

**SUPPORTING STATEMENT**  
**U.S. Department of Commerce**  
**U.S. Census Bureau**  
**The American Community Survey**  
**OMB Control No. 0607-0810**

**B. Collections of Information Employing Statistical Methods**

**1. Sample Selection and Universe**

We will select the sample for the American Community Survey (ACS) and the Puerto Rico Community Survey (PRCS) in four parts: 1) a sample of household (HUs) addresses in the 50 states, the District of Columbia, and in Puerto Rico; 2) a sample of GQs and people in GQs in the 50 states, the District of Columbia, and in Puerto Rico; 3) a sample selected from the HU addresses that did not respond via Internet, mail or telephone for Computer Assisted Personal Interviewing (CAPI); and 4) a reinterview sample selected from HU and GQs completing Computer-Assisted Personal Interviewing (CAPI) interviews.

**Household Sample**

**First Phase Sample of Household Addresses**

**First Stage** - For the 2005 ACS main sample, the frame of addresses from the MAF was divided into five sub-frames in the first stage, each containing 20 percent of the full frame. Addresses in each of the sampling rate categories were also divided equally among these sub-frames. This was accomplished by sorting the addresses in each county by new versus previously existing address, sampling rate category, and geographical order in the address frame. Consecutive addresses were then assigned in a specified order to each of the five 20 percent sub-frames. One of these sub-frames was designated the first stage sample for 2005 and the remaining sub-frames were designated for the years 2006-2009. Starting with 2010, the sub-frames were re-used in the same order used during 2005-2009.

Beginning with the 2006 sample year, only addresses new to the MAF since the previous year's supplemental sample MAF are used in the first stage sample. Similarly, for all supplemental samples, only addresses added to the MAF since that year's main sample MAF are used in the first stage. These new addresses are sorted by sampling rate category and geographical order in the address frame, and assigned in a specified order to the five existing sub-frames. The sub-frame allocated to the sample year is its first stage sample, and addresses to be included in the ACS are selected from it in the second stage sample.

**Household Address Sampling Rates.** Each year the specific set of sampling rates used in the second stage sample must be determined for each of the non-fixed sampling rate categories. There were five sampling rates used from 2005-2010, four of these were determined each year and one was fixed at 10 percent. Beginning with the 2011 sample selection, 16 sampling rates were used. Three of the 2011 rates were fixed at 15 percent, 10 percent, and seven percent, respectively. The determination of the rates requires two steps. The first step is the calculation of the initial overall sampling rates. These are defined as the sampling rates that produce approximately equal levels of estimate reliability for a generic 10 percent population characteristic across different tract size categories. The level of estimate reliability is restricted by the fixed ACS sample size. From 2005-2010 the U.S. sample size was approximately three million addresses per year and about 36,000 in Puerto Rico. Beginning in June of 2011, the monthly U.S. sample size was increased to an annual level corresponding to 3.54 million addresses per year. The ACS also takes the self-response rates at the tract level into account when setting the initial sampling rates.

**Initial Household Overall Sample Rates.** As the number of addresses in the United States and Puerto Rico increases over time, the initial overall rates for all but the smallest geographic size categories (governmental unit) are reduced annually to maintain the address sample (currently 3.54 million in the United States and about 36,000 in Puerto Rico). However, their proportional relationship remains constant over time. The initial overall sampling rate for the smallest governmental units will remain at 15 percent in future years.

**Final Household Overall Sampling Rates.** Initial overall rates are reduced for blocks that are in certain tracts. Differential CAPI sub-sampling rates are based on predicted levels of mail and telephone completion rates, and are assigned at the tract level. Blocks that are in tracts that have a predicted mail and telephone completion rate (modes prior to CAPI) that is high have their initial overall sampling rate reduced by 8 percent. This is part of maintaining the reliability of estimates across areas that have differing proportions of the initial sample subject to CAPI sub-sampling

The predicted rate of completed interviews prior to CAPI sub-sampling = (annual number of interviews completed by the mail and CATI modes, by the end of their CATI month, for addresses mailed questionnaires)/(annual estimated number of occupied HUs mailed questionnaires).

Since these rates were not available for all tracts in the country prior to 2005, projections were used for 2005-2007. For tracts that were included in the 2000-2003 ACS, these projections were based on production data from those years. In the remaining tracts these rates were projections based on a model that used information from Census 2000. Prior to the 2008 sample selection, new predicted rates of completed interviews prior to CAPI sub-sampling for each tract were generated using ACS data for all tracts from February 2005- December 2006. These were used

beginning with the 2008 sample selection. The rates will include Internet responses as well once we have collected sufficient amounts of response data from this mode.

In the 2005 ACS, the initial overall sampling rate for each block in the United States in one of the last two sampling rate categories (Measure of Size < 1,200) was multiplied by 0.92 to obtain its final overall sampling rate. The criteria was if the block was in a tract that had a level of completed interviews prior to CAPI sub-sampling of at least 60 percent and at least 75 percent of its addresses were defined to be mailable. Beginning in 2011, this rate adjustment was expanded to include all blocks that use the tract measure of size to set the block sampling rate. Therefore, there were seven final overall sampling rates in the U.S. in 2005-2010 and 16 rates beginning in 2011. The reduction does not occur in Puerto Rico, so all blocks in Puerto Rico have the same initial and final overall sampling rates.

