

## 5.2 Household/Population Demographics

Travel demand forecasting models like SACSIM have always relied heavily on representations of key demographic characteristics in the population input file used for modeling. The most common demographic variables included in travel demand models are:

- Household size—the number of persons in the household
- Number of workers—the number of working adults in the household
- Household income—usually classified by three or more income categories.

Increasingly, **age** has become a variable of interest for travel demand modeling. In part, the increase in interest is related to the so-called “graying” of the population in the United States and elsewhere. Most of older/state-of-practice travel demand models do not account for age in the population demographics. SACSIM is the first of a new generation of “activity-based” travel demand models which allow for more realistic and thorough accounting of demographic variables like age.

The following variables and categories, at census tract level, are used for the household controls in the current process:

- Household size (4 categories: 1, 2, 3, and 4-or-more persons per household)
- Workers per household (4 categories: 0, 1, 2 and 3-or-more workers per household)
- Household Income in 2016 dollars (5 categories: less-than-\$20,000; \$20,000 to \$39,999; \$40,000 to \$59,999; \$60,000 to \$99,999; and \$100,000-or-more)
- Age of householder, or head-of-household (3 categories: <35 years; 35 to 64 years; and 65-or-more years)
- Ethnicity: (4 categories: 1. White Non-Hispanic, 2. Black Non-Hispanic, 3. Hispanic, and 4. Asian, Pacific Islander, or Other; including people who identify with two ethnic groups and Native Americans and Pacific Islanders. Note SACOG only controlled ethnicity for base year demographic population using 5 year ACS data, but did not use ethnicity as a control for any future year forecasting.

In addition to these household-level variables, the number of university student “households” clustered near to colleges or universities are controlled. As well as the number of senior “households” at senior living facilities. Dorm students and senior living persons are accounted for as Group Quarter population throughout the development of the representative population process. Senior households are still included in general household and population summaries. Person-level controls on age are also included. There are four categories of age controls: 14 years and younger, 15 to 34 years, 35 to 64 years and 65 years and older.