



# REVIEW GUIDE FOR THE POPULATION ESTIMATES CHALLENGE PROGRAM

**Population Division**

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## **REVIEW GUIDE FOR THE POPULATION ESTIMATES CHALLENGE PROGRAM**

This Review Guide provides the necessary information to participate in the Population Estimates Challenge Program. The Guide outlines the data used in the Population Estimates Program, describes the methodologies used to create the population estimates, and provides guidance on submitting a challenge to the population estimates. Please read this document in its entirety before submitting your challenge materials.

**TABLE OF CONTENTS**

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**I. Population Estimates Challenge Program Overview ..... 5**

- A. Purpose ..... 5
- B. Process Overview and Key Dates ..... 5

**II. Population Estimates Methodology Overview..... 6**

- A. Geographic Base Updates ..... 6
- B. County or Statistical Equivalent Estimates ..... 6
- C. Incorporated Place and Minor Civil Division (MCD) Estimates ..... 8

**III. Challenge Process ..... 9**

- A. Initiating a Challenge..... 9
  - 1. Considerations during Preliminary Review ..... 9
  - 2. Census Count or Geographic Boundary Inquiries ..... 11
- B. Submitting a Challenge ..... 13
  - 1. Preparing the Challenge Letter ..... 13
- C. Providing Materials to Support a Challenge..... 15
  - 1. Challenges for County or Statistical Equivalents ..... 15
  - 2. Challenges for Incorporated Places or Minor Civil Divisions..... 17
    - 2.1. Concepts and Definitions of Housing Unit data..... 19
      - a. Residential Construction ..... 19
      - b. Certificates of Occupancy ..... 20
      - c. Residential Housing Conversions ..... 21
      - d. Mobile Home Placements ..... 22
      - e. Residential Housing Unit Loss..... 23
    - 2.2. Concepts and Definitions of Supporting Evidence ..... 24
      - a. Residential Building Permits..... 24
      - b. Certificates of Occupancy ..... 24
      - c. Housing Conversions ..... 25
      - d. Mobile Homes ..... 25
        - (i) Mobile Homes Listed on Tax Rolls..... 25
        - (ii) Mobile Home Survey ..... 26
      - e. Utility Connections ..... 26
      - f. Survey Data ..... 27

g. Population Projections.....	28
2.3. Group Quarters Population.....	28
2.4. Guidelines for a Locally Conducted Population Count .....	29
a. Residence Rules .....	29
b. Preparing Maps .....	30
c. Preparing List of Addresses and Residents .....	31
d. Counting Group Quarters Facilities .....	32
e. Reporting Results .....	32

## **Appendices**

### **Appendix A: Federal Register Notice**

#### **Appendix B.1.1. County Derivation Sheet**

#### **Appendix B.1.2. County Revised Input Data**

- A. Revised Components of Population Change: July 1, 2010 to June, 20<EY> B. Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY><sup>1</sup>
- C. Individual Group Quarters (GQ) Facility Comments: April 1, 2010 to July 1, 20<EY>
- D. Additional Revised Migration Data: July 1, 2010 to June 30, 20<EY>

#### **Appendix B.2.1. Subcounty Derivation Sheet**

#### **Appendix B.2.2. Subcounty Revised Input Data**

- A. Components of Housing Unit Change for: July 1, 20<EY>
  - A.1. Residential Building Permits
  - A.2. Non-Permitted Residential Construction

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<sup>1</sup> 20<EY>: the estimate year being challenged

## **I. Population Estimates Challenge Program Overview**

### **A. Purpose**

The U.S. Census Bureau annually prepares and releases estimates of the number of people residing in states and their governmental units in accordance with Title 13 of the United States Code (U.S.C.). These estimates are developed by updating the population counts from the most recent decennial census with demographic components of change data and/or other indicators of population change. As part of its authorization, the U.S. Census Bureau offers an opportunity for counties (including statistical equivalents) and local units of general-purpose government to challenge these official estimates through its Population Estimates Challenge Program (hereafter, Challenge Program). The Challenge Program provides an opportunity to submit data that may be used to improve the population estimates. The Challenge Program for this decade was established in 15 CFR Part 90 (see *Appendix A* for the full text).

### **B. Process Overview and Key Dates**

Challenges to the Census Bureau's population estimates must conform to the regulations set out in 15 CFR Part 90. A challenge must utilize the current estimation methodology in use for a particular level of geography. The Census Bureau will not accept estimates developed from methods different from those used by the Census Bureau in developing the estimates. Based on the current challenge process, challenges will only be accepted when the evidence provided identifies the use of incorrect data or processes, or an error made in the calculation of the population estimates.

Some of the more significant provisions in the regulations are as follows:

1. A government may file for a challenge at any time up to 90 days after the release of the population estimate by the Census Bureau. However, if a governmental unit did not file a challenge in a timely manner, the Census Bureau has the discretion to accept a late request.
2. Under this program, a government may challenge their population estimate by submitting additional data to the Census Bureau for evaluation.
3. The types of data that are submitted must be consistent with the criteria, standards, regular processes, and methodology the Census Bureau employs to generate the population estimate.

4. If the additional data are accepted, the Census Bureau will provide a written notification to the challenging government and publish the revised estimate at <https://www.census.gov/programs-surveys/popest.html>.

In most instances, the additional data used in the challenge will be applied to the next vintage of estimates. Otherwise, corrections will be incorporated in a later estimates cycle.

5. If the additional data are not accepted for a revised estimate, the Census Bureau will notify the government.
6. If a county-level government or statistical equivalent is not an active general-purpose government, the Federal-State Cooperative for Population Estimates (FSCPE) member agency may serve as the sponsor of the challenge and the governor will serve as the highest elected official for the challenging entity.

## **II. Population Estimates Methodology Overview**

The U.S. Census Bureau produces estimates of total resident population for all areas of general-purpose government annually.

