

# **PUMS Accuracy of the Data (2005)**

## **1. INTRODUCTION**

The 2005 PUMS data contain 1,259,653 housing unit records and 2,913,796 person records, which is many more records than in previous years. The increase in sample size reflects the ACS full implementation. For 2005, the ACS selected a sample in all counties across the nation, including all municipios in Puerto Rico. The tabulations prepared from the public use microdata sample (PUMS) are based on a subset of the 2005 American Community Survey (ACS) sample. Estimates from the ACS PUMS file are expected to be different from the previously released ACS estimates because they are subject to additional sampling error and further data processing operations. The additional sampling error is a result of selecting the PUMS housing and person records through an additional stage of sampling. In Public Use files of household surveys, the basic or elementary unit is an individual housing unit. The population sample is defined as all persons living in households selected in the housing unit sample. Note that microdata records in this sample do not contain names, addresses, or any information that can identify a specific housing unit or person.

## **2. CONFIDENTIALITY OF THE DATA**

To maintain the confidentiality of the data required by law, the Census Bureau applies confidentiality edits to the ACS data to assure that published data do not disclose information about specific individuals, households, or housing units. As a result a small amount of uncertainty is introduced into the estimates of ACS characteristics. The confidentiality edits are controlled so that the basic structure and the usefulness of the data are preserved. The confidentiality edits are implemented by matching person records based on a few key characteristics and swapping their data. A larger subset of households is selected for the confidentiality edits for small areas to provide greater protection for these areas. The editing of the data is implemented in ways that maintain the quality and usefulness of the data.

Since microdata records are the actual housing unit and person records, the Census Bureau takes further steps to prevent the identification of specific individuals, households, or housing units. The main disclosure avoidance method used is to limit the geographic detail shown in the files. The smallest geographic unit that is identified is the 5% Public Use Microdata Area (PUMA). PUMAs were created for the Census 2000 5% PUMS data files. Each PUMA contains a minimum of 100,000 people. Maps for PUMAs can be found on the Census Bureau's website at <http://www.census.gov/geo/www/maps/puma5pct.htm>

Other disclosure avoidance measures used include topcoding, age perturbation, and collapsing of detail for categorical variables.

### 3. SAMPLE DESIGN

The 2005 PUMS was designed to have a one-percent sample of the housing unit universe in the United States, District of Columbia, and Puerto Rico. For determining the PUMS sample size, the size of the housing unit universe is the ACS estimates of the total number of housing units. Table 1 below shows these estimates and the PUMS housing unit sample size.

Table 1. 2005 ACS Housing Unit Estimates and PUMS Sample Sizes

State	2005 ACS Housing Unit Estimate	2005 PUMS Sample Size	State	2005 ACS Housing Unit Estimate	2005 PUMS Sample Size
Alabama	2,082,140	20,822	Montana	428,357	4,284
Alaska	274,246	2,743	Nebraska	766,951	7,670
Arizona	2,544,806	25,449	Nevada	1,019,427	10,195
Arkansas	1,249,116	12,492	New Hampshire	583,324	5,834
California	12,989,254	129,893	New Jersey	3,443,981	34,440
Colorado	2,053,178	20,532	New Mexico	838,668	8,387
Connecticut	1,423,343	14,234	New York	7,853,020	78,531
Delaware	374,872	3,749	North Carolina	3,940,554	39,406
District of Columbia	277,775	2,778	North Dakota	304,458	3,045
Florida	8,256,847	82,569	Ohio	5,007,091	50,071
Georgia	3,771,466	37,715	Oklahoma	1,588,749	15,888
Hawaii	491,071	4,911	Oregon	1,558,421	15,585
Idaho	595,572	5,956	Pennsylvania	5,422,362	54,224
Illinois	5,144,623	51,447	Rhode Island	447,810	4,479
Indiana	2,724,429	27,245	South Carolina	1,927,864	19,279
Iowa	1,306,943	13,070	South Dakota	347,931	3,480
Kansas	1,196,211	11,963	Tennessee	2,637,441	26,375
Kentucky	1,865,516	18,656	Texas	9,026,011	90,261
Louisiana	1,940,399	19,404	Utah	873,097	8,731
Maine	683,799	6,838	Vermont	307,345	3,074
Maryland	2,273,793	22,738	Virginia	3,174,708	31,748
Massachusetts	2,688,014	26,881	Washington	2,651,645	26,517
Michigan	4,478,507	44,786	West Virginia	872,203	8,723
Minnesota	2,252,022	22,521	Wisconsin	2,498,500	24,985
Mississippi	1,235,496	12,355	Wyoming	235,721	2,358
Missouri	2,592,809	25,929	Puerto Rico	1,440,683	14,407

The PUMS sample was selected using a systematic sampling method with sampling intervals chosen to yield the sample sizes that are given in Table 1 for each state. The sampling interval for each state is the ratio of the number of housing unit records available for sampling and the required sample size (sampling intervals are not rounded to integers). The sampling is performed on the ACS housing unit sample. All persons in housing units selected for PUMS are included in the PUMS person sample.

The sampling of housing units was performed as follows.

1. The housing units were sorted by ACS estimation area, *PUMA*, interview mode, tenure, building type, household type, race and Hispanic origin of the householder, age of the householder, county, tract, and housing unit weight.

2. A random number between zero and the sampling interval was chosen to initialize a counter.
3. At each record, the value of the counter is incremented by one and compared to the sampling interval
  - a. If the counter's new value is greater than the sampling interval, the record is selected for the PUMS. The counter is decreased by the sampling interval with the new value passed to the next record.
  - b. If the counter is less than the sampling interval, the record is not selected for the PUMS and the value of the counter is passed to the next record without altering its value.

## **4. ERRORS IN THE DATA**

### **4.1 Sampling Error**

The data in the ACS products are estimates of the actual figures that would have been obtained by interviewing the entire population using the same methodology. The estimates from the chosen sample also differ from other samples of housing units and persons within those housing units. Sampling error in data arises due to the use of probability sampling, which is necessary to ensure the integrity and representativeness of sample survey results. The implementation of statistical sampling procedures provides the basis for the statistical analysis of sample data.

Estimates made with PUMS data are subject to additional sampling error because the PUMS data consists of a subset of the full ACS sample. Thus standard errors of PUMS estimates can be larger than standard errors that would be obtained using all of the ACS data.

### **4.2 Nonsampling Error**

In addition to sampling error, data users should realize that other types of errors may be introduced during any of the various complex operations used to collect and process survey data. For example, operations such as editing, reviewing, or keying data from questionnaires may introduce error into the estimates. These and other sources of error contribute to the nonsampling error component of the total error of survey estimates. Nonsampling errors may affect the data in two ways. Errors that are introduced randomly increase the variability of the data. Systematic errors that are consistent in one direction introduce bias into the results of a sample survey. The Census Bureau protects against the effect of systematic errors on survey estimates by conducting extensive research and evaluation programs on sampling techniques, questionnaire design, and data collection and processing procedures. In addition, an important goal of the ACS is to minimize the amount of nonsampling error introduced through nonresponse for sample housing units. One way of accomplishing this is by following up on mail nonrespondents during the CATI and CAPI phases. More information about the control of nonsampling error can be found in references [1] and [2].

