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2010 CENSUS PLANNING MEMORANDA SERIES

No. 194

MEMORANDUM FOR The Distribution List

From: Arnold Jackson *[signed]*
Acting Chief, Decennial Management Division

Subject: 2010 Census Be Counted and Questionnaire Assistance Center Assessment Report

Attached is the 2010 Census Be Counted and Questionnaire Assistance Center Assessment Report. The Quality Process for the 2010 Census Test Evaluations, Experiments, and Assessments was applied to the methodology development and review process. The report is sound and appropriate for completeness and accuracy.

If you have questions about this report, please contact Geoff Jackson at (301) 763-8447 or Keith Wechter at (301) 763-7858.

Attachment

2010 Census Be Counted and Questionnaire Assistance Centers Assessment

U.S. Census Bureau standards and quality process procedures were applied throughout the creation of this report.

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Susanna Winder

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Executive Summary

The 2010 Be Counted and Questionnaire Assistance Centers Assessment reports the results of the 2010 Census Be Counted/Quality Assistance Center operation. The Be Counted/Questionnaire Assistance Center operation provided the public with an opportunity to be included in the 2010 Census if they did not complete a 2010 Census questionnaire, were not personally interviewed by a Census enumerator, or thought they were left off the 2010 Census questionnaire for their address. The Be Counted questionnaires were available in six languages (English, Spanish, Chinese (Simplified), Vietnamese, Korean, and Russian) for stateside and two languages for Puerto Rico (English and Spanish). The Be Counted questionnaires were available to be picked up in Be Counted sites or Questionnaire Assistance Center sites. There were 9,670 Be Counted sites and 29,157 Questionnaire Assistance Center sites located throughout the country in areas where a person was able to mail back a 2010 Census questionnaire. Census partnership specialists worked with the community to establish these sites in businesses, community centers, and libraries, predominantly in hard-to-enumerate areas. Questionnaire Assistance Centers differed from Be Counted sites because the Questionnaire Assistance Centers employed a temporary Census worker at the site (for about fifteen hours per week) to assist respondents in completing their Census forms (including the mailout questionnaire that was delivered to their address and the Be Counted questionnaire). The Be Counted sites did not have any Census Bureau employees available to assist the public.

Total operational spending for the Be Counted/Questionnaire Assistance Centers operation was $35,574,131 (89.4 percent of the budgeted $39,804,886). Of the total costs, $7,662,108 was spent on Be Counted and $27,287,489 was spent on Questionnaire Assistance Centers. The operation was conducted in Mailout/Mailback areas on schedule from March 19 through April 19, 2010. As planned, 3,268 Questionnaire Assistance Centers in Update/Leave areas opened earlier on February 26, 2010. Across the nation, 31,055 temporary employees worked on the operation (not including Partnership staff). Operational staff included local census office clerks, Be Counted clerks, Questionnaire Assistance Representatives, and Field Operations Supervisors.

Be Counted Sites and Questionnaire Assistance Centers

Thirty percent of the Be Counted sites were located in a business or corporation. Nineteen percent were in a local government building. Twelve percent of the sites were in community organizations or libraries. The Census Bureau hired employees to staff the Questionnaire Assistance Centers. These centers were often located in community organizations (21 percent), local government buildings (20 percent), or libraries (18 percent). Only 13 percent of Questionnaire Assistance Centers were located in a business or corporation. The Census Bureau website provided people with the opportunity to locate Be Counted sites and Questionnaire Assistance Centers.

Some Questionnaire Assistance Centers were located in Suburban/Rural areas, and some were located in Urban Hard-to-Count areas. Questionnaire Assistance Centers in Suburban/Rural areas were visited the most often, as 34.7 percent of all visits were in Suburban/Rural areas. However, Questionnaire Assistance Centers in Urban/Hard-to-Count Areas were more likely to be visited when compared to the proportion of housing units located in those areas. Thirty-one percent of Questionnaire Assistance Centers visits were in Urban/Hard-to-Count Areas while only 12.5

percent of the national housing units were located in Urban/Hard-to-Count Areas. The most frequently visited sites were in the Los Angeles and New York regions. The most common way that a customer learned of the Questionnaire Assistance Centers was by seeing the physical center, not necessarily by a specific means of advertising. Approximately 65 percent of all customers knew of the center because they saw it. The internet or television was only reported by 5.2 percent of all customers as the way they became aware of the center.

The main reasons for people visiting Questionnaire Assistance Centers were because the customer did not receive a questionnaire (38.3 percent of stateside visits) or they lost their questionnaires (11.1 percent of stateside visits). The third most common reason for a person to visit a stateside Questionnaire Assistance Center was to inquire about a job (8.5 percent of visits). When a customer required help with completing a questionnaire, the most common questionnaires that they needed assistance with were the English Be Counted questionnaire (24.8 percent of visits) and the English Mailout/Mailback questionnaire (20.1 percent of visits).

Operational Implementation

Although the main goals of the program were implemented—establishing Be Counted/Questionnaire Assistance Centers sites on time, staffing Questionnaire Assistance Centers, and providing Be Counted boxes and questionnaires to each site as needed—monitoring this operation was a challenge. The first challenge was not having the benefit of using the Operations Control System to monitor the operation. When the Be Counted/Questionnaire Assistance Centers program was removed from the Operations Control System development as a cost saving measure, Field Division had to implement a series of Excel spreadsheets to monitor the program that included monitoring the staffing, sites, and the distribution of questionnaires to the sites. These spreadsheets somewhat resolved the issue for monitoring the operation but were confusing to use and not accurate as they relied heavily on manual input from Local Census Office staff.

In addition to the challenge above caused by dropping the Be Counted/Questionnaire Assistance Centers program from the Operations Control System, another challenge was monitoring the site selection from the regions. Field Division had to create a system within the Integrated Partnership Contact Database to monitor Be Counted/Questionnaire Assistance Center sites. Although the system maintained the sites that were selected for the program, updating it was a challenge during operations. For example, if sites were added or removed within the Local Census Offices, there was some lag time to when these updates were reflected in the Integrated Partnership Contact Database that was loaded to the website. This caused some sites to be listed on the website that were, in fact, closed.

Another challenge was dividing the Be Counted/Questionnaire Assistance Centers responsibilities between operational and partnership areas. There was often confusion about each of the area's roles in the field. Various measures were taken to clarify concerns and roles, such as conducting a thorough presentation on the roles before the start of the operation, but misunderstandings remained. Information gathered from the debriefings points to having only one area be responsible for the entire operation.

Printing of Be Counted Questionnaires

The Census Bureau printed 13,901,000 Be Counted questionnaires. Of those, 5,813,000 were stateside English questionnaires, 4,507,000 were stateside Spanish questionnaires, and 3,280,000 were the other four available languages stateside. For Puerto Rico, the Census Bureau printed 239,000 English and 62,000 Spanish questionnaires. Even though the Census Bureau printed 13,901,000 Be Counted questionnaires, only 39.1 percent were distributed to Be Counted sites and Questionnaire Assistance Centers. The Census Bureau did not distribute 8,469,277 questionnaires. The majority of the forms not distributed were English language questionnaires. The over printing of questionnaires was to minimize the chance for a Regional Office to run out of questionnaires. Of the questionnaires that were distributed to sites and centers, only 2,844,827 (20.5 percent of printed questionnaires) were picked up by the public. Even fewer questionnaires were actually completed and sent back to the Census Bureau. Only 784,103 Be Counted questionnaires were received by Census data capture centers. Thus, 5.6 percent of the printed Be Counted questionnaires were completed.

In relation to form printing, there were challenges on the distribution of these forms to the field. Field Division created a model to distribute the questionnaires based on language use in Local Census Offices using the Partnership Database. Although the distribution accounted for language needs in the Local Census Offices, several regions ran out of non-English language questionnaires in certain areas. Regions had to shuffle questionnaires within their region, and Field Division facilitated the move of questionnaires across regions.

Processing of Be Counted Questionnaires

Since respondents were to pick up Be Counted questionnaires at Be Counted sites or Questionnaire Assistance Centers, the Be Counted Questionnaires were not initially linked to an address on the Master Address File. After a Be Counted questionnaire was data captured, the address information entered by the respondent was sent to the Geography Division to be processed. The total number of Be Counted questionnaires sent to the Geography Division was 780,914, less than the 784,103 Be Counted questionnaires checked into data capture, because this number included blank questionnaires and any questionnaires that were data captured twice. Each address underwent an automated and/or clerical address matching process. The type of processing depended on the type of Be Counted questionnaire. Be Counted questionnaires were grouped into two categories for processing: Type A and Type B cases. Type A cases consisted of addresses from Be Counted questionnaires where the respondent reported that they had a housing unit where they usually lived or stayed. There were 767,204 Type A Be Counted questionnaires. Type B cases consisted of Be Counted questionnaires where the respondent indicated that they did not have an address, and hence were experiencing homelessness. There were 13,710 Type B Be Counted questionnaires.

Type A cases first went to an automated process that attempted to assign the address to a state and county in a process known as header-coding, which is required in order to attempt to match or geocode an address. Any successfully header-coded address was then compared to the Census Bureau's living quarters inventory – known as the Master Address File – in an attempt to match it to an address already in the 2010 Census. If a match was not obtained, or the matching record did not already have an assigned block, an attempt was made to derive a census-block level

geocode. If no match or block geocode could be obtained during automated processing, the address was sent to clerical processing. Also, it should be noted that if a Type A address was not successfully header-coded during automated processing, it was passed directly on to clerical processing for an attempt at header-coding, as well as matching and/or geocoding once successfully assigned to a state and county. Ultimately, Type A cases that were only geocoded and did not match to an existing record on the Master Address File were sent to the Field Verification operation to be verified before their respective addresses, and the associated persons, could be included in the 2010 Census.

Type B Be Counted cases underwent an automated and/or clerical process to assign the case to a specific state and county. This process was also called header-coding. If successfully header-coded, the people on the Type B Be Counted questionnaires were part of a person unduplication process. If they were not identified as a duplicate of someone in a group quarters, then they were randomly allocated to a group quarters in the state and county to which they were header-coded.

Eighty-nine percent of all Type A Be Counted cases were matched to a housing unit and/or geocoded to a block. Slightly less than one percent of Type A cases were matched to a group quarters. Of those that matched to a group quarters, the majority (19.3 percent) matched to an emergency and transitional shelter for people experiencing homelessness. Eight percent of all Type A cases were not matched to any address or geocoded to a block and therefore not eligible to be included in final population counts. In Puerto Rico, 27.8 percent of Type A cases did not match to an address. Of the 202,709 Type A Be Counted cases that went to the Field Verification operation, 38.2 percent were verified as existing housing units.

Of the 13,710 Type B cases, 90.9 percent were header-coded to a state and county. There was additional research conducted on the Type B cases after 2010 Census processing was completed. The Geography Division performed the same type of address-level matching used on Type A cases. This address matching was only completed for this assessment in March 2011 and was not a part of the processing of Type B cases. Of the Type B cases, 39.3 percent were addresses that linked to an existing address or group quarters. Of those people from the Type B questionnaires that provided an address that was linked to an existing living quarters, 41.4 percent of them were found to be already included in those units in the 2010 Census. This shows that a large number of people that were identified as experiencing homelessness did in fact have an address where they lived or stayed on April 1, 2010. This suggests the current method of identifying Type B cases with a check box on the questionnaire is not working as intended.

People Counted In Census from Be Counted Questionnaires

There were 760,748 people counted in the Census from 350,307 total Be Counted questionnaires. Of those people counted in the Census, 736,941 lived or stayed in housing units while 23,807 were counted in group quarters. Of the 736,941 people in housing units, 77.3 percent were counted on an English language Be Counted questionnaire. The second most common questionnaire was the stateside Spanish language Be Counted questionnaire, which consisted of 17.2 percent of all Be Counted people counted in the 2010 Census. The stateside Spanish language Be Counted questionnaire had the largest average number of people counted in 2010 Census per Be Counted language questionnaire, with three people per questionnaire. It had an average of one more person per questionnaire than the stateside English Be Counted

questionnaire. Similar to the housing unit distribution, the Be Counted questionnaires that contributed the most to the people counted in the 2010 Census and living in group quarters were stateside English and stateside Spanish questionnaires.

Recommendations

The key recommendations from the 2010 Be Counted and Questionnaire Assistance Center Program lessons learned sessions and the results of this assessment are the following:

- **Manage the Be Counted/Questionnaire Assistance Center operation under one program area so that responsibility is not shared between Partnership and Operations areas.**

- **Implement an operations control system for the Be Counted/Questionnaire Assistance Center operation which creates real time reports and provides automated tracking.**

- **Plan and budget for using the Integrated Partnership Control Database and Census Bureau website for the Be Counted/Questionnaire Assistance Center operation to better match the needs of the program.**

- **Research allowing respondents to complete Be Counted questionnaires on the internet and having an electronic data collection method for Be Counted available in the field.**

- **Implement Be Counted sites in standard locations.**

- **Improve the way that respondents can identify themselves as experiencing homelessness (i.e. improve the identification of Type B Be Counted cases).**

- **Develop an efficient model to determine Be Counted form printing and distribution to the field, if paper forms are used.**

- **Research the feasibility of improving the structure of Questionnaire Assistance Centers and the methods we use to provide assistance.**

- **Research collecting and processing non-parsed address data from respondents.**

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1 INTRODUCTION

1.1 Scope

The purpose of the Be Counted/ Questionnaire Assistance Center (BC/QAC) Assessment is to document the results and major findings from the 2010 BC/QAC operation, including topics such as the number of BC/QAC sites, staffing, training, schedule, and cost. In addition, the BC/QAC assessment addresses the change control process, the use of automation, and other operation specific assessment questions. This assessment will inform the 2010 Census Housing Unit Enumeration Operation Integration Team (HUE OIT), stakeholders and decision makers of recommended changes or improvements for future Censuses.

The BC/QAC Assessment includes the Be Counted (BC) and the Questionnaire Assistance Centers (QAC) operations.

1.2 Intended Audience

This document assumes that the reader has at least a basic understanding of the BC/QAC. The goal is to use this document to help research, planning, and development teams planning the 2020 Census. If you do not have a basic understanding of the BC/QAC, please refer to the Census 2010 Informational Memorandum No. 33, the 2010 Census Detailed Operational System Plan, a document that describes the BC/QAC operation in much greater detail.

2 BACKGROUND

The BC/QAC was the Census Bureau's effort to provide individuals an opportunity to be included in the 2010 Census who may not have received a census questionnaire or who felt they were not included on their household's census questionnaire. The BC/QAC was a partnership effort as well as a housing unit enumeration operation, managed by both partnership and operational Census Bureau areas. The BC/QAC involved partnership specialists working with the community to establish BC and QAC sites in locations such as businesses, community centers, and libraries - predominantly in areas of potential low response rates identified by Census Bureau staff. Temporary Local Census Office (LCO) staff worked on the operation performing activities such as distributing BC containers of questionnaires and placing posters at the sites, and periodically distributing and replenishing BC questionnaires to sites. The QAC sites had a temporary census worker at the site – who worked for a limited number of hours per week- trained to provide questionnaire assistance to the public. The BC sites did not have any Census Bureau employees available to assist the public, only the BC containers and BC posters to identify the site.

Respondents who felt they were not included in the census were able to self-enumerate using the BC questionnaire. Respondents picked up questionnaires from the BC/QAC sites, completed the questionnaires themselves, and sent the questionnaires to the Census Bureau using pre-paid envelopes provided in the BC questionnaire packets. The BC questionnaire collected similar information as the Mailout/Mailback (MO/MB) questionnaire, such as the number of people who lived at the housing unit, demographic characteristics of the people living there, and tenure of the household. It also provided respondents with a check box to indicate they did not have an address on April 1, 2010. The BC questionnaires were available in six languages (English, Spanish, Chinese (Simplified), Vietnamese, Korean, and Russian) for stateside and two languages for Puerto Rico (English and Spanish).

Before introducing and discussing the results of the 2010 BC/QAC, we provide some history on Census 2000 and the 2010 Census design.

2.1 Census 2000

In Census 2000, we implemented a BC and a QAC program similar to the 2010 BC/QAC operation. However, unlike in 2010, where a subset of BC sites also served as QAC sites, Census 2000 BC sites and QAC sites were mutually exclusive. The beginning of Section 2.1.2 discusses the differences between the 2000 BC and QAC operations.

The 2000 BC and QAC operations were assessed separately in the following Census 2000 evaluations: the *Final Report for Be Counted Campaign for Census 2000 - A.3* and the *Census 2000 Evaluation H.4: Questionnaire Assistance Centers for Census 2000 Final Report*. The next two sections (2.1.1 and 2.1.2) provide a brief overview on the 2000 BC and QAC operations.

2.1.1 2000 Be Counted Program

The Census 2000 BC Program provided a means for persons to be included in Census 2000 who may not have received a census questionnaire or believed they were not included on one. The program also provided an opportunity for persons who had no usual address on Census Day to be counted in the census. The Census 2000 BC questionnaire contained census short form data questions, a question indicating whether the questionnaire was being completed for the respondent's whole household, and several additional questions needed to geocode the respondent's address and process the completed questionnaires.

Similar to 2010, the 2000 BC questionnaires were not intended to replace the addressed census questionnaire so they were only made available to the public in targeted locations in predominantly hard-to-enumerate areas, based on local knowledge of partnership staff and LCO staff. The sites for placing BC questionnaires were identified using the Population Division's Planning Database and through consultations with local partners to improve the coverage in these areas.

The BC questionnaires were available in English, Spanish, Simplified Chinese, Korean, Tagalog, and Vietnamese – the same languages in which Census made available the Fulfillment questionnaires. The Census Bureau printed about 16 million total BC questionnaires in anticipation of receiving about one million completed questionnaires. The BC questionnaires were available in the targeted locations on March 31, 2000 and were removed from the sites on April 17, 2000. These dates coincided with Census Day (April 1, 2000) and the start of Nonresponse Followup (NRFU) at the end of April. Respondents were able to call the Telephone Questionnaire Assistance number and if they met certain criteria, they could provide their short-form data via a telephone interview. If the respondents did not know their census ID[1] they could request a questionnaire and a BC questionnaire was mailed to their address. The BC questionnaires received for persons with no usual residence were included in the service-based enumeration population universe.

The Census Bureau established 28,136 BC sites for Census 2000 across the nation. The field implementation costs[2] of the BC program were $1,479,499.

Respondents returned 804,939 BC questionnaires to the Census Bureau. There were 236,482 households with at least one person enumerated via the BC questionnaire. Of these, 116,019 households were enumerated only by BC questionnaires and the remaining 120,463 households were enumerated on BC questionnaires as well as other census questionnaires. There were 560,880 persons added to the census through the BC questionnaires. There were approximately 15,410 BC questionnaires returned to the Census Bureau for persons with no usual residence.

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[1] A unique identifier associated with an address.

[2] Field implementation costs refer to the costs associated with training salary, production salary and mileage for BC clerks.

2.1.2 2000 Questionnaire Assistance Centers

In addition to the BC sites established in 2000, the Census Bureau established 23,556 QAC sites in census tracts in MO/MB and Update/Leave (U/L) areas throughout the country. The QAC sites were different from BC sites in that they were staffed with voluntary QAC representatives, trained in providing customer assistance to complete their mailed or delivered questionnaire. Additionally, although QAC representatives were able to provide BC questionnaires upon request, they did not keep a box of BC questionnaires visible to the public. Unlike the BC sites, the main purpose of the QAC sites was to provide customer assistance for the received questionnaire and not a BC questionnaire. The QAC objectives were as follows:

- To assist persons needing assistance with completing their census questionnaire,
- To provide assistance to those with language barriers to completing the census questionnaire,
- To assist persons who believe they did not receive a questionnaire, and
- To answer general questions about the census.

The Census Bureau chose QAC locations in consultation with local governments and relevant community organizations. The centers were located in selected census tracts, nationwide. Most of the chosen tracts were in areas known to be either difficult to enumerate, heavily populated by certain racial and ethnic groups with historically low census response rates, or areas known to be heavily populated by people for whom English is not their primary language. Once the census tracts needing a QAC were determined, Partnership Specialists approached local governments and community organizations for free space where QAC sites could be established.

Operations staff at Local Census Offices (LCOs) were responsible for maintaining the QAC sites and for training and scheduling staff to monitor the sites. QAC sites were staffed by volunteers. However, some of the staff were paid clerks who had foreign language skills, so they could provide expert assistance to census respondents experiencing language difficulties. Both paid and unpaid staff provided language assistance to those respondents in need of it. Volunteers were chosen from local community groups or other organizations that were in partnership with the Census Bureau. Paid clerks and volunteers received identical training.

The following were among the materials available at QAC sites:

- Language Assistance Guides (LAGs): LAGs were user-friendly visual aides that helped census respondents with language barriers understand and complete their English language short or long form census questionnaire. They were available in 49 different foreign languages and in large-print English.
- Language Identification Flashcards: These were cards with phrases in each of the available languages. QAC staff used them to assist in identifying the language spoken by the census respondents. A staff member held the card in front of the respondent and moved his or her finger from line to line on the card until the respondent indicated that the clerk was pointing to a line written in a language they could understand.
- BC Questionnaires: BC questionnaires were questionnaires provided to those who did not previously receive a questionnaire, those who thought that they were not included on a questionnaire, or those who were without conventional housing on Census Day. They

were available in six languages: English, Spanish, Simplified Chinese, Korean, Vietnamese, and Tagalog.

- Record of Contact Forms (Form D-399): These were the forms used to document the reason that census respondents visited the QAC sites. Census respondents that visited or contacted QAC sites answered the questions on this form. It was administered and completed by QAC staff. See Appendix A for an illustration of this form.

QAC sites opened on March 8, 2010 - a few weeks before the BC sites - and closed on April 14, 2000. Of the 23,556 QAC sites, data were collected and processed from 14,222 of the centers. No data were processed from the remaining 9,334 centers. Record of Contact forms were sent to the National Processing Center (NPC) where all of the forms received were keyed. It is possible that there were no Record of Contact forms collected from these remaining centers or that the forms collected from them were never sent to the NPC for keying. There is no further information about the Record of Contact forms from the remaining 9,334 centers. The number of QAC sites from which data were collected and processed was computed by adding the number of different sites from the Record of Contact forms keyed.

Data were keyed for 559,027 people who utilized the QAC sites during Census 2000. About 39.4 percent of these respondents were provided with a BC Questionnaire. Some respondents (26.4 percent) needed assistance on a specific type of questionnaire like the MO/MB questionnaire. Of those who did need assistance, most asked for help in completing the short form. Of the people who needed assistance on a specific questionnaire, most (64.6 percent) required assistance on the English short form.

2.2 2010 Be Counted Questionnaire Cognitive Test

There was no operational test between Census 2000 and the 2010 Census for BC. However, a cognitive test of the BC questionnaire was conducted in 2008 that investigated respondent understanding and use of the questionnaire. There were several recommendations that resulted from the 2008 cognitive test. The following recommendations were accepted for implementation in the 2010 BC questionnaire:

- Use the term *House Number;*
- Move *Apartment Number* below *House Number* and *Street Name;*
- Move *County* after *ZIP Code*;
- Make *State* a 2-digit field;
- Place the "last line elements (*City, State and ZIP Code*) together on one line;
- Add a statement that *Post Office* (*PO) Boxes* are not acceptable in the address field; and
- Remove the *PO Box* address field and give two lines for *Rural Route Address*.

The following recommendations were not implemented in the 2010 BC questionnaire.

