Estimating Low Income Households

Under statute, Qualified Entities (QE) are required to identify the amount of STIF Formula funds that are allocated to improve services to a **high percentage of low-income *households*** (not *individuals* and not *families*). OAR 732-404-0005(17) defines low-income household incomes as those below 200% of the federal poverty guidelines. QE's are required to define **high percentage of low-income households** in Advisory Committee bylaws. A STIF Plan must contain an explanation of how the plan defines and identifies communities with a high percentage of low-income households, and indicate how projects improve transit service for these communities.

> **Federal Poverty Guidelines Example**
>
> - For a 2-person household, the 2018 poverty guideline (a.k.a. poverty level) is **$16,460**
>
> - 200% of the guideline is **$32,920**
>
> - 2-person households earning **$32,920** or less are considered low-income

There have been some questions about how to calculate the number of low-income households for STIF Plans, both for service planning and for reporting project outcomes. The US Census Bureau does not provide data specifically on the number of *households* earning less than 200% of the federal poverty level. The Census does provide data on the *population* (i.e. individuals or people) earning less than 200% of the federal poverty level, and the same for *families*.

This document provides guidelines for using available Census data to calculate the number of low-income *households* within a given geographic area based on existing Census data. Both methods involve data related to *population* and *households*.[1] The guidelines cover two methods, using average household size, or using a low-income population ratio. The methods result in comparable results, with very little difference between results from either method. Communities should choose the method that best suits their local conditions.

The transit sketch planning tool **Remix** provides the Census total *population* and the percent of *population* below 200% of the poverty level within a user-defined distance of transit stops. With this data, providers can calculate the number of low-income people with access to transit. Remix does not provide the number or percentage of *households* with access to transit. Users can use the methods described below to convert the low-income *population* measure to low-income *households*. Remix can be found here: https://www.remix.com/

---

[1] Do not use *families* in the calculation. Families are a smaller population group in the Census, which can result in significantly different percent of low income populations.

Using American Factfinder

https://factfinder.census.gov/

These methods are based on using the year **2016 American Community Survey (ACS) 5-year estimates**, available from the American FactFinder website.[2] Users may use any year provided it is consistent across the calculations. The guidelines here refer to the "Advanced Search" tool, which lets users enter the table and geography name into the search bars (A), or search for the table using the drop down menu options (B).

The Census Bureau organizes data by geographic type. The smallest geographic type in the ACS dataset is a block group.[3] States, counties, and tracts are made up of block groups. These guidelines refer to one table that provides data at each level down to block group. The second table provides data at the state and county level, and other levels such as place.

Figure 1: Searching for Tables in American Factfinder

If using the Advanced Search for multiple different tables in the same work session in your internet browser, be sure to click "back to Advanced Search" and clear any table or topic selections still active in "Your Selections" box (C).

---

[2] US Census data tables used in the calculations here are updated in December for the preceding year. That is, 2016 Census tables are available beginning in December 2017. Census data will therefore always lag slightly behind the current Federal poverty guidelines. 2017 ACS data is expected in December 2018.

[3] The smallest geographic type is the block, used in other datasets.

Method 1: Average Household Size

1. Find the population below 200% of the federal poverty level for the geographic area chosen for the analysis geography (e.g. county, place, tract).

   - Table **C17002 Ratio of Income to Poverty Level in the Past 12 Months** has this data down to the block-group level. Users should sum the population in categories earning less than 200% of the poverty level.[4] See Figure 2 below.