### **A. Geographic Base Updates**

The 2010 Census housing units and associated household and group quarters populations are annually updated to reflect legal changes to governments reported in the Boundary and Annexation Survey (BAS), from other geographic program revisions, and corrections to the 2010 Census (e.g., Count Question Resolution [CQR] program revisions). The Census Bureau re-tabulates the 2010 Census counts of housing units and population in legal boundaries of counties, cities, and MCDs that are effective January 1 of the estimate year. These updates are reflected in each base file used for each geography estimation level to form the base for the estimates.

### **B. County or Statistical Equivalent Estimates**

Below is a summary of the estimation methodology for counties and statistical equivalents, such as parishes and independent cities. For more detailed methodology information, please visit the link below:

<https://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html>.

**Universe definition:** An estimate of the resident population of a county includes all residents, both civilian and Armed Forces living in that county, and is based on the concept of residence used in the 2010 Census, which defines a resident of a

specified area as a person “usually resident” in that area (see *Appendix D. Table of Residence Rules*).

The Census Bureau uses the *Cohort Component method* to estimate county population. Population can change as a result of births, deaths, and migration. We refer to these collectively as the components of change used to produce the county-level population estimates. The estimation methodology is based on the assumption that changes in selected administrative and other data closely approximate the components of population change. This estimation procedure begins by splitting the census population into two mutually exclusive universes: the non-GQ or household population and the group quarters (GQ) population.

The Census Bureau separately estimates each component of household population change based on administrative records, including registered births and deaths, Federal income tax address changes, Medicare enrollee changes, and military movement. Migration is divided into two independently estimated sub-components: domestic migration and international migration. We use Federal income tax address changes data and Medicare data to estimate domestic migration. We separately estimate net international migration using information from the American Community Survey (ACS), and other data sources. Registered births and deaths data lag the current estimate year by as much as two years, therefore, we project the data for the current year based on past years’ data. We also utilize data from the National Center for Health Statistics (NCHS) along with more current birth and death reports from the FSCPE members to distribute the annual national-level births and deaths to each county. As updated data become available, we revise the projected input data so that each estimates’ vintage is always based on the most recent data available at the time of production.

We produce separate estimates of the population living in special housing arrangements defined as group quarters (for example, college dormitories, military facilities, and nursing homes). The GQ processing is done using the smallest legal subdivisions of a city or town and summing up to the county-level geography to produce the GQ county population estimates. Change in the GQ population is estimated using data provided annually by members of the FSCPE, the Department of Defense, and Veterans Affairs.

The county-level estimates are produced for three age groups: population aged 0 to 17, 18 to 64, and 65 and older. Starting with the county-specific base population by age group as of April 1, 2010, we calculate the population as of July 1, 2010 using a component of change method. We control the county population estimates by age group to the national resident population estimates for these age groups and repeat this process using full years of components to estimate the annual July 1 population for each county. The resulting household and GQ estimates are added together to

produce the new set of resident population estimates. The total resident population for each county is the sum of the populations in the three age groups.

### **C. Incorporated Place and Minor Civil Division (MCD) Estimates**

Below is a summary of the estimation methodology for incorporated places and MCDs, also referred to as cities and towns or as subcounty areas. For more detailed information, please visit the link below:

<https://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html>

The subcounty estimation process relies on two major steps: creation of housing unit estimates, and creation of household and group quarters population estimates.

#### **Step 1. Housing Unit Estimates**

The Census Bureau compiles updated housing unit estimates from components of housing change and the updated 2010 housing base for each city and town or subcounty area. This 2010 housing base file reflects legal boundary changes that are effective as of January 1 of the estimate year and are included in the estimates cycle. Components include building permits, estimates of non-permitted construction, mobile home shipments, and estimates of housing unit loss. For example, to produce the July 1, 20<EY><sup>2</sup> housing unit estimates, the Census Bureau adds together (1) the updated 2010 Census count of housing units, (2) estimated new residential construction (April 1, 2010 to December 31, 20<EY-1>), and (3) estimated new residential mobile home shipments (April 1, 2010 to June 30, 20<EY>), and subtracts (4) the estimated residential housing loss (April 1, 2010 to July 1, 20<EY>). This produces a preliminary set of July 1, 20<EY> housing estimates. The final housing estimates also may reflect updates from the FSCPE member agencies.

#### **Step 2. Population Estimates**

The Census Bureau separately estimates household and group quarters populations and combines them to produce the subcounty (city- and town-level) resident population estimates.

#### *Group Quarters Population Estimate*

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<sup>2</sup> 20<EY>: the estimate year being challenged

To estimate the group quarters population, the Census Bureau starts with the 2010 Census base of group quarters population for each subcounty area and calculates population change using data received annually from members of the FSCPE, the Department of Defense, and Veterans Affairs.

### *Household Population Estimate*

The Census Bureau estimates the subcounty household population by using a *Distributive Housing Unit (HU)* method to allocate the county-level household population estimate to its subcounty areas. This county-level household population estimate is produced using the *Cohort-Component* methodology (see *Population Estimates Methodology Overview*, Section II.B). To proceed with the *Distributive HU* method, we first multiply each subcounty housing unit estimate by its updated 2010 Census-based persons-per-household (PPH) and occupancy rate. This produces an *uncontrolled* household population estimate for each subcounty area within the county. For each subcounty area, the Census Bureau computes a county proportional adjustment based on the county-level household estimate and the sum of the uncontrolled subcounty household population. This adjustment is also referred to as a *Rake Factor*. The proportional adjustment is then multiplied by each uncontrolled subcounty household population estimate. This produces a *controlled* household population estimate for each subcounty area. The sum of all final controlled household population estimates of these subcounty areas within the county must equal the controlled county household population estimate.

## **III. Challenge Process**

### **A. Initiating a Challenge**

#### **1. Considerations during Preliminary Review**

A representative of a government may wish to contact the Census Bureau's Population Estimates staff to discuss their concerns before deciding to proceed with a challenge. The initial steps in the challenge process are:

- a. Request a derivation sheet containing the components used to create the population estimate for your government for the estimate year and information about how to challenge your population estimate. The Census Bureau will prepare and send this material by e-mail or, if desired, by postal mail.