- Put *House Number* and *Street Name* in one address field.
- Use the term 'Physical Address' to describe the address that the respondent should enter on the questionnaire.

- Include a separate question for people experiencing homelessness instead of the Mark [x] box that appears above the address fields.

The Census Bureau did not implement combining the House Number and Street Name because the automated routines for address matching and geocoding could not process unparsed address fields. The Census Bureau did not implement the second and third recommendations because stakeholders felt the late wording and question changes could not be implemented without having been evaluated in a larger test.

For detailed information about the findings and recommendations of the test, see (Childs, Gerber, and Norris, 2009).

2.3 2010 BC/QAC

2.3.1 Overview

The purpose of the 2010 BC/QAC operation was to identify and collect information on people who believed they did not receive a census questionnaire or who believed they were excluded from the original mailback questionnaire returned by their household. It was also an opportunity for people with no address to complete a questionnaire and be included in the final census count. BC (D-10) questionnaires were available in six languages (English, Spanish, Chinese (Simplified), Vietnamese, Korean, and Russian) for stateside and Spanish and English for Puerto Rico – these six languages were the same six that were offered by the Census Fulfillment form.

The BC/QAC operation included two related components: the BC and the QAC. The BC questionnaire was available at both types of sites. Sites staffed by a QAC representative who provided on-site assistance to customers were referred to as QAC sites. QAC sites also had a BC container with questionnaires available and the QAC representative provided assistance in completing census questionnaires. BC sites were not staffed by a QAC representative, but provided BC questionnaires.

The BC/QAC operation was conducted from February 26, 2010 to April 19, 2010. From February 26 to March 18, 2010, a limited number of QAC sites opened in U/L areas only, to assist individuals in these areas with completing their census questionnaires. During this time, BC questionnaires were not available in order to allow U/L enumerators time to deliver the U/L questionnaires. On March 19, 2010, all QAC sites were opened. Additionally, on this date LCO staff delivered a BC box and BC questionnaires to all sites. The BC operation - based on the Initial Mailout schedule - was to conclude by April 19, 2010 prior to the start of Nonresponse Followup Operation (NRFU) on May 1, 2010.

The number of sites planned for the 2010 Census was 29,966 QAC sites and 9,969 BC sites (i.e., sites not staffed by a QAC representative).

Respondents who called Telephone Questionnaire Assistance (TQA) to request a questionnaire were provided Form Fulfillment Questionnaires (form number D-1) instead of BC Questionnaires.

2.3.2 BC Questionnaire Language Selection

The BC questionnaire was available in six languages (English, Spanish, Chinese (Simplified), Vietnamese, Korean, and Russian). After consulting with stakeholders within and outside of the agency, the Census Bureau decided to use need-based, household-level criteria to select the primary non-English languages. Using 2005 ACS data and growth factors from the estimates in Census 2000, the Census Bureau extrapolated the "Number of Occupied Housing Units with no persons age 15 or older who speaks English very well" to identify the languages spoken in 100,000 or more occupied housing units in the United States. The five language groups that met this threshold were Spanish, Chinese, Korean, Vietnamese, and Russian (Angueira, 2007).

2.3.3 BC Questionnaire Design

The BC questionnaire was a paper questionnaire and the cover page provided instructions for the respondent regarding whom they should include on the questionnaire, how to provide a complete address and information on how they could obtain assistance completing the questionnaire. The first question on the questionnaire asked if the respondent had a usual residence. The follow-up question asked the respondent to provide the address where they lived most of the time on April 1, 2010. The questionnaire provided respondents the ability to identify if they were completing the questionnaire for everyone that lived at the address. The BC questionnaire provided respondents the opportunity to provide information for up to ten people at one address. The respondent could enter full demographic (name, relationship, sex, date of birth, age, Hispanic origin, and race) information for five people. If a person was completing the questionnaire for an address with more than five people, they could only enter the following demographic information for persons six through ten: sex, if the person was related to person one, age, and date of birth. The questionnaire collected information on the tenure of the address and a respondent telephone number. The questionnaire did not include coverage questions that are included on the MO/MB and enumerator forms.

2.3.4 Site Allocation

Headquarters (HQ) developed BC/QAC site estimates by region based on Census 2000 for budgeting and planning purposes. The LCOs used the number of sites allocated as guidelines for establishing BC/QAC sites, predominantly in hard to enumerate areas, identified based on Census 2000 results, partnership, and LCO staff local knowledge. LCO partnership staff utilized a planning database, a tract action plan and type of enumeration area (TEA) information to select sites. Site selection was based on the following criteria:

- Sites had to be in either a U/L or MO/MB area.

- Sites had to be located in one of the following Types of LCO areas:
    - Type A – Urban/Hard to Count
    - Type B – Urban/Metropolitan
    - Type C – Suburban/Rural (at a lower rate than Type A and B LCOs, because these were in solely U/L area)
    - Type E – Alaska (U/L and MO/MB portions)
    - Type F – Puerto Rico

- Most sites needed to be located in hard-to-enumerate (HTE) areas, identified based on Census 2000 results, partnership, and LCO staff local knowledge.

- Approximately five percent of QAC sites were allocated to U/L areas, based on a general rule of thumb.

- Other allocation considerations were at the discretion of the Regional Census Centers (RCC), for example: temporary or mobile sites, where a BC container was made available at a regional/community activity.

- Approximately 75 percent of sites were to be QAC sites and 25 percent were to be BC only sites.

Census Bureau staff used the Integrated Partnership Contact Database (IPCD) to capture the data on proposed, selected, and confirmed BC/QAC sites. For the LCOs, the Field Division (FLD) Quality Assurance Branch prepared a query in the IPCD of confirmed sites for each valid LCO. The LCO clerks downloaded this information onto the D-158A Master Assignment Listing, which served as the LCO's site list to hire BC/QAC staff and track BC/QAC activities.

2.3.5 Staffing Organization and Pay Rates

The Assistant Manager for Quality Assurance (AMQA) was responsible for managing the operation in the field. The AMQA's staff included an Office Operations Supervisor (OOS), clerks (used either as BC clerks or QAC representatives), and Field Operations Supervisor (FOS). The OOSs supervised BC clerks and certified BC clerks' time sheets. Similarly, the FOS supervised the QAC representatives and certified their time sheets. In the original plan, the BC/QAC staffing organization did not include FOSs, however, we added FOSs to the program to ensure there would be sufficient staff to manage the QAC sites. FOSs could also help in distributing and/or replenishing questionnaires.

The QAC Representatives were paid at the same scale as any other clerk. To adhere to the budget for the program, two QAC Representatives could work in a QAC for no more than 15 hours per site per week. Regions had the discretion on how to best use the budgeted hours; the rule was not to exceed the 15 hours allocated for each QAC site per week.

The Partnership Specialists, while not responsible for monitoring the day-to-day operation, were involved in ongoing publicity and maintaining relationships with community liaisons throughout the BC/QAC. The Partnership Specialists reported to Partnership Coordinators.

2.3.6 BC Activities

The OOS and BC clerks were trained on March 1, 2010. The FOS also attended BC training, in addition to performing a self-study, which involved reading the FOS manual and office manual for the BC/QAC.

BC training included instruction on the following duties:

- Assembling BC containers - In the LCOs, BC clerks assembled BC containers (i.e. boxes with dividers to hold BC questionnaires in the six languages) in preparation for delivery to BC/QAC sites.
- Delivering BC containers to sites - BC clerks made initial deliveries to BC/QAC sites to set up containers and questionnaires on March 19. FOS were also able to perform this task.
- Replenishing BC containers with questionnaires during site visits - BC clerks (and in some cases FOS) replenished forms as needed, usually on a weekly basis.
- Collecting D-399s (Record of Contact) from QAC representatives - BC clerks were responsible for collecting completed D-399s from QAC representatives, since QAC representatives did not physically report to the LCO.
- Collecting D-308s (Payroll forms) from QAC representatives as needed - this was generally the responsibility of the FOS. QAC representatives also had the ability to Fed Ex their payroll forms.
- Updating printed D-158 forms - BC clerks made updates to their tracking spreadsheets in order to track the delivery of questionnaires to sites and the removal of questionnaires from sites during close-out.

To facilitate work assignment to the BC clerks, the FLD Partnership and Data Services Program staff provided the LCOs with site location data pulled from the IPCD. This information was provided using the Master Assignment Listing D-158A (a Microsoft Excel spreadsheet). LCO staff used information from the D-158A to assign specific sites to the BC clerks.

LCO staff generated and printed a subset of the D-158A - the BC Clerk Site Assignment Listing D-158B - for each BC clerk. The D-158B included a list of the BC clerk's assigned sites and the necessary contact information for each of those sites. The BC clerk updated the D-158B with information on how many questionnaires were delivered to each site by language, and also how many questionnaires they picked up from the sites during close-out (i.e. the questionnaires that were not picked up by the public). A new D-158B was used for each site visit. BC clerks turned in the D-158Bs to office clerks, who used them to update the D-158A Master Assignment Listing.

The BC container was supplied with questionnaire packets in all six languages as well as dividers separating the languages. The telephone number of the LCO was written on the BC container in case the site ran out of questionnaires before a BC staff member was able to replenish the questionnaires, and a QAC representative or customer wanted to make contact with the LCO to obtain more. The BC questionnaire itself was part of an enveloped package with the following materials:

- Letter about the program
- BC questionnaire
- Pre-paid envelope to mail back the questionnaire

All staff that worked in the BC/QAC program completed D-308 payroll forms daily. These forms were keyed into the Decennial Applicant, Personnel and Payroll System (DAPPS) by office payroll staff.

2.3.7 QAC Activities

LCO staff trained the QAC Representatives from February 23, 2010 to February 25, 2010 in U/L areas and March 16, 2010 through March 18, 2010 in MO/MB areas. They learned the duties of QAC Representatives such as assisting the public on completing the questionnaire they received at their house, answering the public's questions, providing language assistance as necessary, providing a BC questionnaire when asked, and completing a D-399, Record of Contact, for every visit to the site.

At QAC sites, representatives recorded the number of questionnaires distributed in English, Spanish, Chinese, Korean, Vietnamese, and Russian, along with other information required for this assessment on the D-399, Record of Contact. LCO staff and QAC representatives were not allowed to accept completed BC questionnaires or Mailback questionnaires for security and privacy reasons. If a questionnaire was found at the site, not enclosed in an envelope, the staff member reported a Personally Identifiable Information (PII) security incident to the Decennial Computer Incident Response Team (CIRT). The QAC representative would secure the form and either return it to the LCO, or inform the LCO of the situation and give the form to the BC clerk or FOS when he/she visited the site. If a questionnaire was found in an envelope, the QAC representative placed it in a United States Postal Service (USPS) mailbox.

In addition to supplying respondents with BC questionnaires, QACs provided a place where individuals could obtain the assistance they needed to fill out their questionnaires. The QAC operation offered assistance to individuals who had questions about any census mailback questionnaire (with the exception of experimental questionnaires) or the BC questionnaire, required language assistance, or had general census questions. Up to two QAC representatives staffed the QAC during advertised hours of operation, totaling about 15 hours per week per site. QAC representatives had many resources available to them such as:

- A QAC Job Aid: The Job aid included an explanation of the QAC representatives' main duties.
- Frequently Asked Questions (FAQs): FAQs were available to QAC representatives to assist customers who had general census questions.
- A Questionnaire Reference Book (QRB): The QRB provided support for assisting customers in answering specific questions on the form. The QRB addressed each question on the questionnaire and provided guidance for how to answer the question.
- A Language Flashcard: To identify the language of the respondent these cards had phrases in each of the available languages. They were used to assist QAC staff in identifying the language spoken by the census respondents. A staff member held the card in front of the respondent and moved his or her finger from line to line on the card until the respondent indicated that the clerk was pointing to a line written in a language they could understand.
- LAGs: The LAGs were user-friendly visual aids that helped census respondents with language barriers understand and complete their English census questionnaire. They were available in 59 different foreign languages, in Braille, and in large-print English.

As a last resort, QAC representatives could also refer customers to the TQA center, where staff were available who spoke the six languages in which the BC questionnaires were available. In

their materials, QAC representatives were provided with handbills containing the TQA telephone number to distribute to customers if needed.

QAC representatives filled out a Form D-399, Record of Contact, for each individual they assisted and returned these forms to the LCO. Upon return to the LCO, these forms were entered into a Microsoft Excel spreadsheet.

QAC representatives completed D-308 payroll forms daily. FOSs or BC staff generally collected D-308s from QAC representatives when they visited the sites, or alternatively, QAC representatives were also able to send their D-308s to the LCO through FedEx. The forms were keyed into DAPPS by office payroll staff.

2.3.8 Data Capture

As mentioned in the beginning of Section 2, the BC/QAC operation did not have a predetermined universe. Respondents picked up questionnaires from the BC/QAC sites, completed them, and mailed the questionnaires through the USPS using pre-paid postage provided in the BC questionnaire packet. Additionally, the QACs provided customers with assistance in filling out their MO/MB and U/L questionnaires – which the respondents sent to the three Data Response Integration System (DRIS) data capture centers (DCCs) in the envelopes provided with the questionnaires. All BC questionnaire envelopes were addressed to the DCC located at Phoenix because only the Phoenix DCC was setup to process non-English questionnaires. However, after September 7 - the last day to be included in the 2010 Census - the DCCs redirected all questionnaires to the NPC at Jeffersonville, Indiana since the other two DCCs were closing. NPC was able to process BC questionnaire for evaluative purposes through September 30.

A keyer who was bilingual in the language of that form and English processed all non-English, non-Spanish questionnaires. For example, Russian questionnaires were seen and processed at Phoenix by someone who was bilingual in Russian and English, so that if responses were written in Russian, the English equivalent could be keyed.

BC questionnaires contained a unique processing ID which the print vendor had assigned to each blank questionnaire. When DRIS received BC questionnaires, if the processing ID (both the barcode and the eye-readable number) was mutilated, torn, missing, or unreadable, DRIS would transcribe the data onto a new BC questionnaire with a new processing ID. DRIS used the pre-printed processing IDs to uniquely identify the response data when sending the response data to HQ Processing (HQP). HQP sent this address information to Geography Division (GEO).

2.3.9 Non-ID Processing

Since all BC questionnaires had processing IDs and not Census IDs, the addresses were considered Non-ID cases. BC addresses were grouped into two categories for Non-ID processing: Type A cases and Type B cases. Type A cases originated from BC questionnaires where respondents stated that on April 1, 2010, they had a housing unit where they usually lived or stayed. Type B cases consisted of addresses from BC questionnaires where the respondent indicated that they did not have an address where they lived or stayed on April 1, 2010. The

GEO processing depended on the type of Non-ID case. For Type A Non-ID cases, GEO attempted to match/geocode addresses from BC questionnaires to the Master Address File/Topologically Integrated Geographic Encoding and Referencing database (MTdb) through automated and clerical procedures using the following steps:

1. Conduct automated header coding, which is a process by which a state and county code are assigned to an address. If the automated process was unable to find a state and county, the Type A case was sent to the clerical Non-ID processing staff in NPC for interactive clerical header coding, and potentially clerical matching and geocoding. However, if automated processing successfully assigned state and county codes, the Type A record could continue on to further automated processing.

2. If successfully assigned state and county codes during the automated header coding, GEO performed automated address matching on header-coded cases by comparing the Type A record's address to addresses in the MTdb already assigned to the same state and county.

3. If the Type A case did not match to a record in the MTdb, or matched to a record in the MTdb that did not have a block-level geocode, then GEO attempted to assign a block-level geocode to the case via an automated process.

4. If the case could not be matched or block-geocoded during automated processing, the case was sent to NPC for clerical processing. NPC clerks first attempted to interactively match the case to the MTdb.

5. If unable to match the record, a clerk made an attempt to clerically geocode the record.

6. If after both the automated and clerical Non-ID processes, a record did not match to the MTdb and could not be block-geocoded, then the record did not go through further processing.

If a Type A address matched to a group quarters, transitory location, or transitory unit, the Type A questionnaire was not counted in the final 2010 Census count. All other Type A cases that did not match a housing unit but obtained an automated or clerically acquired geocode continued to the Field Verification (FV) operation for followup, provided they met the original FV deadline of May 28, 2010. The FV operation was the field operation for the 2010 Census that served as the final check on the existence of specific addresses in specific census blocks to which they were assigned. One of the main objectives of the FV operation was to verify the existence of respondent-provided addresses absent from census address files, such as those addresses added from BC and the TQA operation.

In addition to the original FV workload, there was a supplemental FV workload with a deadline of August 4, 2010. Supplemental addresses were added to the FV workload for two main reasons: to keep the TQA lines open until the end of July and to include NRFU inputs that were processed after the original deadline. There were 200,699 BC addresses in the original FV workload compared to 2,010 BC addresses in the supplemental FV workload. If after both the

automated and clerical processes a record did not match to the MTdb and could not be geocoded, then the record did not go through further processing.

Type B BC cases underwent an automated matching process to header code the case. Header coding consisted of GEO assigning the case to a state and county. If the automated process was unable to find a state and county, the Type B case underwent clerical header coding. Once a Type B case was header-coded, the Type B case was included in an unduplication process. The data defined people from that Type B case were randomly assigned to a group quarters in that state and county if the persons on the Type B case were not identified as duplicated in a GQ. For more information on the results of processing of BC cases, see Section 5.1.7.

2.3.10 Recommendations from Census 2000 and How Census Addressed Them for the 2010 Census

- *There was a high number of sites classified as "Other". A review of write-in responses indicates that schools and municipal buildings were locations that were used frequently. Therefore, these should be added as separate categories.*

  For the 2010 Census, we kept track of more site categories including local governments and pre/K-12 schools in addition to other categories not recorded in Census 2000.

- *The evaluation planned to look at the BC questionnaires that were matched/geocoded either through the automated system or by clerical staff. These data were available but inconsistent with the data used for this report. We were unable to reconcile these differences; thus, we were unable to report the matched/geocoded cases by whether they were automated or clerically processed. Further analysis should be done to investigate the number of BC Forms matched/geocoded by the two different methods. If feasible, the automated matching should be done in real time. If a match is made to an ID in real time, then it could be excluded from Nonresponse Followup. The forms that go to clerical matching/geocoding would need a separate processing strategy. If this change is feasible and is made, it would make this operation a more effective mode of enumeration and would decrease the workload of Nonresponse Followup.*

  For the 2010 Census, we were able to distinguish between automated and clerical coding. There were separate codes for both processes in the Non-ID assessment file. Regarding the feasibility for real-time matching, as in Census 2000, the 2010 BC questionnaires were not able to be associated with an address in time for the removal of the address from the Nonresponse Followup universe.

- *When the Census Bureau was unable to match the respondent provided address to another address on the Decennial Master Address File, the BC Forms then went to Field Verification. Some of these cases were coded as a duplicate, in which case the data on the BC Questionnaire were removed from further processing. The BC Questionnaire data were not linked to the census ID return information. There were 33,808 (16.8 percent) BC Forms where this occurred. In the future FV should be designed to permit the enumerator to record the census ID of the BC Questionnaire duplicates. The data processing system should collect*

the information, so the BC Questionnaire data can be linked to the corresponding census ID. Making this change would improve the census address list.

For the 2010 Census, if a FV record that originated from BC was identified as a duplicate, the Master Address File (MAF) unit created during the BC operation remained in the MTdb but was "retired" (or linked) to the existing, surviving record of which the record was marked a duplicate. The address information obtained from BC was still maintained on the MTdb; however, it may not be considered the "preferred" address for the MAF unit. The "preferred" address of the surviving MAF unit is the address used for field operations. The FV listers were not instructed to record the census ID of the BC questionnaire duplicates on the listing pages. However, the line number of the address believed to be the duplicate on the FV listing pages was recorded and was listed as the surviving Master Address File Identification (MAFID) in the data capture results. This procedure was put in place to simplify the process and avoid transcription errors (i.e., recording a line number of "1" or "2" as opposed to a multi-character MAFID).

- *As part of the non-English mail questionnaire processing, the "Just-In-Case" box was used to track the language of the non-English questionnaire and whether translation or transcription was needed. This process was not done for the BC Forms, therefore no language data are available for those BC Forms included in the Census. In the future, a process should be implemented so the language of the BC Questionnaire is retained. This would aid planning this program in future censuses*

  There were eight different BC forms and each of the eight forms was associated with a language when data captured.

- *We should increase the number of languages in which we provide the BC Questionnaire. The BC Questionnaire was not available in Russian, Thai, Cambodian, Armenian, Creole, and Arabic. More than 1,000 respondents requested Language Assistance Guides in each of those languages. This suggests that there is likely to be sufficient demand for BC Forms in those languages in future censuses. Making BC Forms available in these languages may increase the response rate to the census.*

  The questionnaire was provided in Russian. See Section 2.3.2 for how language determination was made.

2.3.11 BC/QAC Automation

As described in Section 2.3, BC/QAC was a paper operation and utilized a manual process - involving spreadsheets and the IPCD - to track the flow of questionnaires, and the locations of sites. However, several automated systems played an integral or supporting role in the BC/QAC operation.

2.3.11.1 Decennial Applicant, Personnel and Payroll System (DAPPS)

DAPPS facilitated the processing of personnel and payroll information for BC/QAC. BC FOS and clerks, and QAC representatives submitted daily payroll information via the D-308 paper-

based questionnaire. LCO clerks keyed these payroll forms into DAPPS. DAPPS interfaced with the Decennial Management Division (DMD) Cost and Progress system to provide cost data - used for BC/QAC cost reports.

2.3.11.2 Decennial Response Integration System (DRIS)

DRIS captured paper questionnaires data and updated the universal response database schema with questionnaire response data, and passed this information to the Response Processing System (RPS). DRIS interfaced with DMD Cost and Progress to provide check in and data capture data - used for data capture reports.

2.3.11.3 Cost and Progress System (C&P)

The DMD Cost and Progress (C&P) system tracked the costs of the BC/QAC operation using data received from DAPPS. Tracking of the BC/QAC costs started with the training of the BC clerks and continued through the closeout of the operation.

Due to the nature of the operation, there was no defined case universe for BC/QAC and therefore we were unable to track progress as we do for other housing unit enumeration operations. Additionally, since the LCOs tracked the distribution and usage of forms manually, we were unable to use DMD C&P to report on questionnaire movement in the field. However, DMD C&P received data from DRIS to provide check in and data capture reports for the BC/QAC operation.

2.3.11.4 Response Processing System (RPS)

RPS received response data from DRIS and was the repository for all such data throughout the BC/QAC operation.

2.3.11.5 Census Evaluations and Experiments (CEE)

CEE was the interface that transferred data directly to Decennial Statistical Studies Division (DSSD). NPC transferred the D-399 data and GEO transferred the Geocoding Assessment files to DSSD through CEE.

2.3.11.6 National Processing Center - Automated Tracking and Control System (NPC-ATAC)

NPC-ATAC tracked receipt and processing of D-399s from the LCOs to NPC.

2.3.11.7 Visual Basic Key from Paper (VB KFP)

VB KFP was an NPC system that keyed data from the D-399s.

2.3.11.8 GEO Matching to the MTdb and Geocoding

GEO used software to perform automated matching of BC addresses to existing records in the MTdb. The details of the matching are in section 2.3.9. For addresses that did not match to the

MTdb or matched to a record that did not have a geocode, GEO used software to attempt to geocode the address. GEO used the following methods:

- 2010 Decennial Census Non-ID Automated Higher-Level ("Header") and Alternative Block-Level Geocoding
- 2010 Decennial Census Non-ID Type A and B Geocoding and MAF/TIGER Database Address Update
- 2010 Decennial Census Non-ID Post-Clerical Address Update

2.3.11.9 2010 Census Planning Database

The 2010 Census Planning Database contained data from Census 2000 and was used by the regions as a baseline for identifying Hard-to-Enumerate areas.

