\$239	\$478
2005	Kaua'i	\$191	\$381

Note: Two cars are assumed for a 2-adult family.

**Table D-11. Monthly Transportation Cost by Family Type and County, 2002-2005**

Year	1 Adult + 1 Pre-School Child + 1 School-Age Child				2 Adults + 1 Pre-School Child + 1 School-Age Child			
	Honolulu	Hawai'i	Maui	Kaua'i	Honolulu	Hawai'i	Maui	Kaua'i
2002	\$41	\$186	\$172	\$166	\$68	\$373	\$344	\$331
2003	\$46	\$203	\$195	\$184	\$77	\$406	\$390	\$368
2004	\$60	\$212	\$195	\$195	\$100	\$424	\$390	\$389
2005	\$60	\$232	\$239	\$191	\$100	\$463	\$478	\$381

Sources: DBEDT's *State of Hawaii data book*, 2002-2005; DBEDT's weekly fuel price charts to June 25, 2006; DCCA, 2005; DOT's *Highway statistics*, 2002-2005

## APPENDIX E

### Health Care Cost Estimation, 2002-2005

**Table E-1. Average Employee Contribution for Family Coverage by Employment Sector, State of Hawai'i, 2002-2005**

Year	Private Sector <sup>a</sup>	State and Local Government			Federal Government			Weighted Average
		HMSA	Kaiser	Average <sup>b</sup>	HMSA (high)	Kaiser (high)	Average	
2002	\$1,978	n/a	n/a	\$2,682	\$1,556	\$1,708	\$1,632	\$2,066
2003	\$2,048	\$3,334	\$2,819	\$3,077	\$1,743	\$2,001	\$1,872	\$2,194
2004	\$2,368	\$3,605	\$3,607	\$3,606	\$1,952	\$2,252	\$2,102	\$2,541
2005	\$2,455	\$3,872	\$3,868	\$3,870	\$2,138	\$2,386	\$2,262	\$2,659
Estimated no. of employees 2004	465,623		88,600			31,450		
Sector weight	0.80		0.15			0.05		1.00

Notes: <sup>a</sup> Private-sector rate for 2005 was obtained by inflating the 2004 rate by HCPI-W ratio of 2005 to 2004 (1.037). <sup>b</sup> The 2002 average for the state and local government employees was obtained by deflating the 2003 average with the proportion of federal rate change from 2003 to 2002 (0.872).

Sources: DBEDT's *State of Hawaii data book 2004*; Hawaii State Employer-Union Health Benefits Trust Fund, 2003-2005; Medical Expenditure Panel Survey, 2002-2004; U.S. Office of Personnel Management, 2002-2005

**Table E-2. Median Out-of-Pocket Medical Expenses by Age Group and Family Type, State of Hawai'i, 2002-2005**

Year	Age Group			Family With 1 Pre-School Child and 1 School-Age Child	
	0-4	5-17	25+	One Parent	Two Parents
2002	\$36	\$33	\$161	\$231	\$392
2003	\$39	\$37	\$182	\$258	\$441
2004	\$34	\$37	\$182	\$252	\$434
2005 <sup>a</sup>	\$35	\$38	\$188	\$262	\$450

Note: <sup>a</sup> 2005 age-specific figures were obtained by inflating the 2004 figures with change in HCPI-W (1.037).

Source: Medical Expenditure Panel Survey, 2002-2004

**Table E-3. Estimated Monthly Health Care Cost by Family Type, State of Hawai'i, 2002-2005**

Year	1 Parent + 1 Pre-School Child + 1 School-Age Child	2 Parents + 1 Pre-School Child + 1 School-Age Child
2002	\$191	\$205
2003	\$204	\$220
2004	\$233	\$248
2005	\$243	\$259

Note: Estimation based on Tables E-1 and E-2.