- b. Review the derivation sheet showing the population estimate and associated components. Unlike under the challenge program of the last decade, all-successful subcounty population challenges will be subject to a rake factor. You should not recalculate a revised estimate using the new component data and the rake factor provided in the derivation sheet. This proportional adjustment or rake may change if the sum of the uncontrolled population of all subcounty areas within the county changes because of the new component data.
- c. Contact your State member agency of the FSCPE program if you need technical assistance. The FSCPE contacts are listed at <https://www.census.gov/programs-surveys/popest/about/fscpe/contacts.html>.

If your government decides to submit a challenge, you must provide data to the Census Bureau (as detailed in this Review Guide). You may challenge the population estimate by correcting the components that are consistent with the methodology used to create the original population estimates.

- ❖ For counties and statistical equivalents, the Census Bureau will consider a challenge based on additional data on one or more of the components of change or about the group quarters population. These components include births, deaths, migration and change in the group quarters population. For more information on the type of evidence or documentation needed to submit a challenge, please refer to section III.C.1 in this guide (*County or Statistical Equivalent Challenge*)
- ❖ For incorporated places and MCDs, the Census Bureau will consider a challenge based on data related to changes in an area's housing stock, such as building permits, non-permitted construction, certificates of occupancy, housing conversions, demolitions and housing loss, mobile home placements, occupancy rates, PPH, and the group quarters population. If your government does not compile building permits to report new construction, we will be glad to discuss with you what data sources you may be able to use to report new construction. The Census Bureau also will consider a challenge based on additional data about the group quarters population. For more information on the type of evidence or documentation needed to submit a challenge, please refer to section III.C.2 in this guide (*Incorporated Place or Minor Civil Division Challenge*)

NOTE: Incorporated places or MCDs that the Census Bureau lists as county-level statistical equivalents (see *Appendix C*) are not eligible for an updated population estimate based upon housing data because they were created using the county-level *Cohort Component method*; they must instead be challenged with updated data based upon births, deaths, migration, and group quarters.

Requests for corrections that are specific and provide evidence to support the existence of a non-methodological (data or processing) error will be more persuasive than requests for correction that are general and undocumented. The complainant bears the burden of proof with respect to the necessity for correction as well as the type of correction sought. Governments cannot use casual personal observations, "informed" opinions, and similar undocumented statements as a basis for a challenge.

Some of the inputs to the population estimates, such as individual responses from the decennial census and unsuppressed aggregate data from Federal income tax address data, are confidential and cannot be disclosed. The Census Bureau will examine the evidence submitted and investigate the production of the estimate to determine whether a non-methodological error has been made.

If a correction is warranted based upon the additional data and the challenge is submitted within the 90-day challenge period, the estimate will be corrected, the government will be notified with official correspondence, and the Census Bureau will apply the additional data used in the challenge to the next vintage of estimates. Otherwise, the Census Bureau will incorporate corrections in a later estimates cycle.

Reminder: A challenge may result in a revised estimate if either of the following errors are found:

- A technical error in processing input data or producing the population estimates
- Use of incorrect input data in the process of generating the estimates

In those instances where the Census Bureau processed the information correctly but was provided with incorrect input data at the outset of the process, the Census Bureau will make reasonable efforts to provide corrected estimates.

## **2. Census Count or Geographic Boundary Inquiries**

Challenges to particular official 2010 Census counts of housing units and group quarters populations, and to geographic boundaries as of January 1<sup>st</sup> of the estimate year are out of scope for the Population Estimates Challenge program.

Governments that are concerned with their 2010 Census counts or legal boundary change issues may pursue other venues (explained below) to seek corrections.

- The Census Bureau established the 2010 Census Count Question Resolution (CQR) Program by which State, local and Tribal area elected officials may challenge their jurisdiction's 2010 Census counts. The CQR Program addressed questions about housing unit and group quarters counts for three types of challenges for the 2010 Decennial Census: (1) boundary, (2) geocoding, and (3) coverage. On June 1, 2011, the CQR Program began accepting 2010 Census challenge submissions and ended on June 1, 2013. For more details about this program, please visit <http://www.census.gov/2010census/about/cqr.php>.
- Questions about the accuracy of the legally-defined boundaries will be referred to the Census Bureau's Geography Division to resolve any issues for the next year's round of geographic updates and population estimates production. The Census Bureau updates the geographic boundaries of governmental units through the Boundary and Annexation Survey (BAS) with boundaries current to January 1 of the estimate year.

The BAS updates information about the legal boundaries and names of all governmental units in the United States. The Census Bureau uses the boundary information collected in the BAS to tabulate data for a range of programs and surveys, including the Population Estimates Program. Updated boundary information received by the Census Bureau by March 1, 2014 was included in the 2014 Population Estimates.

If you wish to participate in the BAS or if you need more details on your government boundaries, please visit the Geography Division webpage for partnership details <https://www.census.gov/programs-surveys/bas.html>, or contact the BAS Unit of the Census Bureau's Geography Division on 301-763-1099 or e-mail them at [GEO.BAS@census.gov](mailto:GEO.BAS@census.gov).

## **B. Submitting a Challenge**

If a government decides to move forward through the challenge process, the Chief Executive Officer (CEO) or the Highest Elected Official (HEO) must submit a letter and the supporting evidence (data and documentation) for why he or she believes the estimate is incorrect.

A non-functioning county-level governmental unit or statistical equivalent may be represented by the State designated agency to the FSCPE and the governor may serve as the highest elected official. This situation may occur in Connecticut, Rhode Island, in selected counties in Massachusetts, and in Census Areas in Alaska. For the purposes of this program, the District of Columbia is treated as a statistical equivalent of a county and, therefore, also eligible to participate.

Please see the sections below for further information on what to include with your letter.