2.3.11.10 IPCD and D-158 Spreadsheet

Partnership Specialists used the IPCD to record and confirm partners who committed to donating space for both BC and QAC sites. Additionally, the IPCD directly gave site information to the QAC website, which advertised where BC/QAC sites were located. The D-158 was a tracking tool used in the LCO to track the distribution of questionnaires to sites and the number of questionnaires picked up from sites by BC clerks during closeout. BC clerks filled out a new D-158 for each visit to the site. The information from these spreadsheets was consolidated within each LCO.

3 METHODOLOGY

3.1 Research Questions

Table 1 outlines the BC/QAC questions and identifies where these questions are answered in the BC/QAC Assessment. The question outline mirrors the same format as in the Results Section 5 of this Assessment.

Table 1: BC/QAC Questions Mapped to BC/QAC Assessment Sections

Questions	Results
3.1.1 Workload and Outcomes	
1. What was the BC/Questionnaire Assistance Center (BC/QAC) workload?	5.1
a. What was the total number of BC questionnaires (English, Russian, Vietnamese, Spanish, Chinese, and Korean) printed by language?	5.1.3.1
b. How many BC questionnaires by language did clerks deliver to BC sites?	5.1.3.2
c. How many questionnaires were picked up by potential customers (i.e., removed from the sites) by region, language, and type of site (BC and QAC) where possible.	5.1.3.3 5.1.3.4
d. How many BC questionnaires by language were data captured?	5.1.3.5
2. What types of facilities were used for BC/QAC sites?	5.1.2
3. How successful was the BC/QAC website? Were there any major successes or problems with the website (e.g., what was the down time of the website and did users experience any difficulties with searching for QACs, what are the recommendations for improving the site)?	5.1.6
4. What was the demographic/characteristic distribution of respondents on BC questionnaires (household tenure, age, relationship to the householder, sex, race, and Hispanic origin for each person)?	5.1.7.4.2 5.1.7.4.3
5. What affect does the BC Program have in filling gaps in coverage?	5.1.7
a. How many addresses provided on the BC questionnaire were given a Master Address File Identification (MAFID) for both stateside and Puerto Rico?	5.1.7.2.3
b. Of the cases sent to FV, what were the outcomes associated with these cases for both stateside and Puerto Rico?	5.1.7.2.1

Questions	Results
c. What type of address information is present for the cases that did not receive a MAFID for both stateside and Puerto Rico?	5.1.7.2.4
d. How much address information was provided for the cases that marked the no usual residence check box for both stateside and Puerto Rico?	5.1.7.3
6. Were there adequate quantities of BC/QAC materials at BC and QACs?	*5.1.3- Uunable to fully answer these questions – See Limitations Section 4.*
a. Did some sites run out of BC questionnaires (D-10s)?	*5.1.3.2*
b. Did BC/QAC sites run out of forms in certain languages more than others?	*5.1.3.2*
c. Did some sites run out of QAC materials?	*5.1.5*
7. How many customers were assisted at QACs and how were they assisted?	5.1.4
a. How many customers were assisted at QACs nationally and by regional census centers?	5.1.4.1
b. Why did they visit the QAC?	5.1.4.2
c. How did customers hear about the QAC?	5.1.4.5
d. Where did the QAC clerk refer customers to if they were unable to help them at the QAC?	5.1.4.6
3.1.2 Cost and Staffing	
8. Was the BC/QAC operation completed within budget?	5.2
a. What were the actual training costs of BC clerks and QAC representatives compared to the training budget?	5.2.3.1
b. What were the actual field costs of BC and QAC compared to the budgeted levels?	5.2.3.1
9. What were the results of BC/QAC Staffing Activities?	5.2.4
a. How many BC clerks and QAC representatives worked on BC/QAC? How did actual staff levels compare to cost model estimates?	5.2.4
b. Were clerks able to manage the number of BC sites? Were BC clerks able to visit each site the necessary number of times? Note: Each BC clerk has approximately 33 sites to manage.	*5.2.4- Unable to fully answer this question – See Limitation Section 4*

Questions	Results
c. Were the total number of hours and miles budgeted for BC Clerks and QAC representatives realistic for completing their daily tasks?	5.2.3.1
3.1.3 Training and Materials	
10. What were the results of BC/QAC Training?	5.3
a. How many BC clerks and QAC representatives were trained for BC/QAC? How did actual training staff levels compare to cost model estimates?	*In this assessment, we compare how many staff worked production hours with how many staff were budgeted to work production. If staff worked production hours then we assume they were trained.*
b. What were the deficiencies of BC and QAC Representative Training?	5.3
11. Where were QACs located and did QAC representatives have everything they needed to complete their job?	5.1.5
a. How many QAC sites were in Update/Leave areas?	5.1.4.7
b. Did the QAC sites have adequate space to complete daily operations?	5.1.5
c. Were there adequate resources and materials at the QAC to perform the job of QAC representative?	5.1.5.1
d. How important was the Questionnaire Reference Book and other QAC materials to performing the job of a QAC Representative?	5.1.5.1
3.1.4 Schedule	
12. Was the BC/QAC operation conducted on time according to the baseline schedule?	5.4
3.1.5 Change Control	
13. Were change requests needed for the 2010 BC/QAC Operation?	5.5
a. What were the primary reasons for implementing schedule changes?	5.5.1
b. What were the primary reasons for implementing requirement changes?	5.5.2

Questions	Results
c. What issues were encountered when implementing the Change Request process?	5.5
3.1.6 Automation	
14. What types of automation problems did we experience? What was the frequency of the problems and how were they resolved?	5.7

3.2 Methods

This section describes the key data sources used to address the assessment questions. Table 2 cross-references these data sources to assessment topic areas.

3.2.1 Integrated Partnership Contact Database

Using data from the Integrated Partnership Contact Database, FLD Partnerships provided DMD with a consolidated spreadsheet containing a record for all BC/QAC sites and a partner-type category for each listed site (e.g., Business or Corporation, Health Care Industry, Neighborhood Association). DMD summarized these data into counts by facility type using spreadsheets.

3.2.2 Print Estimates/Contract

DMD developed print estimates for each of the 2010 Census forms. These estimates were vetted through stakeholders and provided to the print contractor. Data for this assessment regarding the volume of forms printed by language reflect the number of forms in the final print contract.

3.2.3 D-158F

The FLD Quality Assurance Branch used the D-158F spreadsheet to track the number of questionnaires picked up by language and consolidated this information by region. Note: The assessment cannot distinguish between questionnaires that were picked up from BC sites compared with QACs due to limitations in data sources.

3.2.4 DMD Cost and Progress (Data Capture Reports)

Managers and team members used the DMD C&P system to monitor how many BC forms were checked-in and data captured. DMD C&P also provided operational cost reports for BC/QAC with data received from DAPPS. See Section 3.2.14 for more information on cost methodology.

3.2.5 Field and Office Staff Debriefings

At the completion of BC/QAC, FLD conducted debriefings with some BC clerks and QAC representatives in select areas. The Census HQ FLD documented these findings.

3.2.6 D-399

For every person who visited a QAC, a D-399 form was completed to document the reason for that person's visit. These D-399s were data captured at NPC and provided to DSSD for analysis. DSSD used these data to determine how many people were assisted at QACs and for what reasons.

3.2.7 Data from Communications Area

We used qualitative data from the Communications Directorate to assess the website, including lessons learned, general information (including email correspondence) about how the website was implemented, and issues that occurred. We also used information from the BC/QAC operational lessons learned. Note: As known prior to the start of the operation, metrics on the use of the QAC web site specifically were not available because the QAC component was integrated with the Take 10 Website and there was no way to determine users that were specific to QAC.

3.2.8 FV Assessment Keying File

The 2010 Field Verification Keying File identified the final field outcomes of BC addresses that were in the Field Verification universe. The Technologies and Management Office compiled the data.

3.2.9 Non-ID Assessment File

GEO created the Non-ID Assessment File. This file included information on the geocoding and MAFID linking performed on all BC questionnaires. If a BC questionnaire was linked to a Housing Unit or Group Quarters, the information was recorded on the Non-ID Assessment File.

3.2.10 Geocoding Assessment File

The Geocoding Assessment File included the results of additional automated address matching done by GEO for BC questionnaires that indicated that the respondent did not have a place where they usually lived or stayed. These BC questionnaires did not undergo this type of automated address matching during 2010 Census production. This additional processing was done to evaluate how effectively the BC questionnaire correctly identified people that did not have an address where they usually live.

3.2.11 2010 Census Unedited File (CUF)

The CUF includes the core response data for only the data captured questionnaires that were included in the final 2010 Census counts. The CUF has one record for each address in the 2010 Census. Only the people counted in the 2010 Census are included in the CUF.

3.2.12 2010 Decennial Response Files (DRF)

The DRF includes the core response data that made up the Universal Response Database from all questionnaires that were data captured. Decennial Systems Processing Office created the DRF.

3.2.13 Final Tabulation Master Address File Extract (MAFX)

GEO created the Final Tabulation MAFX and it contains information for each address in the 2010 Census.

3.2.14 FLD Cost and Staffing Spreadsheets

FLD created spreadsheets based on DMD Budget Formulation and DAPPS data to show staffing, budget, and actual cost data. We used these data to address the Cost and Staffing portion of this assessment.

3.2.15 Master Activities Schedule (MAS)

The MAS documented the baseline and actual start and finish dates for all scheduled activities. Following the completion of the 2010 Census, the DMD Management Information Systems (MIS) staff provided a spreadsheet of baseline and actual dates, related operations and other information for each activity line. Using sort and filter functionality in Microsoft Excel, we were able to determine how many BC/QAC lines were on schedule or late.

3.2.16 DMD Change Control Forms

A Change Control form documented all changes to the BC/QAC baseline schedule. For a Change Control form to be implemented, it needed approval from the Housing Unit Enumeration-Operation Integration Team (HUE-OIT) and the Census Integration Group (CIG).

3.2.17 Risk Register

The HUE-OIT documented risks associated with completing the BC/QAC operation. The risks were assigned a probability and impact rating. DMD documented and maintained the risks in the Risk Register.

3.2.18 Lessons Learned

After the BC/QAC field operations were completed, DMD conducted several Lessons Learned sessions with Census HQ and NPC staff involved in the design and monitoring of BC/QAC. Census HQ and NPC staff documented successes, problems, and recommendations for BC/QAC.

Table 2: BC/QAC Assessment Topics and Sources

BC/QAC Assessment Topic	Integrated Partnership Contact Database	Print Estimates/Contract	D158-P via the IPCD	DMD Cost and Progress Data Capture Reports	PLD Debriefings	D-399	Emails and Lessons Learned from Communications area	PV Assessment Output File	Geocoding Assessment File	Non-ID Assessment File	2010 Census Unedited File	2010 Decennial Response Files	PLD Cost and Staffing Spreadsheets	Master Activities Schedule (MAS)	DMD Change Control Forms	Risk Register	Lessons Learned
Sites by Region	X																
Site by Facility Type	X																
Form Printing		X															
Form Distribution and Pick up to/from BC/QAC Sites			X														
Form Data Capture				X													
Material Quantities					X												
QAC Assistance						X											
Website							X										
Effects on Coverage Caps								X	X	X	X	X					
Demographics											X						
Cost and Staffing					X								X				
Training					X									X			
Schedule														X			
Change Control															X		X
Risk Management																X	
Automation																	X

4 LIMITATIONS

4.1 No information was collected on activities or suitability of the QAC Sites (Question 6)

A limitation for this report concerns the lack of accurate qualitative or quantitative information about the types of QAC sites and their usefulness to the public. Data are not available on what type of materials were used, how often the materials were used at the sites, and if the site locations and facility types used fit the needs of the operation and customers. The Field debriefing results did not provide information on those issues. The information we have on the QAC sites is from the D-399, Record of Contact form and anecdotal information from the RCCs given to HQ during the weekly teleconferences with the regions during the operation. However, this anecdotal information does not provide data on the characteristics, location and logistics of the sites.

4.2 BC/QAC Website Traffic (Question 3)

The website that the Census Bureau designed for the public to locate BC and QAC sites was bundled with the Take 10 participation rate website. Therefore, we are unable to analyze traffic for the BC/QAC website separately from the Take 10 website. The Take 10 participation rate website had a much higher public profile and was likely visited more often than the BC/QAC map. We can assume that the number of visits was much lower than the number reported due to the Take 10's public profile.

4.3 Accuracy of the information provided in the D-158 Excel spreadsheets (Question 9)

As mentioned earlier, the use of the D-158 series of Excel spreadsheets for monitoring questionnaire usage was confusing and relied heavily on manual inputs to the system to keep them updated. Although every effort was made to keep the information on staffing, sites and questionnaires distributions as accurate as possible, there is the possibility of errors in keying this information in the spreadsheets.

4.4 Site visits (Question 7)

The number of site visits to a QAC is derived by the number of D-399s collected in the field and captured at NPC. This number might not be an accurate measurement of the site visits because there is the possibility that people could visit the QAC and no form was completed for that visit.

5 RESULTS

5.1 Workloads and Outcomes

5.1.1 Sites by Region

Nationally, the RCCs established 38,827 BC/QAC sites at the peak of the operation. Of these, 9,670 were BC sites only, and 29,157 served as QACs. During the planning of the BC/QAC, HQ set allocations for how many sites each region could establish based on Census 2000 information. At the aggregate level, the regions established 299 fewer BC sites than allocated. Regarding QACs, the regions established 809 fewer sites than allocated. Table 3 depicts regional site allocation compared to the actual number of sites.

Table 3: Planned and Actual BC/QAC Sites

Region	BC Sites (No QAC Representative)			QAC (QAC Representative)		
	BC Sites Allocated	BC Actual Sites	Over/Under BC Allocation	QAC Sites Allocated	QAC Actual Sites	Over/Under QAC Allocation
Atlanta	1,244	1,318	74	3,735	3,915	180
Boston	871	647	(224)	2,618	1,825	(793)
Charlotte	969	1,135	166	2,910	3,134	224
Chicago	836	1,175	339	2,513	2,535	22
Dallas	929	405	(524)	2,790	2,335	(455)
Denver	591	580	(11)	1,778	2,004	226
Detroit	766	809	43	2,303	2,302	(1)
Kansas City	664	577	(87)	1,995	1,907	(88)
Los Angeles	929	670	(259)	2,790	2,535	(255)
New York	791	952	161	2,378	2,271	(107)
Philadelphia	798	779	(19)	2,408	2,586	178
Seattle	581	623	42	1,748	1,808	60
Total	**9,969**	**9,670**	**(299)**	29,966	29,157	**(809)**

Source: IPCD

Although fewer sites were opened than the number allocated to be opened, we have no information on the positive or negative impact of not opening those sites. The regions mentioned in the weekly teleconferences that HQ had probably allocated more sites than needed for the operation. The site selection was a challenge, especially the QAC sites, because this required getting approval from the site manager to use that site before staffing it.

The numbers in the table above changed daily. The LCOs opened additional sites as needed and closed sites that had little or no foot traffic. Also, these numbers may contain sites that were available for special activities. For example, Partnership Specialists took BC boxes and

questionnaires to activities they were conducting. HQ instructed the regions to add those sites to the D-158 to be able to track the questionnaire distribution.

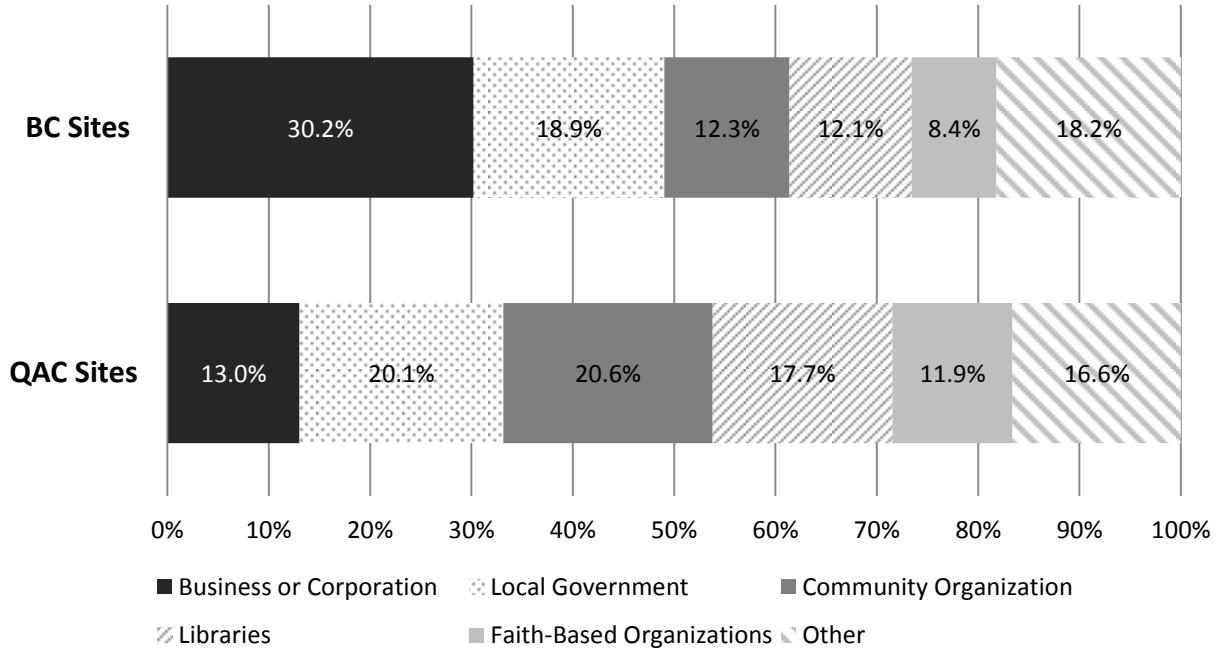
5.1.2 Sites by Facility Type

The BC/QAC program was a shared responsibility of partnership and operations staffs. Partnership staff created a list of potential BC/QAC sites from suggestions from Complete Count Committees and by asking partners to host sites. Operations staff subsequently determined actual locations for BC/QAC sites using Tract Action Plans.

BC/QAC sites were established at a variety of facilities including libraries, businesses, schools, community organizations, faith-based organizations, and other location types. FLD kept track of the number of sites and types of facilities used through the IPCD, and consolidated the types of facilities used into 35 categories. Over 80 percent of the BC/QAC sites were located in five of the 35 types of facilities.

Figure 1 depicts the top six categories of facility type for BC sites and QAC sites. The top five facility type categories were the same for BC and QAC. However, the percentage distribution of the categories is different. The business or corporation category includes organizations that Partnership specialists identified as a business, corporation, or business organization.

Figure 1: Facility Types Used for BC and QAC



Source: IPCD

Businesses and corporations made up 30.2 percent of BC sites. Local governments comprised the second largest category at 18.9 percent. Also important were community-based organizations and libraries, reflecting 12.3 percent and 12.1 percent of all BC sites each.

Community-based organizations (20.6 percent) and local governments (20.1 percent) made up the largest categories of facility types for QAC sites. Libraries were a close third at 17.7 percent, while businesses and corporations made up 13.0 percent of the QAC sites. Table 4 shows the number and percent of BC/QAC sites by facility type.

Table 4: Top Fifteen Facility Types Used for BC and QAC[3]

Facility Type	Number BC Sites	Percent BC Sites	Number QAC Sites	Percent QAC Sites
Business or Corporation	3,505	30.2%	3,386	13.0%
Local Government	2,188	18.9%	5,218	20.1%
Community Organization	1,432	12.3%	5,357	20.6%
Libraries	1,400	12.1%	4,607	17.7%
Faith-Based Organization	971	8.4%	3,079	11.9%
State Government	502	4.3%	327	1.3%
Pre/K-12 School	335	2.9%	895	3.4%
Health Care Industry	244	2.1%	536	2.1%
Service Based Organization	243	2.1%	710	2.7%
College/University and Trade School	162	1.4%	599	2.3%
Education Organizations (Non Census in Schools)	133	1.1%	314	1.2%
Non-U.S. Government	119	1.0%	118	0.5%
Federal Government	90	0.8%	122	0.5%
Neighborhood Association	76	0.7%	306	1.2%
Tribal Government or Organization	65	0.6%	211	0.8%
Other	138	1.2%	183	0.7%
Total	**11,603**	**100%**	**25,968**	**100%**

Source: IPCD

5.1.3 Form Printing, Distribution, and Usage

The Census Bureau utilized a print vendor to produce close to 14 million total BC questionnaires. At NPC, these questionnaires were packaged and shipped to the LCOs for distribution to BC/QAC sites. The following sections discuss the printing, distribution and usage of BC questionnaires, by language and/or region as appropriate.

5.1.3.1 Questionnaire Printing and Distribution to LCOs

BC questionnaire print estimates were developed based on the number of BC/QAC sites, expected questionnaire usage (based on Census 2000), and the consideration that we should

[3] The total number of BC/QAC sites in this table does not match the total in Table 3: Planned and Actual BC/QAC Sites. Though the IPCD was used as a source for both tables, since the IPCD was updated with spreadsheets that were filled out and keyed manually, there are inconsistencies in the data. Generally, we refer to the data in Table 3 when discussing the total number of sites.

include contingencies for the number of questionnaires printed (especially for the in-language questionnaires) to avoid the cumbersome procedure of reprinting or reallocating questionnaires. In January of 2009, we revised and finalized the BC questionnaire print estimates to ensure sufficient quantities in all languages. The revised print estimates were not based on an expected increase in usage, but were intended to provide each LCO with sufficient in-language questionnaires to reduce the need for the regions to have to reallocate questionnaires based on demand. Table 5 reflects the final print estimates that we provided the print vendor.

Table 5: BC/QAC Printing

BC Questionnaire Type	Print Universe	Oversupply Rate	Print Universe with Oversupply	Print Contract
BC English (Stateside)	4,446,000	30%	5,779,800	5,813,000
BC Spanish (Stateside)	3,458,000	30%	4,495,400	4,507,000
Simplified Chinese	494,000	30%	642,200	820,000
Vietnamese	494,000	30%	642,200	820,000
Korean	494,000	30%	642,200	820,000
Russian	494,000	30%	642,200	820,000
BC English (PR)	180,000	30%	234,000	239,000
BC Spanish (PR)	45,000	30%	58,500	62,000
Total	**10,105,000**		**13,136,500**	**13,901,000**

Source: Printing and Data Capture Estimates for Data Collection Operations Worksheet

In Table 5, we included a 30 percent oversupply rate for all BC questionnaires. To achieve a target print universe of 10,105,000, we estimated that we would print 13,136,500 BC questionnaires. However, the print contract called for slightly more questionnaires, 13,901,000. Of these, 5,813,000 were English and 4,507,000 were Spanish (not including Puerto Rico). Combined, we printed 3,280,000 in-language questionnaires - equally divided among the four languages (820,000 in each language). Puerto Rico questionnaires were different from stateside questionnaires; in particular, the PR address fields were unique. For Puerto Rico, we printed 239,000 English questionnaires, and 62,000 in Spanish[4].

The questionnaires were distributed to the LCOs based on the language needs of each LCO. FLD developed a model using the partnership database to determine the number of households that spoke one of the BC determined languages other than English in the LCOs boundaries. For example, if a certain LCO had more Spanish speaking households than Chinese speaking households, then that LCO got more Spanish questionnaires than Chinese questionnaires. Some LCOs still experienced shortages in some of the BC language questionnaires. See Section 5.1.3.3 for more information.