**Second Stage** - The second stage sample selects a subset of the addresses from the first stage sample to be included in the ACS during the sample year. In the main sample, addresses selected for a county in the first stage are sorted by sampling rate category, new versus previously existing address, and first stage order of selection. In the supplemental sample they are sorted by sampling rate category and first stage order of selection. A systematic sample of addresses is selected for both the main and supplemental samples, where each address has a second stage sampling rate approximately equal to its final overall sampling rate divided by 20 percent, the first stage sampling rate for all addresses.

Each address selected in the second stage sample is assigned to a month. The set of all addresses assigned to a specific month is referred to as the month's sample. For the main sample, most of the addresses are sorted by their second stage order of selection and assigned in a specified order to the 12 months of the year, starting with a randomly determined month. However, addresses that have been selected for one of several Census Bureau household surveys in the same year or in specified months (which vary by survey) of the two surrounding years are treated differently. Each of these addresses is assigned a month based on its interview month(s) for the other survey in such a way as to avoid individuals being asked to complete interviews for both the ACS and one of these surveys within a few months of each other.

Every month since January 2005 until May 2011, approximately 250,000 household addresses were in sample each month across every part of the United States. Beginning in June of 2011 this increased to roughly 295,000 per month in the U.S. The average Puerto Rico sample size remains at approximately 3,000 per month. In the mail-out/mail-back areas, sample households for which a questionnaire is not returned in the mail and for which a telephone number is available are defined as the telephone nonresponse follow up universe. Interviewers in the Census Bureau's telephone centers, using Computer Assisted Telephone Interviewing (CATI), attempt to contact and interview these mail nonresponse cases.

## **Second Phase Sample of Household Addresses.**

In general, mailable sample addresses from which we have not received a response two months after the mailing of the survey questionnaires, and directly after the completion of the CATI operation, are subsampled at a rate of 1-in-2, 2-in-5, or 1-in-3 depending on tract and initial sampling stratum. Unmailable sample addresses are subsampled at a 2-in-3 rate. The selected addresses are assigned to Field Representatives (FRs) who visit the addresses, verify the existence of a valid household address or declare the address nonexistent, determine their occupancy status, and conduct interviews using CAPI. Through 2009, the sample has yielded approximately 135,000 self-response interviews or 54 percent of the household addresses in sample each month. The CATI and CAPI follow-up has yielded an estimated final weighted response rate of approximately 97 percent since 2005.

In conjunction with the overall sample increase beginning with the June 2011 mail out, several improvements were made to our CAPI data collection. Beginning with the field work (CAPI) for the June 2011 panel, occurring in August of 2011, the following areas have all of their unmailable and non-responding addresses sent to CAPI: American Indian lands with a proportion of American Indian population estimated to be 10 percent or more; Alaska Native Village Statistical Areas; and all Hawaiian Homelands. The increase in the CAPI workload due to this change is roughly 27,000 cases per year. Also, as we did beginning with the January 2011 panel, all addresses in remote Alaska will be sent directly to the CAPI data collection mode.

The universe of addresses for the 2008 and 2009 sampling frames was derived from an updated version of the Master Address File (MAF) originally developed for Census 2000. Since 2010, the 2011 universe of addresses was derived from the MAF updated with the results of address canvassing for the 2010 Decennial Census. The MAF now includes the final 2010 census inventory of HUs.

### **Group Quarters Sample**

Prior to 2011, the base for creating the Group Quarters (GQ) universe of addresses was the Census 2000 Special Place/Group Quarters file combined with the MAF inventory of GQ facilities. This file was modified to include GQs closed on Census day 2000 and updates from various sources such as HQ research and time of interview information. Beginning in 2011, the GQ sampling frame included updates from the 2010 Census.

Once the GQ universe is created, the GQ sample can then be selected and interviewed. GQ facilities that are in sample are visited by FRs to conduct interviews. After determining that the GQ facility is in scope for GQ data collection, the FR asks for a list or register of names and/or bed locations for everyone that is living or staying at the sample GQ facility on the day of the visit. This register is used

to generate the sample of residents to be interviewed. If a register is not available, the FR will create one using the GQ listing sheet. The listing sheet contains preprinted GQ contact and facility address information.

The FR uses the sampling component of the GQ facility questionnaire instrument to verify the register provided to them by the GQ contact person. The instrument proceeds automatically to the beginning of the sampling component after the FR has entered all the required facility information and the GQ contact person verifies that there are people living or staying there at the time of the GQ visit. If there are no residents living or staying at the GQ facility at the time of the visit, no person level data is collected. However, the FR will complete the GQ facility interview in order to update both the GQ information and the GQ type code.

The person-level sample of GQ residents is generated from the GQFQ instrument through a systematic sample selection. The FR matches the line numbers generated by the instrument for the person sample to the register of current residents. A grid of up to 15 lines appears on the GQFQ laptop screen with a place for name, sample person location description, the line number corresponding to the register, a telephone number, a telephone extension, and a GQ control number (assigned by the GQFQ sampling program). To complete the sampling process, the FR enters information that specifically identifies the location of each sample person into the GQFQ.

Each year, approximately 200,000 GQ residents are selected for interviewing from about 20,000 GQ facilities. GQ facilities are selected in a systematic sample and the sample is allocated across the months of the sample year. This sampling selection procedure is implemented every year, and includes GQs for both the U.S. and Puerto Rico.