### **1. Preparing the Challenge Letter**

The CEO or HEO must submit a letter to the Census Bureau indicating intent to challenge the population estimates including the following information:

- a. Government name, your name, title, mailing address, telephone number, fax number (optional), and e-mail address.
- b. Identify the estimate you believe is incorrect based on one of the two approved errors mentioned below:
  - i. A technical error in processing input data or producing the population estimates
  - ii. Use of incorrect input data in the process of generating the estimates
- c. Evidence to support the existence of an error, documentation, and source of the data used in the challenge, including citation of source titles and page numbers, and copies or extracts from any reports used.

- d. Designated contact person who can be reached by telephone and e-mail during normal business hours should Census Bureau staff need to ask questions about the submitted materials.
- e. Completed templates filled out for the appropriate estimation methodology and estimate period that provides the required data indicative of population change for the government. These templates are available at <https://www.census.gov/programs-surveys/popest/about/challenge-program/guide.html>.
- f. To support the submitted challenge of your population estimate, you can supply the actual data and evidence materials via a secure application to share confidential data with the Census Bureau. We will provide instructions on how to access this secure application.
- g. The population estimates staff will receive an automated e-mail notice once your challenge package is uploaded.
- h. When you prepare the documentation, include an appropriate certification (signature) from the CEO/HEO or delegated staff member who prepared and verified the data to confirm that the information provided to the Census Bureau is true and accurate. The certification form is on *Appendix E. Certification Form* and available for download on the challenge website. Please print the certification form and sign it along with the challenge letter signed by the CEO/HEO. Send your challenge letter, certification and correspondence to the Census Bureau preferably by e-mail or by mail:

<b>U.S. Mail:</b>	<b>Private Carrier FedEx, UPS:</b>	<b>E-mail:</b>
Population Estimates Program Attn: Chief, Population Division Population Estimates Challenge U.S. Census Bureau 4600 Silver Hill Road HQ 6H473 Mail Stop 8800	Population Estimates Program Attn: Chief, Population Division Population Estimates Challenge U.S. Census Bureau 4600 Silver Hill Road HQ 6H473 Mail Stop 8800	Population Estimates Program       Population Estimates Challenge

Washington, D.C. 20233	Suitland, MD 20746	<a href="mailto:Pop.challenge@census.gov">Pop.challenge@census.gov</a>
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The Census Bureau must receive the challenge correspondence within 90-days of the original population estimates release date. For specifics on the population estimates release dates, please visit <https://www.census.gov/programs-surveys/popest/about/challenge-program.html>.

In extenuating circumstances, the Census Bureau may forego the 90-day period. The Census Bureau will attempt to render a decision in a timely manner.

If you have any questions about the challenge procedures, please send an e-mail to [pop.challenge@census.gov](mailto:pop.challenge@census.gov) or telephone the Population Estimates Challenge staff at (301) 763-2461.

## C. Providing Materials to Support a Challenge

### 1. Challenges for County or Statistical Equivalents

Challenges to a county-level population estimate must be based on the input data used in the county method including:

- Resident births
- Resident deaths
- Group quarters population
- Domestic migration
- International migration

County-level governments may wish to challenge one or more of the data items used by the Census Bureau in computing its population estimate. They should document their concerns and include an appropriate certification from the person supplying the information. You can supply actual data, and any supporting evidence as part of your challenge package.

The Census Bureau has prepared templates that you can use to provide components of change and/or group quarters data supporting the challenge. The templates will assist in developing the required data series for the components of change (births, deaths, and migration) and GQ population. The GQ template will help challenging governments prepare an annual time series of GQ population by individual group quarters facility. The time series will be used to compute the population change in the facility since the 2010 Census. You have to provide the entire timeseries of GQ data for each facility for use in the population estimation process.

The necessary worksheets are available in *Appendix B.1.2 County Revised Input Data*. This appendix contains four templates:

- A. Revised Components of Population Change: July 1, 2010 to June, 20<EY><sup>3</sup>
- B. Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY>
- C. Individual Group Quarters (GQ) Facility Comments: April 1, 2010 to July 1, 20<EY>
- D. Additional Revised Migration Data: July 1, 2010 to June 30, 20<EY>

County-level governments choosing to provide one or more of the five types of component of change data must complete the applicable worksheet(s) or column(s) given the component data available to them. All challenge related materials should be electronically transferred using the Census Bureau secure server created for the challenging areas to upload data files supplemented with complete and appropriate documentation to support a challenge of their resident population estimate total.

For example, if you have vital statistics data, you will have to fill out *Residents Birth* and/or *Residents Death* data column of worksheet A. *Revised Components of Population Change: July 1, 2010 to June 30, 20<EY>* which can be found in *Appendix B.1.2*. In addition, you should make available to the Census Bureau staff any data sources and technical documentation used to prepare the submitted vital statistics data to support the filed challenge.

If you have data on group quarters populations, you must enter data in worksheet B. *Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY>*. This information is required to compute the population change in the facility since the 2010 Census of GQ population for each facility.

To estimate domestic migration, the Census Bureau uses micro-record address data from Internal Revenue Service (IRS) returns to estimate domestic migration addresses for ages 0 to 64. In addition, we utilize Medicare enrollment data aggregated to the county level to estimate for ages 65 and older. To estimate international migration, we use the American Community Survey (ACS) data, Puerto Rico Community Survey (PRCS) data, decennial census data, administrative data from other countries and data on the armed forces

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<sup>3</sup> 20<EY>: the estimate year being challenged

population collected by the Defense Manpower Data Center (DMDC). These types of data sources are the most reliable that are available to the Census Bureau.

## **2. Challenges for Incorporated Places or Minor Civil Divisions**

To produce the population estimates for each subcounty area, the Census Bureau employs a *Distributive Housing Unit* method to measure change in housing and its household population. The Census Bureau separately estimates population in group quarters. The sum of the estimated household and group quarters populations equals the total resident population estimate.

This process is documented in the subcounty methodology available at <https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2010-2016/2016-su-meth.pdf>.