In addition to BC questionnaires, we produced about 60,000 BC boxes to house the questionnaires at the BC/QAC sites.

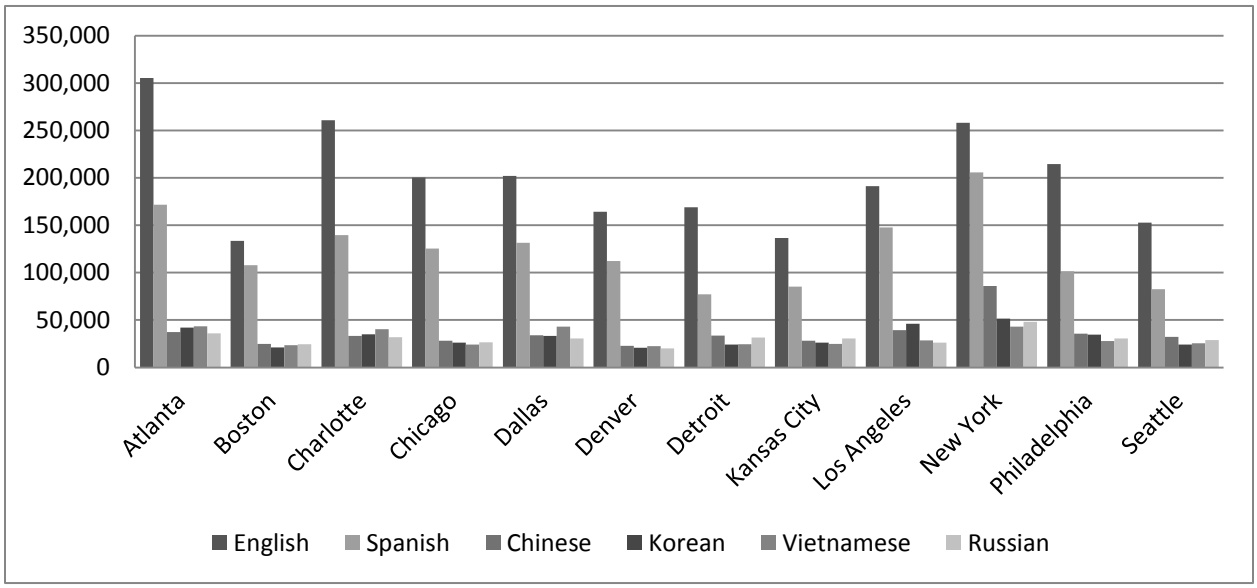
[4] In-language forms were not offered in Puerto Rico. Only English and Spanish were available.

5.1.3.2 Distribution to Sites

BC clerks distributed boxes and questionnaires to the BC/QAC sites in their assignment areas. They visited the sites about once a week and replenished forms as needed.

Figure 2 and Table 6 show the cumulative number of questionnaires that BC clerks distributed to sites, by language and by region. Nationally, BC clerks delivered 5,431,723 questionnaires. Of these, 2,387,909 (44 percent) were in English. Spanish questionnaires accounted for 1,487,233 (27 percent) of the questionnaires delivered.

Figure 2: Cumulative Questionnaires Distributed to BC/QAC Sites by Region and Language



Source: D-158F[5]

[5] The numbers and percentages in this table reflect forms delivered as of April 14, 2010. This is the last time forms would have been delivered to BC/QAC sites prior to site close-out on April 19, 2010.

Table 6: Cumulative Questionnaires Distributed to BC/QAC Sites by Region and Language

RCC	English	Spanish	Chinese	Korean	Vietnamese	Russian	Total
Atlanta	305,174	171,495	37,144	41,963	43,323	35,987	635,086
Boston[6]	133,362	107,851	24,744	21,223	23,604	24,344	335,128
Charlotte	260,862	139,547	33,300	34,806	40,477	31,735	540,727
Chicago	200,178	125,392	28,231	26,175	24,200	26,626	430,802
Dallas	202,144	131,303	33,819	33,121	42,881	30,539	473,807
Denver	164,354	112,222	22,932	20,928	22,600	20,247	363,283
Detroit	168,885	77,153	33,658	24,022	24,477	31,680	359,875
Kansas City	136,402	85,212	28,176	26,113	24,757	30,674	331,334
Los Angeles	191,146	147,773	39,289	46,027	28,672	26,263	479,170
New York	258,200	205,634	85,801	51,491	43,027	48,241	692,394
Philadelphia	214,439	101,274	35,758	34,511	27,736	30,610	444,328
Seattle	152,763	82,377	32,140	24,209	25,560	28,740	345,789
Total	**2,387,909**	**1,487,233**	**434,992**	**384,589**	**371,314**	**365,686**	**5,431,723**

Source: D-158F

The New York and Atlanta regions distributed the largest number of BC questionnaires, distributing 692,394 and 635,086 BC questionnaires respectively.

New York distributed the largest number of Spanish questionnaires; however, Boston distributed the largest percent of Spanish forms relative to the total questionnaires they distributed. Boston distributed 107,851 Spanish questionnaires (32 percent of the total forms they distributed). The Boston RCC managed the Puerto Rico operation, which may account for the large number of Spanish forms that were distributed in the Boston region. However, due to limitations in the data, we were unable to distinguish how many were distributed in Puerto Rico. Denver and Los Angeles also distributed a large percentage of Spanish questionnaires (31 percent each).

New York distributed the largest number of combined in-language questionnaires (228,560). Of the total questionnaires distributed in New York, 33.0 percent were in-language. Other regions that distributed a relatively large percentage of in-language questionnaires were Kansas City (33 percent), Seattle (32 percent), and Detroit (32 percent).

While the print quantities were too high, the printed quantity covered for shortages in most instances and avoided re-printing costs. The LCOs did not distribute 8,469,277 questionnaires. Of these, 3,664,091 were in English and 3,081,767 were in Spanish.

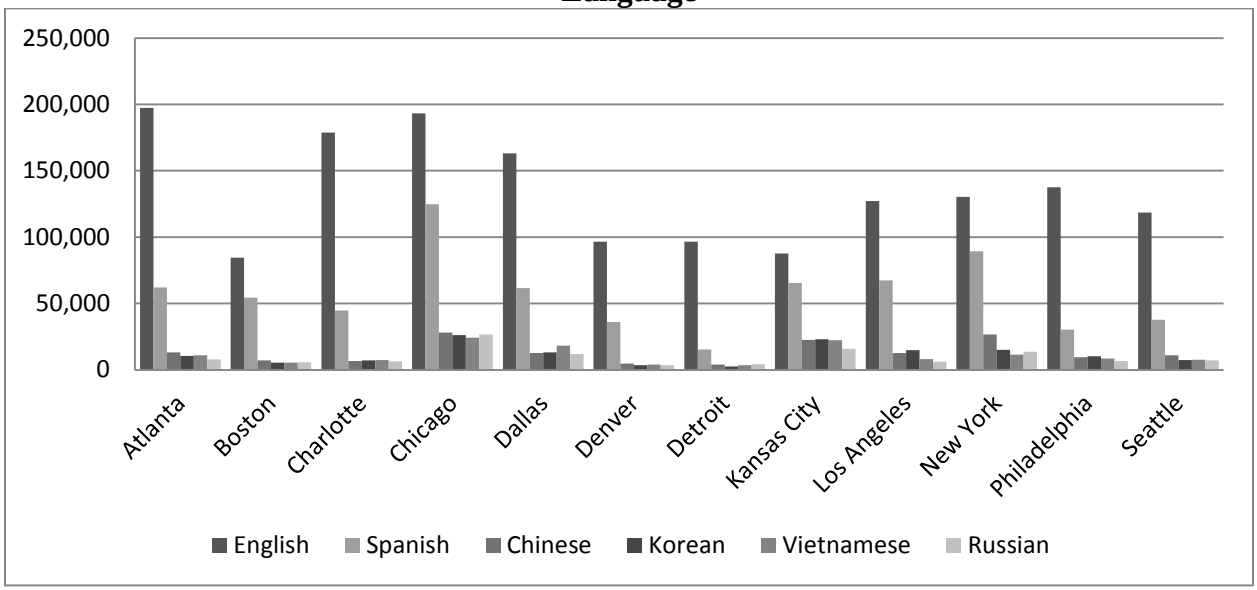
[6] Data for Puerto Rico are included with the Boston RCC.

5.1.3.3 Pickup from Sites

This section discusses how many questionnaires the public picked up from BC/QAC sites. However, it is important to note that not all picked up forms were used by respondents. We address the large discrepancy between the number of forms picked up and number data captured later in Section 5.1.3.5.

Figure 3 and Table 7 show the number of questionnaires picked up from sites by language and by region. Nationally, 2,844,827 questionnaires were picked up (20.5 percent of the printed forms). Of these, 1,611,163 (57 percent) were English questionnaires. Spanish questionnaires accounted for 689,607 (24 percent) of picked up questionnaires. Nineteen percent of the BC questionnaires picked up were in-language questionnaires.

Figure 3: Cumulative Questionnaires Picked up from BC/QAC Sites by Region and Language



Source: Total Cumulative Questionnaire Report

Table 7: Cumulative Questionnaires Picked up from BC/QAC Sites by Region and Language

RCC	English	Spanish	Chinese	Korean	Vietnamese	Russian	Total
Atlanta	197,262	62,199	13,207	10,428	10,901	7,832	301,829
Boston	84,557	54,481	7,031	5,430	5,473	5,759	162,731
Charlotte	178,834	44,670	6,637	7,136	7,240	6,281	250,798
Chicago	193,146	124,852	28,140	26,080	24,146	26,568	422,932
Dallas	163,181	61,620	12,615	13,091	18,174	11,948	280,629
Denver	96,519	36,076	4,669	3,512	3,892	3,498	148,166
Detroit	96,674	15,370	3,998	2,550	3,418	4,334	126,344
Kansas City	87,680	65,536	22,593	22,991	22,316	15,873	236,989
Los Angeles	127,079	67,294	12,770	14,933	8,122	6,127	236,325
New York	130,237	89,417	26,522	15,051	11,488	13,676	286,391
Philadelphia	137,448	30,252	9,459	10,187	8,541	6,615	202,502
Seattle	118,546	37,840	11,031	7,246	7,519	7,009	189,191
Total	**1,611,163**	**689,607**	**158,672**	**138,635**	**131,230**	**115,520**	**2,844,827**

Source: D-158F

The largest numbers of questionnaires were picked up in the Chicago and Atlanta regions, where 422,932 and 301,829 questionnaires were picked up, respectively.

Just as the Boston region distributed the largest percent of Spanish questionnaires, the largest percentage of Spanish questionnaires picked up (out of the total picked up for that region) was in the Boston region (which included Puerto Rico). In the Boston region, 54,481 Spanish questionnaires were picked up – 34 percent of the total questionnaires picked up in that region. A large number of Spanish questionnaires, relative to the total questionnaires picked up in that region, were also picked up in the New York (89,417 Spanish questionnaires), Chicago (124,852 Spanish questionnaires), and Los Angeles (67,294 Spanish questionnaires) regions.

The most in-language questionnaires were picked up in the Chicago, Kansas City, and New York regions both in terms of number and percent of total questionnaires picked up for those regions. In the Chicago region, 104,934 in-language questionnaires were picked up (25 percent of all questionnaires in the Chicago region). In the Kansas City region, 83,773 in-language questionnaires were picked up (35 percent of all questionnaires in that region), and finally in the New York region, 66,737 in-language were picked up (23 percent of all questionnaires in the New York region).

Based on anecdotal information it seems that people picking up an in-language Be Counted questionnaire were using it as a replacement of the questionnaire received at their home or perhaps as a language aid to complete their own questionnaire. Several conversations we had with the regions suggested that people would have liked to receive a questionnaire in their own language. Some regions added that it seemed that people picking up these language questionnaires were not aware that a replacement questionnaire could be sent to their house in one of the five non-English languages. They mentioned that the telephone assistance number was

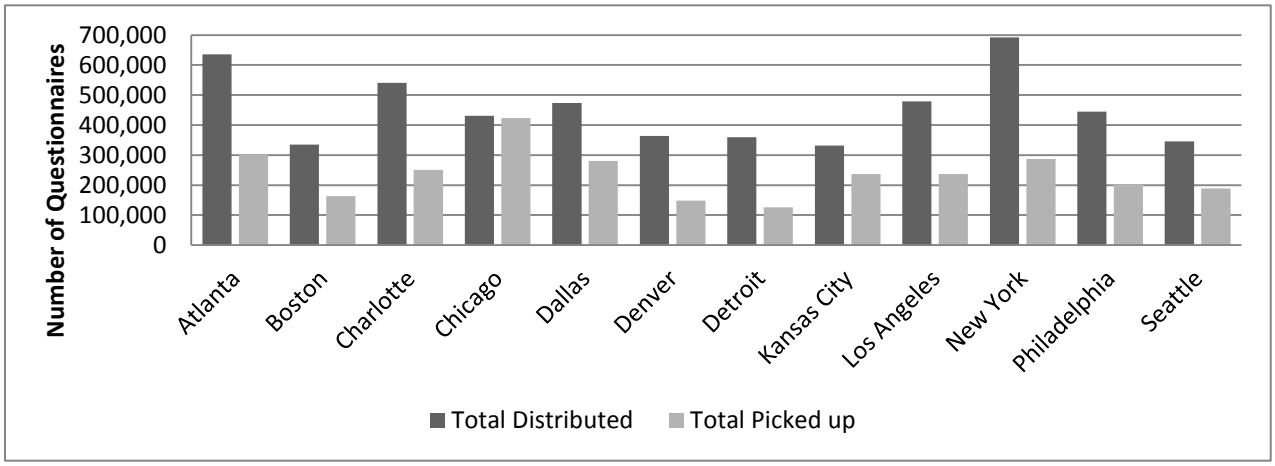
in English and Spanish and it was not intuitive that assistance might be available for the other languages.

Even though there were sufficient forms printed, some LCOs in certain regions experienced shortages in BC questionnaires in languages other than English. The regions had to shuffle questionnaires from LCOs within their region to cover for those shortages. In addition the Field Division also facilitated the transfer of questionnaire surpluses from one region to another. The New York region experienced high shortages in the Chinese questionnaire. Based on anecdotal information, some organizations that served the Chinese population in the New York region were picking up these questionnaires from the boxes to distribute to their groups and leaving the boxes empty for this type of questionnaire.

5.1.3.4 Distributed and Picked Up Comparison

Of the 5,431,723 questionnaires that BC staff distributed to the sites, only 2,844,827 (52 percent) were picked up by the public. Figure 4 compares the number of questionnaires distributed to BC/QAC sites to the number of questionnaires picked up by region. From left to right the regions are listed in order of the highest percentage picked up to the lowest.

Figure 4: Questionnaires Delivered to Sites and Picked up from Sites by Region (includes all Languages)



Source: BC/QAC Distribution and Picked up Chart

In all but one region, at least 52 percent of distributed questionnaires were picked up. However, the percent of forms picked up varied greatly by region. In the Chicago region, for example, 98 percent of distributed forms were picked up, while in the Detroit region only 35 percent were picked up. Based on anecdotal information, we believe that in several locations there may have been some organized community efforts to pick up and make available the BC questionnaires to people in the area. This may explain why some areas show a high rate of picked up questionnaires.

Only a subset of the questionnaires picked up from BC/QAC sites were actually filled out by respondents and mailed back for data capture. Section 5.1.3.5 (below) discusses how many BC

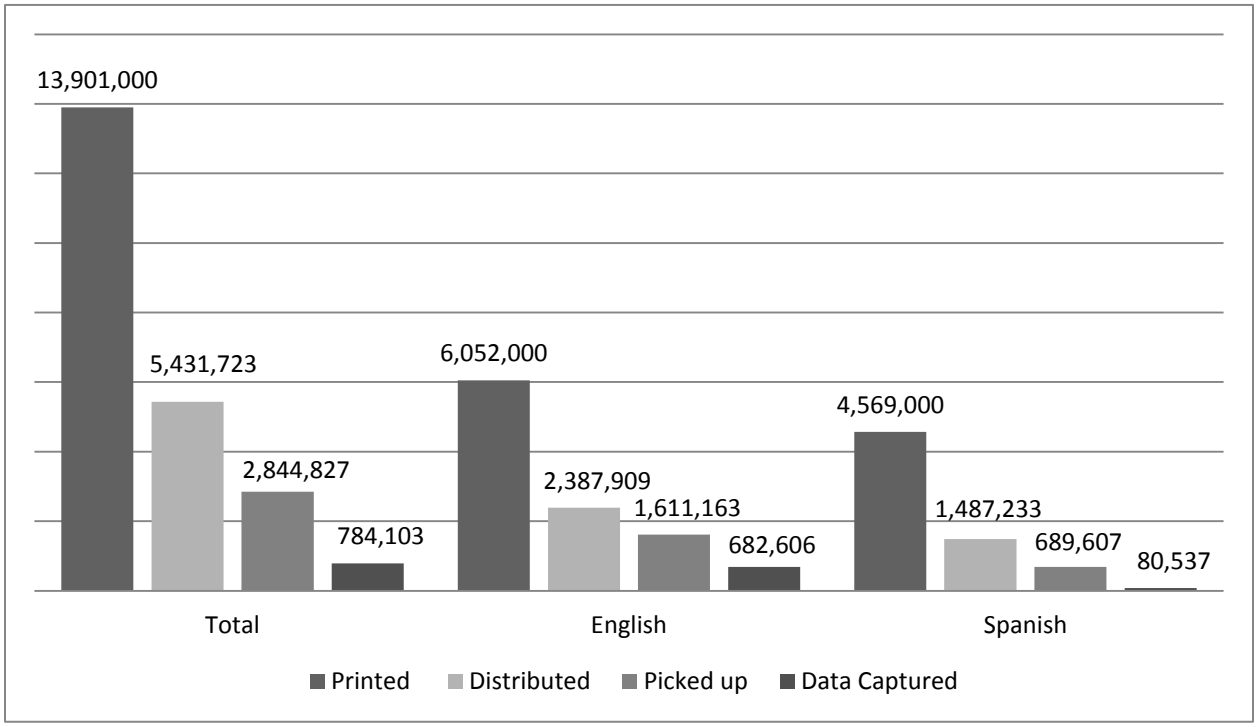
questionnaires were mailed in by respondents and were received at data capture centers. The data in this section are from the DMD Data Capture Cost and Progress Reports and do not reflect any post processing. Therefore, the numbers in Section 5.1.3.5 differ slightly from the number of questionnaires discussed in section 5.1.7: BC Processing Results and Effects on Coverage.

5.1.3.5 Questionnaire Check in and Usage Comparisons

There were 784,103 BC questionnaires checked into data capture. Of these, 682,606 (87.1 percent) were in English and 80,537 (10.3 percent) were in Spanish. Of the Spanish forms, 9,285 (11.5 percent) were from Puerto Rico. The third largest language group was Chinese at 1.4 percent of the total BC questionnaires received. After Chinese, the remaining three languages were each less than one percent of the total BC questionnaires.

Figure 5 and Figure 6 depict the volume of questionnaires printed compared to how many were distributed to sites, picked up by the public, and received by data capture. In-language questionnaires are shown separately because the volume is so much smaller in magnitude.

Figure 5: BC Questionnaire Printing, Distribution, and Usage



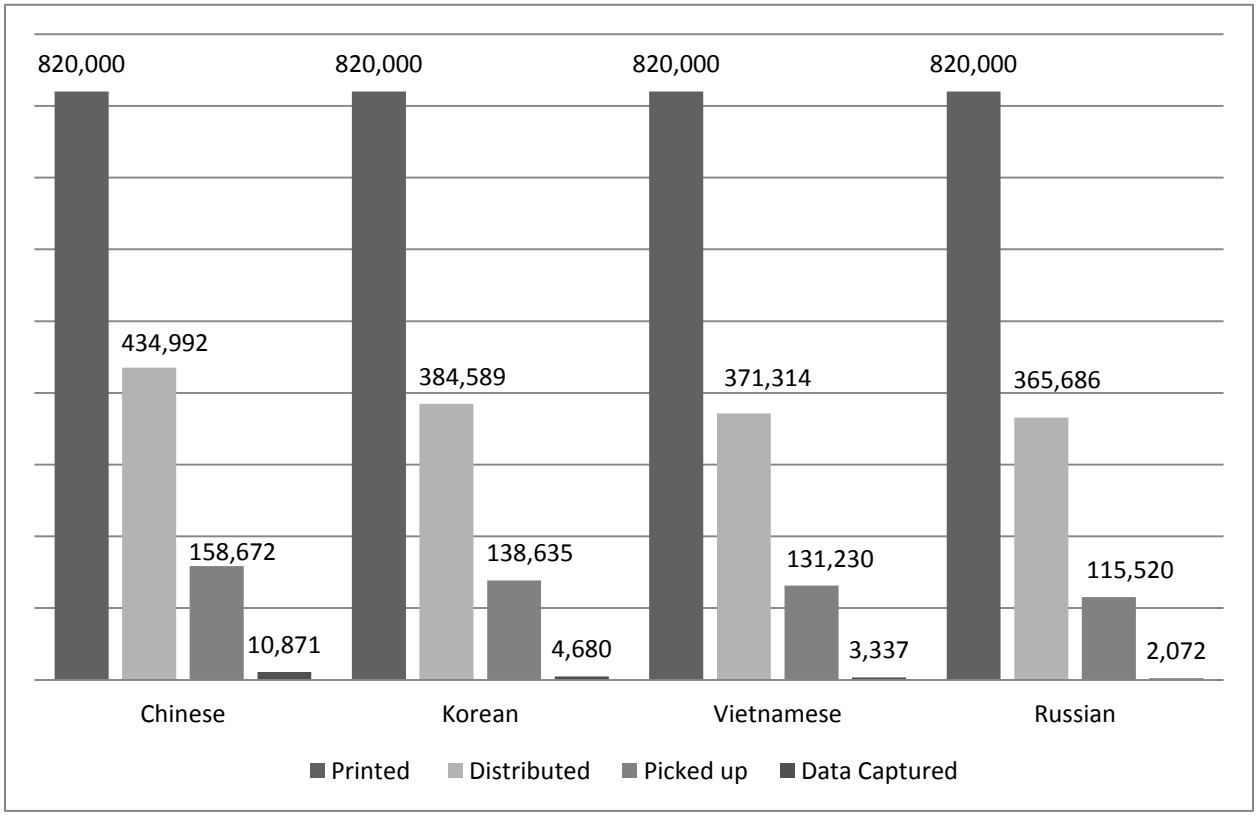
Source: Printing and Usage Charts by Language

We printed 13,901,000 BC questionnaires in six different languages. Of these, BC staff distributed 5,431,723 to BC/QAC sites, and 2,844,827 were picked up by the public. However, only 784,103 (5.6 percent of the total printed questionnaires) were mailed in by respondents for data capture. Of the 6,052,000 printed English questionnaires, 682,606 (11.3 percent) were

mailed in by respondents. Of the 4,569,000 printed Spanish questionnaires, 80,537 (1.8 percent) were mailed in by respondents.

For Puerto Rico, 1,212 English forms were checked in for data capture and 9,285 Spanish forms were checked in. The Census Bureau printed 177,000 more Puerto Rico English Be Counted questionnaires than Spanish language questionnaires. The number of Puerto Rico questionnaires checked in to data capture show that people completed many more Spanish language Be Counted questionnaires in Puerto Rico. In Puerto Rico, only 0.5 percent of printed English language Be Counted forms were identified by our data capture centers.

