the rate that square footage increases or decreases.

TABLE 4–4.—UTILITY FACTORS

Income level	Renter profile		Owner profile	
	Sq. ft.	Factor	Sq. ft.	Factor
Lower	600	.73	900	.85
Middle	900	.85	1,300	1.00
Upper	1,100	.92	1,700	1.15

In each area, JFA obtained the price of each of the types of utilities noted above. JFA used average annual consumption per household information gathered from utility companies serving each area to compute average annual utility costs. The above factors were then used to adjust the total annual utility costs for each of the various housing profiles.

4.2.4.2 Real Estate Taxes

For this study, JFA contacted the city assessors in each allowance area and in the Washington, DC, area to obtain real estate tax information on the living communities surveyed. Real estate tax formulas were obtained for most living communities. Actual or representative tax amounts were obtained in other communities (e.g., Puerto Rico) where formulas were not available or directly applicable.

4.2.4.3 Owners/Renters Insurance

Homeowners' insurance rates are gathered for each of the survey areas for both renter and owner profiles. For renters, the following estimated content values were used: $20,000 at the lower and middle income levels and $30,000 at the upper income level.

For homeowners, the cost of insurance was dependent on the average home values calculated as part of this survey. In most areas, it was assumed that the structure was equal to 80 percent of the total home value. In Hawaii, where land prices tend to be higher, it was assumed that the structure was equal to 50 percent of the total home value.

Previous research, conducted by Runzheimer International for OPM, found that insurance coverage for disasters, such as floods and earthquakes, were not widely purchased in the allowance areas. Therefore, the COLA model does not include these additional riders. (See Report to OPM on Living Costs in Selected NonForeign Areas and in the Washington, DC Area, June 1992 at 57 FR 58556). Hurricane and typhoon coverage, however, is common in Hawaii, Guam, and the U.S. Virgin Islands, and was included either in the insurance quote obtained or

priced as a separate rider and added to the total insurance costs for these areas.

4.2.4.4 Home Maintenance

Estimated home maintenance expense was computed for each of the homeowner profiles. Maintenance costs were not added in the three renter profiles because most, if not all, maintenance expenses are covered by the landlord.

As was done in previous surveys, JFA priced both home maintenance services as well as home maintenance commodities, using the CES information to identify items to price and the weights associated with these items. The maintenance service items priced were interior painting, plumbing repair, electrical repair, and pest control. The maintenance commodities priced were bathroom caulking, kitchen faucet set, an electrical outlet, latex interior paint, and a fire extinguisher.

To compute home maintenance cost differences between each allowance area and the Washington, DC, area for the homeowner profiles, an index was computed for each maintenance item by comparing the allowance area price to the DC area price. As with the Goods and Services Component items, the CES data were used to weight these maintenance indexes into an overall home maintenance index for each area.

To combine the maintenance indexes with the other homeowner costs, which were expressed in dollar amounts, JFA converted the indexes to dollars by multiplying the index for each area by the average maintenance expense reported in the CES. This cost was assigned to the middle-income homeowner profile.

Logically, maintenance costs for larger homes would generally be greater than costs for middle-sized homes, while costs for smaller homes would generally be less. Therefore, the same homeowner multipliers used in the utilities model for the lower and upper income profiles (.85 and 1.15 respectively) are applied to recognize differences in maintenance costs due to house size.

4.2.4.5 Telephone

Telephone expense consisted of local service charges, additional charges for local calls (if applicable), and charges for long distance calls. To measure estimated expenses for local service and local calls, JFA surveyed the cost of touch-tone service with unlimited calling in each area.

To estimate long distance charges in all areas, JFA surveyed the cost of three, ten-minute direct dial calls per month to large U.S. mainland cities (i.e., Los Angeles, Chicago, and New York City).

JFA measured the price of a call placed in the survey area at the time of day necessary to be received in the respective city at 8:00 p.m. local time. In many areas, this resulted in pricing a combination of daytime and evening-rate calls.

4.3 Housing Data Collection Procedures

As was done in previous years, JFA collected housing information mainly from real estate professionals, various listings services, and advertisements. In addition, JFA personnel traveled to each of the surveyed communities to assess the compatibility of the housing community with the income level for which the data were used and to ensure that homes in these communities were comparable to those in the Washington, DC, area.

4.3.1 Homeowner Data Collection

JFA obtained selling prices of homes that matched the housing profiles in each living community. JFA obtained as many of these selling prices as possible for sales that occurred during the 6-month period prior to the date of the survey.

The amount of data obtained depended on the number of home sales in the community and the availability of square footage and other housing profile information. This in turn depended on the size of the community, economic conditions, quality and quantity of the realty data available, and the willingness and ability of local realty professionals and assessor offices to provide data.

If sales data obtained from the preliminary data sources did not meet specified contract minimums, JFA contacted additional data sources in the area to attempt to secure more sales data, if practical. In this manner, either all or a sizeable portion of the home sales in each area were surveyed.

4.3.2 Renter Data Collection

Rental data also were obtained from a variety of sources, e.g., brokers, rental management firms, property managers, newspaper advertisements, and other listings. Analyses of these data revealed what appeared to be two separate rental markets: a broker market and a non-broker market. Rental rates and estimates provided by brokers generally exceeded those obtained from other sources. The methodology used to analyze these two data sets is discussed in section 4.4.2.