GQ facilities that are included in the GQ universe are such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, workers' dormitories, and facilities for people experiencing homelessness. Each GQ facility is classified according to its GQ type. As noted previously, GQ facilities were not included in the 2005 ACS but were included in 2006 and subsequent years. Some locations that were classified in Census 2000 as specific GQ types are not included in ACS data collection operations. These are domestic violence shelters, soup kitchens, regularly scheduled mobile food vans, targeted non-sheltered outdoor locations, crews of commercial maritime vessels, natural disaster shelters, and dangerous encampments. There are several reasons for their exclusion, depending on GQ type, including concerns about privacy and the operational feasibility of repeated interviewing for a continuing survey rather than once a decade for a census. Nevertheless, ACS estimates of the total population are controlled to be consistent with the postcensal population estimates.

There is no supplemental GQ sample; therefore, for each sample year, the GQ sample is selected once in the fall prior to the sample year. The sample is selected by state, not county, as is done with the HU sample.

Two strata are created to sample the GQ facilities. The first stratum includes both small GQ facilities (having 15 or fewer people according to Census 2010 or updated information) and GQ facilities listed as closed on Census Day. The second stratum includes large GQ facilities (having more than 15 people according to Census 2010 or updated information). A GQ measure of size (GQMOS) is computed for use in sampling the large GQ facilities. GQMOS is the population of the GQ facilities divided by 10.

Different sampling procedures are used for these two strata. The small GQ stratum is sampled like the HU address sample and data are collected for all people in the selected GQ facilities. Like a HU, a small GQ facility is eligible to be in sample only once in five years. Groups of 10 people are selected for interview from GQ facilities in the large GQ stratum and the number of groups selected for a large GQ facility is a function of its GQMOS. Unlike HUs, large GQ facilities are eligible for sampling each year. From 2006 and 2007 all GQs were sampled at a rate of 2.5 percent. Beginning in 2008, the GQ sampling rates were determined at the state level and now range from 2.1 percent to approximately 7 percent.

**Small Group Quarters Stratum Sampling.** For the small GQ stratum, a two phase sample of GQ facilities is selected in a method similar to that used for the HU address sample.

**First Phase Sample.** The first phase sampling procedure for 2006 assigned all of the GQ facilities in this stratum to one of five 20 percent sub-frames. The GQ facilities within each state are sorted by small versus closed on Census Day, new versus previously existing, GQ type, and geographical order in the frame. Consecutive GQ facilities are assigned to the five sub-frames in a specified order. One of these sub-frames was designated as the 2006 first phase sample and the others were designated for the years 2007-2010. The GQ facilities on the 2006 sub-frame were not eligible for sampling again until 2011, as the once-in-five-years restriction of HU addresses also applies to the small GQ stratum.

Beginning with the 2007 sample, all small GQ facilities that are new since the previous year's sampling (there will be no new GQ facilities that were closed on Census Day) will be sorted by GQ type and geographical order in the frame, and assigned to the five existing 20 percent sub-frames in a specified order for the first phase sample. In 2007, the 2006 sub-frame will be defined as the 2011 sub-frame. The 2007 sub-frame becomes the 2007 first phase sample.

**Second Phase Sample.** The second phase sample is a systematic sample of the GQ facilities from the first phase sample sorted by new versus previously existing address and first stage order of selection. Each state is assigned an overall GQ sampling rate ranging from 2.5 percent for the larger states to roughly 7 percent for the smallest state. Prior to 2008, all GQs in each state were sampled at 2.5 percent. Regardless of their actual size, all of small GQ facilities within a state have the same probability of selection. Every person in the GQ facilities selected in this second phase sample is eligible to be interviewed. If the actual number of people in the GQ facility exceeds 15, even though it was included in the small GQ stratum, a field sub-sampling operation is performed to reduce the total number of sample people in the GQ facility to 10.

### **Large Group Quarters Stratum Sampling**

The ultimate sampling units for large GQ facilities are groups of 10 people within a GQ facility. The number of groups of 10 people that can be sampled from a large GQ facility is equal to its GQMOS. For example, if a GQ facility had 550 people in Census 2000, then its GQMOS is 55 and there are 55 groups of 10 people that are eligible for selection in the sample. A two-step sampling procedure is used to select the people to be included in the large GQ sample. The first step selects the GQ facilities and the number of groups in sample for each GQ facility. The second step selects the people within each GQ facility to be included in its sample groups.

**First Stage Sample (example).** If a state has a GQ sampling rate of 2.5 percent, then for the first step, all the large GQ facilities in a state are sorted by GQ type and geographical order in the frame, and a systematic sample of 1-in-40 groups is selected. GQ facilities with fewer than 40 groups, therefore, may or may not have one of its groups selected for the sample; GQ facilities with between 40 and 80 groups will have at least one group selected; GQ facilities with between 80 and 120 groups will have at least two groups selected; and the like.

**Second Stage Sample.** The second step of sampling takes place within each GQ facility which has at least one group selected in the first step. When a FR visits a GQ facility to conduct interviews, an automated listing instrument is used to select the 10 people to be included in each group being interviewed. It computes sampling parameters based on the observed population at the time of interviewing in order to achieve a group size of 10. If the observed population is 15 or fewer, then the group size will be at most 10.