## APPENDIX F

### Tax Credits, 2002-2005

**Table F-1. References Used in Tax Credits Estimation**

Level	Tax Credit	Reference
Federal	Child and dependent care expenses	1040 Instruction and Pub. 503
	Child tax credit	1040 Instruction and Pub. 972
	Earned income credit	1040 Instruction
	Additional child tax credit	Form 8812
State	Low-income refundable tax credit	Schedule X
	Credit for low-income household renters	Schedule X
	Child and dependent care expenses	Schedule X

**Table F-2. Selected Parameters Relating to Federal Tax Credit for Child and Dependent Care Expenses,<sup>a</sup> 2002-2005**

	2002	2003	2004	2005
Maximum Qualifying expense				
1 child	\$2,400		\$3,000	
2 or more children	\$4,800		\$6,000	
Decimal amount	For AGI <sup>b</sup> over-but not over		For AGI <sup>b</sup> over-but not over	
0.35			\$0-\$15,000	
0.34			\$15,000-\$17,000	
0.33			\$17,000-\$19,000	
0.32			\$19,000-\$21,000	
0.31			\$21,000-23,000	
0.30	\$0-\$10,000		\$23,000-\$25,000	
0.29	\$10,000-\$12,000		\$25,000-\$27,000	
0.28	\$12,000-\$14,000		\$27,000-\$29,000	
0.27	\$14,000-\$16,000		\$29,000-\$31,000	
0.26	\$16,000-\$18,000		\$31,000-\$33,000	
0.25	\$18,000-\$20,000		\$33,000-\$35,000	
0.24	\$20,000-\$22,000		\$35,000-\$37,000	
0.23	\$22,000-\$24,000		\$37,000-\$39,000	
0.22	\$24,000-\$26,000		\$39,000-\$41,000	
0.21	\$26,000-\$28,000		\$41,000-\$43,000	
0.20	\$28,000-\$No limit		\$43,000-No limit	

Notes: <sup>a</sup> The tax credit for child and dependent care expenses equals the smaller of (a) maximum qualifying expenses multiplied by decimal amount, or (b) federal income tax owed. <sup>b</sup> AGI stands for adjusted gross income.

**Table F-3. Selected Parameters Relating to Child Tax Credit,<sup>a</sup> 2002-2005**

	2002	2003	2004	2005
AGI Test <sup>b</sup>				
Married filing jointly	\$110,000	\$110,000	\$110,000	\$110,000
Head of household	\$75,000	\$75,000	\$75,000	\$75,000
Credit per Child	\$600	\$1,000	\$1,000	\$1,000

Notes: <sup>a</sup> Child tax credit equals the smaller of (a) federal income tax owed minus credits for federal child and dependent care expenses or (b) if AGI is not more than AGI test, maximum credit equals the amount of credit per child times number of children; otherwise, maximum credit equals the amount of credit per child times number of children, minus 5% of the difference between AGI and AGI test, given that the final value is not negative. <sup>b</sup> AGI stands for adjusted gross income.

**Table F-4. Income Criteria for Earned Income Credit for a Family With Two Qualifying Children, 2002-2005**

	2002	2003	2004	2005
AGI Test <sup>a</sup>				
Married, filing jointly	\$34,178	\$34,692	\$35,458	\$37,263
Head of household	\$33,178	\$33,692	\$34,458	\$35,263

Notes: <sup>a</sup> A family with two qualifying children may be eligible for earned income credit if AGI is less than AGI test. AGI stands for adjusted gross income.

**Table F-5. Selected Parameters Relating to Additional Child Tax Credit,<sup>a</sup> 2002-2005**

	2002	2003	2004	2005
TEI Test <sup>b</sup>	\$10,350	\$10,500	\$10,750	\$11,000
Factor	0.10	0.10	0.15	0.15

Notes: <sup>a</sup> Additional child tax credit is the smaller of (a) the maximum federal child tax credit minus claimed child tax credit or (b) TEI minus TEI test multiplied by 0.10 for 2002 and 2003 and by 0.15 for 2004 and 2005.