You may wish to challenge one or more of the components used by the Census Bureau in computing its estimate including:

- Residential Building Permits
- Non-Permitted Residential Construction
- Permitted Residential Demolitions
- Non-Permitted Residential Housing Unit Loss
- Mobile Home Placements
- Persons Per Household
- Occupancy Rate
- Population in Group Quarters

In addition, you may challenge the population estimate by submitting the following types of housing data:

- Certificates of Occupancy
- Non-Residential to Residential Housing Conversions
- Residential to Non-Residential Housing Conversions

Governments must pay close attention to the definitions of the specific data items in this section. The Census Bureau has prepared templates to use to provide housing and group quarters data supporting the challenge. These worksheets are available in Appendix B. This appendix contains two files:

- Subcounty Revised Input Data
- Subcounty Supporting Evidence

- ❖ Governments choosing to challenge their population estimate based on housing data must complete two worksheets for each type of housing data submitted. For example, if your government is reporting non-permitted construction data, you have to complete worksheet *A.2. Non-Permitted Residential Construction*, in *Appendix B.2.2 Subcounty Revised Input Data*, and the corresponding supporting evidence worksheet *A.2. Non-Permitted Residential Construction*, in *Appendix B.2.3. Subcounty Supporting Evidence*.

Most subcounty governments have permitted construction data and should fill out worksheet *A.1. Residential Building Permits* available in *Appendix B.2.2*. In addition, you must complete the associated supporting evidence worksheet *A.1. Residential Building Permits*, in *Appendix B.2.3*.

The monthly number of building permits recorded in worksheet *A.1*, *Appendix B.2.3* must cover all residential permits issued that month. In addition, the recorded annual permit totals in worksheet *A.1*, *Appendix B.2.2* must be consistent with the monthly permit data provided in worksheet *A.1*, *Appendix B.2.3*. Please refer to section III.C.2.1 for specifics on permit exclusions and inclusions.

Below is a listing of all five templates in *Appendix B.2.2. Subcounty Revised Input Data* that you need to use to provide us with component data:

A. Components of Housing Unit Change for: July 1, 20<EY>

- A.1. Residential Building Permits*
- A.2. Non-Permitted Residential Construction*
- A.3. Certificates of Occupancy*
- A.4. Residential Housing Conversions*
- A.5. Mobile Home Placements*
- A.6. Permitted Residential Demolitions*
- A.7. Non-Permitted Residential Housing Unit Loss*

- ❖ Governments choosing to use building permits or non-permitted construction data, certificates of occupancy, housing conversions, mobile home placements, demolitions or non-permitted housing loss, and/or utility connections as supporting evidence to their challenge should complete the applicable worksheets below in *Appendix B.2.3. Subcounty Supporting Evidence*:

- A.1. *Residential Building Permits*
- A.2. *Non-Permitted Residential Construction*
- A.3. *Certificates of Occupancy*
- A.4. *Residential Housing Conversions*
- A.5.1. *Mobile Homes Listed on Tax Rolls*
- A.5.2. *Mobile Home Survey*
- A.6. *Permitted Residential Demolitions*
- A.7. *Non-Permitted Residential Housing Unit Loss*
- A.8. *Utility Connections*

- ❖ Governments choosing to provide group quarters population data should complete the worksheet below in *Appendix B.2.2. Subcounty Revised Input Data*:

A. *Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY>*: A governmental unit must provide an annual time series of group quarters population by individual group quarters facility. The information that is required to compute the population change in the facility since the 2010 Census must include at least two consecutive years of group quarters data for each facility.

- ❖ Governments choosing to provide data on PPH and/or occupancy rates based on survey data need to review the “Survey Data, Section III.C.2.2.e” of this guide. This section describes the necessary documentation to be provided as part of the submitted package to support a challenge. This documentation helps to ensure consistency of the survey methodology with the Census Bureau’s criteria and standards.

## **2.1. Concepts and Definitions of Housing Unit data**

### **a. Residential Construction**

The *Distributive Housing Unit* method assumes that people can occupy, as of the estimate date, housing units used in preparing the population estimate. Building permits enable us to estimate additions to the housing stock since the base date (that is, April 1, 2010). For 2010, we include for estimation purposes those units completed after April 1, 2010 (the census counted units completed before April 1, 2010).

*Worksheet A.1. Residential Building Permits*, in Appendix B.2.2, allows for adding new residential construction supported by permit activity. When using this worksheet, local governments should:

- Not include permits issued for home improvements, construction of garages, fences, swimming pools, etc., since they do not relate to new residential construction.
- Include permits issued for replacement of a residence demolished due to fire, flood, or other disaster in worksheet *A.1. Residential Building Permits* ONLY if the government also included the corresponding demolitions or housing loss in worksheet *A.6. Permitted Residential Demolitions* or worksheet *A.7. Non-Permitted Residential Housing Unit Loss*. Otherwise, if you did not include the demolition or loss for these cases, you must exclude building permits for the replacement units in worksheet *A.1. Residential Building Permits*.

If your government maintains data by type of residential structure such as single-family and multi-family units, you can report the housing data by those types as supporting evidence. However, the Census Bureau is interested in the total number of new residential permits for the listed reference period in worksheet *A.1. Residential Building Permits*, in Appendix B.2.2.

For single-family detached housing, the number of permits equals the number of units; however, for other types of structures, more than one unit will be covered by a single residential building permit. Governments should specify the number of new housing units covered by each permit.

If you are providing data on new residential construction where no permits were issued, enter these data in worksheet *A.2. Non-Permitted Residential Construction* for the listed reference period.