Figure 6: BC Questionnaire Printing, Distribution, and Usage for In-Language Questionnaires



Source: Printing and Usage Charts by Language

The percent of printed questionnaires mailed in by respondents was lowest for the in-language questionnaires. Overall, we printed 3,280,000 in-language questionnaires and only 20,960 (0.6 percent) were data captured. We anticipated that this would be a likely outcome because we had over printed in-language questionnaires to ensure that each LCO had a sufficient supply without having to reallocate questionnaires. However, an unexpected outcome is the large difference between in-language questionnaires picked up and questionnaires data captured.

Of the 158,672 Chinese questionnaires picked up by potential respondents, only 10,871(6.9 percent) were data captured. Of the 115,520 Russian questionnaires picked up by potential

respondents, only 2,072 (1.8 percent) were data captured. As a comparison, on the aggregate level 27.6 percent of picked up questionnaires were data captured (784,103 of 2,844,827 questionnaires) – mostly driven by English questionnaires (of the Spanish questionnaires picked up, 11.7 percent were data captured). Picked up in-language questionnaires were data captured less frequently than English and Spanish questionnaires. As previously stated, this could be, in part, because of a community organized effort that may have occurred in some areas to pick up and disperse BC questionnaires.

The conclusions section of this assessment offers some recommendations on how we may improve future BC/QAC efforts through automation, allowing us to offer the BC questionnaire in multiple languages while reducing the excessive use of paper.

5.1.4 QAC Assistance

The QAC program was designed to provide in-person assistance to respondents for completing the 2010 Census and BC questionnaires, mainly, and to provide census forms to those persons who did not receive a questionnaire or who believed they were not counted on the questionnaire previously completed for their dwelling. In addition, the QAC sites were designed to assist respondents with questions about the questionnaires and to provide assistance with general census questions. For each individual served at a QAC site, the QAC representative was to fill out a D-399 Record of Contact form to track the date of contact, the question/problem regarding the questionnaire, and any language assistance that was needed, along with any other general comments.

In addition to general information such as the LCO code, date, and time of the visit to a QAC site, there were six questions on the D-399 Record of Contact form to be filled out by the QAC representative for each person visiting the QAC site. Each question had a list of pre-determined responses accompanied with a checkbox. Additionally, some questions had a supplemental box for write-in responses. Examples of the stateside and Puerto Rico D-399 Record of Contact forms can be found in Appendix C and Appendix D, respectively, of this report. Below are the results from the data capture of the D-399 Record of Contact forms from all of the QAC sites nationwide.

5.1.4.1 Where and when QAC sites were visited

Table 8 shows the number of people who were assisted at QAC sites by the regional office in which the QAC site was located.

Table 8. Number of People Assisted at QAC Sites by Regional Office

Regional Office	Number of People	Percent of People[7]
Atlanta	77,291	9.3%
Boston – Stateside	40,285	4.8%
Boston – Puerto Rico	13,740	1.6%
Charlotte	73,297	8.8%
Chicago	50,771	6.1%
Dallas	68,584	8.2%
Denver	50,374	6.0%
Detroit	45,689	5.5%
Kansas City	32,182	3.9%
Los Angeles	138,379	16.6%
New York	94,963	11.4%
Philadelphia	66,425	8.0%
Seattle	75,965	9.1%
Unknown Stateside	6,770	0.8%
Total Visits	**834,715**	**100.0%**

Source: QAC Record of Contact File

Nationwide, 834,715 people were assisted at the 29,157 QAC sites during the 2010 Census. Of these people, 13,740[8] were in Puerto Rico, which accounted for 1.6 percent of the total number assisted. More people were assisted at QAC sites in the Los Angeles region (16.6 percent of the total assisted) than in any other region. Only 3.9 percent of the total people that visited QAC sites were in the Kansas City region, which was the smallest number of people assisted across all regions. There were 6,770 stateside D-399 forms with an unidentifiable regional office code.

Table 9 shows the number of people who were assisted at QAC sites by the type of LCO[9] in which the QAC site was located. The LCO types were defined by Cost and Progress for budgeting purposes. The percentages of the housing units in the 2010 NRFU operation eligible universe[10] by LCO type were included in Table 9 in an effort to elucidate trends in QAC site visits in certain areas of the country.

[7] This column does not total 100.0% due to rounding.

[8] There were 508 stateside D-399 forms filled out in Puerto Rico.

[9] Please refer to Appendix B for definitions of the LCO types.

[10] The NRFU Eligible Universe includes housing units in TEAs 1, 2, 6 and 7.

Table 9. Number of People Assisted at QAC Sites by Type of LCO

Type of LCO	Number of People	Percent of People[11]	Percent of NRFU Eligible Housing Unit Universe[12]
Suburban/Rural	289,942	34.7%	51.0%
Urban/Hard to Count	259,304	31.1%	12.5%
Urban/Metropolitan	224,958	27.0%	30.7%
Rural/Remote	27,403	3.3%	4.2%
Puerto Rico	13,740	1.6%	1.2%
Alaska	6,265	0.8%	0.2%
Unknown Type	13,103	1.6%	n/a
Total	**834,715**	**100.0%**	**100.0%**

Source: QAC Record of Contact File, DMD Cost and Progress and DSCMO

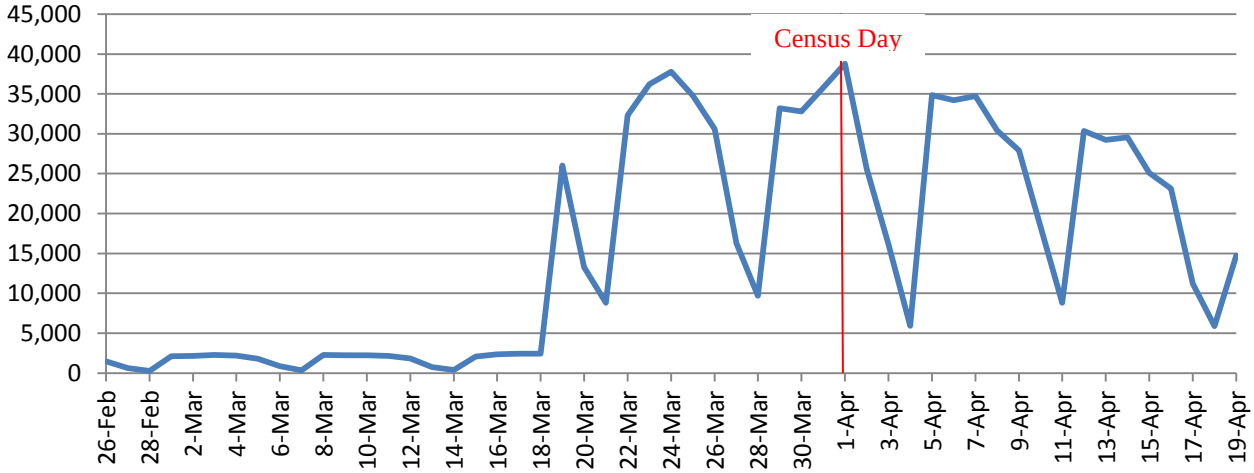
More people (34.7 percent) visited QAC sites in Suburban/Rural LCOs than in any other type of LCO. This was predictable as most housing units just prior to the beginning of the 2010 NRFU operation were in Suburban/Rural LCOs. The most drastic contrast between the percentage of people who visited a QAC site in a certain LCO type and the percentage of eligible housing units in the 2010 NRFU universe was in Urban/Hard to Count LCOs. Just over 31 percent of the people visited QAC sites in Urban/Hard to Count LCOs. This shows there was a propensity for people in Urban/Hard to Count LCOs to visit a QAC site, or that there were more QAC sites made available in these areas, because only 12.5 percent of the NRFU eligible housing units were in Urban/Hard to Count LCOs. The percentages of people who visited QAC sites in the remaining four LCO types were similar to the percentage of NRFU eligible housing units in their respective LCO types.

Figure 7 shows the number of people that visited BC/QAC sites, stateside and in Puerto Rico, chronologically, beginning with the opening of QAC sites only on February 26 and ending with the QAC/BC site closeout date of April 19.

[11] This column does not total 100.0% due to rounding.

[12] These percentages are based on the universe of housing units pre-NRFU and not final Census counts. This column does not total 100.0% due to rounding.

Figure 7: Number of Visitors to QAC Sites by Date



Source: QAC Record of Contact File

Examining Figure 7, notice that there is a large spike in QAC site visits on Friday, March 19. This sudden increase in visits occurred because all QAC sites opened on this date. Prior to March 19, QAC sites were only open in U/L areas. Focusing on the 32 days that all QAC sites were open, March 19 to April 19, we see that there are five main peaks and valleys in the number of QAC visits. All of the valleys represent Sundays; we also see a large dip in visits on Saturdays. This is contrary to the notion that, since most folks do not work on those days, weekends would be the busiest days for QAC site visits. QAC sites were in fact open on weekends; however, the sites were located mainly in buildings that did not experience as much foot traffic on the weekends as on weekdays.

Visits tended to peak in the middle of the week on Wednesdays, and on Census day, April 1, which fell on a Thursday. In fact, it was reported that April 1, was the most popular day at QAC sites as at least 38,784[13] people visited the sites on that day.

5.1.4.2 Reasons for QAC site visits

Table 10 shows the distribution of people stateside who visited QAC sites grouped by the reason why they visited the site. The QAC representatives were encouraged to check all items that applied to the reason for visit on the D-399 form.

[13] Note that there were invalid date entries on 6,911 D-399 forms.

Table 10. Number of People that Needed Assistance by Reason of Visit to QAC Site: Stateside

Reason for Visit	Number of Responses	Percent of Responses[14]
Did not receive form	314,680	38.3%
Received two forms	30,816	3.8%
Lost form	90,924	11.1%
Received form for wrong address/person	4,688	0.6%
Asked about a population question	34,655	4.2%
Asked about a housing question	47,429	5.8%
Needed assistance with a language	40,940	5.0%
Could not read/or understand form	43,596	5.3%
Visit not related to questionnaire	52,928	6.4%
Asked about jobs	69,731	8.5%
Concern about privacy/confidentiality	31,977	3.9%
Asked about other census operations	37,761	4.6%
Already sent in form	19,948	2.4%
Asked a race related question	12,635	1.5%
Asked when the census questionnaire was due	11,302	1.4%
Asked a PO Box related question	3,375	0.4%
Homeless	1,563	0.2%
Other reason	125,550	15.3%
No box checked[15]	10,320	1.3%
Total Stateside Visits	**820,975**	**--**

Source: QAC Record of Contact File

Over 38 percent of the people who visited a stateside QAC site did so because they did not receive a census questionnaire. Just over 11 percent of the people visited a stateside QAC site because they lost their census questionnaire. Eight and one-half percent of the people that visited a QAC site stateside did so to inquire about jobs. Excluding the "other reason" responses, this was the third most prevalent reason for a stateside QAC visit. The three most popular "write-in" reasons for QAC site visits were for the visitor to express that they had already sent in their questionnaire (2.4 percent), to ask race related questions about the questionnaire (1.5 percent), and to ask what date the questionnaire was due (1.4 percent).

Table 11 presents the distribution of people that visited a QAC site in Puerto Rico grouped by the reason why they visited the site.

[14] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[15] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

Table 11. Number of People that Needed Assistance by Reason of Visit to QAC Site: Puerto Rico

Reason for Visit	Number of Responses	Percent of Responses[16]
Did not receive form	5,638	41.0%
Received two forms	168	1.2%
Lost form	1,254	9.1%
Received form for wrong address/person	228	1.7%
Asked about a population question	692	5.0%
Asked about a housing question	894	6.5%
Needed assistance with a language	56	0.4%
Could not read/or understand form	1,198	8.7%
Visit not related to questionnaire	212	1.5%
Asked about jobs	461	3.4%
Concern about privacy/confidentiality	304	2.2%
Asked about other census operations	324	2.4%
Asked a race related question	608	4.4%
Asked when the census questionnaire was due	9	0.1%
Homeless	1	<0.1%
Asked a PO Box related question	1	<0.1%
Already sent in form	13	0.1%
Other reason	3,378	24.6%
No box checked[17]	126	0.9%
Total Puerto Rico Visits	**13,740**	**--**

Source: QAC Record of Contact File

Similar to stateside, the two most common reasons why people visited a QAC site in Puerto Rico were that they did not receive a questionnaire and that they lost their questionnaire. Of the 13,740 people who visited a QAC site in Puerto Rico, 41 percent or 5,638 people visited because they did not receive a questionnaire during the U/L operation (as all of Puerto Rico was enumerated using the U/L methodology), while 9.1 percent visited a QAC site because they lost their questionnaire. Nearly nine percent of the people who visited a QAC site in Puerto Rico did so because they could not read or understand at least a portion of their questionnaire, in contrast to the 5.3 percent of people who visited a QAC site stateside that could not read or understand at least a portion of their questionnaire (see Table 10).

[16] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[17] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

5.1.4.3 Questionnaires that customers were assisted with at QAC sites

BC questionnaires were offered in six languages—English, Spanish, Russian, Chinese, Korean, and Vietnamese. Table 12 shows the distribution of the people who visited a stateside QAC site by the type of questionnaire for which they needed assistance.

Table 12. Type of Questionnaire that a Customer was Assisted with at Stateside QAC Sites

Type of Questionnaire	Number of Responses	Percent of Responses[18]
Mailout/Mailback-English	164,818	20.1%
Mailout/Mailback-Bilingual	22,754	2.8%
Update/Leave Adds-English	2,768	0.3%
Be Counted-English	203,376	24.8%
Be Counted-Spanish	38,625	4.7%
Be Counted-Chinese	7,314	0.9%
Be Counted-Korean	3,151	0.4%
Be Counted-Vietnamese	2,224	0.3%
Be Counted-Russian	1,803	0.2%
Be Counted Questionnaire Envelope	19,334	2.4%
Asked about jobs	5,613	0.7%
Other reason	21,025	2.6%
No box checked[19]	252,766	30.8%
Total Stateside Visits	**820,975**	**--**

Source: QAC Record of Contact File

QAC representatives stateside predominantly assisted visitors with the BC-English and Mailout/Mailback English questionnaires. Nearly one-quarter of the people who were assisted by a stateside QAC representative asked for assistance on the BC-English form, while about 20 percent of the QAC visitors stateside were assisted with the Mailout/Mailback-English form. Of the 45,972 QAC representatives that filled in a write-in response for this item on the D-399 form, it was reported that 19,334 visitors needed assistance with the D-12, BC Questionnaire Envelope, and 5,613 visitors asked about jobs with the census. Almost 31 percent of the people who visited stateside QAC sites were not reported as needing assistance on a particular questionnaire.

Enumeration in Puerto Rico for the 2010 Census was conducted using the U/L methodology. Table 13 shows the distribution of the people who visited a QAC site in Puerto Rico by the type of questionnaire for which they needed assistance.

[18] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[19] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

Table 13. Type of Questionnaire that a Customer was Assisted with at Puerto Rico QAC Sites

Type of Questionnaire	Number of Responses	Percent of Responses[20]
Update/Leave Add-Puerto Rico (Spanish)	1,989	14.5%
Update/Leave-Puerto Rico (Spanish)	654	4.8%
Be Counted-Puerto Rico (Spanish)	2,808	20.4%
Be Counted-Puerto Rico (English)	829	6.0%
Update/Leave-Bilingual	23	0.2%
Update/Leave Add-English	223	1.6%
Be Counted Questionnaire Envelope	256	1.9%
Asked about jobs	21	0.2%
Other reason	149	1.1%
No box checked[21]	6,436	46.8%
Total Puerto Rico Visits	**13,740**	**--**

Source: QAC Record of Contact File

It was reported that nearly half of the people in Puerto Rico who were assisted by a QAC representative did not need help completing a specific census questionnaire. Over 26 percent of the respondents in Puerto Rico were assisted with a BC-Puerto Rico questionnaire, whether the form was in English or Spanish. Of the BC-Puerto Rico questionnaires that persons needed assistance with, 77.2 percent were in Spanish, while the remaining 22.8 percent were in English. Almost 15 percent of the people in Puerto Rico who visited a QAC site needed assistance on a U/L Add-Puerto Rico (Spanish) questionnaire. This was a stark contrast from QAC sites stateside, where only 0.3 percent of the people needed assistance on U/L questionnaires. This contrast can be attributed to the fact that all of Puerto Rico was enumerated using U/L methodology.

A language flashcard was one of the many resources QAC representatives were provided with in order to assist QAC visitors. The language flashcard was a tool for the QAC representatives to reference to aid them in identifying the language of the respondent. In addition to the language flashcard, a binder of language tools was provided to the QAC representatives to offer additional language assistance to the respondents. Table 14 shows the distribution of people that visited stateside QAC sites by the language of the BC questionnaire provided to the respondent.

[20] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[21] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

Table 14. Language of Be Counted Questionnaire Provided in Stateside QAC Sites

Language of Questionnaire	Number of People	Percent of People[22]
English	377,672	46.0%
Spanish	86,273	10.5%
Chinese	11,714	1.4%
Korean	5,775	0.7%
Vietnamese	4,262	0.5%
Russian	2,510	0.3%
NA/no box checked[23]	335,464	40.9%
Total Stateside Visits	**820,975**	--

Source: QAC Record of Contact File

Most of the people who requested a BC questionnaire at a stateside QAC site needed an English questionnaire, which was expected. Nearly 11 percent of the 820,975 people who visited a stateside QAC site requested a Spanish BC questionnaire. Either no box was checked or the "NA" box was checked almost 41 percent of the time in this item on the D-399 forms, which implies that those customers did not need a BC questionnaire.

Table 15 presents the distribution of people that visited a QAC site in Puerto Rico by the language of the BC questionnaire provided to the respondent.

Table 15. Language of Be Counted Questionnaire Provided in Puerto Rico QAC Sites

Language of Questionnaire	Number of People	Percent of People[24]
Spanish	7,477	54.4%
English	314	2.3%
NA/no box checked[25]	5,950	43.3%
Total Puerto Rico Visits	**13,740**	--

Source: QAC Record of Contact File

Only two types of BC questionnaires were available at QAC sites in Puerto Rico: English and Spanish. A majority (54.4 percent) of the people who visited a QAC site in Puerto Rico needed a

[22] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[23] This represents that the QAC representative checked the 'NA' box or did not check any of the boxes for the corresponding item on the D-399 form.

[24] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[25] This represents that the QAC representative checked the 'NA' box or did not check any of the boxes for the corresponding item on the D-399 form.

Spanish BC questionnaire. Only about two percent of the customers needed an English BC questionnaire, while just over 43 percent did not need a BC questionnaire at QAC sites in Puerto Rico.

5.1.4.4 Types of language assistance guides used by QAC site customers

In addition to the binder containing language tools supplied to the QAC representatives, language assistance guides in 59 languages were made available for on-site use for the QAC site visitors. Table 16 shows the distribution of people who visited a stateside QAC site by the type of language assistance guides used by the QAC site visitors.

Table 16. Number of Language Assistance Guides Used in Stateside QAC Sites

Language of Assistance Guide	Number of People	Percent of People[26]
No guide used[27]	782,222	95.3%
Spanish	18,362	2.2%
Simplified Chinese	2,924	0.4%
Korean	2,662	0.3%
Arabic	2,265	0.3%
Vietnamese	1,693	0.2%
Traditional Chinese	1,486	0.2%
Haitian Creole	1,053	0.1%
Armenian	892	0.1%
Russian	824	0.1%
Somali	670	0.1%
Cambodian	560	0.1%
Thai	553	0.1%
Portuguese	507	0.1%
English	448	0.1%
Polish	424	0.1%
All other languages[28]	3,724	0.5%
Total Stateside Visits	**820,975**	**--**

Source: QAC Record of Contact File

[26] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[27] This represents that the QAC representative checked the 'No guide used' box or did not check any of the boxes for the corresponding item on the D-399 form.

[28] Please reference Appendix A for the expanded table including all of the other languages.

Only 4.8 percent of the 820,975 people who visited a stateside QAC site used a language assistance guide. It was reported that the visitors at the stateside QAC sites utilized 51 of the 59 available language assistance guides.

Table 17 shows the distribution of people who visited QAC sites in Puerto Rico by the type of language assistance guides used by the QAC site visitors.

Table 17. Number of Language Assistance Guides Used in Puerto Rico QAC Sites

Language of Assistance Guide	Number of People	Percent of People[29]
No guide used[30]	13,712	99.8%
English	23	0.2%
Simplified Chinese	2	<0.1%
Unknown	2	<0.1%
Arabic	1	<0.1%
Total Puerto Rico Visits	**13,740**	**--**

Source: QAC Record of Contact File

Only 28, or 0.2 percent, of the 13,740 people who visited a QAC site in Puerto Rico used language assistance guides. Of these 28 people, 82.1 percent (or 23 people) used an English language assistance guide. There was not an official English language assistance guide. However, there was a checkbox on the D-399(PR) record of contact form for an English language assistance guide. The reference to the English language assistance guide on the D-399(PR) form may have been in reference to the Large Print guides that were made available at the QAC sites for those with poor vision.

5.1.4.5 Ways customers learned about QAC sites

Table 18 and Table 19 present the results of how visitors learned about the QAC sites (through what medium) for stateside and Puerto Rico, respectively.

[29] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[30] This represents that the QAC representative checked the 'No guide used' box or did not check any of the boxes for the corresponding item on the D-399 form.

Table 18. Number of People that Needed Assistance by the Medium the Respondent Learned about the QAC Site: Stateside

Medium	Number of People	Percent of People[31]
Saw BC container and/or QAC site	530,716	64.6%
Saw on poster	64,275	7.8%
Heard from friend/relative/neighbor	55,627	6.8%
Saw on TV/Internet	42,318	5.2%
Heard through organization/association	41,366	5.0%
Heard in place of worship	27,095	3.3%
Read in newspaper	19,672	2.4%
Heard on radio	14,029	1.7%
Read in flyer	13,534	1.6%
Heard in meeting	7,906	1.0%
Saw at library	7,169	0.9%
QAC representative got their attention	4,988	0.6%
Saw on sign or banner	4,727	0.6%
Saw in mail	2,837	0.3%
Saw while shopping	2,703	0.3%
Saw at Post Office	1,949	0.2%
Saw at school	1,533	0.2%
No box checked[32]	72,054	8.8%
Total Stateside Visits	**820,975**	**--**

Source: QAC Record of Contact File

Most (64.6 percent) of the visitors to stateside QAC sites were passersby who saw either the BC container or QAC site. Nearly 8 percent of the people who visited stateside QAC sites were alerted of the site from a poster they saw, which was the second most common way a respondent learned about a stateside QAC site. Almost seven percent of the stateside QAC site visitors learned about the site from a friend, relative, or neighbor.

[31] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[32] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

Table 19. Number of People that Needed Assistance by the Medium the Respondent Learned about the QAC Site: Puerto Rico

Medium	Number of People	Percent of People[33]
Saw BC container and/or QAC site	6,337	46.1%
Saw on poster	3,319	24.2%
Saw on TV/Internet	1,491	10.9%
Heard on radio	1,041	7.6%
Heard from friend/relative/neighbor	943	6.9%
Read in flyer	294	2.1%
Read in newspaper	289	2.1%
Saw while shopping	191	1.4%
Heard in place of worship	159	1.2%
Heard through organization/association	150	1.1%
Heard in meeting	143	1.0%
Saw on sign or banner	75	0.5%
Saw at library	2	<0.1%
QAC representative got their attention	1	<0.1%
No box checked[34]	2,315	16.8%
Total Puerto Rico Visits	**13,740**	**--**

Source: QAC Record of Contact File

Similar to stateside, the most common way a QAC site visitor in Puerto Rico learned about the site was by merely passing by and visually seeing a BC container or QAC site (46.1 percent of the QAC site visitors in Puerto Rico). Almost one-quarter of the people who visited a QAC site in Puerto Rico learned about the site from a poster they saw, while about 11 percent learned about the site via television or the internet.