## 5. WEIGHTING AND ESTIMATION

### 5.1 Weighting

Weights for PUMS records are calculated by simply multiplying the record's original final weight by the PUMS sampling interval for the state that the record belongs to. This is essentially applying an additional subsampling factor, where the factor is equal to the sampling interval if the record is selected for PUMS, and zero otherwise. Both housing unit and person weights are multiplied by the sampling interval to get a PUMS weight.

This additional sampling causes PUMS estimates to be different from published ACS estimates that are based on the full set of data. This includes estimates for the total population and total housing units. There is no further weighting adjustment to make these estimates equal to the Census Bureau's Intercensal Population Estimates.

See Reference [1] for a detailed description of how the original ACS weights are computed.

### 5.2 Estimation

To produce estimates or tabulations of characteristics from the PUMS, simply add the weights of all persons or housing units that possess the characteristic of interest. For instance, if the characteristic of interest is "total number of black teachers", simply determine the race and occupation of all persons and cumulate the weights of those who match the characteristics of interest. To get estimates of proportions simply divide the weighted estimate of persons or housing units with a given characteristic by the weighted estimate of the base. For example, the proportion of "black teachers" is obtained by dividing the weighted estimate of black teachers by the estimate of teachers.

## 6. CALCULATION OF STANDARD ERRORS

The standard error is a measure of the deviation of a sample estimate from the average of all possible samples. Sampling error and some types of nonsampling error are estimated by the standard error. The sample estimate and its estimated standard error permit the construction of interval estimates with a prescribed confidence that the interval includes the average result of all possible samples.

Two methods are provided for calculating the standard errors of PUMS estimates: generalized standard errors and through the use of replicate weights. Generalized standard errors is the method used by the Census PUMS and also in use by the ACS since 2000. Replicate weights are being provided with the 2005 PUMS for the first time. **It is important to keep in mind that there will be differences between the standard error approximations computed by the two methods.** Generally, using the replicate weights will produce a more accurate estimate of a standard error.

A sample estimate and its estimated standard error may be used to construct confidence intervals about the estimate. These intervals are ranges that will contain the average value of the estimated characteristic that results over all possible samples, with a known probability. For example, if all possible samples that could result under the ACS PUMS sample design were independently selected

and surveyed under the same conditions, and if the estimate and its estimated standard error were calculated for each of these samples, then:

1. Approximately 68 percent of the intervals from one estimated standard error below the estimate to one estimated standard error above the estimate would contain the average result from all possible samples;
2. Approximately 90 percent of the intervals from 1.65 times the estimated standard error below the estimate to 1.65 times the estimated standard error above the estimate would contain the average result from all possible samples.
3. Approximately 95 percent of the intervals from two estimated standard errors below the estimate to two estimated standard errors above the estimate would contain the average result from all possible samples.

These intervals are referred to as 68 percent, 90 percent, and 95 percent confidence intervals, respectively. The lower and upper bounds presented in the ACS summary tables and profiles are the bounds based upon a 90% confidence interval.

The user should be careful when computing and interpreting confidence intervals.

1. The estimated standard errors included in this data product do not include all portions of the variability due to nonsampling error that may be present in the data. In particular, the standard errors do not reflect the effect of correlated errors introduced by interviewers, coders, or other field or processing personnel. Thus, the standard errors calculated represent a lower bound of the total error. As a result, confidence intervals formed using these estimated standard errors may not meet the stated levels of confidence (i.e., 68, 90, or 95 percent). Thus, some care must be exercised in the interpretation of the data in this data product based on the estimated standard errors.
2. Zero or small estimates; very large estimates -- The value of almost all ACS characteristics is greater than or equal to zero by definition. The methods given here for calculating confidence intervals rely on large sample theory. For small or zero estimates, these methods may result in negative values which for most characteristics are not admissible. In this case, the lower limit of the confidence interval should be set to zero by default. A similar caution holds for estimates of totals close to a control total or estimated proportions near one, where the upper limit of the confidence interval should be set to its largest admissible value. In these situations the level of confidence of the adjusted range of values is less than the prescribed confidence level.

## 6.1 Generalized Standard Errors

### Standard Errors for Totals and Percentages

The design factors provided in Tables 2 through 2.52 in the appendix can be used to approximate the standard errors of most sample estimates of *totals* and *proportions*. Design factors are given by subject for the United States, all 50 states, the District of Columbia, and Puerto Rico. The term "subject" refers to a characteristic, such as age for persons and tenure for housing units. The design factors reflect the effects of the actual sample design and estimation procedures used for the ACS. To approximate the standard error use the following formulas:

$$\text{Total Formula: } SE(\hat{Y}) \doteq DF * \sqrt{99 * \hat{Y} \left(1 - \frac{\hat{Y}}{N}\right)}$$

Where:

DF = Design Factor

N = Size of Geographic Area

$\hat{Y}$  = Estimate of Characteristic Total

$$\text{Percent Formula: } SE(\hat{p}) \doteq DF * \sqrt{\frac{99}{B} * \hat{p}(100 - \hat{p})}$$

Where:

DF = Design Factor

B = Base of Estimated Percentage

$\hat{p}$  = Estimated Percentage

The values of N and the design factor can be determined as follows:

1. For the value of N, obtain the number of persons, number of households or number of housing units, respectively for the geography(ies) you are interested in. If the estimate is of housing units then use the number of housing units; if the estimates is of families or households then use the number of households; otherwise use the number of persons.
2. Select the appropriate table from Tables 2 through 2.52. Use the table for the United States (Table 2) when estimating characteristics for the United States or geographic areas that cover more than one state. Use the table for a specific state (Tables 2.1-2.52) when estimating characteristics for that state or geographic areas that are contained entirely within that state.
3. Then use the selected table to obtain the appropriate design factor for the characteristic; for example, educational attainment or ancestry. If the estimate is a combination of two or more characteristics, we suggest the following guideline: Use the largest design factor for this combination of characteristics. **The only exception to this is for items crossed with**

**race or Hispanic Origin. For an item(s) crossed with race or Hispanic Origin use the largest design factor not including the race or Hispanic Origin design factor.**

An inspection of the formulas used to calculate the simple random sampling standard errors suggests that when dealing with zero estimates or very small estimates of totals and percentages the standard error estimates approach zero. This is also the case for very large estimates of totals and percentages. Zero or small estimates, like any other sample estimates, are still subject to sampling variability and therefore an estimated standard error of zero or close to zero is not adequate. Use one of the following procedures for estimates of this type:

1. **An estimated total is less than 425 or within 425 of the total size of the tabulation area.** Use a basic standard error of 246. For estimated percentages that are less than 2 or greater than 98, use a value of 2 for the estimated percentage in the formula.
2. **The denominator of a percentage is zero.** There are no sample observations available to compute an estimate of a proportion or an estimate of its standard error.