#### **b. Certificates of Occupancy**

Local governments may submit data on certificates of occupancy to challenge the population estimate in worksheet *A.3. Certificates of Occupancy* in Appendix B.2.2. When using this worksheet, you should:

- Enter the number of new, completed residential housing units for which a certificate of occupancy was issued.
- If the certificate of occupancy is for a multi-family unit, enter the total number of individual housing units covered by the certificate of occupancy. For example, one multi-family unit may consist of ten individual residences.
- Indicate on the worksheet whether certificates of occupancy are issued for mobile homes in this locality.
- Enter certificate of occupancy information for the entire period, January 2009 to June 2014 on worksheet *A.3. Certificates of Occupancy* in Appendix B.2.3. To be evaluated as a replacement to the original building permit data, we must have an entire time series of certificate of occupancy data. We will not mix building permit data in one year with certificate of occupancy data in the following year for any locality.
- Include with your challenge a copy of local regulations describing the circumstances under which certificates of occupancy are issued in this area.
- If accepted, data on certificates of occupancy will replace the original estimates of permitted and non-permitted construction. They will not replace mobile home placements, unless certificates of occupancy are also issued for mobile homes in your area.

**c. Residential Housing Conversions**

Local governments may enter data on residential housing conversions in worksheet *A.4. Residential Housing Conversions*, in Appendix B.2.2. When doing so, keep in mind the following:

- Housing conversions include both the conversion of non-residential structures to residential housing units, as well as the conversion of residential housing units to non-residential structures. Non-residential to residential conversions represent additions to the housing stock, while residential to non-residential conversions represent losses to the housing stock. If submitting conversion data, please include both types of conversions.

- Enter the number of completed conversions, not the number of conversion permits issued.
- If accepted, we will use housing conversions to supplement the original estimates of new residential construction and housing loss. They will not replace the original estimates.

#### **d. Mobile Home Placements**

Mobile homes have become an increasingly larger portion of the housing stock in some areas. The Census Bureau has prepared templates to use to provide input data and evidence on mobile homes. You can use a variety of data sources as supporting evidence including mobile homes on tax rolls, certificates of occupancy, and/or mobile home surveys. For more details on the type of supporting evidence and related templates to be completed, please refer to section III.C.2.2.

If you submit data on mobile homes, eliminate duplicate coverage of mobile homes from new residential construction, certificate of occupancy, or housing conversion data being provided. Use worksheet *A.5. Mobile Home Placements* provided in Appendix B.2.2. This worksheet allows for the data entry on mobile homes that entered the housing stock since the 2010 Census.

For submissions of data on mobile home placements, the Census Bureau requests that you:

- Provide a copy of the local regulations for the placement of mobile homes.
- Include only those mobile homes intended for residential housing unit use. People may place such mobile homes on concrete slabs, wheels, or blocks. Exclude mobile homes for seasonal, recreational, or commercial purposes, such as trailers or homes used for vacations and trailers on construction sites.
- Use worksheet *A.5. Mobile Home Placements* to enter new, completed mobile home placements.

- Be aware that prefabricated mobile homes may be shipped in sections, with a permit issued for each section. Data entered in *A.5. Mobile Home Placements* should reflect the number of mobile homes placed, not the number shipped or permitted.
- Complete the corresponding worksheet in Appendix B.2.3 in order to provide supporting evidence for the data submitted in Appendix B.2.2.

Residents occasionally move their mobile homes and free the site for another mobile home. Over a period, multiple mobile homes may be placed on the same site, and/or the same mobile home may be placed on multiple sites. Such movement of mobile homes can occur with no net change in the number of mobile homes or in the number of sites. Therefore, summary data on mobile home activity may not indicate shifts in the mobile home stock.

**e. Residential Housing Unit Loss**

Governments may enter data relating to permitted demolitions in worksheet *A.6. Permitted Residential Demolitions*, in Appendix B.2.2. The Census Bureau requests that you:

- Record the number of units covered by the demolition permits, rather than the number of permits issued.
- Use worksheet: *A.7. Non-Permitted Residential Housing Unit Loss* to report demolitions not accounted for by permits, such as razing of structures due to fire or natural disaster. Local fire departments, safety directors, and insurance adjusters may keep track of these types of demolitions and be able to offer assistance.
- Reminder: the housing loss data must be at least as comprehensive as what goes into the estimates of loss, including condemnations, demolitions, and/or units that are uninhabitable.

NOTE: For more details, see section III.C.2.2. *Concepts and Definitions of Supporting Evidence* below.

## 2.2. Concepts and Definitions of Supporting Evidence

### a. Residential Building Permits

Here is a summary of important aspects to consider before submitting building permit data:

- Limit building permits specifically to new construction within the legal boundaries of your jurisdiction, effective as of January 1 of the estimate year.
- Relate the time series of permitted residential construction and permitted demolitions (supplied in worksheets *A.1. Residential Building Permits* and *A.6. Permitted Residential Demolitions*, Appendix B.2.2) to the specified time periods listed on these worksheets and be consistent with the permit data that cover the listed number of housing units built or the number of housing units demolished in each of the worksheets A.1 and A.6.
- Follow the reporting periods indicated in worksheets A.1 and A.6, unless you are substantiating data to justify other reporting periods.
- Remove permits for commercial and home improvement projects, so that the data reflect only new construction of residential units.

### b. Certificates of Occupancy

Certificates of Occupancy (C/Os) are issued for completed units ready for habitation, therefore, we regard certificate of occupancy data as one of the most reliable data series available for use as evidence of housing unit change.

The Census Bureau has prepared worksheet *A.3. Certificates of Occupancy*, in Appendix B.2.3. Governments may use it as a template for C/O related data. If you submit C/O data, we request a copy of the local regulations for the issuance of C/O permits. Since C/Os are certification that the unit is fit for habitation, we assume a lag time of zero for completion of the structure. Generally, C/Os are only issued by a relatively small number of governments nationwide. If you use this approach, exercise caution, since C/Os may be issued each time a dwelling

unit has a change in occupancy status. In such a situation, the Census Bureau would not accept data on C/Os for use in supporting a housing unit method estimate. You also should exercise caution in using C/O data, as some localities issue certificates of occupancy for mobile homes. If you supply separate mobile home data as part of the challenge, eliminate any data overlap with C/Os.