### **Group Quarters Sample Month Assignment**

The selected small GQ facilities and groups of 10 people for large GQ facilities are assigned to months in a manner similar to that used for HUs. All the GQ samples from

a state are combined and sorted by small versus large stratum and second phase or second-step order of selection. Consecutive samples are assigned to the 12 months in a pre-determined order, starting with a randomly determined month, except for state and federal correctional facilities.

Due to an interagency agreement with the federal Bureau of Prisons, the same month is assigned to all sample groups of 10 people within a given state correctional facility. Additionally, the sample groups of 10 in all federal correctional facilities are assigned to September and data collection may take up to 4.5 months, an exception to the six weeks allowed for all other GQ types. For the sample groups of 10 in non-federal or state correctional facilities—local jails, college dormitories, halfway houses, military disciplinary barracks, and other correctional institutions—the individual GQ facilities are assigned to random months throughout the year. GQs selected in remote Alaska are assigned to one of two 4.5 month data collection periods from January through mid-May or September through mid-January. In addition, college dormitories are assigned only to the non-summer months, omitting May through August, due to the dormitories being predominantly vacant or closed during the summer.

### **Remote Alaska Sample (Household and Group Quarters)**

Remote Alaska is a set of rural areas in Alaska that are difficult to access during the summer months due to muddy and impassable roadways and which do not have regular postal service. Recognizing the data collection related difficulties for field operations during some months, data collection operations in remote Alaska differ from what has been described for the rest of the country. In both the main and supplemental samples, the month assigned for each Remote Alaska HU address is based on certain types of geographical entities in which it can be contained. All addresses located in each specific geographic area of these types are assigned to the same month, either January or September. The assignment of each specific geographical entity to either January or September is done in such a way as to balance workloads between these months and to keep groups of cases together geographically. The addresses for each month are sorted by county and geographical order in the frame, and between 2005 and 2010 a sample of 2-in-3 of them was sent directly to CAPI in the appropriate month. Beginning in January of 2011, all Remote Alaska housing unit addresses in sample were sent directly to CAPI. The GQ sample in remote Alaska is assigned to January or September in the same manner as are sample HU addresses. Up to four months is allowed to complete the HU interviews and GQ data collection for each assigned month in remote Alaska.

### **Sample Non-response Bias**

Non-response results in a smaller final sample size and leads to less reliable estimates. It also has the potential to introduce additional errors that can seriously distort the survey results. This error, referred to as non-response bias, occurs when a large



number of sampled people fail to respond and have relevant characteristics that differ from the respondents. When unit non-response is low there is less concern with the potential effects of non-response bias. Fortunately, the weighted ACS non-response rate is very small at less than 4 percent.

## **2. Procedures for Collecting Information**

### **ACS Households**

The Census Bureau mails survey materials to about 286,000 HU addresses each month. The mailing operations are conducted through the U.S. Postal Service and use first-class postage rates for all pieces. Unmailable household addresses are sampled and included in the CAPI data collection mode.

Each month all sample HUs are matched to commercial phone number lists in an attempt to find phone numbers. For addresses that were mailed survey materials but did not respond by mail, Internet or by calling our telephone questionnaire assistance line, we attempt CATI interviews for all household addresses for which we obtained phone numbers. After the CATI operation is complete, we select a sub-sample of all households that still have not responded and assign them to the CAPI data collection mode. This sub-sample includes household addresses that are not mailable, that we do not have telephone numbers for, and are CATI non-interviews.

For households and the household population, we calculate weights for producing estimates using a multiple-stage procedure. The base weight is the inverse of the probability of selection of a unit. We calculate nonresponse adjustment factors for respondents by combining sample over all months of mailing. The base weight for each responding unit is multiplied by its nonresponse adjustment factor to obtain a first stage weight.

We next calculate a HU factor equal to the ratio of the household control total to the estimate of total HUs. We calculate an estimate of the total HUs for a sub-county area (e.g., minor civil division or county-place part) by summing the first stage weights for all HUs belonging to that sub-county area. This initial HU weight is the first stage weight multiplied by the HU factor.

Next, we calculate a set of person factors. A factor for a specified combination of demographic characteristics (cell) is the ratio of the population control total to an estimate of the population total. We calculate an estimate of the population total for a cell within a county by summing the initial HU weights for all listed people belonging to that cell. The final person weight is the initial HU weight multiplied by the person factor.

For occupied HUs, the final HU weight is equal to the person weight of the householder. For vacant HUs, the final HU weight is simply equal to the initial HU weight.

### **ACS Group Quarters**

The weighting procedure for the group quarters population was substantially revised with the release of the 2011 ACS data products. While in the past the weighting procedure was fairly similar to the HU weighting procedure, the new procedure was developed so that the estimates from the GQ population would be more representative for geographies below the state level.

This is accomplished by first creating a set of synthetic, whole record imputations so that the person records reflect all combinations of all tracts by major GQ types (e.g., correctional facilities, college dormitories, military) that exist on the GQ sampling frame. These synthetic records are formed by imputing characteristic data from sample interviews into GQs that were not in sample. In this way, we can guarantee that if there are, for example, nursing homes in a particular tract on our frame then our data products will reflect the presence of that type / geographic combination in our estimates as well.