### **Standard Errors for Sums and Differences**

For the sum or difference between two estimates, the standard error is approximately the square root of the sum of the two individual standard errors squared:

$$SE(\hat{X} + \hat{Y}) = SE(\hat{X} - \hat{Y}) = \sqrt{[SE(\hat{X})]^2 + [SE(\hat{Y})]^2}$$

This method is, however, an approximation as the two estimates of interest in a sum or a difference are likely to be correlated. If the two quantities X and Y are positively correlated, this method underestimates the standard error of the sum of X and Y and overestimates the standard error of the difference between the two estimates. If the two estimates are negatively correlated, this method overestimates the standard error of the sum and underestimates the standard error of the difference.

### **Standard Errors for Ratios**

Frequently, the statistic of interest is the ratio of two variables, where the numerator is not a subset of the denominator. An example is the ratio of students to teachers in public elementary schools. The standard error of the ratio between two sample estimates is estimated as follows:

$$SE\left(\frac{\hat{X}}{\hat{Y}}\right) = \left(\frac{\hat{X}}{\hat{Y}}\right) * \sqrt{\frac{[SE(\hat{X})]^2}{\hat{X}^2} + \frac{[SE(\hat{Y})]^2}{\hat{Y}^2}}$$

If the ratio is a proportion, that is, the numerator is a subset of the denominator, then follow the procedure outlined for “totals and percentages.”

## Standard Errors for Medians

The sampling variability of an estimated median depends on the form of the distribution and the size of its base. The standard error of an estimated median is approximated by constructing a 68 percent confidence interval. Estimate the 68 percent confidence limits of a median based on sample data using the following procedure.

1. Obtain the frequency distribution for the selected variable. Cumulate these frequencies to yield the base.
2. Determine the standard error of a 50 percent proportion using the formula in the section “totals and percentages.”

$$SE(50\text{ percent}) = DF * \sqrt{\frac{99}{B} * 50^2}$$

3. Subtract from and add to 50 percent the standard error determined in step 2.

$$\begin{aligned} p_{\text{lower}} &= 50 - SE(50\text{ percent}) \\ p_{\text{upper}} &= 50 + SE(50\text{ percent}) \end{aligned}$$

4. Determine the categories in the distribution that contain  $p_{\text{lower}}$  and  $p_{\text{upper}}$ . If  $p_{\text{lower}}$  and  $p_{\text{upper}}$  fall in the same category, follow step 5. If  $p_{\text{lower}}$  and  $p_{\text{upper}}$  fall in different categories, go to step 6.
5. If  $p_{\text{lower}}$  and  $p_{\text{upper}}$  fall in the same category, do the following:
  - Define A1 as the smallest value in that category.
  - Define A2 as the smallest value in the next (higher) category.
  - Define C1 as the cumulative percent of units strictly less than A1.
  - Define C2 as the cumulative percent of units strictly less than A2.

Use the following formulas to determine the lower and upper bounds for a confidence interval about the median:

$$\begin{aligned} \text{LowerBound} &= \left[ \frac{p_{\text{lower}} - C1}{C2 - C1} \right] * (A2 - A1) + A1 \\ \text{UpperBound} &= \left[ \frac{p_{\text{upper}} - C1}{C2 - C1} \right] * (A2 - A1) + A1 \end{aligned}$$

6. If  $p_{\text{lower}}$  and  $p_{\text{upper}}$  fall in different categories, do the following:
  - For the category containing  $p_{\text{lower}}$ : Define A1, A2, C1, and C2 as described in step 5. Use these values and the formula in step 5 to obtain the lower bound.

- For the category containing p\_upper: Define new values for A1, A2, C1, and C2 as described in step 5. Use these values and the formula in step 5 to obtain the upper bound.
7. Use the lower and upper bounds determined in steps 5 or 6 to calculate the standard error of the median.

$$SE(\text{median}) = \frac{1}{2} * (\text{UpperBound} - \text{LowerBound} )$$

### Standard Errors for Means

A mean is defined here as the average quantity of some characteristic (other than the number of people, housing units, households, or families) per person, housing unit, household, or family. For example, a mean could be the average annual income of females age 25 to 34. The standard error of a mean can be approximated by the formula below. Because of the approximation used in developing this formula, the estimated standard error of the mean obtained from this formula will generally underestimate the true standard error.

$$SE(\bar{Y}) = DF * \sqrt{\frac{99}{B} * s^2}$$

where B is the base (denominator) of the mean, and  $s^2$  is the sample variance of the characteristic based on weighted data. The value of  $s^2$  can be computed using the formula:

$$s^2 = \frac{\sum_{i=1}^n w_i y_i^2 - \left( \sum_{i=1}^n w_i y_i \right)^2 / \sum_{i=1}^n w_i}{\left( \sum_{i=1}^n w_i \right) - 1}$$

Where:

- $w_i$  is the weight of the  $i^{th}$  sample record
- $y_i$  is the value of the characteristic for the  $i^{th}$  sample record
- $n$  is the number of sample records

Note that  $\sum_{i=1}^n w_i$  is the weighted estimate of persons/housing units in the sample (ex. the number of females age 25 to 34), and  $\sum_{i=1}^n w_i y_i$  is the weighted aggregate estimate for the characteristic of interest (ex. the aggregate income of females age 25 to 34).

## Examples of Standard Error Calculations using Generalized Standard Error Formulas

We will present some examples based on the 2005 PUMS data to demonstrate the use of the generalized standard error formulas.

### Example 1 – Using Design Factors to Estimate a Total

The estimated number of people 15 years or over who were never married is 1,575,385 from the PUMS data for the state of Virginia. To calculate the standard error, we use the total formula given in the section for Design Factor Method. In this formula, Y is our estimate of 1,575,385 and N is the total PUMS population for the state of Virginia, which is 7,320,848. The design factor (from Table 2.47) for “Marital Status” is 1.3.

$$SE = 1.3 * \sqrt{99 * 1,575,385 * \left(1 - \frac{1,575,385}{7,320,848}\right)} = 14,382.5577$$

To calculate the lower and upper bounds of the 90 percent confidence interval around 1,575,385 using the standard error, simply multiply 14,383.5577 by 1.65, then add and subtract the product from 1,575,385. Thus the 90 percent confidence interval for this estimate is [1,575,385 - 1.65(14,382.5577)] to [1,575,385 + 1.65(14,382.5577)] or 1,551,654 to 1,599,116.