### **c. Housing Conversions**

Housing conversions include both conversions of commercial structures to residential housing units, and of residential housing units to commercial structures. The first type represents an addition to the housing stock, while the second is a removal from the housing stock.

Use worksheet *A.4. Residential Housing Conversions* to report these data. Include the number of housing units added to or subtracted from the housing stock from each completed conversions. Do not include conversion permits that have not been completed.

Do not include data on additions or alterations to existing structures, as these do not normally result in a new housing unit.

Since the Housing Unit method does not currently incorporate either type of conversion data, local data will be added to the appropriate existing component of housing change, rather than replacing the original housing component data.

### **d. Mobile Homes**

#### **(i) Mobile Homes Listed on Tax Rolls**

Governments may use *Worksheet A.5.1 Mobile Homes Listed on Tax Rolls*, in Appendix B.2.3., as a template to help prepare evidence to support updates to mobile home data provided. Such data may provide a more realistic picture of mobile homes for residential purposes. Your government may show mobile homes on the tax rolls as real property or as personal property, depending on state and local regulations. Include only those mobile homes intended for residential use. Exclude mobile homes used for seasonal, recreational or commercial purposes. Examples include trailers or mobile homes used for part of the year or

for vacations, and trailers on construction sites. We also request copies of the applicable regulations relating to definitions and taxing assessments of mobile homes and associated permits.

### **(ii) Mobile Home Survey**

Governments that conduct periodic surveys of mobile homes can use worksheet *A.5.2 Mobile Home Survey*, in Appendix B.2.3, as a template to supply evidence that supports mobile home data provided. Some states and/or local governments collect information annually about mobile homes. Such information usually relates only to mobile home parks. If your government chooses to provide this information, please include documentation for each mobile home park within the legal boundaries of your government. The Census Bureau requests that you:

- Report the number of mobile homes associated with each park by year from 2010 through the current estimate year.
- Include only those mobile homes intended for use as a housing unit; people may place them on concrete slabs, wheels, or blocks.
- Exclude mobile homes used for recreational or commercial purposes, such as trailers or homes used for vacations and trailers on construction sites.
- Include copies of the applicable regulations relating to definitions of mobile homes and conducting the surveys.
- Map spot (mark on a map) the location of the units and include the map of each mobile home park.

### **e. Utility Connections**

Governments choosing to use utility connection data as evidence to support the data provided on new housing may prepare worksheet *A.8. Utility Connections*, in Appendix B.2.3. These data relate to active residential electric utility connections data but must exclude municipal, commercial, and industrial connections as well as multiple connections covering a single unit (for example, separate connections for barns, swimming pools, etc.).

Some electric utility companies operate on a service area basis, and these service areas often do not conform to the specific legal boundaries of the government challenging the estimate. These data are not appropriate for developing a population estimate.

Exercise caution in the handling of master meter data, for example:

- If your government's data contain master meter connections, the number of units serviced by master meters must be provided.
- Determine the conversions of master meters to individual meters, since this type of conversion does not result in any additional households.
- Exclude units on minimum billing also known as “access fee or customer charge” from the data in worksheet *A.6. Utility Connections* in jurisdictions with large seasonal populations that are not part of the area's resident population covered by the Census Bureau's estimate.
- Make appropriate adjustments to the utility data for legal boundary changes occurring since January 1, 2010 so that the reported utility data match the boundaries of your government as reported to the Census Bureau.
- Provide supporting documentation listing annual time series of active residential utility connections for the population estimates staff to verify the accuracy of the summarized data. We recommend that you justify unusually large variations in the data series by writing up an analysis of the data separately.

#### **f. Survey Data**

Some communities conduct sample surveys to obtain up-to-date information concerning vacancy rates and population-per-household rates for use in the Housing Unit method. If a government conducts a sample survey that provides information on vacancy rates and/or population per household (PPH), the government may not use the results to challenge the vacancy rates and/or PPH used in the computation of the original estimate unless the government provides complete documentation. The

documentation must include the sample design, the derivation of the sampling frame used, the assumed confidence limits and how it is developed, and an estimate of standard error. For more information on the List of Standards for Statistical surveys, please visit

[https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/OMB/inforeg/pmc\\_survey\\_guidance\\_2006.pdf](https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/OMB/inforeg/pmc_survey_guidance_2006.pdf)

## **g. Population Projections**

The Census Bureau does not consider a population projection suitable as a basis of challenging a Census Bureau population estimate. A population projection does not reflect current data trends but rather attempts to predict

future change. Most people base projections on past growth patterns and/or on a series of assumptions concerning population change factors. In contrast, the Census Bureau prepares estimates based on current data series symptomatic of population changes up to the present.

### **2.3. Group Quarters Population**

The Census Bureau estimates change in the group quarters population independently from changes in household population in its estimation techniques. Our experience suggests that the factors related to change in the group quarters population are very different from those associated with change in the household population.

The Census Bureau provides for your use worksheet *B. Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY>*, in Appendix B.2.2. This template allows governments to compile annual data for group quarters populations within their legal boundaries. At least two consecutive years of data for each facility by type are required to compute the population change in the facility since the 2010 Census. If you plan to use this worksheet, we will provide upon request a copy of the *Group Quarters Technical Documentation* to guide you in the requirements for reporting these types of data.

Your government must:

- Provide actual population counts, not capacity (bed counts), for each facility, facility names, locations and type from April 1, 2010 through July 1 of the current estimate year of the population estimate being challenged.
- Use the definitions and collection procedures discussed in the *Group Quarters Technical Documentation* when collecting data on the group quarters population for the locality.
- Confirm that all group quarters facilities are located within the legal boundaries of your jurisdiction.
- Supply data for only those facilities whose front doors are within your jurisdiction's legal boundaries:
  - If the group quarters facility crosses jurisdictional boundaries.
  - If the facility consists of multiple buildings.
- Explain and justify any large changes of any facility's group quarters population on a separate document and sign and date it.