Figure 2: US Census Table C17002 Screenshot

---
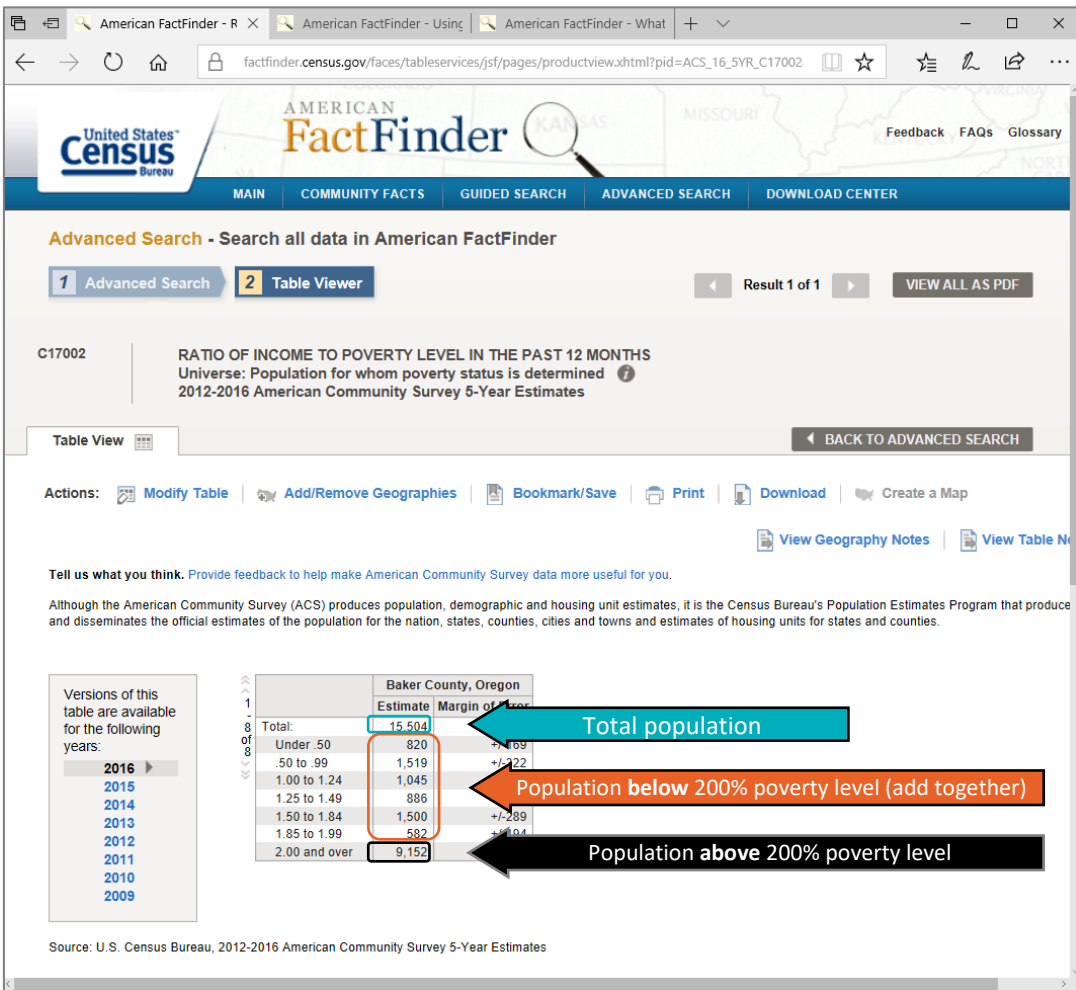
[4] Alternatively users can subtract the population with a ratio 2.00 and over from the total population.

- Table **S1701 Poverty Status in the Past 12 Months** has this data for counties and census-designated places (e.g. cities, towns). This table includes the population earning below ratios of the poverty level, including 200% or less. Users should make calculations using the number of individuals below 200% of the poverty level. See Figure 3 below.

