

**A P P E N D I X D**  
**METHODOLOGY TO DETERMINE**  
**VEHICLE TRADE-IN VALUE**

## Methodology to Determine Vehicle Trade-In Value

The TANF Transportation Survey was conducted during Summer and early Fall of 1999. The respondents included 440 TANF recipients and 403 Food Stamps and/or Medicaid recipients. The questionnaire used included several questions about the household's transportation resources. Among these were the number of vehicles they had, and the year, make, and model of the vehicle they used most often. For example, a respondent might have entered 1987 Ford Escort. In October 1999, all the vehicle information was compiled. The *Kelley Blue Book* on line (<http://www.kbb.com/kb/ki.dll/kw.kc.uy?kbb&87110;t&21>) was used to calculate the trade-in value of each vehicle reported.

Vehicle trade-in values rather than retail values were calculated because most people on public assistance drive older vehicles with high mileage and in good to poor condition. These vehicles are not easily sold in the retail market. The trade-in value of the vehicle is a closer approximation to the amount of cash the vehicle might bring.

Several parameters are needed to determine the trade-in value of a vehicle: mileage, condition, accessories, trim /style level, number of cylinders, transmission type, etc. Vehicle mileage and condition are two of the most important factors. The web site describes the meaning of three levels of condition: excellent, good, and fair. It also makes the point that the trade-in value of a vehicle in poor condition (as defined by the site) cannot be computed using the *Kelley Blue Book*. Researchers made certain assumptions about vehicles, including the following:

- Lowest trim/style level

- Lowest number of cylinders

- Automatic transmission without four-wheel drive

- Air conditioned

- FM-AM radio and cassette player

- 10,000 miles per year in mileage

- Maximum mileage for vehicles 20 years or older was 200,000.

- Vehicle Condition

  - Model Years 1998-2000—Excellent

  - Model Years 1993-1997—Good

  - Model Years 1992 or Older—Fair

For example a 1990 vehicle was assigned 100,000 miles (Current Model Year 2000 minus Model Year of Vehicle 1990, multiplied by 10,000 miles per year). A 1978 vehicle was assigned 200,000 miles and considered a 1979, even though it was over 20 years old (*Kelly Blue Book* covers vehicles only from 1979-1999). If vehicle model was not specified, for example a 1989 Chevrolet Pick-up Truck, researchers assigned model types by alternating between S-10 (compact model) and regular pickup size for first, then next unknown model.

The most common vehicle reported was a Ford truck, a Chevrolet truck, and a Ford Escort. Of the 851 people that responded to the survey, 285 (roughly thirty three percent) reported that they had no access to a vehicle in their household.

Four statistical calculations were made on the model years and trade-in values: mean, median, mode, and range. The median (or midpoint) of all entries was reported as the most appropriate measure of central tendency. Outliers (values that are far from the center) can skew the mean for vehicle trade-in value and model year. Reporting the median diminishes this effect.

Example:

The median of the following five vehicle values is the value in the middle, when the values are arranged in sequential order:

<u>Unordered</u>	<u>Sequential Order</u>
\$ 7,500	\$ 250
\$ 1,000	\$ 650
\$ 250	\$ 740 → <i>the median or midpoint</i>
\$ 650	\$ 1,000
\$ 740	\$ 7,500

The *median* is \$740. The *mean*, or average, value is the sum of all values divided by the number of values,  $\$10,140/5 = \$2,028$ .