Once those synthetic records are formed, the remainder of the weighting procedure follows. It is important to note that for the entirety of the weighting, no distinction is made between the sample interviews and the imputed records. They are treated equally throughout. The first step is the initial weights are formed within cells defined by major type crossed by tract. The initial weight for the GQ person record is equal to the ratio of the frame population total for the cell divided by the number of records. Thus all records in the cell receive the same weight and their sum is equal to the frame total.

Subsequent steps of the weighting adjust the initial weights to the county- and state-level frame counts to account for GQs that cannot be geocoded to a tract. Once this is complete, the weights are controlled to independent estimates of state by major GQ type for both consistency and to mitigate coverage error. These weights are then rounded and used for tabulation.

### **3. Methods to Maximize Response**

We maintain high levels of data accuracy and response rates through interviewer instruction, training, and close monitoring of the data.

During the development of the household self-administered paper and Internet questionnaire and the interviewer/self-administered GQ questionnaire, we have made efforts to clarify item wording and placement, to improve the format of the overall questionnaire, and to be sensitive to questionnaire content effects.

Historically the ACS has employed a tri-modal data collection strategy for households data collection—mail, telephone and personal visit. In 2011, the Census Bureau conducted two tests to assess the feasibility of providing an Internet response option to households that receive survey materials by mail. These tests evaluated various methods for providing an Internet response option. Based on the results of these tests, the ACS added an Internet response option in 2013.

For households eligible to receive survey materials by mail, the first contact includes a letter and instruction card explaining how to complete the survey online. Also included are a Frequently Asked Questions (FAQ) brochure and a brochure that provides basic information about the survey in English, Spanish, Russian, Chinese, Vietnamese, and Korean, and provides a phone number to call for assistance in each language. The instruction card provides the information on how to respond in English and Spanish. The letter explains that if the respondent is unable to complete the survey online, a paper questionnaire will be sent later. The Internet version of the questionnaire is available in English and Spanish and includes questions about the HU and the people living in the HU. The Internet questionnaire has space to collect detailed information for twenty people in the household.

The second mailing is a letter that reminds respondents to complete the survey online, thanks them if they have already done so, and informs them that a paper form will be sent later if we do not receive their response. This letter includes clear instructions to log in, including an explicit reference to the user identification number.

In a third mailing, the American Community Survey Household (HU) Questionnaire Package is sent only to those sample addresses that have not completed the online questionnaire within two weeks. The content includes a follow up letter, a paper copy of the questionnaire, an instruction guide for completing the paper form, an instruction card for completing the survey online, a FAQ brochure, and a return envelope. The cover letter with this questionnaire package reminds the household of the importance of the ACS, and asks them to respond soon either by completing the survey online or by returning a completed paper questionnaire.

The fourth mailing is a postcard that reminds respondents that “now is the time to complete the survey,” informs them that an interviewer may contact them if they do not complete the survey, and reminds them of the importance of the ACS.

A fifth mailing (Attachment F) is sent to respondents who have not completed the survey within five weeks and are not eligible for telephone follow-up because we do not have a telephone number for the household. This postcard reminds these respondents to return their questionnaires and thanks them if they have already done so.

For sample housing units in Puerto Rico, a different mail strategy is employed. Based on the results of testing in 2011 and concerns with the resulting response and data quality,

we will be delaying the introduction of an Internet response option until a later date while we assess better alternatives. Therefore, for Puerto Rico we will continue to use the previously used mail strategy with no references to an Internet response option. Specifically, the second mailing will include a cover letter, a brochure, a copy of the paper questionnaire, an instruction booklet, and a return envelope, but no instruction card for completing the survey online. Also, no second reminder postcard (the fifth mailing described above for stateside HUs) will be sent to Puerto Rico HUs.

In addition to the ACS data collection from households, the data are also collected from a sample of group quarters (GQ) facilities and residents. The Field Representatives (FRs) use the CAPI Group Quarters Facility questionnaire (GQFQ) in English or Spanish when making initial telephone contact to schedule an appointment to conduct a personal visit at the sample GQ and also to generate the sub-sample of persons for ACS interviews. An introductory letter is mailed to the sample GQ approximately two weeks prior to the period when an FR may begin making contact with the GQ. The Spanish GQFQ instrument will be used for ACS data collection at Puerto Rico GQs.

The ACS HU non-response follow up consists of computer-assisted telephone interviewing (CATI), CATI Failed Edit Follow-up (FEFU) interview, computer-assisted personal interviewing (CAPI), and FR telephone or personal visit follow-up for GQs are conducted to ensure a final high weighted response rate.

Non-response follow up operations for household ACS data collection include: CATI to conduct telephone interviews for all households that do not respond by mail and for which we are able to obtain telephone numbers and CAPI to conduct personal interviews for a sample of addresses for which we have not obtained a mail or CATI interview. Both CATI and CAPI instruments are available to interviewers in English and Spanish.