### Example 2 – Using Design Factors to Estimate a Proportion or Percentage

The estimated percent of people 25 years or over with a bachelor’s degree or higher in Louisiana is 20.7235 from the PUMS data and the base of the estimated percentage is 2,789,901. To calculate the standard error, we use the percent formula given in the Design Factor Method section. The design factor (from Table 2.19) for “Educational Attainment” is 1.5.

$$SE = 1.5 * \sqrt{\frac{99}{2,789,901} * 20.7235 * (100 - 20.7235)} = 0.3622$$

To calculate the lower and upper bounds of the 90 percent confidence interval around 20.7235 percent using the standard error, simply multiply 0.3622 by 1.65, then add and subtract the product from 20.7235. Thus the 90 percent confidence interval for this estimated percentage is [20.7 - 1.65(0.3622)] to [20.7 + 1.65(0.3622)] or 20.1 to 21.3.

### Example 3 – Calculating the Standard Error of a Median

The table below shows a weighted frequency distribution for adjusted household income in Massachusetts.

Adjusted Household Income	Frequency	Cumulative Frequency	Cumulative Percent
Less than \$10,000	205,371	205,371	8.38%
\$10,000 to \$14,999	131,503	336,874	13.74%
\$15,000 to \$19,999	113,304	450,178	18.37%
\$20,000 to \$24,999	113,348	563,526	22.99%
\$25,000 to \$29,999	98,392	661,918	27.00%
\$30,000 to \$34,999	109,342	771,260	31.46%
\$35,000 to \$39,999	110,080	881,340	35.95%
\$40,000 to \$44,999	105,699	987,039	40.27%
\$45,000 to \$49,999	99,775	1,086,814	44.34%
\$50,000 to \$59,999	188,229	1,275,043	52.02%
\$60,000 to \$74,999	254,116	1,529,159	62.38%
\$75,000 to \$99,999	331,571	1,860,730	75.91%
\$100,000 to \$124,999	219,008	2,079,738	84.84%
\$125,000 to \$149,999	124,841	2,204,579	89.94%
\$150,000 to \$199,999	102,672	2,307,251	94.12%
\$200,000 or more	144,015	2,451,266	100%

- The base is the cumulative sum of the weighted frequencies, which is 2,451,266.
- Determine the standard error of a 50 percent proportion. For this example, the design factor for household income is 1.6 from Table 2.22.

$$SE(50\text{percent}) = 1.6 * \sqrt{\frac{99}{2,415,266} * 50^2} = .51$$

- Calculate p\_lower and p\_upper.

$$\begin{aligned} p_{\text{lower}} &= 50 - SE(50\text{ percent}) = 49.49 \\ p_{\text{upper}} &= 50 + SE(50\text{ percent}) = 50.51 \end{aligned}$$

- Determine the categories that contain p\_lower and p\_upper. The first category with a cumulative percentage that is greater than 49.49 is \$50,000 to \$59,999. The first category with a cumulative percentage that is greater than 50.51 is also \$50,000 to \$59,999. Since p\_lower and p\_upper fall in the same category, we follow the instructions given in step 5 of the procedure for medians.
- Define A1, A2, C1, and C2 according to the instructions given in step 5 of the procedure for medians: A1 = 50,000, A2 = 60,000, C1 = 44.34, and C2 = 52.02. Calculate the lower and upper bounds using these values.

$$LowerBound = \left[ \frac{49.49 - 44.34}{52.02 - 44.34} \right] * (60,000 - 50,000) + 50,000 = 56,705.7292$$

$$UpperBound = \left[ \frac{50.51 - 44.34}{52.02 - 44.34} \right] * (60,000 - 50,000) + 50,000 = 58,033.8542$$

- Finally, calculate the standard error of the median:

$$SE(median) = \frac{1}{2} * (58,033,8542 - 56,705.7292) = 664.0625$$

#### Example 4 – Calculating the Standard Error of a Mean

Suppose we wish to estimate mean adjusted person income of females age 25 to 34 in Alabama. The table below summarizes the computation of the terms in the formula for  $s^2$ . The PUMS data for Alabama has 2,653 records for females age 25 to 34 that have a non-missing value for person income.

Sample Record	$y_i$	$w_i$	$w_i y_i$	$w_i y_i^2$
1	12,230	53	648,190	7,927,363,700
2	19,365	104	2,013,960	39,000,335,400
3	0	61	0	0
4	25,480	54	1,375,920	35,058,441,600
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2,653	7,338	71	520,998	3,823,083,324
Total		301,273	5,470,473,588	224,092,280,087,366

The mean adjusted income is  $\bar{Y} = \frac{5,470,473,588}{301,273} = 18,157.86$ .

$s^2$  is computed as follows:

$$s^2 = \frac{224,092,280,087,366 - (5,470,473,588)^2 / 301,273}{301,273 - 1} = 414,111,417.8$$

The design factor for person income in Alabama, from Table 2.1, is 1.6. The standard error of the mean can now be calculated:

$$SE(\bar{Y}) = 1.6 * \sqrt{\frac{99}{301,273} * 414,111,417.8} = 590$$

## 6.2 Calculating Standard Errors with Replicate Weights

Replicate weights are being provided with the 2005 PUMS files for the first time. Replicate weights can be used to calculate what we refer to as direct standard errors. Standard errors for the published ACS tabulations are calculated using replicate weights. Direct standard errors will often be more accurate than generalized standard errors, although they may be more inconvenient for some users to calculate. The advantage of using replicate weights is that a single formula is used to calculate the standard error of many types of estimates.

Each housing unit and person record contains 80 replicate weights. For any estimate  $X$ , 80 replicate estimates are also computed using the replicate weights. For this discussion, we refer to  $X$  as the ‘full sample estimate.’ The first replicate estimate  $X_1$  is computed using the first replicate weight, the second replicate estimate  $X_2$  is computed using the second replicate weight, and so on. Each replicate estimate is computed using the replicate weights in the same way that the full sample estimate  $X$  is computed, as described in Section 5.

The standard error of  $X$  can be computed after the replicate estimates  $X_1$  through  $X_{80}$  are computed. The standard error is estimated using the sum of squared differences between each replicate estimate  $X_r$  and the full sample estimate  $X$ . The standard error formula is:

$$SE(X) = \sqrt{\frac{4}{80} \sum_{r=1}^{80} (X_r - X)^2}$$

If  $X$  is zero, then use the generalized variance method for zero estimates given in section 6.1, Standard Errors for Totals and Percentages, to approximate the standard error.

## 7. WORKING WITH DOLLAR AMOUNTS

When working with dollar amounts, it is necessary to apply an adjustment factor. The factor is included in the PUMS datasets and is called ADJUST. The reason this adjustment is needed is because interviews in the ACS were conducted throughout the year. Application of the adjustment factor will convert dollar amounts to July 2005 dollars. Note that the value of ADJUST is the same for all sample cases (its value for 2005 is 1019190, which is read as 1.019190). This is for disclosure avoidance reasons, that is, so that the month of interview cannot be identified by the adjustment factor.