5.1.4.6 Secondary means of assistance to which QAC site customers were referred

A QAC representative was not always able to resolve a visitor's question or issue. If the QAC representative exhausted all of their resources and still was unable to aid a customer, they were to refer them to another census resource. Table 20 shows the distribution of secondary resources to which QAC representatives referred stateside customers.

[33] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[34] This represents that the QAC representative did not check any of the boxes for the corresponding item on the D-399 form.

Table 20. Number of People Referred or Not Referred to Other Census Resources by Stateside QAC Representatives

Customer Referred To	Number of People	Percent of People[35]
Internet	37,506	4.6%
Local Census Office	21,056	2.6%
Telephone Questionnaire Assistance	21,023	2.6%
Other	33,836	4.1%
Not referred[36]	603,140	73.5%
Total Stateside Visits	**820,975**	**--**

Source: QAC Record of Contact File

Nearly 74 percent of the people who visited stateside QAC sites did not need to be referred to another census resource by the QAC representative. This implies that the QAC representatives successfully aided most people at the QAC sites, as they did not need to be referred to a supplemental method of assistance. Almost five percent of the people were referred to the internet for assistance, while nearly three percent were referred to TQA, and another almost three percent were referred to the LCO for additional assistance.

Table 21 shows the distribution of secondary resources to which customers in Puerto Rico were referred to by QAC representatives.

Table 21. Number of People Referred or Not Referred to Other Census Resources by Puerto Rico QAC Representatives

Customer Referred To	Number of People	Percent of People[37]
Telephone Questionnaire Assistance	808	5.9%
Internet	280	2.0%
Local Census Office	245	1.8%
Other	974	7.1%
Not referred[38]	9,736	70.9%
Total Puerto Rico Visits	**13,740**	**--**

Source: QAC Record of Contact File

[35] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[36] This represents that the QAC representative checked the 'No Referred' box or did not check any of the boxes for the corresponding item on the D-399 form.

[37] This column does not total 100.0 percent because the QAC representative could select multiple or zero answers on the D-399 form.

[38] This represents that the QAC representative checked the 'No Referred' box or did not check any of the boxes for the corresponding item on the D-399 form.

Similar to stateside, almost 71 percent of the people who visited QAC sites in Puerto Rico did not need to be referred to another census resource by the QAC representative. Again, this implies that the QAC representative was able to successfully aid most people at the QAC site, as they did not need to be referred to a supplemental method of assistance. Nearly six percent of the people who visited a QAC site in Puerto Rico were referred to TQA, while another two percent of the people were referred to the internet for additional assistance.

5.1.4.7 QAC sites in U/L areas

The QAC program began on February 26, 2010, in areas enumerated under the U/L methodology to provide assistance with census questionnaires. During that time, BC questionnaires were not available since individuals in U/L areas may not have already received their hand-delivered questionnaire and thus could not assess whether they had been missed and needed a BC form. Subsequently, on March 19, 2010, all BC and QAC sites were opened in both MO/MB and U/L enumerated areas. Table 22 presents the number of QAC/BC sites in U/L areas, both stateside and in Puerto Rico.

Table 22. QAC/BC Sites in U/L Areas

	Number	Percent
QAC and BC site	3,268	99.8%
BC site only	5	0.2%
Total	**3,273**	**100.0%**

Source: IPCD

Of the 3,273 total BC/QAC sites in U/L areas throughout stateside and Puerto Rico, 3,268 were QAC sites, while just five were BC only sites. Only 3,268, or 11.2 percent, of the 29,157 total QAC sites were located in U/L enumeration areas.

5.1.5 Material and Site Adequacy

The BC/QAC research questions included several topics for which we relied exclusively on FLD Debriefings to answer. In this section, we address topics regarding the adequacy of sites, materials, and other resources using qualitative and anecdotal data, addressing the following questions:

- Did QAC representatives feel they had sufficient resources to perform their jobs?
- Were the Questionnaire Reference Book (QRB) and other materials useful?
- Did sites run out of BC questionnaires?

5.1.5.1 Adequacy of resources and materials made available to QAC representatives

QAC representatives had many resources at their disposal to provide questionnaire assistance to customers. These resource materials included: a job aid that included the explanation of their main duties and answers to Frequently Asked Questions (FAQs) and a Questionnaire Reference Book (QRB) to answer questionnaire-specific questions. Additionally, QAC representatives had a language flashcard to easily identify the language of the respondent in 50 languages, and

language assistance guides in 59 languages to aid the respondent in filling out his/her census questionnaire.

As mentioned earlier, BC clerks or FOSs could replenish the BC boxes with questionnaires. They visited each site at least three times, and could visit them more often, as needed. Based on conversations with the regions, the New York region exhausted their D-399 form resources, and were subsequently replenished with D-399 forms. Aside from that, no other region stated that they depleted their allotment of BC questionnaires or QAC materials.

Overall, according to the *Regional Partnership Program Debriefing Report: Be Counted and Questionnaire Assistance Centers*, the QRB and the FAQs documents received good reviews from staff for being useful for answering questions from the public.

5.1.5.2 Language Needs

Debriefings indicated that hiring QAC representatives from the surrounding community who spoke needed languages was difficult. As a result, some QAC representatives had to work in areas that were unfamiliar to them. In other cases, QAC representatives had limited or no language skills that were needed in a specific community. DAPPS did not indicate if personnel had the correct language skills for the community. Sometimes non-U.S. citizens who applied spoke a needed language, but the process to obtain an exception to hire them was too lengthy.

5.1.6 Website

The website allowed a person to enter area information and locate BC/QAC sites that were near their location on a map. The 2010 Census web site was successfully implemented despite limited development and testing time. The decision to include a link on the 2010 Census website documenting a list of all the BC/QAC sites was enacted just prior to the launch of the program. Hence, the Partnership staff had to quickly geocode and enter hours of operation and in what language assistance was available for each of the 9,670 BC sites and 29,157 QAC sites. The haste in performing that task led to mistakes in data entry and incomplete or incorrect BC/QAC information on the website. As known prior to the start of the operation, metrics on the use of the BC/QAC sites were not available because the BC/QAC component was integrated with the Take 10 Website and there was no way to determine users specific to QAC. We know that the website was viewed 443,959 times in March 2010, but we do not know how many of those visits were to look up BC/QAC site information.

5.1.7 Be Counted Processing Results and Effects on Coverage

The following section presents the results of GEO's geocoding of completed BC questionnaires. It includes information on the geocoding of Type A and Type B cases and what type of living quarters that they matched. The results from the additional Type B matching are also presented below. Finally, this section reports on the number of people counted in the 2010 Census from a BC and the demographic characteristics of those people.

5.1.7.1 Types of Be Counted Forms

As stated in Section 2.3.1 there were six different types of BC forms available to stateside respondents and two types available to respondents in Puerto Rico. There were 780,914 total BC questionnaires data captured and the address information from all the forms was sent to GEO to be processed. This is less than the 784,103 BC questionnaires checked into data capture, because the category "checked into data capture" includes blank questionnaires and any questionnaires that were data captured twice. See Table 23 for the number of forms processed by type of questionnaire.

Table 23. Number of Be Counted Forms Processed by Questionnaire Type

Be Counted Questionnaire Type	Number	Percentage[39]
English	678,813	86.9%
Spanish	70,875	9.1%
Chinese	10,781	1.4%
Korean	4,645	0.6%
Vietnamese	3,316	0.4%
Russian	2,035	0.3%
Puerto Rico (Spanish)	9,244	1.2%
Puerto Rico (English)	1,205	0.2%
Total	**780,914**	**100.0%**

Source: Non-ID Assessment File

All BC forms were initially not associated with a MAFID. Unlike a questionnaire that is mailed to a specific address contained in the MTdb, the nature of the Be Counted questionnaires makes pre-assigning a MAFID impractical. Instead, the Response Processing System assigns a processing ID once the form is returned to uniquely identify it within Universe Control Management (UCM), and then the address information from the BC form goes through a series of GEO processes to see if a MAFID can be assigned. Since they were not initially linked to an address on the MTdb, BC forms are considered Non-ID. When GEO receives the BC address data they first attempt to header code the case to a county and state. The geocoding that happens after the header coding differs by the type of BC cases. There are two types of BC cases. The type is determined by how the BC respondent completed the questionnaire. If the respondents

[39] This column does not total 100.0% due to rounding.

indicated that they had an address where they lived or stayed most of the time that BC questionnaire is considered a Type A Non-ID case. If the respondent indicated they did not have a usual residence on April 1, 2010, the BC questionnaire is classified as a Type B Non-ID case. The respondent indicates that they do not have a usual residence by checking the "no address" box on the BC questionnaire as shown in Figure 8, which is located on the questionnaire under question 1 and above the address fields.

Figure 8. No Address Box

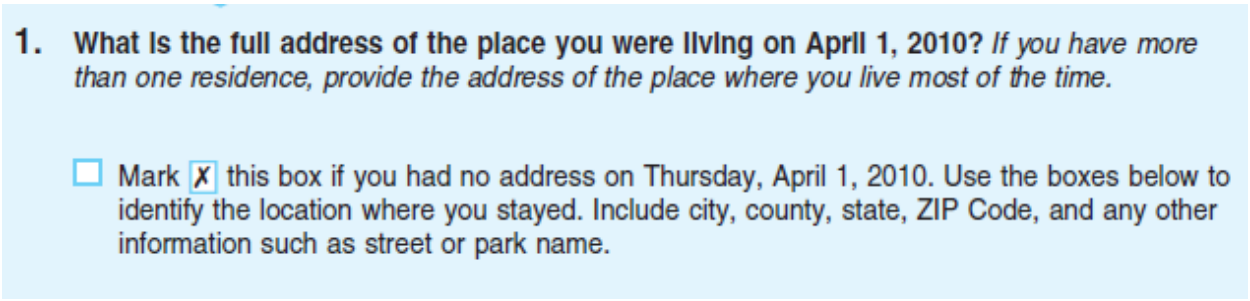


Table 24 shows the number of Type A and Type B cases for stateside and Puerto Rico BC forms.

Table 24. Number of Type A and Type B Be Counted Form Types Stateside and in Puerto Rico

	Stateside		Puerto Rico		Total	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Type A	756,908	98.2%	10,296	98.5%	767,204	98.2%
Type B	13,557	1.8%	153	1.5%	13,710	1.8%
Total	**770,465**	**100.0%**	**10,449**	**100.0%**	**780,914**	**100.0%**

Source: Non-ID Assessment File

Of the 770,465 stateside forms, 98.2 percent were Type A cases and 1.8 percent were Type B cases. Of the 10,449 Puerto Rico BC forms, 98.5 percent were Type A cases and 1.5 percent were Type B cases.

There were 283 cases where the respondent did not check the "no address" box but the questionnaire was classified as a Type B case. These cases contained wording in the address information indicating homelessness or the word "Homeless" or some variation thereof in the address fields on the BC questionnaire. These cases met the initial criteria to be classified as Type A cases because the box was not checked, but the cases were changed to Type B cases at HQ after the clerical Non-ID processing staff marked the cases as uncodable. This type of respondent error was initially reported in the results of the cognitive testing of the BC questionnaire in 2008. The cognitive test found that the "no address" box was not successful at identifying people experiencing homelessness (Childs, Gerber, and Norris, 2009). The report on the cognitive test of the BC questionnaire recommended that an additional question be added to the questionnaire that asked for a physical location for where that person was living and if that person was experiencing homelessness. The Census Bureau rejected these recommendations because there was not time to add new data items to the questionnaire and fully test those items prior to implementation. In the future, the Census Bureau should explore these additional

methods for collecting this information based on the additional processing that was needed in 2010 to identify Type B BC cases.

5.1.7.2 Type A Results

After the respondent indicated they had a usual residence, they were then asked to provide the address information for the housing unit, group quarters or location of where they were living on April 1, 2010. Only Type A cases that matched to a geocoded housing unit MTdb record, or were geocoded and subsequently field verified, were eligible to be counted in the final 2010 Census count. See Figure 9 for the address fields captured on the English Language stateside BC questionnaire and Figure 10 the address fields on the English Language Puerto Rico BC questionnaire.

Figure 9. Address Fields for Stateside English Language Be Counted From

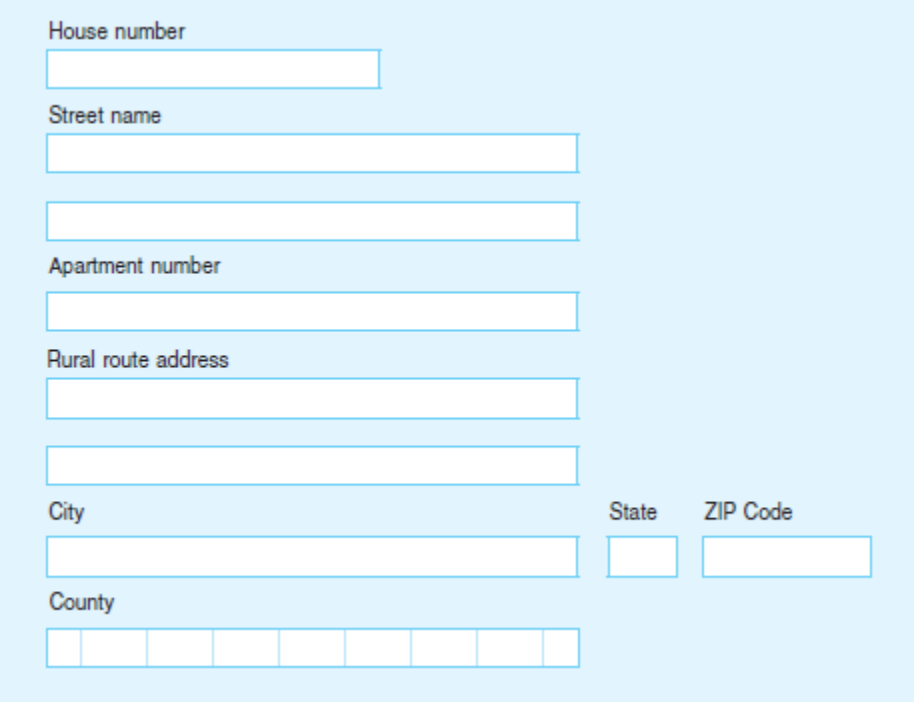
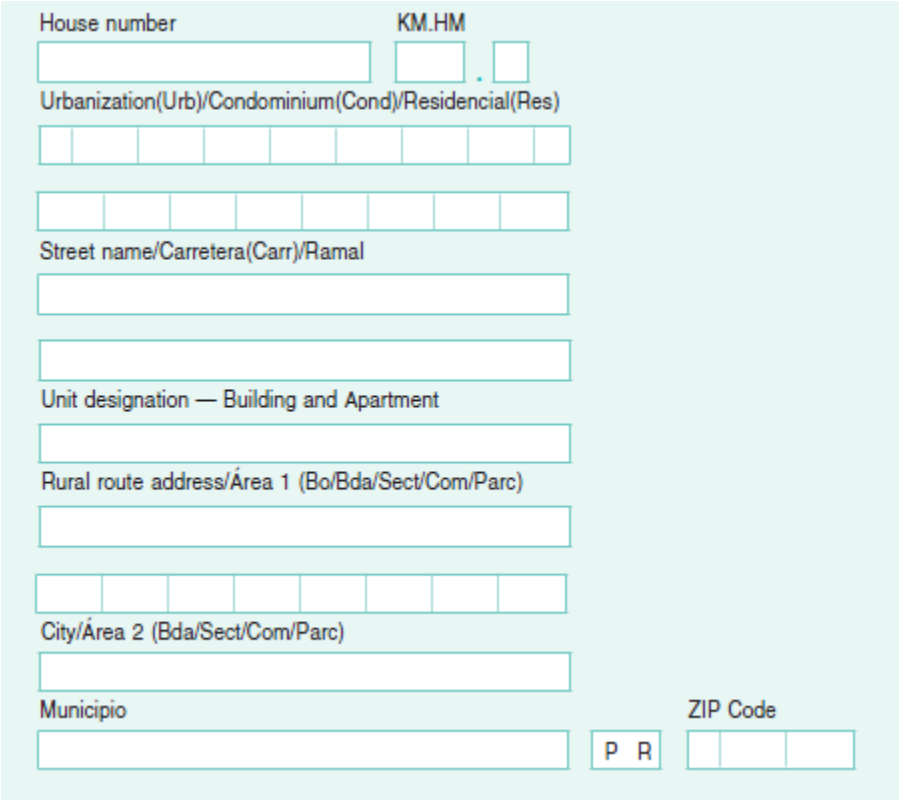


Figure 10. Address Fields for Puerto Rico English Language Questionnaire



As shown in Figure 9 and Figure 10, the address fields for house number and street name are individually parsed. The parsing of the address fields was required to facilitate GEO processing. However, the parsing of the address fields was identified as a critical problem during the cognitive testing of the BC questionnaire. The report "2008 Be Counted Questionnaire: Respondent Problems Encountered in Cognitive Testing"[40] stated:

> *Most Respondents are familiar with standard Post Office formats, which place house number and street name on the same line. These standard formats are described in "Postal Addressing Standards" (US Postal Service, July 2006), which details the "proper format for the address style." This is the address format the Post Office wants all mailers to use and is likely the address format that respondents are used to seeing on their mail.*
>
> *The most common errors occurred because respondents expected to write house number and street name in the same field. This resulted in a cascade of problems which could cause errors in processing. Many respondents tried to include house number and street name in the House Number line, sometimes abbreviating the street name in order to fit*

[40] Results of Cognitive Testing applied to the stateside questionnaire only.

> *both in the small response field. Subsequently, respondents sometimes repeated both pieces of information in the Street Name field, sometimes left the Street Name field blank, sometimes repeated only the street name again (although they did not always write it exactly the same way – either spelling it out, or including a designation like NE), and sometimes went back and crossed out the street name from the House Number field when they realized the error.* (Childs, Gerber, and Norris, 2009)

In addition to issues caused by the parsing of the address data items into separate fields, respondents had issues with the term "House Number" for the first address box. In 2010, respondents incorrectly entered their house number and street name in the "House Number" field on 10,418 questionnaires.[41] There were 4,358 questionnaires that a respondent entered their phone number in this address field.[42] Respondents also incorrectly provided a Post Office Box as their house number 771 times.

A respondent's ability to enter information into the address fields the way intended by the Census Bureau directly affects how much work and processing needs to be done for it to be geocoded and assigned a MAFID. Initially, Type A cases were header-coded to a state and county. Successfully header-coded Type A cases were then submitted to an automated process that attempted to match them to address records already in the MTdb. Cases that failed automated matching were sent through automated geocoding. After the automated geocoding process, additional clerical matching and geocoding at the National Processing Center were needed if:

- The case did not match an address record and subsequently could not be geocoded via the automated geocoding routine,
- The case matched to an address record that did not have an associated geocode, or
- The case could not be geocoded through the automated process.

After clerical processing, the cases were returned to Census Bureau HQ for post-clerical processing. During post-clerical processing a final attempt was made to match and/or geocode cases that were not matched and geocoded during the clerical process or were only clerically geocoded. The final step for all successfully matched and geocoded cases was to update the MTdb with all the matches and geocodes. Cases that were successfully matched could have been linked to one of the following living quarters or structure types:

- Housing unit,
- Group quarters,
- Transitory unit,

[41]Cases with house number and street name in one address field were identified as having between one and eight numeric characters and at least two alphabetic characters. The case also could not have the words PO BOX or any words that identified a house number but not a street address (for example, West, North, East, South, APT, Space, Building).

[42] These cases had the same number in the phone number and house number fields on the BC questionnaire.

- Transitory location,
- Nonresidential unit, or
- A MAF record of unknown type.[43]

Type A cases that were not successfully matched and/or geocoded were deemed uncodable and the address information and associated response data were not included in the census universe. See Table 25 for the number of Type A BC cases that underwent each type of processing.

Table 25. Type of Processing of Be Counted Type A Cases

Type of Processing	Number	Percent[44]
Automated Processing	743,423	96.9%
Clerical Processing	301,945	39.3%
Post-Clerical Processing	149,399	19.5%
Total Type A Be Counted Cases	**767,204**	**---**

Source: 2010 Non-ID Processing Assessment

Nearly 40 percent of the BC Type A cases were not able to be resolved through the automated geocoding process and had to undergo the clerical Non-ID processing. Additionally, just under 20 percent had to undergo the post-clerical automated processing.

In sum, if there was less confusion among respondents on how to fill out the BC questionnaire, there would be less of a need for clerical and post-clerical processing.

5.1.7.2.1 Field Verification Outcomes

For Type A cases, if a block-level geocode was obtained after automated or clerical processing for an address that was not already in the decennial address inventory, the case was considered unmatched and geocoded. These cases were then sent to FV for further investigation, along with other cases that existed in the MTdb but not in the census universe. In FV, a lister could either verify that the address existed in the assigned block, indicate that the address did not exist in the assigned block or identify the address as a duplicate of another address in the assigned block. Table 26 presents the final field outcomes of the BC addresses that were in the 2010 FV operation.

[43] This includes cases that had a results code from the GEO matching that stated the case matched to a unit but did not have a MAFID or cases that had a MAFID and that MAFID could not be found on the Final MAFX.

[44] This column does not equal 100.0 percent because a Be Counted case could have undergone all three processes.

Table 26. Final Field Actions of Be Counted Addresses in the 2010 Field Verification Operation[45]

	Stateside		Puerto Rico		Total	
Field Action	**Number**	**Percent[46]**	**Number**	**Percent[47]**	**Number**	**Percent[48]**
Coded as Verify	75,492	38.0%	1,990	52.1%	77,482	38.2%
Coded as Delete	77,286	38.9%	1,124	29.4%	78,410	38.7%
Coded as Duplicate	46,048	23.2%	695	18.2%	46,743	23.1%
No Field Action Taken	66	<0.1%	8	0.2%	74	<0.1%
Total	**198,892**	**100.0%**	**3,817**	**100.0%**	**202,709**	**100.0%**

Source: MAFX and 2010 FV Assessment Keying Data

There were 202,709 housing units from BC that obtained an automated or clerical geocode from GEO MTdb matching that were in the 2010 FV operation. There were 198,892 stateside housing units, while 3,817 were from Puerto Rico. FV listers verified thirty-eight percent of the stateside housing units, while 62 percent were either deleted or considered to be duplicates by FV listers. According to the *2010 Census Field Verification Operational Assessment*, the verify rate for the FV records from BC was very similar to the overall Non-ID verify rate of 37.8 percent. However, the verify rate was lower than the predicted Non-ID verify rate of 49.2 percent, which was based on Census 2000 results.

It should be noted that the delete action was assigned in field work any time the unit was not located in the given block to which it was geocoded in both the 2010 Census and Census 2000. For the BC cases that were deleted, the address information garnered from the BC form was maintained on the MTdb, though the records were not included in final Census counts. If a BC case was marked as duplicate in FV, the BC address information was maintained on the MAF, but it may or may not be considered the MAF unit's "preferred" address, which is the address used for field operations.