Figure 3: US Census Table S1701 Screenshot
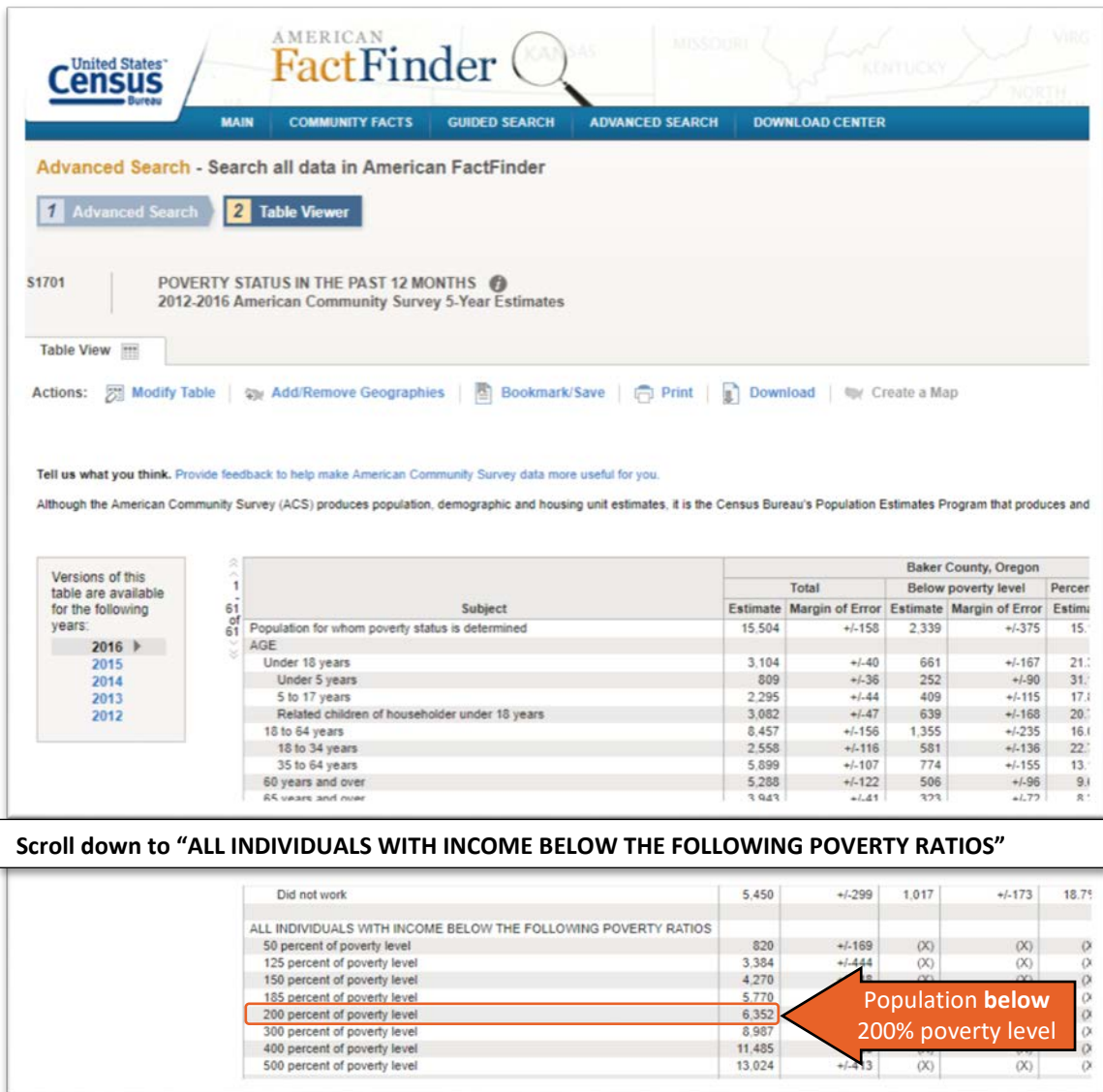
2. Get the average household size for the same geographic level.

▪ Table **B25010 Average Household Size of Occupied Housing Units by Tenure** has the data down to the block-group level. See Figure 4 below.