When working with dollar amounts from different years, it is necessary to convert the amounts into dollars from a common year (after applying the adjustment factor described in the previous paragraph). We use the CPI-U-RS adjustment factors from the Bureau of Labor Statistics. These factors can be found at the following URL: <http://www.bls.gov/cpi/cpiurstx.htm>. [For example, to express year 2000 dollars in terms of 2005 dollars, multiply the 2000 dollars by  $284.3/250.8 = 1.13357257$ ].

## **8. REFERENCES**

[1]. Technical Paper 67 – Design and Methodology of the ACS  
<http://www.census.gov/acs/www/Downloads/tp67.pdf>

[2]. ACS Accuracy of the Data (2005)  
<http://www.census.gov/acs/www/Downloads/ACS/accuracy2005.pdf>

**Table 2. Design Factors for Calculating PUMS Standard Errors – United States**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.1
Sex	1.1
Population of Two or More Races	2.3
White Alone	2.5
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Not Hispanic or Latino	2.5
Marital Status	1.7
Relationship	1.7
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.6
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.4
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	2.0
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5

Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.9
Age of Own Children by Living Arrangements and Employment Status of Parents	1.9
Age of Householder	1.7
Race of Householder	1.5
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	3.0
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	2.0
Vacant	2.2
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.8
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	2.0
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.5
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.9
Value	1.5
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	2.0

**Table 2.1. Design Factors for Calculating PUMS Standard Errors – Alabama**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.7
Population by Tenure	3.0
Age	1.1
Sex	1.6
Population of Two or More Races	1.9
White Alone	2.5
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.5
Hispanic or Latino	2.1
Not Hispanic or Latino	2.7
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.0
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5

Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5
Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.2
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.2. Design Factors for Calculating PUMS Standard Errors – Alaska**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.5
Age	1.3
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.4
Hispanic or Latino	2.1
Marital Status	1.4
Relationship	1.2
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.5
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.3
Place of Birth, Year of Entry, and Citizenship Status	1.6
Residence 1 Year Ago	2.5
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.6

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.4
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.4
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.2
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	1.8
Unmarried Partner Households	1.5
Tenure	1.4
Vacant	1.1
Rooms and Bedrooms	1.4
Occupants per Room	1.3
Units in Structure	1.4
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.2
Telephone Service Available	1.4
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	1.2
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.5
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.4

**Table 2.3. Design Factors for Calculating PUMS Standard Errors – Arizona**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.4
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	2.1
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.0
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	2.0
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.7
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.4. Design Factors for Calculating PUMS Standard Errors – Arkansas**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.8
Population in Families	
Age	1.1
Sex	1.6
Population of Two or More Races	2.1
White Alone	2.5
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.0
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.7
Number of Women Who Had a Birth in the Past 12 Months	1.1
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.8
Residence 1 Year Ago	2.7
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.5
Telephone Service Available	1.6
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.5. Design Factors for Calculating PUMS Standard Errors – California**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.3
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.8
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	2.4
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.2
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.7
Type of Household Income	1.3
Poverty Status (Persons)	2.3
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.7
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.6. Design Factors for Calculating PUMS Standard Errors – Colorado**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.1
Age	1.1
Sex	1.6
Population of Two or More Races	2.0
White Alone	4.6
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.3
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.7. Design Factors for Calculating PUMS Standard Errors – Connecticut**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.1
Age	1.2
Sex	1.6
Population of Two or More Races	2.1
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.9
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.4
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.5
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.8. Design Factors for Calculating PUMS Standard Errors – Delaware**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	1.8
Population by Tenure	2.8
Age	1.2
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.8
Hispanic or Latino	2.4
Marital Status	1.4
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	2.0
Residence 1 Year Ago	2.9
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.3
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.3

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.4
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	1.9
Unmarried Partner Households	1.6
Tenure	1.4
Vacant	1.3
Rooms and Bedrooms	1.4
Occupants per Room	1.4
Units in Structure	1.4
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.5
Telephone Service Available	1.5
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	1.5
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.5
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.3
Selected Physical and Financial Conditions	1.5

**Table 2.9. Design Factors for Calculating PUMS Standard Errors – District of Columbia**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.6
Population by Tenure	2.6
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	1.3
Black or African American Alone	1.5
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	1.8
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.8
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.1
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	1.5
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.7
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.1
Unmarried Partner Households	1.5
Tenure	1.5
Vacant	1.8
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.5
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.5
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.3
Selected Physical and Financial Conditions	1.5

**Table 2.10. Design Factors for Calculating PUMS Standard Errors – Florida**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.0
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	2.0
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.11. Design Factors for Calculating PUMS Standard Errors – Georgia**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.1
Sex	1.5
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.8
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.12. Design Factors for Calculating PUMS Standard Errors – Hawaii**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.0
Age	1.3
Sex	1.6
Population of Two or More Races	2.3
White Alone	2.1
Black or African American Alone	1.7
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.1
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.5
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.5
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.1
Unmarried Partner Households	1.6
Tenure	1.5
Vacant	1.6
Rooms and Bedrooms	1.5
Occupants per Room	1.5
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.6
Telephone Service Available	1.5
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	1.9
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.5

**Table 2.13. Design Factors for Calculating PUMS Standard Errors – Idaho**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.6
Age	1.1
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	1.7
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.9
Hispanic or Latino	1.5
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.1
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.6
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.5
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.4

Age of Own Children by Living Arrangements and Employment Status of Parents	1.5
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.5
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.5
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.0
Unmarried Partner Households	1.6
Tenure	1.6
Vacant	1.6
Rooms and Bedrooms	1.5
Occupants per Room	1.5
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.4
Telephone Service Available	1.6
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	1.7
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.14. Design Factors for Calculating PUMS Standard Errors – Illinois**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.8
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.8
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.15. Design Factors for Calculating PUMS Standard Errors – Indiana**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.9
Age	1.1
Sex	1.6
Population of Two or More Races	2.1
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	1.8
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.1
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.8
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.5
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.4
Telephone Service Available	1.6
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.2
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.6
Inclusion of Utilities in Rent	1.7
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.16. Design Factors for Calculating PUMS Standard Errors – Iowa**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.4
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.2
Age	1.2
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.5
Hispanic or Latino	1.2
Marital Status	1.3
Relationship	1.4
Ancestry	1.8
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	1.7
Residence 1 Year Ago	2.3
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.1
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.3
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.4
Private Vehicle Occupancy	1.4
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.2
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.3
Person Earnings/Income	1.6
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.3
Ratio of Income to Poverty Level	2.2
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.4
Households by Presence of Nonrelatives	1.6
Unmarried Partner Households	1.4
Tenure	1.3
Vacant	1.9
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.3
House Heating Fuel	1.3
Telephone Service Available	1.4
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.9
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.3
Inclusion of Utilities in Rent	1.4
Value	1.2
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.4