5.1.7.2.2 Final Type A Results of Address Matching and Field Verification

After going through Non-ID Processing and FV, a Type A BC case was classified as either linked to an address (matched), geocoded, did not match to an address, or was never eligible for address matching. The final address matched results for stateside and Puerto Rico Type A cases

[45] Note that these tallies are not exactly the same as those presented in the 2010 Census Field Verification Operational Assessment. There were over 350 instances where an FV address came from BC in addition to another Non-ID source, such as the TQA operation. These tallies contain all FV address records that were identified as having 2010 BC source information.

[46] This column does not total 100.0% due to rounding.

[47] This column does not total 100.0% due to rounding.

[48] This column does not total 100.0% due to rounding.

can be found in Table 27. Table 27 shows the type of living quarters to which the Type A cases were matched and geocoded.

Table 27. Final Matching for Types of Living Quarters from Type A Be Counted Forms Stateside and in Puerto Rico

	Stateside		Puerto Rico		Total	
	Number	**Percent**[49]	**Number**	**Percent**[50]	**Number**	**Percent**[51]
Housing Unit	676,478[52]	89.4%	7,426	72.1%	683,904	89.1%
Group Quarters	5,535	0.7%	5	<0.1%	5,540	0.7%
Transitory Unit	4	<0.1%	0	0.0%	4	<0.1%
Transitory Location	343	<0.1%	0	0.0%	343	<0.1%
Nonresidential	6,533[53]	0.9%	0	0.0%	6,533	0.9%
Geocoded MAF Record but the Type is Unknown	40[54]	<0.1%	2	<0.1%	42	<0.1%
Did Not Match	58,563	7.7%	2,858	27.8%	61,421	8.0%
Excluded from Matching	9,412	1.2%	5	<0.1%	9,417	1.2%
Total	**756,908**	**100.0%**	**10,296**	**100.0%**	**767,204**	**100.0%**

Source: Non-ID Assessment File and MAFX

Of all the Type A cases, 89.1 percent matched to a housing unit. Puerto Rico had a lower housing unit match rate than the stateside forms. This could be a result of GEO only performing an exact match for cases in Puerto Rico while stateside cases undergo both an exact and equivocated match. Seventy-two percent of Type A in Puerto Rico cases matched to a housing unit compared to 89.4 percent of the stateside cases. Additionally, 27.8 percent of the housing units in Puerto Rico did not match to any type of living quarters. It should be noted that there were cases that were flagged as matching to a housing unit, nonresidential unit, or a geocoded MAF record but were not given a MAFID. There were 262 cases that were reported to be linked to a housing unit but did not have a MAFID. See the footnotes in Table 27 for the numbers of cases that were reported as linked but were missing a MAFID. Only the Type A cases that

[49] This column does not total 100.0% due to rounding.

[50] This column does not total 100.0% due to rounding.

[51] This column does not total 100.0% due to rounding.

[52] There are 262 cases that have flags indicating that they were matched to a housing unit through automated or clerical matching that do not have a MAFID.

[53] There was one case that was flagged indicating that it was matched to a nonresidential unit through automated or clerical matching that does not have a MAFID.

[54] There were two cases flagged as being geocoded that have a MAFID.

matched to a housing unit were eligible to be counted in the final 2010 Census counts. If a Type A case matched to a group quarters, transitory location, or transitory unit the demographic data associated with the Type A cases were not included in the 2010 Census. For the complete matching and geocoding results for the BC Type A cases, refer to the 2010 Non-ID Processing Assessment.

In Table 27 there were 5,540 Type A BC forms linked to a Group Quarters (GQ). The different types of GQs that were linked to a BC questionnaire are shown in Table 28. There were only five cases linked to a GQ in Puerto Rico. Due to the small number of linked cases to a GQ in Puerto Rico, we will only be reporting the types of GQ linked for the total GQs (stateside and Puerto Rico).

Table 28. Types of Group Quarters that Type A Be Counted Forms were Matched to, Stateside and Puerto Rico

Group Quarters Type	Number	Percent[55]
Emergency and Transitional Shelters for People Experiencing Homelessness	1,069	19.3%
Group Homes or Residential Treatment Centers for Adults	611	11.0%
College/University Student Housing	547	9.9%
Soup Kitchens or Mobile Food Vans	378	6.8%
Nursing Facilities/Skilled-Nursing Facilities	340	6.1%
Religious Group Quarters and Domestic Violence Shelters	334	6.0%
Special Group Quarters	229	4.1%
Worker's Group Living Quarters and Jobs Corps Centers	184	3.3%
Detention Centers, Jails, or Prisons	47	0.8%
Juvenile Group Homes, Treatment Centers, or Correctional Facilities	13	0.2%
Hospitals, or Schools for People with Disabilities	21	0.4%
Military Quarters	6	0.1%
Group Quarters but not on MTdb	253	4.6%
Other	1,145	20.7%
Unassigned	7	0.1%
Unknown Type	356	6.4%
Total	**5,540**	**100.0%**

Source: Non-ID Assessment File and MAFX

As reported in Table 28, 19.3 percent of the BC Type A cases linked to a GQ were linked to an emergency and transitional shelter for people experiencing homelessness. That was the largest

[55] This column does not total 100.0% due to rounding.

singular type of GQ. Twenty percent were linked to another type of GQ where the type is not indicated on the MAFX files. The second largest known type of GQ was group homes or residential treatment centers for adults, consisting of 11 percent of the GQ Type A cases. Approximately 10 percent of the Type A GQ links were college or university student housing.

5.1.7.2.3 Type A Cases with a MAFID

All Type A BC cases went through a process conducted by GEO that attempted to assign a MAFID to the address or geocode the address and send it to the FV operation to verify the address to get a MAFID. Addresses with a MAFID were eligible to be included in the final census counts. If the address information provided by the respondent was not sufficient for GEO to obtain a match or geocode (state, county and census block must be obtained), then it was not assigned a MAFID. Table 29 shows the frequency with which GEO was able to successfully assign MAFIDs to Type A BC cases.

Table 29. Type A Be Counted Forms with a MAFID Stateside and in Puerto Rico

	Stateside		Puerto Rico		Total	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**
MAFID	688,632	91.0%	7,431	72.2%	696,063	90.7%
No MAFID	68,276	9.0%	2,865	27.8%	71,141	9.3%
Total	**756,908**	**100.0%**	**10,296**	**100.0%**	**767,204**	**100.0%**

Source: Non-ID Assessment File

Nine percent of stateside Type A BC forms were not assigned a MAFID by GEO. Puerto Rico had a much higher rate of cases without a MAFID, with 27.8 percent of the Type A BC cases there not having a MAFID.

To further explore where the BC questionnaires were completed, we looked at the locations of the Type A BC cases with MAFIDS. The research on the types of location was limited due to the necessity of a MAFID to link location information to the case. The DMD Cost and Progress system had each of the 494 LCOs in the country linked to a type. Those types consisted of Suburban/Rural, Urban/Metropolitan, Urban/Hard to Count, Rural/Remote, Puerto Rico, and Alaska. Table 30 shows the percentage of Type A BC forms with a MAFID that were located in each LCO type. The percentage of the NRFU eligible universe[56] was included in Table 30 to compare the distribution of BC forms to the number of housing units located within the LCO types prior to NRFU.

[56] The NRFU Eligible Universe includes housing units in TEAs 1, 2, 6 and 7.

Table 30. Type of LCO in which Type A Be Counted Forms with a MAFID were located

LCO Type	Number of Be Counted	Percent of Be Counted	Percent of NRFU Eligible Universe[57]
Suburban/Rural	333,430	47.9%	51.0%
Urban/Metropolitan	194,439	27.9%	30.7%
Urban/Hard to Count	113,532	16.3%	12.5%
Rural/Remote	32,782	4.7%	4.2%
Puerto Rico	7,336	1.1%	1.2%
Alaska	5,744	0.8%	0.2%
Unknown Type	8,800	1.3%	n/a
Total	**696,063**	**100.0%**	**100.0%**

Source: MAFX, Non-ID Assessment File, DMD Cost and Progress, and DSCMO

As shown in Table 30, the majority of Type A BC forms with a MAFID were in Suburban/Rural areas. This area consisted of 47.9 percent of the cases. The Suburban/Rural type contained the largest number of housing units in the country so it is expected that the majority of BC cases would be in this category. However, the percentage of BC cases is several percentage points lower than the percentage of housing units located within that area. The area type with the largest increase in BC cases compared to distribution of housing units is the Urban/Hard to Count areas. The distribution of Type A BC forms is nearly four percentage points higher than the percentage of housing units in the NRFU eligible universe. This implies that people in Urban/Hard to Count areas were more likely to complete a BC questionnaire than other regions or they had more access to BC forms than other regions of the country. The LCOs that are included in the Urban/Hard to Count areas are located in the following cities: Miami, Atlanta, Boston, Chicago, Detroit, New York City, the District of Columbia, Philadelphia, Pittsburgh, Oakland, and San Francisco.

In addition to reporting on BC cases in urban, suburban, and rural areas, we looked at the number of Type A BC cases in each Type of Enumeration Area (TEA). For the 2010 Census, the United States was divided into seven different TEAs. The TEAs distinguished what type of operation was used to deliver the questionnaires or perform the enumeration. The different TEAs in the 2010 Census were:

- Mailout/Mailback (TEA 1)
- U/L (TEA 2)
- Remote Update Enumerate (TEA 3)
- Remote Alaska (TEA 4)
- Update Enumerate (TEA 5)
- Military (TEA 6)
- Urban U/L (TEA 7)

[57] These percentages are based on the universe of housing units pre-NRFU and not final Census counts. This column does not total 100.0% due to rounding.

Table 31 shows the percentage of Type A BC cases with a MAFID in each TEA and the percentage of total housing units located stateside.

Table 31. Type of Enumeration Area in which Type A Be Counted Forms with a MAFID were located

Type of Enumeration Area	Number of Be Counted	Percent of Be Counted[58]	2010 Census Final Results[59]
Mailout/Mailback	635,982	91.4%	90.9%
Update/Leave	30,177	4.3%	6.1%[60]
Remote Update Enumerate	70	<0.1%	<0.1%
Remote Alaska	17	<0.1%	<0.1%
Update Enumerate	6,505	0.9%	1.0%
Military	435	0.1%	0.2%
Urban Update/Leave	14,077	2.0%	1.8%
Unknown Type	8,800	1.3%	n/a
Total	**696,063**	**100.0%**	**100.0%**

Source: MAFX, Non-ID Assessment File, and 2010 TEA Assessment

Table 31 reports that 91.4 percent of Type A BC cases with a MAFID were in Mailout/Mailback areas. This area includes most of the housing units in the country. In the United States, 90.9 percent of the housing units are located in MO/MB areas. The distribution of BC cases in U/L areas is lower than the distribution of housing units which implies that people in these areas were less likely to complete a BC questionnaire or did not have easy access to the forms.

5.1.7.2.4 Type A Cases Without a MAFID

The Type A cases that were not able to be assigned a MAFID either did not have any address information entered on the questionnaire or the address information available was not verified as correct or complete. As shown in Figure 9 and Figure 10 there were different address fields available on stateside and Puerto Rico BC forms. For Type A cases from stateside forms, the address fields necessary for a complete record came from question 1 and were:

- House Number,
- Street Name or Rural Route Address, and
- ZIP Code.

[58] This column does not total 100.0% due to rounding.

[59] This column does not total 100.0% due to rounding.

[60] Does not include Puerto Rico cases.

For Type A cases in Puerto Rico, there were two combinations of address fields that could comprise a complete record, again using only address information collected in question 1. An address needed to meet one of these two combinations to be complete:

1. Combination 1:
    - Numero de casa,
    - Nombre de calle o direccion estilo rural or Urbanizacion/Condominio/Residencial, and
    - Codigo postal
2. Combination 2:
    - Designacion de Unidad,
    - Urbanizacion/Condominio/Residencial, and
    - Codigo postal or State

Table 32 shows the number of Type A cases without MAFIDs that had the key stateside address variables filled. Table 33 reports the number of cases in Puerto Rico that had the key address variables filled. The analysis performed using these address fields confirmed that the necessary fields had the presence of alpha/numeric characters, but not that the data in the fields were valid and correct.

Table 32. Content of Address Fields for Stateside Type A Cases that do not have a MAFID

House Number, Street Name or Rural Route, and ZIP Code	Number	Percent
All filled	33,789	49.5%
All blank	7,266	10.6%
At least one field filled but not all	27,221	39.9%
Total Stateside Type A Cases	**68,276**	**100.0%**

Source: Non-ID Assessment File

Nearly half of the Type A stateside cases without a MAFID had house number, street name or rural route and ZIP code filled but the information present was not enough to match the information to the MTdb. Only 10.6 percent did not have any of the fields filled.

Table 33. Content of Address Fields for Puerto Rico Type A Cases that do not have a MAFID

Address Field Groupings	Number	Percent[61]
Combination 1		
All Filled	671	23.4%
All Blank	245	8.6%
Combination 2		
All Filled	67	2.3%
All Blank	93	3.2%
At least 1 field filled, but not all, of (Numero de casa, Designacion de Unidad, Nombre de calle o direccion estilo rural, Urbanizacion/Condominio/Residencia, Codigo postal, or State)	1,789	62.4%
Total Puerto Rico Type A Cases	**2,865**	**100.0%**

Source: Non-ID Assessment File and DRF

The percentage of all key address fields filled for both combinations in Puerto Rico is much lower than stateside. Only 23.4 percent of Type A cases without a MAFID in Puerto Rico had all the variables of combination 1 filled, and 2.3 percent had combination 2 variables filled.

[61] This column does not total 100.0% due to rounding.

5.1.7.3 Type B Results and Duplication

As stated earlier, a BC case is considered a Type B case if the respondent reported they did not have a living quarters where they usually lived or stayed on April 1, 2010. There were 13,710 Type B BC cases. All Type B BC cases underwent an automated process to header code the case. Header coding consists of GEO assigning the case to a state and county. If the automated process was unable to find a state and county, the Type B case then underwent a clerical header coding process. Table 34 shows the final header coding results for all Type B BC cases.

Table 34. Header Coding Results for Type B Be Counted Forms Stateside and in Puerto Rico

	Stateside		Puerto Rico		Total	
	Number	**Percent**[62]	**Number**	**Percent**	**Number**	**Percent**[63]
State and County	12,317	90.9%	142	92.8%	12,459	90.9%
Foreign Country	3	<0.1%	0	0.0%	3	<0.1%
Unable to Header Code	1,237	9.1%	11	7.2%	1,248	9.1%
Total	**13,557**	**100.0%**	**153**	**100.0%**	**13,710**	**100.0%**

Source: Non-ID Assessment File

As shown in Table 34, 90.9 percent of all Type B cases were header-coded to a state and county. Three cases were found to be in a foreign country and the remaining 9.1 percent were unable to be header-coded.

To further research the Type B cases, GEO performed an additional automated address matching on the Type B cases for evaluation purposes only. GEO performed the exact same automated matching on the Type B cases that were performed on the Type A cases. The key Type A address fields that were filled for stateside and Puerto Rico Type B cases are shown in Table 35 and Table 36.

Table 35. Content of Address Fields for Stateside Type B Cases

House Number, Street Name or Rural Route, and ZIP Code	Number	Percent[64]
All filled	8,223	60.7%
All blank	1,326	9.8%
At least one field filled but not all	4,008	29.6%
Total Stateside Type B Cases	**13,557**	**100.0%**

Source: Non-ID Assessment File

[62] This column does not total 100.0% due to rounding.

[63] This column does not total 100.0% due to rounding.

[64] This column does not total 100.0% due to rounding.

Table 36. Content of Address Fields for Puerto Rico Type B Cases

Address Field Groupings	Number	Percent[65]
Combination 1		
All Filled	74	48.4%
All Blank	4	2.6%
Combination 2		
All Filled	5	3.3%
All Blank	5	3.3%
At least 1 field filled, but not all, of (Numero de casa, Designacion de Unidad, Nombre de calle o direccion estilo rural, Urbanizacion/Condominio/Residencia, Codigo postal, or State)	65	42.5%
Total Puerto Rico Type B Cases	**153**	**100.0%**

Source: Non-ID Assessment File and DRF

Table 35 shows that 60.7 percent of stateside Type B cases included address information in the fields that were used for Type A address matching. Table 37 shows the number of Type B cases that were matched to an address using the Type A automatic address matching. The three cases located in a foreign country were excluded from this extra matching.

Table 37. Number of Address Level Matches for Type B Be Counted Forms

	Number	Percent
Matched an Address	5,382	39.3%
Exact Match	3,142	58.4%
Equivocated Match	2,240	41.6%
Did Not Match	8,325	60.7%
Total	**13,707**	**100.0%**

Source: Geocoding Assessment File

Of the 13,707 Type B Cases, 39.3 percent were matched to an address. Fifty-eight percent of those matched were an exact address match. The type of living quarters that they were matched to is shown in Table 38.

[65] This column does not total 100.0% due to rounding.

Table 38. Evaluation Matching Results of Living Quarters from Type B Be Counted Forms Stateside and in Puerto Rico

	Number	Percent
Housing Unit	5,009	93.1%
Group Quarters	302	5.6%
Group Quarters – Sensitive	24	0.4%
Transitory Location – Existing on MAF	47	0.9%
Total	**5,382**	**100.0%**

Source: Geocoding Assessment File and MAFX

Ninety-three percent of the Type B cases were matched to a housing unit. These forms linking to a housing unit imply that there was potential person duplication in the 2010 Census because these people were also counted in a GQ within the county as a result of the BC operation. There were not any procedures during the census to see if the people counted from Type B BC cases were found in any other living quarters. To find the amount of person duplication caused by these Type B cases, DSSD performed a person matching of the people listed on the BC questionnaire to the housing unit on the CUF that the BC questionnaire was linked to from the additional address matching. Initially DSSD did an exact person match of first name, last name, age and sex. To find additional matches DSSD looked at the people listed in each housing unit and compared them to the people listed on the BC questionnaire. During this match, DSSD made a determination if the person on the BC questionnaire was also counted at the housing unit on the CUF. Table 39 shows the results of this duplicate matching process.

Table 39. The number of Type B people linked to a Housing Unit that were included on the CUF at that Housing Unit

	Number	Percent
Total Number of People Duplicated on the CUF	5,122	41.4%
Exact Match of First Name, Last Name, Age, and Sex	2,797	54.6%
Additional Match	2,325	45.4%
Were not Duplicated	7,239	58.6%
Total Number of People on the Type B Be Counted Questionnaire	**12,361**	**100.0%**

Source: Geocoding Assessment File, CUF and DRF

There were 12,361 people listed on the Type B BC forms that were linked to a housing unit. Of the 12,361 people, 5,122 people (41.4 percent) were found to be located at the housing unit in the census final counts. Fifty-four percent of those that were found to be duplicated had the exact same first name, last name, age, and sex on the CUF.

5.1.7.4 Number of People Counted on Be Counted Forms

After the Be Counted questionnaires are linked to a MAFID the Be Counted questionnaires and the people on that return are eligible to be counted in the final population counts. If there are multiple returns at the MAFID and the BC form is not selected as the primary return, persons can be added from the non-selected BC questionnaire when they do not exist on the primary return. There were 760,748 people counted in the 2010 Census from 350,307 BC questionnaires. Of those people counted in the 2010 Census, 736,941 were in housing units while 23,807 were counted in GQs. Table 40 shows the number of people counted in a housing unit and the number of forms in Census by each BC questionnaire type.

Table 40. Number of Forms and People in a Housing Unit in Census by Questionnaire Type

Be Counted Questionnaire Type	Number of Forms	Percentage of Total Forms	Number of People	Percentage of Total People	Average People Per Questionnaire
English	279,444	82.5%	569,965	77.3%	2.0
Spanish	42,636	12.6%	126,499	17.2%	3.0
Chinese	6,572	1.9%	17,531	2.4%	2.7
Korean	2,475	0.7%	5,299	0.7%	2.1
Vietnamese	1,966	0.6%	5,198	0.7%	2.6
Russian	930	0.3%	1,659	0.2%	1.8
Puerto Rico (Spanish)	4,078	1.2%	9,593	1.3%	2.4
Puerto Rico (English)	541	0.2%	1,197	0.2%	2.2
Total	**338,642**	**100.0%**	**736,941**	**100.0%**	**2.2**

Source: CUF

The majority of people counted in the 2010 Census from BC forms were on the stateside English language questionnaire. Of the 338,642 forms counted in housing units in the census, 82.5 percent were from English language forms. The stateside Spanish language questionnaire had the second highest percentage of forms in census housing units with 12.6 percent. Of the 736,941 people in housing units, 77.3 percent were on an English language questionnaire. The second most common questionnaire was the Spanish language questionnaire, which consisted of 17.2 percent of all BC people in the 2010 Census. The stateside Spanish language questionnaire had the largest average number of people per questionnaire counted in the census with three people per questionnaire. It had an average of one more person per questionnaire than the stateside English language questionnaire. The Chinese language questionnaire had the second highest average number of people per questionnaire with an average of 2.7 people.

Table 41 shows the final number of BC questionnaires in the 2010 Census and questionnaires from other census operations that were associated with MAFIDs ultimately included in the 2010 Census. Table 41 also reports if the MAFID with only a BC questionnaire was a new address verified in FV.

Table 41. The Number of Census Questionnaires for an Address in Census

	Number	Percent
FV Verified Addresses with only a BC Questionnaire	70,173	20.7%
Other Addresses with only a BC Questionnaire	1,493	0.4%
Multiple Questionnaire Types for the Addresses	266,976	78.8%
Total	**338,642**	**100.0%**

Source: CUF

Table 41 reports that 20.7 percent of the 338,642 BC questionnaires assigned to a housing unit were from MAFIDs that were added from the BC operation and were then verified in the FV operation. Additionally, 78.8 percent of the housing units with a BC questionnaire had another type of Census questionnaire completed for that housing unit.

Table 42 reports the number of people and forms counted in a group quarters from a BC questionnaire by the seven types of BC forms.

Table 42. Number of Forms and People in a Group Quarters in Census by Questionnaire Type

Be Counted Questionnaire Type	Number of Forms	Percentage of Total Forms	Number of People	Percentage of Total People	Average People Per Questionnaire
English	9,887	84.8%	18,386	77.2%	1.9
Spanish	1,229	10.5%	3,901	16.4%	3.2
Chinese	202	1.7%	564	2.4%	2.8
Vietnamese	136	1.2%	463	1.9%	3.4
Russian	51	0.4%	113	0.5%	2.2
Korean	22	0.2%	68	0.3%	3.1
Puerto Rico (Spanish)	118	1.0%	253	1.1%	2.1
Puerto Rico (English)	20	0.2%	59	0.2%	3.0
Total	**11,665**	**100.0%**	**23,807**	**100.0%**	**2.0**

Source: CUF

Similar to the housing unit distribution, the three forms that contributed to the highest distributions of people counted in the census were: stateside English language, stateside Spanish language, and Chinese language. The major differences in the distributions between housing units and group quarters are that a higher percentage of people were included from the Vietnamese language forms. The Vietnamese questionnaire had the highest average persons per questionnaire in GQs with 3.4 people. The stateside Spanish language questionnaire also had a high average number of people per questionnaire with 3.2 people. The stateside English language questionnaire had the lowest average persons per questionnaire with 1.9 people.