<sup>b</sup> TEI stands for taxable earned income.

**Table F-6. Income Criteria for Selected Tax Credits in State of Hawai'i, 2002-2005**

	AGI does not exceed
Low-Income Refundable Tax Credit	\$20,000
Credit for Low-Income Household Renters	\$30,000

**Table F-7. Selected Parameters Relating to State Tax Credit for Child and Dependent Care Expenses, State of Hawai'i, 2002-2005**

<b>2002-2005</b>	
Maximum qualifying expense	
1 child	\$2,400
2 or more children	\$4,800
Decimal amount	For AGI <sup>b</sup> over-but not over
0.25	\$0-\$22,000
0.24	\$22,000-\$24,000
0.23	\$24,000-\$26,000
0.22	\$26,000-\$28,000
0.21	\$28,000-\$30,000
0.20	\$30,000-\$32,000
0.19	\$32,000-\$34,000
0.18	\$34,000-\$36,000
0.17	\$36,000-\$38,000
0.16	\$38,000-\$40,000
0.15	\$40,000-\$no limit

Notes: <sup>a</sup> Hawai'i's tax credit for child and dependent care expenses equals qualifying expenses multiplied by decimal amount. <sup>b</sup> AGI stands for adjusted gross income.

## REFERENCES

- Bernstein, J., Brocht, C., & Spade-Aguilar, M. (2000). How much is enough? Basic family budgets for working families. Washington, DC: Economic Policy Institute.
- Hawaii Information Service. (2006, December). Rental data for 2-bedroom apartments (special data request). Hawaii Information Service, Honolulu, Hawai'i.
- Hawai'i State Department of Business, Economic Development and Tourism (DBEDT). State of Hawaii data book, 2002-2005.
- Hawai'i State Department of Business, Economic Development and Tourism (DBEDT). Weekly fuel price charts to June 25, 2006: Price of regular gasoline 2/3/2003 to 6/25/2006, from Daily fuel gauge report, American Automobile Association.
- Hawai'i State Department of Commerce and Consumer Affairs (DCCA). Major insurers sample annual premiums (rates in effect November 2005).
- Hawai'i State Department of Education. After-school plus program monthly fee, 2005.
- Hawai'i State Department of Taxation. N-11 forms and instructions, 2002-2005.
- Hawai'i State Employer-Union Health Benefits Trust Fund (EUTF). Monthly Insurance premium rates, July 1, 2003-2005.
- Nord, M., Andrews, M., & Carlson, S. (2005). Household food security in the United States, 2004. Economic research report no. ERR11.
- Nord, M., Andrews, M., & Carlson, S. (2006). Household food security in the United States, 2005. Economic research report no. ERR29.
- PATCH. Provider statistics, as of November 2005.
- Pearce, D., & Brooks, J. (2003, April). The self-sufficiency standard for Hawai'i. Prepared for the Hawai'i State Commission on the Status of Women.
- Prudential Locations LLC. (2006, November). Rental and sales data for 2-bedroom apartments (special data request). Prudential Locations LLC, Honolulu, Hawai'i.
- U.S. Bureau of Labor Statistics. Consumer expenditures reports. Consumer expenditures in 2004.
- U.S. Census Bureau. (2004, March). Children and the households they live in: 2000. Report no. CENSR-14.
- U.S. Department of Agriculture (USDA), Center for Nutrition and Promotion. Official USDA food plans, 2002-2005.

U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality.  
Medical expenditure panel survey (MEPS): State specific data for private-sector  
establishments, Hawaii, 2002-2004.

U.S. Department of the Treasury, Internal Revenue Service. 1040 forms and instructions, 2002-2005.

U.S. Department of Transportation (DOT), Federal Highway Administration. Highway statistics, 2002-  
2005.

U.S. Office of Personnel Management. FEHB non-postal premium rates for Hawaii, 2002-2005.