

TABLE 5-1.—SUMMARY OF FUEL-PERFORMANCE ADJUSTMENTS

Location	Temperature	Road surface	Gradient	Total
Hawaii .....	0.99	0.98	0.98	0.95
Guam .....	0.99	0.98	0.98	0.95
Puerto Rico .....	1.01	0.98	0.98	0.97
Virgin Islands .....	1.01	0.98	0.98	0.97
Washington, DC .....	0.94	1.00	1.00	0.94

#### 5.2.4 Vehicle Maintenance

As was done in the previous surveys, JFA surveyed the cost of five common maintenance services and repairs performed on the vehicles surveyed. The services and repairs were—

- Tuneup,
- Oil change,
- Automatic transmission fluid change,
- Flush/fill coolant, and
- Muffler/exhaust pipe replacement.

Where appropriate, the automobile manufacturers' recommended maintenance schedules were used to determine the frequency of performing each of these maintenance jobs. Maintenance schedules vary, depending on the driving conditions typically encountered. Consistent with the assumptions used for fuel economy and tire mileage, it was assumed that driving conditions in the allowance areas are generally severe, and the maintenance schedules used reflected that kind of driving. For the DC area, it was assumed that driving conditions were normal, and the maintenance schedules used for that area reflected that kind of driving.

The recommended frequency of performing each of these jobs was combined with the prices charged by local dealers and service stations to compute an estimated annual maintenance expense. As with previous surveys, JFA collected specific parts costs and hourly labor costs in each location and used Chilton's Labor Guide and Parts Manual to determine service times and parts required for each maintenance procedure.

#### 5.2.5 Tires

Research previously conducted for OPM revealed that various factors (e.g., road quality/state of repair, road composition) appeared to reduce tread life (i.e., the average number of miles a tire is expected to last) in the allowance areas compared with the Washington, DC, area. Based on this research, the model uses tire expense based on a 40,000-mile tread life in allowance areas and a 55,000-mile tread life in the DC area.

JFA priced the cost of a new set of tires, including mounting and balancing and all applicable taxes, in each area.

This cost was converted into an annual cost by dividing the estimated number of annual miles driven by the expected tread life and multiplying this by the new tire price.

#### 5.2.6 License and Registration Fees, and Miscellaneous Tax

JFA obtained information regarding license registration fees and personal property tax (where applicable). License and registration fees were included as part of the annual cost of owning an automobile. Personal property tax was computed for each year of the vehicle's four-year trade cycle using the vehicle's estimated used-car value for each year. The resulting four personal property tax values were then averaged, and that average was included as part of the annual cost of owning an automobile.

As stated in section 5.2.1, sales and excise taxes were included in the purchase price of the vehicle and were accounted for under the annual vehicle purchase and finance costs.

#### 5.2.7 Depreciation

The single largest annual expense related to owning and operating a new car is depreciation—the lost value of the vehicle as it ages and is driven. Total depreciation is calculated by subtracting from the purchase price the estimated residual value (used car value) four years later. This value is then divided by 4 to produce an annual depreciation amount.

As described earlier, the new car price is the manufacturer's suggested retail price plus any additional charges, such as shipping, dealer prep, additional dealer markup, excise tax, and sales tax. As was done in previous surveys, the used car value was based on information from the *Black Book Official Finance/Lease Guide for 1994*. Although this source only tracks prices of vehicles sold in the contiguous 48 states, research performed by the previous OPM contractor produced no conclusive evidence that used cars in allowance areas were (on average) worth more or less than used cars in the DC area. Therefore, consistent with previous surveys, the used car prices for

each make and model were held constant among the areas.

It should be noted that identical residual values did not result in identical depreciation amounts. Depreciation amounts were higher in the allowance areas than in the Washington, DC, area because new car prices are higher in the allowance areas.

#### 5.2.8 Finance Expense

For the model, it is assumed that new car purchases are financed. Therefore, JFA surveyed banks in all areas to obtain their auto-loan interest rates for a 48-month loan with 80 percent financing. The finance cost for each vehicle in each area was computed and included in the annual cost of owning and operating an automobile.

#### 5.2.9 Vehicle Insurance

JFA surveyed the cost of car insurance in each location. Consistent with the previous year's survey, JFA used the following common coverages, limits, and deductibles:

Bodily Injury .....	\$100,000/\$300,000.
Property Damage .....	50,000.
Medical .....	5,000.
Uninsured Motorist ..	100,000/300,000.
Comprehensive .....	100 Deductible.
Collision .....	250 Deductible.

In each survey area, JFA identified the common automobile insurance companies and attempted to obtain three insurance price quotes for each type of car surveyed. These quotes were averaged by type of car to produce estimated insurance costs for each area.

JFA found that some insurance companies in Hawaii and Kauai Counties, Hawaii; Guam; Puerto Rico; and the Virgin Islands did not offer the coverages, limits, and deductibles shown above. To allow the comparison of the cost of these different policies with DC costs, OPM directed JFA also to survey in the DC area the cost of insurance that was comparable to that offered in these allowance areas. The cost of these equivalent policies were then compared to derive adjustment factors that could be applied to the cost of the standard coverages, limits, and deductibles shown above. By applying