Previously, we have conducted a CATI Failed Edit Follow-up (FEFU) if we had a telephone number and either: 1) respondents omitted answering a set of critical questions that are deemed essential for the questionnaire to be considered complete, or 2) the household had more than five people so that we could obtain information for the additional members of the household. Starting in October 2012, we scaled back the FEFU operation to focus on households with coverage problems (such as mail respondents with more than 5 people, mail respondents with more people listed on the cover than in the basic demographic section, or questionnaires returned for vacant units). We will also use the FEFU operation to collect missing data from some survey respondents that did not finish their response to the Internet survey, but rather broke off before completion; to confirm the status of Internet responses classified as businesses or vacant units; and to possibly collect the minimum amount of information needed to further process the questionnaire. If funding allows, we would resume FEFU for mail and Internet returns missing responses to a critical amount of questions. The FEFU instrument is available to interviewers in both English and Spanish.

Bilingual ACS paper questionnaires are used to conduct personal interviews with sampled GQ residents. The GQ resident data collection packages include an introductory letter, a bilingual Confidentiality Notice, a paper questionnaire, and a copy of the ACS GQ FAQ brochure. For Puerto Rico sample GQ residents, we will use PR data collection packages to collect the GQ data. We will also conduct a separate operation to collect ACS GQ data from sampled GQs in remote Alaska.

Non-response follow up takes place for the ACS GQ operation during each six-week sample month data collection period. FRs may call or conduct a second personal visit to the GQ sample resident to obtain missing or incomplete information for the ACS GQ form until the closeout of each sample panel.

#### 4. Testing Procedures

The content of the American Community Survey is similar to the Census 2000 long-form questionnaire and reflects questions tested from 2004-2012. The 2016 ACS will feature fewer questions than previous versions as a result of the findings of the 2014 ACS Content Review.

##### *2014 ACS Content Review*

In August 2012, the Office of Management and Budget (OMB) and the Census Bureau chartered the Interagency Council on Statistical Policy (ICSP) Subcommittee on the American Community Survey (ACS) to:

“...provide advice to the Director of the Census Bureau and the Chief Statistician at OMB on how the ACS can best fulfill its role in the portfolio of federal household surveys and provide the most useful information with the least amount of burden.”

The subcommittee charter also states:

“It is expected that the subcommittee would conduct regular, periodic reviews of the ACS content. These periodic reviews should be designed to ensure that there is clear and specific authority and justification for each question to be on the ACS, the ACS is the appropriate vehicle for collecting the information, respondent burden is being minimized, and the quality of the data from ACS is appropriate for its intended use. Each year there will be an annual review of questions to consider any deletion or addition of questions.”<sup>1</sup>

In response to the ICSP Subcommittee’s directive on considering the deletion of questions, in 2013, the Census Bureau initiated the first comprehensive examination of every question on the ACS form.<sup>2</sup>

The objective of this content review was to use 19 pre-specified benefit and cost decision criteria to examine all questions currently on the 2014 ACS Questionnaire and identify questions for removal from the ACS form. The 19 criteria included:

- The number of mandatory federal uses at various geographic levels
- The number of required federal uses at various geographic levels
- The number of programmatic federal uses at various geographic levels
- The county-level interquartile range (the geographic distribution throughout counties)
- Whether the question is used to select the frame for a federal
- Whether other data sources exist

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<sup>1</sup> [http://www.census.gov/acs/www/Downloads/operations\\_admin/ICSP\\_Charter.pdf](http://www.census.gov/acs/www/Downloads/operations_admin/ICSP_Charter.pdf)

<sup>2</sup> The process for adding questions is described in Section 6.1 of the Charter of the Interagency Council on Statistical Policy Subcommittee on the American Community Survey

- Median County-Level Coefficients of Variation
- A cognitive burden score (as perceived by interviewers)
- A sensitivity score (as perceived by interviewers)
- An overall difficulty score (as perceived by interviewers)
- The number of complaints to Census HQ
- The median seconds to answer each question
- The median county-level item response rate

Creating these indicators required the collection of nine data sets:

- Federal Agency Data Uses
- Other Data Sources
- Computation of Questions' Estimates Coefficients of Variation (CVs)
- Computation of Questions' Estimates Interquartile Ranges (IQRs)
- ACS used as another Survey's Sampling Frame
- Survey of Interviewers
- Median Seconds to Answer
- Allocation Rates
- Complaints

To assess the results, the Census Bureau assigned a score to each question based on the decision criteria, assigned clusters and weights to those scores as applicable, and plotted each questions total benefit and total cost score on a scatterplot. Census then analyzed the attributes of each question, applied exclusion criteria, and initially identified the following questions - all in the Low Benefit/Low Cost quadrant - as potential candidates for removal:

- Housing Question No. 6—Business/Medical Office on Property
- Person Question No. 12—Undergraduate Field of Degree
- Person Question No. 21—(In the Past 12 mos, did this person) Get Married, Widowed, Divorced
- Person Question No. 22—Times Married
- Person Question No. 23—Year Last Married

For reports that provide a full description of the overall 2014 ACS Content Review methods and results, see “Final Report - American Community Survey FY14 Content Review Results” (Attachment U); additional reports about the 2014 ACS Content Review are also available at

[http://www.census.gov/acs/www/about\\_the\\_survey/methods\\_and\\_results\\_report/](http://www.census.gov/acs/www/about_the_survey/methods_and_results_report/)

For further information on the Census Bureau's plans to retain or remove the aforementioned questions upon consideration of the comments received from the 60-day *Federal Register* notice, please refer to the discussion presented on pages 9-13 of Part A of the Supporting Statement.