**Table 2.17. Design Factors for Calculating PUMS Standard Errors – Kansas**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.5
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.8
Age	1.1
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.1
Marital Status	1.3
Relationship	1.4
Ancestry	1.9
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	1.8
Residence 1 Year Ago	2.8
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.3
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.2
Number of Workers in Family	1.3
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.4

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.5
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.4
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	2.1
Unmarried Partner Households	1.5
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.5
Occupants per Room	1.5
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.4
Telephone Service Available	1.6
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.5
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.3
Selected Physical and Financial Conditions	1.6

**Table 2.18. Design Factors for Calculating PUMS Standard Errors – Kentucky**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.0
Age	1.1
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	1.9
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	1.8
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.1
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.7
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.2
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.5
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.2
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.6

**Table 2.19 Design Factors for Calculating PUMS Standard Errors – Louisiana**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.9
Population by Tenure	3.4
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.0
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.4
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.8
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.3
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.20. Design Factors for Calculating PUMS Standard Errors – Maine**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.6
Age	1.3
Sex	1.6
Population of Two or More Races	1.3
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.5
Hispanic or Latino	1.5
Marital Status	1.4
Relationship	1.4
Ancestry	1.9
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.3
Place of Birth, Year of Entry, and Citizenship Status	1.8
Residence 1 Year Ago	2.4
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.6
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.4
Work Experience, Hours Worked per Week, and Weeks Worked	1.5
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.7

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.7
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.3
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	1.9
Unmarried Partner Households	1.6
Tenure	1.5
Vacant	1.3
Rooms and Bedrooms	1.4
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.3
Telephone Service Available	1.5
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	1.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.5
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.4

**Table 2.21. Design Factors for Calculating PUMS Standard Errors – Maryland**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.1
Sex	2.0
Population of Two or More Races	2.2
White Alone	2.5
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.8
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.22. Design Factors for Calculating PUMS Standard Errors – Massachusetts**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	5.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.6
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	2.0
Poverty Status (Persons)	1.8
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.23. Design Factors for Calculating PUMS Standard Errors – Michigan**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.9
Age	1.2
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	1.8
Marital Status	1.3
Relationship	1.4
Ancestry	1.9
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.4

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.7
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.7
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.6
Vacant	1.7
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.5
Telephone Service Available	1.6
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	1.9
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.6
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.5

**Table 2.24. Design Factors for Calculating PUMS Standard Errors – Minnesota**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.8
Age	1.3
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	2.4
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.3
Marital Status	1.3
Relationship	1.4
Ancestry	1.8
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.1
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.6
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.3
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.4
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.3
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.7
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.4
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.4
Ratio of Income to Poverty Level	2.3
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	1.9
Unmarried Partner Households	1.5
Tenure	1.4
Vacant	1.6
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.3
House Heating Fuel	1.2
Telephone Service Available	1.4
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.7
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.5
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.4

**Table 2.25. Design Factors for Calculating PUMS Standard Errors – Mississippi**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.7
Population by Tenure	3.0
Age	1.1
Sex	1.1
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.8
Hispanic or Latino	2.0
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.1
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.5
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.1
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.26. Design Factors for Calculating PUMS Standard Errors – Missouri**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.0
Age	1.1
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.9
Hispanic or Latino	1.8
Marital Status	1.4
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	2.9
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.4
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.1
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.27. Design Factors for Calculating PUMS Standard Errors – Montana**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.6
Age	1.2
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.1
Hispanic or Latino	1.5
Marital Status	1.4
Relationship	1.4
Ancestry	1.8
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.3
Place of Birth, Year of Entry, and Citizenship Status	1.7
Residence 1 Year Ago	2.4
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.6
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.4
Ratio of Income to Poverty Level	2.3
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.4
Households by Presence of Nonrelatives	1.7
Unmarried Partner Households	1.4
Tenure	1.4
Vacant	1.3
Rooms and Bedrooms	1.4
Occupants per Room	1.8
Units in Structure	1.4
Year Structure Built and Year Householder Moved Into Unit	1.3
House Heating Fuel	1.3
Telephone Service Available	1.4
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.3
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.4
Inclusion of Utilities in Rent	1.4
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.3
Selected Physical and Financial Conditions	1.4

**Table 2.28. Design Factors for Calculating PUMS Standard Errors – Nebraska**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.3
Age	1.3
Sex	1.6
Population of Two or More Races	2.0
White Alone	3.4
Black or African American Alone	2.4
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.4
Marital Status	1.4
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.1
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.3
Place of Birth, Year of Entry, and Citizenship Status	1.7
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.3
Travel Time to Work	1.4
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.4
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.2
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.6

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.7
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.3
Ratio of Income to Poverty Level	2.2
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.3
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.4
Households by Presence of Nonrelatives	2.0
Unmarried Partner Households	1.4
Tenure	1.4
Vacant	1.6
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.3
House Heating Fuel	1.3
Telephone Service Available	1.4
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.9
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.4
Meals Included in Rent	1.3
Inclusion of Utilities in Rent	1.3
Value	1.2
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.4

**Table 2.29. Design Factors for Calculating PUMS Standard Errors – Nevada**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.6
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	2.1
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.8
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.8
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.8
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.30. Design Factors for Calculating PUMS Standard Errors – New Hampshire**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.8
Age	1.1
Sex	1.6
Population of Two or More Races	1.6
White Alone	3.4
Black or African American Alone	1.5
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.8
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.6

Age of Own Children by Living Arrangements and Employment Status of Parents	1.6
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.5
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.1
Unmarried Partner Households	1.6
Tenure	1.5
Vacant	1.5
Rooms and Bedrooms	1.5
Occupants per Room	1.5
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.4
Telephone Service Available	1.6
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	1.7
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.5

**Table 2.31. Design Factors for Calculating PUMS Standard Errors – New Jersey**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	2.0
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.8
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.32. Design Factors for Calculating PUMS Standard Errors – New Mexico**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.3
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	2.4
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.3
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	1.9
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.8
Rooms and Bedrooms	1.6
Occupants per Room	1.6
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	1.8
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.33. Design Factors for Calculating PUMS Standard Errors – New York**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.2
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.9
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.9
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.34. Design Factors for Calculating PUMS Standard Errors – North Carolina**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.1
Age	1.1
Sex	1.1
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	1.7
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.7
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.2
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.35. Design Factors for Calculating PUMS Standard Errors – North Dakota**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.2
Age	1.2
Sex	1.6
Population of Two or More Races	1.6
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	1.0
Marital Status	1.3
Relationship	1.4
Ancestry	1.6
Grandparents Responsible for Grandchildren	1.4
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.2
Place of Birth, Year of Entry, and Citizenship Status	1.5
Residence 1 Year Ago	2.1
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.2
Travel Time to Work	1.4
Means of Transportation to Work	1.2
Place of Work	2.4
Time Leaving Home to go to Work	1.3
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.2
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.9