Figure 4: US Census Table B25010 Average Household Size of Occupied Housing Units by Tenure
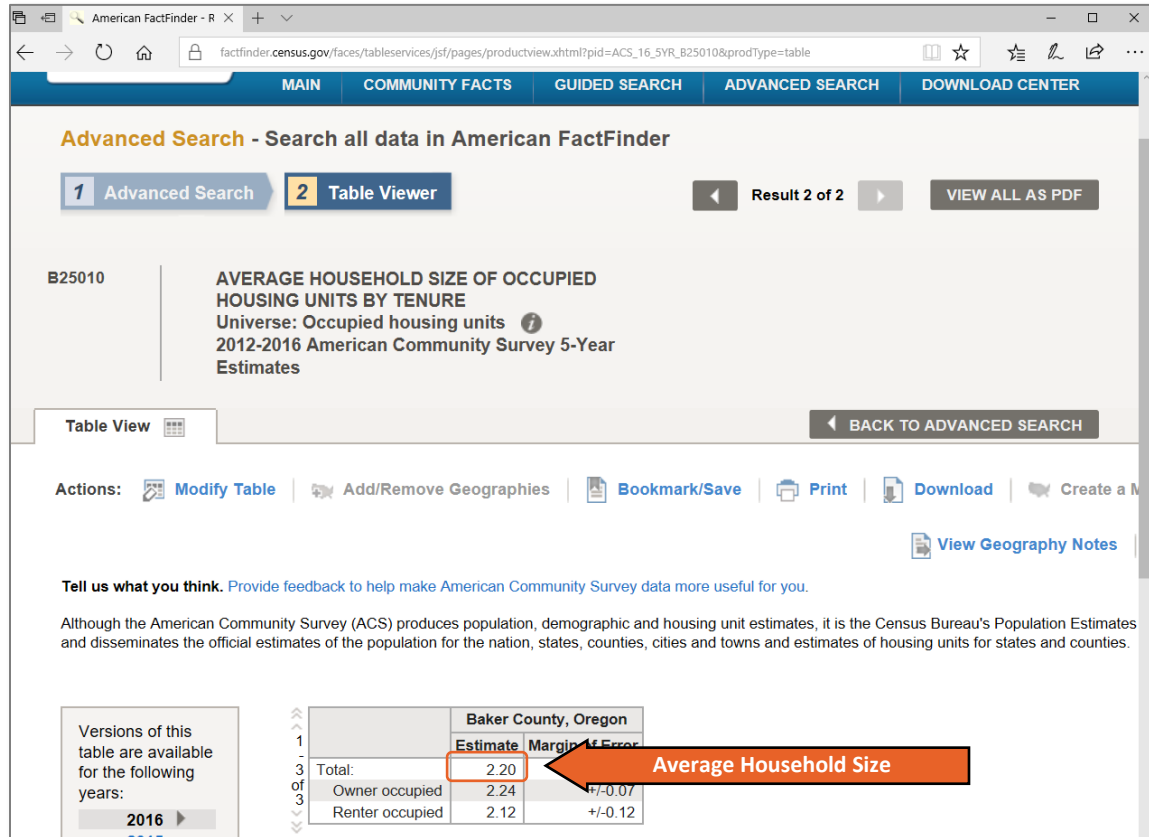
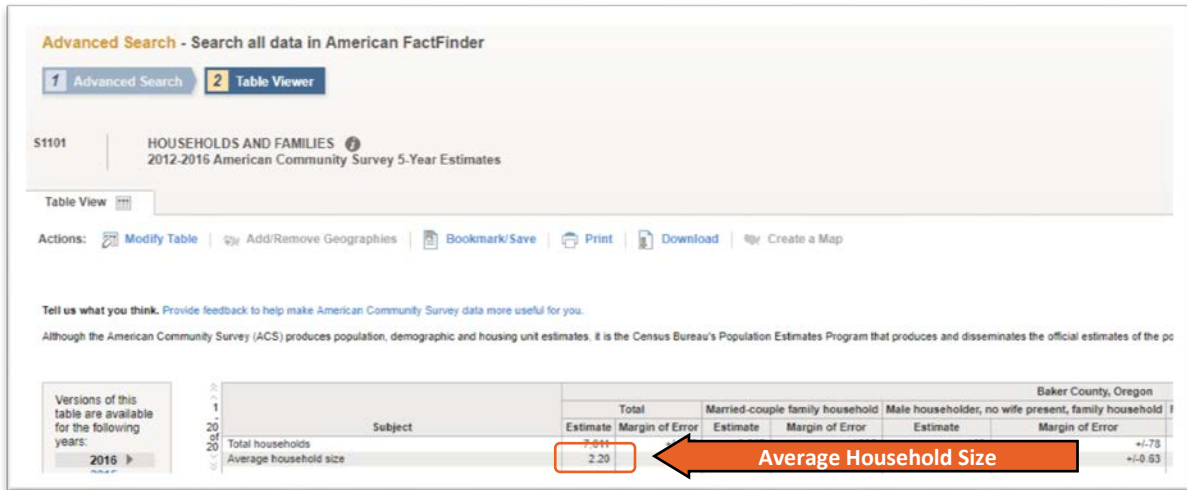- Table **S1101 Households and Families** has the data at the county- and place-level. See Figure 5 below.