*Cognitive Testing on the Computer Usage and Internet Questions*

In preparation for the 2016 Content Test, in which the Census Bureau will test new and modified questions for the American Community Survey, the Census Bureau conducted cognitive testing. Through a contractor, proposed wording was tested to address current and anticipated changes in computer use and Internet connection, resulting in more accurate, useful information over time; additional questions were also tested. The cognitive testing was conducted in two rounds in 2014, in both Spanish and English, for four modes of data collection (paper, Internet, CATI, and CAPI). In round 1, two versions of computer and Internet questions were tested with 49 interviews conducted in English and 19 in Spanish. In round 2, one version of each question was tested with 20 interviews conducted in English and 21 in Spanish. Interviews were conducted in seven cities. Respondents were paid for their participation in the cognitive testing.

## 5. **Contacts for Statistical Aspects and Data Collection**

The Census Bureau will collect and process these data. Within the Census Bureau, the following individuals should be consulted for further information on their area of expertise.

### Statistical Aspects

Mr. Steven Hefter	Chief, ACS Sample Design Branch Decennial Statistical Studies Division Phone: (301) 763-4082
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### Overall Data Collection

Ms. Deborah M. Stempowski	Chief, American Community Survey Office Phone: (301) 763-3609
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## **Attachments**

### **Collection Materials**

Note: Due to the late-breaking nature of the proposed rewording of the computer usage/internet questions, it is not possible to reflect these updates in all the attachments of the supporting statement. Rather, Attachment W provides a single mock up across the paper, CATI/CAPI, and Internet modes.

- A American Community Survey Household (HU) First Mailing:
- ACS-13(L)SM (2013)(6-2012), ACS Introductory Letter
  - ACS-34IM(08-08-2013), Internet Response Instruction Card
  - ACS-10SM(2015)(June 2014), ACS Frequently Asked Question Brochure
  - ACS-9(2014)(August 2013), Multilingual Brochure



- ACS-46IM(2013)(12-2012), ACS Stateside Outgoing Envelope
- B American Community Survey Internet Screen Capture Guide
- ACS-400C(January 2015), ACS Internet Data Collection Instrument Screen Capture Guide
- C American Community Survey Household (HU) Second Mailing:
- ACS-20L (2015) (5-2015) ACS HU Reminder Letter
  - ACS-40(2012)(6-2011), ACS Reminder Envelope
- D American Community Survey HU Third Mailing:
- ACS-14(L)SM(2013)(6-2012), ACS Follow-up Letter
  - ACS-1(2016)(2-02-2015), ACS Stateside Questionnaire VA
  - ACS-30(2016)(1-2015), ACS Instruction Guide Booklet
  - ACS-34RM(04-04-2013), ACS Bilingual Instruction Card
  - ACS-10SM(2015)(June 2014), ACS FAQ Brochure
  - 5385-47(2014)(10-2013)), ACS Business Reply Envelope
  - ACS-46(2013)(12-2012), ACS Stateside Outgoing Envelope
- E American Community Survey HU Fourth Mailing:
- ACS-29(2013)(5-2012), Postcard for Second Reminder
- F American Community Survey HU Fifth Mailing:
- ACS-23(2013)(5-2012), Additional Mailing Postcard
- G American Community Survey HU Spanish Mailing Package:
- ACS-13(L)SP(2014)(8-2013), ACS Spanish Introductory Letter
  - ACS-1(2016)(SP)(02-02-2015),ACS Stateside Questionnaire in Spanish VA
  - ACS-30(2016)(SP)(1-2015)(1-26-2015), ACS Instruction Guide Booklet VA
  - ACS-34RM(04-04-2013), ACS Bilingual Instruction Card
  - ACS-10SM(2015)(SP)(June 2014), ACS FAQ Brochure Stateside Spanish
  - ACS -14(L)SP(2013)(6-2012), ACS Follow-up Letter
  - 6385-47(2014)(10-2013)), ACS Business Reply Envelope
  - ACS-23(2013)SP(6-2012), Additional Mailing Postcard (English/Spanish)
  - ACS-46(2012)SP (6-2011), ACS Stateside Outgoing Envelope
- H Puerto Rico Community Survey HU Mailing Forms:
- ACS-12(L)PR(2013)(6-2012), PRCS Pre-notice Letter
  - ACS-40 (2012)PR(6-2011), PRCS Pre-notice Envelope
  - ACS-13(L)PR(2013)(6-2012), PRCS Introductory Letter
  - ACS-10SMPR(2015)(June 2014), PRCS FAQ Brochure
  - ACS-1(2016)PR(SP)(02-02-2015), PRCS Spanish Questionnaire in Spanish VA
  - ACS-30(2016)PR(SP)(2-2015)(2-9-2015), PRCS Instruction Guide Booklet