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.2
Person Earnings/Income	1.6
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.2
Ratio of Income to Poverty Level	1.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.3
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.3
Households by Presence of Nonrelatives	1.5
Unmarried Partner Households	1.4
Tenure	1.3
Vacant	1.3
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.2
House Heating Fuel	1.1
Telephone Service Available	1.3
Vehicles Available	1.2
Plumbing Facilities and Kitchen Facilities	1.3
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.4
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.1
Selected Physical and Financial Conditions	1.3

**Table 2.36. Design Factors for Calculating PUMS Standard Errors – Ohio**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.0
Age	1.1
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	1.9
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.3
Language Spoken at Home and Ability to Speak English	1.4
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.0
Residence 1 Year Ago	3.1
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.7
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.6
Inclusion of Utilities in Rent	1.7
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.37. Design Factors for Calculating PUMS Standard Errors – Oklahoma**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.5
Age	1.1
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.3
Black or African American Alone	1.3
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.8
Hispanic or Latino	1.5
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	1.8
Residence 1 Year Ago	2.6
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.5
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.5
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.5
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.5
Telephone Service Available	1.6
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.5

**Table 2.38. Design Factors for Calculating PUMS Standard Errors – Oregon**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.0
Age	1.1
Sex	1.6
Population of Two or More Races	2.0
White Alone	3.4
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	2.9
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.7
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.1
Unmarried Partner Households	1.7
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.5
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.3
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.6
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.39. Design Factors for Calculating PUMS Standard Errors – Pennsylvania**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.3
Age	1.3
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.9
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	0.7
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.5
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.6
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.5
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.4
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.6
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.6

**Table 2.40. Design Factors for Calculating PUMS Standard Errors – Rhode Island**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.9
Age	1.1
Sex	1.1
Population of Two or More Races	2.2
White Alone	3.4
Black or African American Alone	1.9
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.6
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.1
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.5
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.0
Unmarried Partner Households	1.7
Tenure	1.6
Vacant	1.6
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.5
Telephone Service Available	1.6
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.6

**Table 2.41. Design Factors for Calculating PUMS Standard Errors – South Carolina**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	1.6
Population by Tenure	3.1
Age	1.1
Sex	1.1
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.0
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.8
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	2.9
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.2
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.7
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	1.9
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.6
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	1.9
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.7
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.42. Design Factors for Calculating PUMS Standard Errors – South Dakota**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.1
Age	1.3
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	1.3
Marital Status	1.3
Relationship	1.4
Ancestry	1.7
Grandparents Responsible for Grandchildren	1.5
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	2.3
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.4
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.3
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.6

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.3
Person Earnings/Income	1.3
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.4
Ratio of Income to Poverty Level	2.2
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.4
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.3
Households by Presence of Nonrelatives	1.7
Unmarried Partner Households	1.4
Tenure	1.2
Vacant	1.5
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.4
Year Structure Built and Year Householder Moved Into Unit	1.2
House Heating Fuel	1.1
Telephone Service Available	1.3
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.5
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.3
Inclusion of Utilities in Rent	1.2
Value	1.2
Mortgage Status and Selected Monthly Owner Costs	1.3
Selected Physical and Financial Conditions	1.3

**Table 2.43. Design Factors for Calculating PUMS Standard Errors – Tennessee**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.3
Age	1.1
Sex	1.1
Population of Two or More Races	2.0
White Alone	3.3
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.2
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.7
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.5
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.44. Design Factors for Calculating PUMS Standard Errors – Texas**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.4
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	2.0
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.2
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.8
Means of Transportation to Work	1.7
Place of Work	1.9
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	2.0
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.9
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.8
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.8
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.8
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.45. Design Factors for Calculating PUMS Standard Errors – Utah**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.2
Age	1.2
Sex	1.6
Population of Two or More Races	1.9
White Alone	3.4
Black or African American Alone	1.6
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.4
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.4
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.1
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.1
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.7
Rooms and Bedrooms	1.6
Occupants per Room	1.6
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.5
Plumbing Facilities and Kitchen Facilities	2.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.6
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.5

**Table 2.46. Design Factors for Calculating PUMS Standard Errors – Vermont**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.2
Age	1.3
Sex	1.6
Population of Two or More Races	1.1
White Alone	3.4
Black or African American Alone	1.1
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	0.9
Hispanic or Latino	1.2
Marital Status	1.5
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.4
Residence 1 Year Ago	2.2
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.6
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.2
Travel Time to Work	1.4
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.3
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.3
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.7

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.7
Type of Household Income	2.0
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.3
Ratio of Income to Poverty Level	2.1
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.4
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.3
Households by Presence of Nonrelatives	1.5
Unmarried Partner Households	1.3
Tenure	1.2
Vacant	1.0
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.3
Year Structure Built and Year Householder Moved Into Unit	1.2
House Heating Fuel	1.2
Telephone Service Available	1.2
Vehicles Available	1.2
Plumbing Facilities and Kitchen Facilities	1.0
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.4
Meals Included in Rent	1.7
Inclusion of Utilities in Rent	1.8
Value	1.2
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.3

**Table 2.47. Design Factors for Calculating PUMS Standard Errors – Virginia**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	3.1
Age	1.1
Sex	1.1
Population of Two or More Races	2.2
White Alone	2.1
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.2
Language Spoken at Home and Ability to Speak English	1.4
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.1
Residence 1 Year Ago	2.7
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.2
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.7
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.6
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.2
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.7
Meals Included in Rent	1.6
Inclusion of Utilities in Rent	1.7
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.6

**Table 2.48. Design Factors for Calculating PUMS Standard Errors – Washington**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.9
Age	1.2
Sex	1.9
Population of Two or More Races	2.0
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.4
Marital Status	1.3
Relationship	1.4
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.5
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.1
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.5
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.7
Private Vehicle Occupancy	1.7
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.6
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.8
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	3.5
Family Type, Household Type, and Household Size	1.7
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.7
Tenure	1.7
Vacant	1.9
Rooms and Bedrooms	1.6
Occupants per Room	1.8
Units in Structure	1.7
Year Structure Built and Year Householder Moved Into Unit	1.6
House Heating Fuel	1.6
Telephone Service Available	1.7
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	2.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.7
Inclusion of Utilities in Rent	1.7
Value	1.6
Mortgage Status and Selected Monthly Owner Costs	1.5
Selected Physical and Financial Conditions	1.7

**Table 2.49. Design Factors for Calculating PUMS Standard Errors – West Virginia**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.7
Age	1.0
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	1.2
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.6
Hispanic or Latino	1.4
Marital Status	1.2
Relationship	1.3
Ancestry	2.1
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.9
Residence 1 Year Ago	2.6
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.6
Travel Time to Work	1.7
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.5
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.5
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.4