Figure 5: US Census Table S1101 Households and Families

3. Divide the population below 200% of the federal poverty guidelines by the average household size.

4. This will result in an estimate of the number of households that are below 200% of the federal poverty level. See Figure 6 for an example of how the demographic inputs are used to calculate the number of low-income households.

$$Low\ income\ households\ = \frac{Low\ income\ population}{Average\ household\ size}$$

Table 1: Example conversion from low-income population to low-income households – Method 1

Project Area	Low-Income *Population*	Average Household Size [2]	Low-Income *Households*
Baker County	6,352 [1]	2.2	2,890
Example area w/in half mile of conceptual project	1,000 [3]	2.2	455

Notes: [1] Census Table C17002 or S1701 [2] Census Table B25010 or S1101 [3] From Remix, GIS, or other methods

Method 2: Low income population ratio

1. Get the total number of households for the geographic area chosen for the analysis geography.

    ▪ Table **B11016 Household Type by Household Size** has total household data.[5] Refer to line "Total." See Figure 6 below.

    ▪ Table **S1101 Households and Families** provides county- and place-level data. See Figure 5 above. Refer to line "TOTAL HOUSEHOLDS"

2. Calculate the low income population ratio for the same geographic level. This is the population earning below 200% of the federal poverty level, divided by the total population for whom poverty status is determined.

    ▪ Table **C17002 Ratio of Income to Poverty Level in the Past 12 Months** has this data from the state to block-group level. Users should sum the population in categories earning less than 200% of the poverty level, then divide by the total.[6] See Figure 7 below.

    ▪ Table **S1701 Poverty Status in the Past 12 Months** has this data at the county- and place-level. This table includes the population earning below ratios of the poverty level, including 200% or less.

3. Multiply the total number of households found in Step 1 by the share of low-income population ratio calculated in Step 2.

4. This will result in an estimate of households below 200% of the federal poverty level.

$$Low\ income\ households = Total\ Housholds \ \ x \ \frac{Low\ income\ population}{Total\ population}$$

Table 2: Example conversion from low-income population to low income households – Method 2

Project Area	Total Households	Low-Income Population to Total Population Ratio [1]	Low-Income Households
Baker County	7,011 [2]	41%	2,870
Example area within half-mile of conceptual project	1,109 [3]	41%	455

Notes: [1] Census Table C17002 or S1701. [2] Census Table B25010 or S1101 [3] From GIS or other methods

---

[5] Other tables with total households include B11001 Household Type, and B17017 Poverty Status in the Past 12 Months by Household Type by Age of Householder (100% poverty level only)

[6] Alternatively users can subtract the population earning above 200% of the poverty level from the total population.