- 6385-47(2014)(10-2013)), ACS Business Reply Envelope
  - ACS-20PR(2013)(5-2012), PRCS Reminder/Thank You Postcard
  - ACS-14(L)PR(2013)(11-2012), PRCS Follow up Letter
  - ACS-23PR(2013) (6-2012), PRCS Reminder Postcard
  - ACS-46(2012)PR(6-2011), PRCS Outgoing Envelope
- I American Community Survey Language Assistance Guide in Simplified Chinese
- ACS-1(INFO)(2013)(SIMPLIFIED CHINESE)(05-23-2013), ACS Language Assistance Guide in Simplified Chinese
- J American Community Survey Language Assistance Guide in Korean
- ACS-1(INFO)(2013)(KOREAN)(05-13-2013), ACS Language Assistance Guide in Korean
- K Puerto Rico Community Survey HU Mailing Forms in English:
- ACS-13(L)PR(2013)(6-2012), PRCS Introductory Letter
  - ACS-10SMPR(2015)(June 2014), PRCS FAQ Brochure
  - ACS-1(2016)PR(02-03-2015), PRCS Questionnaire in English VA
  - ACS-30(2016)PR(2-2015), PRCS Instruction Guide Booklet in English VA
  - 6385-47(2014)(10-2013)), ACS Business Reply Envelope
- L American Community Survey Failed Edit Follow up Questions
- M American Community Survey Vacant Unit Questions
- N American Community Survey Housing Unit Reinterview Questions
- O American Community Survey CAPI Tools
- ACS-16(L) (1-2013) Introductory Letter in Multiple Languages
  - ACS-26(L) (1-2013) ACS Thank You Letters in Multiple Languages
  - ACS-50(HU) January 2013, Informational Brochure in Multiple Languages
  - ACS-51(HU) January 2013, Q&A Brochure in Multiple Languages
  - ACS-613R(L)(Language)(February 2014) Refusal Letters in Multiple Languages
  - ACS-15(L)(Language)(6-2011) ACS Reluctant Respondent Letters in Multiple Languages
- P American Community Survey Group Quarters Facilities Data Collection Package
- ACS-18(L)(C)(GQ)(RO name)(2015)(6-2014) ACS GQ Student Housing Introductory Letter
  - ACS-18(L)(H)(RO name)(2015)(6-2014) ACS GQ Health Care Introductory Letter
  - ACS-18(L)(GQ)(RO name)(2015)(6-2014), ACS GQ Facility Manager Introductory Letter
  - ACS-18(L)(GQ)(PR)(2015)(6-2014) PRCS GQ Introductory Letter (English)
  - ACS-18(L)(GQ)(PR)(S)(2015)(6-2014) PRCS GQ Introductory Letter (Spanish)

- ACS-51(GQ)(F) (June 2014) ACS GQ Facility FAQ
  - ACS-26(L)(GQ)(F)(2015)(6-2014), ACS Facility Thank You Letter (English/Spanish)
  - ACS-26(L)(GQ)(PR)(F)(2015)(6-2014), PRCS Facility Thank You Letter (English/Spanish)
- Q American Community Survey Group Quarters Facility Questionnaire and Listing Sheets
- GQFQ Facilities Questionnaire
  - ACS-290(GQ)(7-16-2014) ACS GQ Listing Sheet
  - ACS-290(GQ)(PR)(SP)(7-16-2014) PRCS GQ Listing Sheet
  - ACS-290B(GQ)(8-1-2011) ACS GQ Control List
  - ACS-290B(GQ)(PR)(SP)(7-14-2011) PRCS GQ Control List (Spanish)
- R American Community Survey Group Quarters Resident Data Collection Package
- ACS-1(GQ)(2016) (1-27-2015), ACS GQ Questionnaire (English/Spanish)
  - ACS-17(L)(GQ)(2015)(6-2014), ACS Resident Introductory Letter (English)
  - ACS-17(L)(GQ)(S)(2015)(6-2014), ACS Resident Introductory Letter (Spanish)
  - ACS-21(GQ) (7-2011), ACS GQ Confidentiality Notice (English/Spanish)
  - ACS-26(L)(GQ)(R)(2015)(6-2014), ACS GQ Resident Thank You Letter (English/Spanish)
  - ACS-30(GQ)(2016)(2-2015)(2-11-2015), ACS GQ Instruction Guide (English/Spanish) VD
  - ACS-50(GQ) (June 2014) ACS Brochure (English/Spanish)
  - ACS-51(GQ)RA (August 2012) ACS GQ Remote Alaska FAQ
  - 5385-46(GQ) (7-2012) ACS Business Reply Mail Envelope
- S Puerto Rico Community Survey – Group Quarters Resident Questionnaire Package:
- ACS-1(GQ)(PR)(2016) (1-27-2015), PRCS GQ Questionnaire (English/Spanish)
  - ACS-17(L)(GQ)(PR)(2015)(6-2014), PRCS Resident Introductory Letter (English/Spanish)
  - ACS-21(GQ)(PR)(7-2011), PRCS GQ Confidentiality Notice (English/Spanish)
  - ACS-26(L)(GQ)(PR)(R)(2015)(6-2014), PRCS Resident Thank You Letter (English/Spanish)
  - ACS-30(GQ)(PR)(2016)(2-2015)(2-11-2015) PRCS GQ Instruction Guide (English/Spanish)
  - ACS-51(GQ)PR (June 2014) PRCS GQ Puerto Rico FAQ
  - 5385-46(GQ)(PR) (8-2011) PRCS GQ Business Reply Mail Envelope
- T American Community Survey Group Quarters Reinterview Questions
- U Final Report American Community Survey Fiscal Year 2014-Content Review Results
- V American Community Survey Population and Housing Question Justification
- W Example of Revised Wording for Computer Usage and Internet Questions