Age of Own Children by Living Arrangements and Employment Status of Parents	1.6
Age of Householder	1.3
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.5
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.5
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.7
<b>HOUSING</b>	
Households/Occupied Housing Units	1.7
Family Type, Household Type, and Household Size	1.6
Households by Presence of Nonrelatives	2.0
Unmarried Partner Households	1.5
Tenure	1.5
Vacant	1.6
Rooms and Bedrooms	1.5
Occupants per Room	1.4
Units in Structure	1.6
Year Structure Built and Year Householder Moved Into Unit	1.5
House Heating Fuel	1.5
Telephone Service Available	1.5
Vehicles Available	1.6
Plumbing Facilities and Kitchen Facilities	1.7
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.6
Meals Included in Rent	1.5
Inclusion of Utilities in Rent	1.6
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.6

**Table 2.50. Design Factors for Calculating PUMS Standard Errors – Wisconsin**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.7
Age	1.3
Sex	1.6
Population of Two or More Races	1.8
White Alone	3.4
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.0
Hispanic or Latino	2.1
Marital Status	1.4
Relationship	1.4
Ancestry	1.7
Grandparents Responsible for Grandchildren	1.9
Number of Women Who Had a Birth in the Past 12 Months	1.5
Language Spoken at Home and Ability to Speak English	1.7
Linguistic Isolation	1.3
Place of Birth, Year of Entry, and Citizenship Status	1.8
Residence 1 Year Ago	2.5
School Enrollment, Level of School, and Type of School	1.4
Educational Attainment	1.6
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.3
Travel Time to Work	1.4
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.4
Private Vehicle Occupancy	1.4
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.2
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.8
Age of Householder	1.5
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.3
Person Earnings/Income	1.6
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.4
Ratio of Income to Poverty Level	2.2
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.6
<b>HOUSING</b>	
Households/Occupied Housing Units	3.2
Family Type, Household Type, and Household Size	1.4
Households by Presence of Nonrelatives	1.7
Unmarried Partner Households	1.4
Tenure	1.5
Vacant	1.3
Rooms and Bedrooms	1.3
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.3
House Heating Fuel	1.2
Telephone Service Available	1.5
Vehicles Available	1.3
Plumbing Facilities and Kitchen Facilities	1.4
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.8
Meals Included in Rent	1.4
Inclusion of Utilities in Rent	1.5
Value	1.2
Mortgage Status and Selected Monthly Owner Costs	1.2
Selected Physical and Financial Conditions	1.4

**Table 2.51. Design Factors for Calculating PUMS Standard Errors – Wyoming**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.6
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.4
Age	1.1
Sex	1.6
Population of Two or More Races	1.7
White Alone	3.4
Black or African American Alone	1.4
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	1.6
Hispanic or Latino	1.5
Marital Status	1.3
Relationship	1.2
Ancestry	1.8
Grandparents Responsible for Grandchildren	1.6
Number of Women Who Had a Birth in the Past 12 Months	0.9
Language Spoken at Home and Ability to Speak English	1.5
Linguistic Isolation	1.7
Place of Birth, Year of Entry, and Citizenship Status	1.7
Residence 1 Year Ago	2.4
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.3
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.4
Travel Time to Work	1.5
Means of Transportation to Work	1.7
Place of Work	1.7
Time Leaving Home to go to Work	1.5
Private Vehicle Occupancy	1.4
Work Experience, Hours Worked per Week, and Weeks Worked	1.4
Number of Workers in Family	1.3
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.3

Age of Own Children by Living Arrangements and Employment Status of Parents	1.5
Age of Householder	1.2
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.5
Type of Household Income	1.3
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.4
Ratio of Income to Poverty Level	2.4
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	1.7
Unmarried Partner Households	1.5
Tenure	1.4
Vacant	1.6
Rooms and Bedrooms	1.5
Occupants per Room	1.8
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.4
Telephone Service Available	1.5
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	1.5
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.4
Inclusion of Utilities in Rent	1.5
Value	1.3
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.4

**Table 2.52. Design Factors for Calculating PUMS Standard Errors – Puerto Rico**

Characteristics	Design Factor
<b>POPULATION</b>	
Families and Nonfamilies	1.7
Population in Households by Race/Hispanic Origin of Householder	2.0
Population by Tenure	2.7
Age	1.1
Sex	1.6
Population of Two or More Races	2.2
White Alone	3.3
Black or African American Alone	2.0
American Indian or Alaska Native Alone, Asian Alone, Native Hawaiian or Other Pacific Islander Alone, or Some Other Race Alone	2.1
Hispanic or Latino	2.2
Marital Status	1.2
Relationship	1.3
Ancestry	2.0
Grandparents Responsible for Grandchildren	1.7
Number of Women Who Had a Birth in the Past 12 Months	1.0
Language Spoken at Home and Ability to Speak English	1.8
Linguistic Isolation	1.6
Place of Birth, Year of Entry, and Citizenship Status	2.2
Residence 1 Year Ago	3.0
School Enrollment, Level of School, and Type of School	1.3
Educational Attainment	1.4
Armed Forces Status and Veteran Status	1.2
Period of Military Service	1.5
Disability Status	1.3
Employment/Work Status	1.2
Industry, Occupation, and Class of Worker	1.5
Travel Time to Work	1.6
Means of Transportation to Work	1.7
Place of Work	2.4
Time Leaving Home to go to Work	1.6
Private Vehicle Occupancy	1.6
Work Experience, Hours Worked per Week, and Weeks Worked	1.3
Number of Workers in Family	1.4
Presence of Own Children, Presence of People Under 18 Years, Presence of People 60 Years and Over, and Presence of People 65 Years and Over	1.5

Age of Own Children by Living Arrangements and Employment Status of Parents	1.7
Age of Householder	1.4
Race of Householder	1.8
Household, Family, or Nonfamily Income	1.4
Person Earnings/Income	1.5
Type of Household Income	1.1
Poverty Status (Persons)	1.7
Poverty Status (Families/Households)	1.5
Ratio of Income to Poverty Level	2.7
Receipt of Food Stamps and Participation in Free or Reduced Price Meals	1.5
<b>HOUSING</b>	
Households/Occupied Housing Units	2.4
Family Type, Household Type, and Household Size	1.5
Households by Presence of Nonrelatives	2.2
Unmarried Partner Households	1.5
Tenure	1.5
Vacant	1.5
Rooms and Bedrooms	1.4
Occupants per Room	1.5
Units in Structure	1.5
Year Structure Built and Year Householder Moved Into Unit	1.4
House Heating Fuel	1.5
Telephone Service Available	1.5
Vehicles Available	1.4
Plumbing Facilities and Kitchen Facilities	1.8
Gross Rent, Gross Rent as a Percentage Of Household Income, and Contract Rent	1.5
Meals Included in Rent	1.8
Inclusion of Utilities in Rent	1.4
Value	1.4
Mortgage Status and Selected Monthly Owner Costs	1.4
Selected Physical and Financial Conditions	1.5