#### **2.4. Guidelines for a Locally Conducted Population Count**

An alternate approach for areas with a 2010 Census population of less than 500 people is to prepare a complete list of residents. The listing must exclude temporary residents who live most of the year elsewhere.

If you are considering this option, it is recommended that you first contact the Population Estimates Program on 301-763-2461 or send an email to [pop.challenge@census.gov](mailto:pop.challenge@census.gov).

Listed below are some major considerations in conducting a population count in an area.

##### **a. Residence Rules**

For some housing units or group quarters facilities, the government may be uncertain about whether to include or exclude one or more persons at the address. Accordingly, refer to Appendix D. *Table of Residence Rules*.

available for download on the challenge website <https://www2.census.gov/programs-surveys/popest/about/challenge-program/appendix-d.-table-of-residence-rules.pdf>, along with these [Guidelines](#) to assist you in determining a person's correct place of residence according to definitions currently in use by the Census Bureau. The Census Bureau's definition of resident population does not include persons away from the community while:

- Serving in the Armed Forces on active duty
- Attending college
- Living in a prison, a mental institution, or other long-term care facility

If none of the persons in a housing unit actually lives in the household according to the Census Bureau residence rules, please designate the unit as "vacant" on the address list.

## **b. Preparing Maps**

Your government will need an accurate map(s) showing the legal boundaries reported to the Census Bureau as of January 1 of the estimate year. The Census Bureau's staff will verify with you that the map records only housing units and residents within your legal boundaries. Your jurisdiction should not show any annexations or other boundary changes occurring after January 1 of the estimate year, nor should the local population count reflect persons residing outside the legal boundaries of your community.

You may view your area's current boundaries as presently known to the Census Bureau by using TIGER web at [http://tigerweb.geo.census.gov/tigerwebmain/TIGERweb\\_main.html](http://tigerweb.geo.census.gov/tigerwebmain/TIGERweb_main.html).

Boundary changes may include annexations, de-annexations, the formation of new incorporated places, dis-incorporations, government mergers, and/or consolidations. For example, the estimates for the 2014 population estimates reflect legally effective boundaries reported to the Census Bureau as of January 1 of the estimate year. If your government legally changed the boundaries since January 1 of the estimate year, please exclude them from the local population count.

However, if you have unreported annexations prior to January 1 of the estimate year, and you wish to report these to the Census Bureau, please use *Appendix F. Locally Conducted Population Count Results* form to record this information. This form is available for download at <https://www2.census.gov/programs-surveys/popest/about/challenge-program/appendix-f.pdf>. The information requested includes effective date(s) of the boundary change(s), specific ordinance number(s), and title or description. We will forward these changes to the Geography Division to review and to follow up with you to verify these boundaries.

Should you need more information concerning any boundary issues, please contact the BAS Unit of the Census Bureau's Geography Division on 301-763-1099 or e-mail them at [GEO.BAS@census.gov](mailto:GEO.BAS@census.gov).

### **c. Preparing List of Addresses and Residents**

Prepare a list of addresses of all housing units and group quarters facilities (if applicable) located within the legal boundaries outlined on your map. The addresses should include the street name and individual house number based on the physical location of the housing unit or group quarters facility; we do not consider as appropriate post office boxes, rural route and highway contract routes addresses.

Compile the address listing by means of a door-to-door canvass. You will have to mark the location of each housing unit and group quarters facility on the map. This information will help verify address locations to ensure that only addresses located within the legal boundaries of your government are included. If people occupy the housing unit, list the number of persons residing at each unit and their names. If the unit is vacant, please indicate this on the address listing.

If you cannot obtain the needed information for an address on the first visit, list the address in the appropriate location, leave blank spaces for the missing information, return later and fill in the missing information.

Note: Information that you provide to the Census Bureau at this individual level of detail is subject to strict privacy restrictions under Title 13. We cannot nor will we share any of this information with anyone outside our agency. We will only use this information to compile a population estimate for your government and to update the geographic base information in Census Bureau records.

#### **d. Counting Group Quarters Facilities**

Persons in group quarters include armed forces personnel in military barracks, college students living in dormitories, inmates of prisons and local jails, people in juvenile facilities, shelters and residents of long-term health care facilities (including nursing homes and homes for the aged). You may not be able to obtain a list of individuals within a group quarters due to privacy rules of that facility. In this situation, you must obtain from the facility an administrative count of residents and/or inmates for April 1, 2010 and each subsequent July 1 date since the 2010 Census. Providing this data in a time series format will enable us to compute the amount of population change in the facility since the 2010 Census. The necessary worksheets are available in *Appendix B.2.2. Subcounty Revised Input Data*. This appendix contains the following template for GQ: *B. Annual Time Series of Group Quarters (GQ) Population by Individual Group Quarters Facility: April 1, 2010 to July 1, 20<EY>*. This template will help prepare an annual time series of GQ population by individual group quarters facility. You have to provide at least two consecutive years of GQ data for each facility.

#### **e. Reporting Results**

Along with these guidelines, you may use the response form on Appendix F. *Locally Conducted Population Count Results* to record the results of their local population count. In addition to the total population figure, you need to specify the exact date on which the local government conducted the count.

Please send a letter signed by the HEO, the completed form, the map showing the boundaries of the incorporated area, and the list of addresses and residents via the secure data server. Then send an e-mail notification to [pop.challenge@census.gov](mailto:pop.challenge@census.gov). If the map and or individual listing cannot be reproduced electronically, please send by postal mail or commercial carrier, using our address information provided on section III.B of this document.

If the Census Bureau accepts the local count after evaluation is complete, we will:

- Adjust the local count to approximate the population on July 1 of the estimate year (for example, July 1, 2014).
- Substitute the resulting population figure in place of the existing July 1 population estimate.

The map specified above must:

- Show the boundaries as of January 1 of the estimates year (for example 2014 for the 2014 estimates).
- Indicate the location of each housing unit and, where appropriate, each group quarters facility.