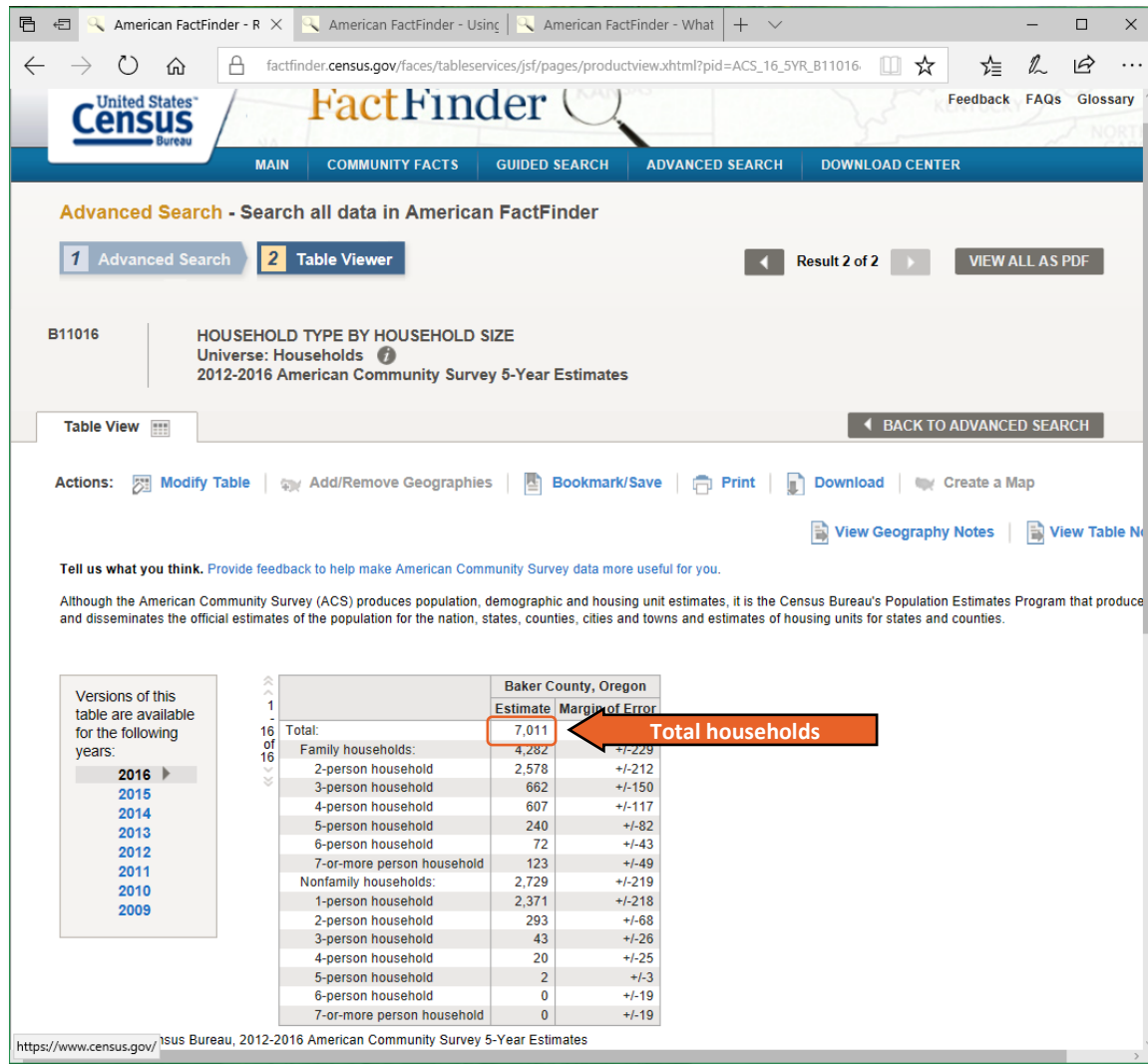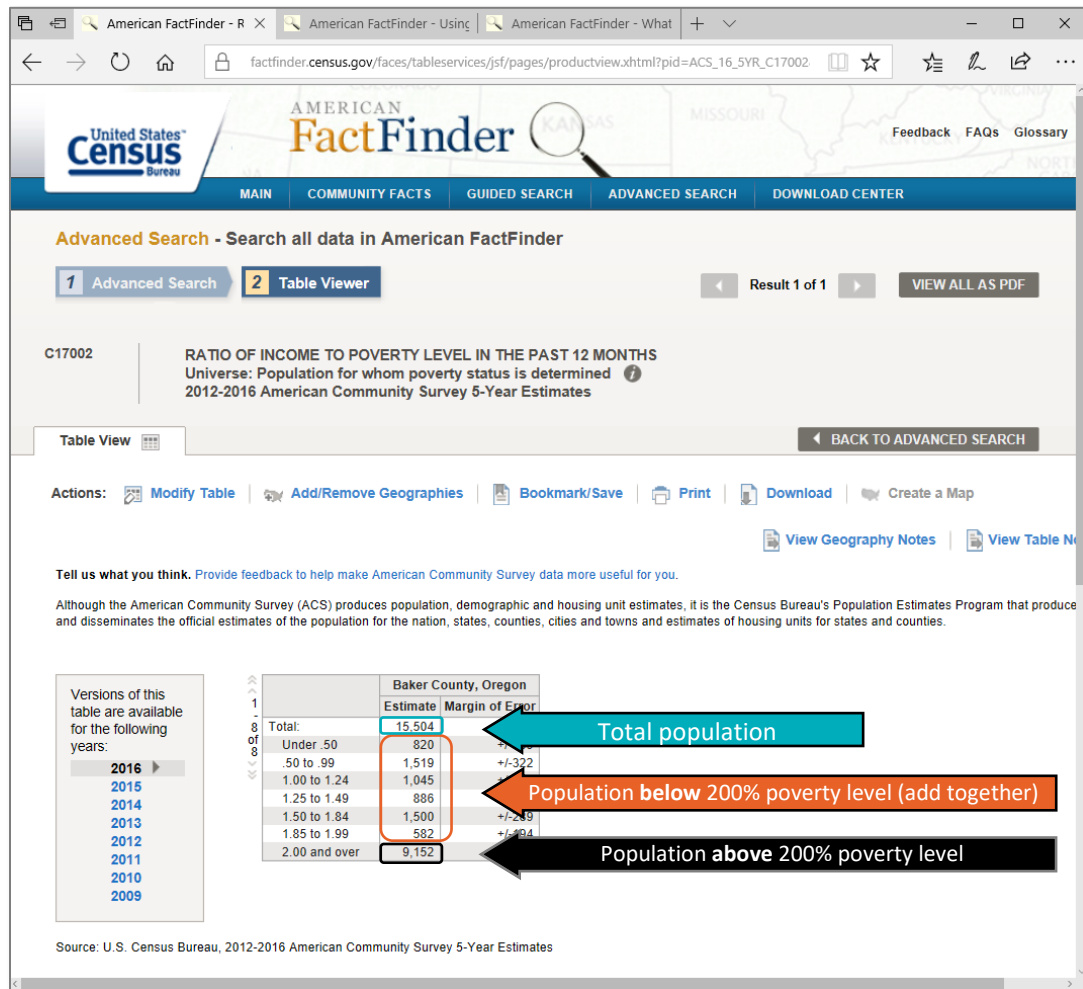**Figure 6: US Census Table B11016 Screenshot**

Figure 7: US Census Table C17002 Screenshot

Background information:

- People, or individuals, are respondents to the Census survey
- Households is a classification of that number representing how people live. There can be one-person households. A household can also include a group of unrelated people sharing a housing unit, but it does not include group quarters, such as correctional facilities or nursing homes. Not all households contain families.
- Families are households of two or more related people, by birth, marriage or adoption. This is a smaller classification of individuals than households, e.g., excludes one-person households, households with multiple unrelated people, etc.
- The Census Bureau produces data tables on the number of individuals, or people, with household incomes below 200% of the poverty level. This is based on household income data but does not include the number of households.
- The Census Bureau also produces data tables on the number of families with household incomes below 200% of the poverty level. However, this data is not easily converted to households.
- A good place to start understanding these terms is the Census Bureau glossary: https://www.census.gov/glossary/