5.1.7.4.1 Characteristics of People Counted on Be Counted Questionnaires by Types of Areas

To further investigate if there were patterns for characteristics of people who completed BC questionnaires in certain places of the country, we created four logistic regression models. Each of the four logistic regression models contained the same independent variables for the major demographic categories. Those categories included three age groupings (20 to 39 years old, 40 to 64 years old, and 65 years old and over), Hispanic origin, six race groupings (White, Black, Chinese, American Indian, Other Asian, and multi-racial), and sex. The independent variables were then used to see if we could predict if a respondent was living in one of four LCO types regions: Rural/Remote, Suburban/Rural, Urban/Hard to Count, and Urban Metropolitan. We looked for any patterns between certain demographic characteristics and the types of LCOs where people who were counted on BC forms lived. The odds ratios of the models showed the likelihood that a person counted on a BC form, with a particular demographic characteristic, was from a particular LCO type. The results of each LCO type model are shown in Table 43 - Table 46.

Table 43: Coefficients and Odds Ratios for Logistic Regression Model for BC Forms completed in Urban/Hard to Count LCOs

Predictors	Coefficient	Standard Error	P-value	Odds Ratio
Intercept	-1.357	0.007	<0.001	--
Male	-0.017	0.003	<0.001	0.966
Age 20 to 39	0.120	0.008	<0.001	1.127
Age 40 to 64	0.111	0.008	<0.001	1.117
Age 65 and over	-0.043	0.011	<0.001	0.958
Hispanic Origin	0.657	0.007	<0.001	1.928
White	-0.970	0.008	<0.001	0.379
Black	0.409	0.009	<0.001	1.506
American Indian	-0.173	0.047	<0.001	0.841
Chinese	2.273	0.016	<0.001	9.712
Other Asian	0.498	0.014	<0.001	1.645
Multi-racial	0.042	0.027	0.124	1.043

Source: CUF and Non-ID Assessment File

Table 44: Coefficients and Odds Ratios for Logistic Regression Model for BC Forms completed in Urban/Metropolitan LCOs

Predictors	Coefficient	Standard Error	P-value	Odds Ratio
Intercept	-0.600	0.006	<0.001	--
Male	0.009	0.003	<0.001	1.018
Age 20 to 39	-0.001	0.007	0.895	0.999
Age 40 to 64	-0.095	0.007	<0.001	0.910
Age 65 and over	-0.160	0.008	<0.001	0.852
Hispanic Origin	0.109	0.006	<0.001	1.115
White	-0.375	0.006	<0.001	0.687
Black	-0.330	0.008	<0.001	0.719
American Indian	-0.156	0.044	<0.001	0.856
Chinese	-0.765	0.017	<0.001	0.465
Other Asian	0.309	0.013	<0.001	1.361
Multi-racial	-0.241	0.025	<0.001	0.786

Source: CUF and Non-ID Assessment File

Table 45: Coefficients and Odds Ratios for Logistic Regression Model for BC Forms completed in Suburban/Rural LCOs

Predictors	Coefficient	Standard Error	P-value	Odds Ratio
Intercept	-0.442	0.006	<0.001	--
Male	0.006	0.002	0.022	1.011
Age 20 to 39	-0.072	0.007	<0.001	0.931
Age 40 to 64	-0.631	0.006	<0.001	0.939
Age 65 and over	0.044	0.008	<0.001	1.045
Hispanic Origin	-0.771	0.006	<0.001	0.463
White	0.799	0.006	<0.001	2.223
Black	0.148	0.008	<0.001	1.159
American Indian	0.173	0.045	0.001	1.189
Chinese	-2.204	0.026	<0.001	0.110
Other Asian	-0.600	0.015	<0.001	0.549
Multi-racial	0.149	0.024	<0.001	1.160

Source: CUF and Non-ID Assessment File

Table 46: Coefficients and Odds Ratios for Logistic Regression Model for BC Forms completed in Rural/Remote LCOs

Predictors	Coefficient	Standard Error	P-value	Odds Ratio
Intercept	-3.149	0.015	<0.001	--
Male	-0.016	0.006	0.006	0.969
Age 20 to 39	-0.164	0.017	<0.001	0.848
Age 40 to 64	0.091	0.016	<0.001	1.095
Age 65 and over	0.187	0.018	<0.001	1.206
Hispanic Origin	-0.056	0.014	<0.001	0.946
White	0.343	0.014	<0.001	1.409
Black	-2.444	0.049	<0.001	0.087
American Indian	0.149	0.098	0.131	1.160
Chinese	-1.393	0.062	<0.001	0.248
Other Asian	-1.132	0.053	<0.001	0.322
Multi-racial	-0.205	0.065	0.002	0.815

Source: CUF and Non-ID Assessment File

Table 43 shows that all predictor variables but multi-racial were significant at a p-value less than 0.05 for the independent variable Urban/Hard to Count LCO. Looking at the odds ratios, we can interpret that people who are Chinese who were counted in the 2010 Census from BC forms were 9.7 times more likely to live in an Urban/Hard to Count LCO than the other LCO types. Table 45 reports that people who are white were 2.2 times more likely to complete a Be Counted questionnaire in Suburban/Rural LCO than the other LCO types.

To further investigate the effects of regions on types of questionnaires completed we looked at the number of language questionnaires completed and people counted on those questionnaires within each LCO type. Table 47 and Table 48 show the number of people counted on each language questionnaire by LCO type.

Table 47: Number of People Counted in 2010 Census included on BC Forms by Form Type and LCO Type

LCO Type	English Total	English Percent	Spanish Total	Spanish Percent	Chinese Total	Chinese Percent	Korean Total	Korean Percent
Urban/Hard to Count	109,686	18.6%	36,291	27.8%	13,839	76.5%	2,252	42.0%
Urban/ Metropolitan	166,675	28.3%	49,845	38.2%	3,234	17.9%	2,430	45.3%
Suburban/Rural	282,046	47.9%	38,685	29.7%	839	4.6%	637	11.9%
Rural/Remote	25,482	4.3%	5,522	4.2%	182	1.0%	36	0.7%
Puerto Rico	29	<0.1%	18	<0.1%	0	0.0%	0	0.0%
Alaska	4,433	0.8%	39	<0.1%	1	<0.1%	12	0.2%
Total	**588,351**	**100.0%**	**130,400**	**100.0%**	**18,095**	**100.0%**	**5,367**	**100.0%**

Source: CUF and Non-ID Assessment File

Table 48: Number of People Counted in 2010 Census included on BC Forms by Form Type and LCO Type (cont.)

LCO Type	Russian Total	Russian Percent	Vietnamese Total	Vietnamese Percent	PR-English Total	PR-English Percent	PR-Spanish Total	PR-Spanish Percent
Urban/Hard to Count	784	44.2%	1,515	26.8%	0	0.0%	0	0.0%
Urban/ Metropolitan	720	40.6%	2,602	46.0%	8	0.6%	0	0.0%
Suburban/ Rural	225	12.7%	1,506	26.6%	110	8.8%	0	0.0%
Rural/Remote	42	2.4%	38	0.7%	0	0.0%	0	0.0%
Puerto Rico	0	0.0%	0	0.0%	1,138	90.6%	9,846	100.0%
Alaska	1	0.1%	0	0.0%	0	0.0%	0	0.0%
Total	**1,772**	**100.0%**	**5,661**	**100.0%**	**1,256**	**100.0%**	**9,846**	**100.0%**

Source: CUF and Non-ID Assessment File

Table 47 lends further support to the notion that people who are Chinese and were counted on BC forms were more than likely living in Urban/Hard to Count LCOs. Focusing on the Chinese BC forms, 76.5 percent of the people that were counted on the 18,095 Chinese BC forms that were completed were living in Urban/Hard to Count LCOs. No other BC form type had more than half of its respondents counted as living in an Urban/Hard to Count LCO. Table 49 and Table 50 show the number of language questionnaires completed in each LCO type.

Table 49: Number of BC Forms included in 2010 Census by Form Type and LCO Type

LCO Type	English Total	English Percent	Spanish Total	Spanish Percent	Chinese Total	Chinese Percent	Korean Total	Korean Percent
Urban/Hard to Count	53,272	18.4%	13,305	30.3%	4,975	73.4%	1,120	44.9%
Urban/ Metropolitan	80,170	27.7%	16,336	37.2%	1,350	19.9%	1,060	42.5%
Suburban/ Rural	140,669	48.6%	12,439	28.4%	369	5.4%	293	11.7%
Rural/ Remote	12,903	4.5%	1,753	4.0%	79	1.2%	17	0.7%
Puerto Rico	11	<0.1%	10	<0.1%	0	0.0%	0	0.0%
Alaska	2,306	0.8%	22	0.1%	1	<0.1%	7	0.3%
Total	**289,331**	**100.0%**	**43,865**	**100.0%**	**6,774**	**100.0%**	**2,497**	**100.0%**

Source: CUF and Non-ID Assessment File

Table 50: Number of BC Forms included in 2010 Census by Form Type and LCO Type (cont.)

LCO Type	Russian Total	Russian Percent	Vietnamese Total	Vietnamese Percent	PR-English Total	PR-English Percent	PR-Spanish Total	PR-Spanish Percent
Urban/Hard to Count	464	47.3%	555	26.4%	0	0.0%	0	0.0%
Urban/ Metropolitan	386	39.3%	960	45.7%	2	0.4%	0	0.0%
Suburban/ Rural	115	11.7%	572	27.2%	60	10.7%	0	0.0%
Rural/ Remote	15	1.5%	15	0.7%	0	0.0%	0	0.0%
Puerto Rico	0	0.0%	0	0.0%	499	88.9%	4,196	100.0%
Alaska	1	0.1%	0	0.0%	0	0.0%	0	0.0%
Total	**981**	**100.0%**	**2,102**	**100.0%**	**561**	**100.0%**	**4,196**	**100.0%**

Source: CUF and Non-ID Assessment File

Looking at Table 49, we see that 73.4 percent of the Chinese BC forms that were completed were done so by people living in an Urban/Hard to Count LCO. Again, no other BC form type had more than half of its respondents counted living in an Urban/Hard to Count LCO, which further illustrates the propensity for people who are Chinese and were counted on BC forms to be living in Urban/Hard to Count LCOs. Further research into the Chinese BC forms in Urban/Hard to Count areas showed that three LCOs (two in Brooklyn, New York and one in Queens, New York) contained 42.0 percent of the BC questionnaires counted in the 2010 Census. The concentration of Chinese questionnaires in these LCOs influences the high proportion of Chinese questionnaires in Urban/Hard to Count areas.

5.1.7.4.2 Demographic Characteristics for People in Housing Units

There were 736,941 data defined persons included on 338,642 BC forms matched to housing units in the 2010 Census. This section will present the demographic characteristics for these persons on the BC questionnaire. Table 51 - Table 57 give BC person demographic characteristics: age, Hispanic origin, race, relationship to person 1 (the householder), and sex. Age was calculated based on the date of birth provided; if no date of birth was provided then the write-in age was used. Age was calculated only if the date of birth was within valid date ranges. Similarly, the calculated age or write-in age was used only if it was within valid age ranges; otherwise it was considered missing. Table 57 gives the distribution of tenure responses for housing units included in the Be Counted operation.

Because the demographic data used in this assessment are unedited, direct comparisons with published 2010 Census results are not possible. These tables include a row for people with missing values for the specific characteristic. The data in published census reports have undergone editing and imputation, and therefore will have no missing values.

Table 51. Standard Assessment Demographic Table for Age

Age	Number	Percent
Under 5 years	53,089	7.2%
5 to 9 years	48,954	6.6%
10 to 14 years	45,276	6.1%
15 to 19 years	46,241	6.3%
20 to 24 years	49,687	6.7%
25 to 29 years	47,571	6.5%
30 to 34 years	44,174	6.0%
35 to 39 years	42,519	5.8%
40 to 44 years	42,943	5.8%
45 to 49 years	45,446	6.2%
50 to 54 years	45,724	6.2%
55 to 59 years	43,800	5.9%
60 to 64 years	41,954	5.7%
65+ years	114,587	15.6%
Missing	24,976	3.4%
Total	**736,941**	**100.0%**

Source: CUF

Table 52. Standard Assessment Demographic Table for Hispanic Origin

Hispanic Origin	Number	Percent[66]
Not Hispanic or Latino checkbox only	438,383	59.5%
Mexican checkbox only	95,441	13.0%
Puerto Rican checkbox only	23,104	3.1%
Cuban checkbox only	3,772	0.5%
Another Hispanic checkbox only	3,428	0.5%
Multiple checkboxes	1,077	0.1%
Both Checkbox and Write-in	43,715	5.9%
Write-in Only	17,184	2.3%
Missing	110,837	15.0%
Total	**736,941**	**100.0%**

Source: CUF

Table 53. Standard Assessment Demographic Table for Race

Race	Number	Percent[67]
White checkbox alone	357,827	48.6%
Black or African American checkbox alone	117,779	16.0%
American Indian and Alaska Native checkbox alone	2,296	0.3%
Asian Indian checkbox alone	5,450	0.7%
Chinese checkbox alone	24,834	3.4%
Filipino checkbox alone	4,609	0.6%
Japanese checkbox alone	1,127	0.2%
Korean checkbox alone	7,784	1.1%
Vietnamese checkbox alone	7,228	1.0%
Other Asian checkbox alone	364	0.1%
Native Hawaiian checkbox alone	332	0.1%
Guamanian or Chamorro checkbox alone	96	<0.1%
Samoan checkbox alone	288	<0.1%
Other Pacific Islander checkbox alone	52	<0.1%
Some Other Race checkbox alone	627	0.1%
Multiple checkboxes	7,237	1.0%
Both Checkbox and Write-in	78,133	10.6%
Write-in Only	27,334	3.7%
Missing	93,544	12.7%
Total	**736,941**	**100.0%**

Source: CUF

[66] This column does not total 100.0% due to rounding.

[67] This column does not total 100.0% due to rounding.

Table 54. Standard Assessment Demographic Table for Relationship to Householder[68]

Relationship	Number	Percent[69]
Householder	281,760	41.3%
Husband or Wife of Householder	118,546	17.4%
Biological Son or Daughter of Householder	174,482	25.6%
Adopted Son or Daughter of Householder	4,396	0.6%
Stepson or Stepdaughter of Householder	7,195	1.1%
Brother or Sister of Householder	10,192	1.5%
Father or Mother of Householder	9,700	1.4%
Grandchild of Householder	14,885	2.2%
Parent-in-law of Householder	2,330	0.3%
Son-in-law or Daughter-in-law of Householder	3,485	0.5%
Other Relative	10,700	1.6%
Roomer or Boarder	4,602	0.7%
Housemate or Roommate	10,060	1.5%
Unmarried Partner	15,819	2.3%
Other Nonrelative	7,498	1.1%
Two or more relationships	1,264	0.2%
Missing	6,064	0.9%
Total	**682,978**	**100.0%**

Source: CUF

Table 55. Standard Assessment Demographic Table for Relationship to Householder of Extended Roster Persons

Relationship	Number	Percent
Other Relative	43,067	79.8%
Other Nonrelative	7,770	14.4%
Both	48	0.1%
Missing	3,078	5.7%
Total	**53,963**	**100.0%**

Source: CUF

These distributions may vary across different census operations due to differences in corresponding populations and census procedures.

[68] Extended roster persons are excluded from this table.

[69] This column does not total 100.0% due to rounding.

Table 56. Standard Assessment Demographic Table for Sex

Sex	Number	Percent[70]
Male	350,731	47.6%
Female	372,082	50.5%
Both	334	0.1%
Missing	13,794	1.9%
Total	**736,941**	**100.0%**

Source: CUF

Table 57. Standard Assessment Demographic Table for Tenure

Tenure	Number	Percent[71]
Owned with a mortgage or a loan	97,739	29.3%
Owned without a mortgage or a loan	56,073	16.8%
Rented	128,011	38.4%
Occupied without payment of rent	7,427	2.2%
Multiple	888	0.3%
Missing	43,011	12.9%
Total	**333,149**	**100.0%**

Source: CUF

[70] This column does not total 100.0% due to rounding.

[71] This column does not total 100.0% due to rounding.

5.1.7.4.3 Demographic Characteristics for People in Group Quarters

There were 23,807 data defined persons included on 11,665 BC forms in group quarters in the 2010 Census. This section will present the demographic characteristics for these persons on the Be Counted questionnaire. Table 58 - Table 62 give Be Counted person demographic characteristics: age, Hispanic origin, race, relationship to person 1 (the householder), and sex. Age was calculated based on the date of birth provided; if no date of birth was provided then the write-in age was used. Age was calculated only if the date of birth was within valid date ranges. Similarly, the calculated age or write-in age was used only if it was within valid age ranges; otherwise, it was considered missing.

Because the demographic data used in this assessment are unedited, direct comparisons with published 2010 Census results are not possible. These tables include a row for people with missing values for the specific characteristic. The data in published Census reports have undergone editing and imputation, and therefore will have no missing values.

Table 58. Standard Assessment Demographic Table for Age

Age	Number	Percent
Under 5 years	1,509	6.3%
5 to 9 years	1,390	5.8%
10 to 14 years	1,360	5.7%
15 to 19 years	1,269	5.3%
20 to 24 years	1,547	6.5%
25 to 29 years	1,605	6.7%
30 to 34 years	1,446	6.1%
35 to 39 years	1,607	6.8%
40 to 44 years	1,794	7.5%
45 to 49 years	1,895	8.0%
50 to 54 years	1,944	8.2%
55 to 59 years	1,625	6.8%
60 to 64 years	1,192	5.0%
65+ years	2,372	10.0%
Missing	1,252	5.3%
Total	**23,807**	**100.0%**

Source: CUF

Table 59. Standard Assessment Demographic Table for Hispanic Origin

Hispanic Origin	Number	Percent[72]
Not Hispanic or Latino checkbox only	13,537	56.9%
Mexican checkbox only	2,795	11.7%
Puerto Rican checkbox only	893	3.8%
Cuban checkbox only	178	0.7%
Another Hispanic checkbox only	188	0.8%
Multiple checkboxes	55	0.2%
Both Checkbox and Write-in	2,005	8.4%
Write-in Only	478	2.0%
Missing	3,678	15.4%
Total	**23,807**	**100.0%**

Source: CUF

Table 60. Standard Assessment Demographic Table for Race

Race	Number	Percent[73]
White checkbox alone	9,684	40.7%
Black or African American checkbox alone	4,546	19.1%
American Indian and Alaska Native checkbox alone	121	0.5%
Asian Indian checkbox alone	172	0.7%
Chinese checkbox alone	675	2.8%
Filipino checkbox alone	133	0.6%
Japanese checkbox alone	35	0.1%
Korean checkbox alone	89	0.4%
Vietnamese checkbox alone	467	2.0%
Other Asian checkbox alone	11	<0.0%
Native Hawaiian checkbox alone	16	0.1%
Guamanian or Chamorro checkbox alone	4	<0.1%
Samoan checkbox alone	16	0.1%
Other Pacific Islander checkbox alone	3	<0.1%
Some Other Race checkbox alone	21	0.1%
Multiple checkboxes	445	1.9%
Both Checkbox and Write-in	3,653	15.3%
Write-in Only	813	3.4%
Missing	2,903	12.2%
Total	**23,807**	**100.0%**

Source: CUF

[72] This column does not total 100.0% due to rounding.

[73] This column does not total 100.0% due to rounding.

Table 61. Standard Assessment Demographic Table for Relationship to the Householder[74]

Relationship	Number	Percent[75]
Householder	11,548	52.2%
Husband or Wife of Householder	2,643	11.9%
Biological Son or Daughter of Householder	4,864	22.0%
Adopted Son or Daughter of Householder	108	0.5%
Stepson or Stepdaughter of Householder	158	0.7%
Brother or Sister of Householder	302	1.4%
Father or Mother of Householder	301	1.4%
Grandchild of Householder	327	1.5%
Parent-in-law of Householder	48	0.2%
Son-in-law or Daughter-in-law of Householder	93	0.4%
Other Relative	288	1.3%
Roomer or Boarder	88	0.4%
Housemate or Roommate	198	0.9%
Unmarried Partner	555	2.5%
Other Nonrelative	280	1.3%
Two or more relationships	114	0.5%
Missing	216	1.0%
Total	**22,131**	**100.0%**

Source: CUF

Table 62. Standard Assessment Demographic Table for Relationship to Householder of Extended Roster Persons

Relationship	Number	Percent
Other Relative	1,280	76.4%
Other Nonrelative	255	15.2%
Both	2	0.1%
Missing	139	8.3%
Total	**1,676**	**100.0%**

Source: CUF

These distributions may vary across different census operations due to differences in corresponding populations and census procedures.

[74] Extended roster persons are excluded from this table.

[75] This column does not total 100.0% due to rounding.

5.2 Cost and Staffing

5.2.1 Background

The cost results presented in this assessment were generated by program office staff using methods predating the Census Bureau's commitment to comply with Government Accountability Office's cost estimating guidelines and the Society of Cost Estimating and Analysis best practices. Hence, while the Census Bureau believes these cost results are accurate and will meet the needs for which they will be used, the methods used for estimating costs of 2010 Census operations may not meet all of these guidelines and best practices. The Census Bureau will adhere to these guidelines in producing 2020 Census cost estimates.

The budget for the BC/QAC was based on cost estimates using a number of components that were developed early in the decade. The 2010 Congressional Submission (baseline cost model) for the BC/QAC called for 40,000 sites.[76] In this submission, the baseline cost for BC/QAC was $45,574,662.

As we approached the start of the operation, our knowledge of the components improved based on experience and data. The experience came from similar operations such as Address Canvassing and Group Quarters Validation, as well as revisiting Census 2000 observations and Census Test experiences. We also looked at current external challenges and opportunities and worked with panels of experts in Census HQ and field operations to determine the impact of this information on cost drivers. These working sessions identified components of the original estimate that should remain the same and those that should be updated.

DMD, FLD, and DSSD staff worked collaboratively to revise cost model assumptions to develop a new BC/QAC budget. In the revised assumptions, we estimated that each LCO would have about 100 BC sites, of which 75 would be QAC sites. We assumed each LCO would have one Office Operations Supervisor (OOS) to manage two BC clerks (each of whom would manage about 50 sites).

Regarding the QAC sites, each LCO would have a Field Operations Supervisor (FOS) to manage about 150 QAC representatives. The QAC sites would be open for about 15 hours per week, with shared time between two QAC Representatives. Using these assumptions we arrived at a revised BC/QAC budget of $41,534,352. The budget loaded into C&P was slightly lower ($39,804,886) because it did not include banner costs, which were included in the BC/QAC cost model but were not charged under the BC/QAC field operations project code.

DMD and FLD used the C&P budget to manage the field operations during production. For this assessment we also used the DMD C&P System to analyze the budgeted and actual costs for the BC/QAC.

[76] The 2010 Congressional Submission budgeted number of sites was misleading. The "Number of Centers" (600,000) reflected the anticipated number of visits to sites. However, the budgeted number of sites was 40,000.

5.2.2 Overview

At the aggregate level the BC/QAC costs were 10.6 percent lower than budgeted. Table 63 shows the budgeted and actual costs, and the dollar variance associated with BC/QAC by the BC and QAC components.

Table 63: 2010 BC/QAC Budgeted and Actual Costs

	Budget Cost	Actual Cost	Variance	Percent Variance
BC	$9,437,282	$7,772,837[77]	$1,664,445	17.6%
QAC	$30,367,604	$27,801,294[78]	$2,566,310	8.5%
Total BC/QAC	**$39,804,886**	**$35,574,131**	**$4,230,755**	**10.6%**

Source: DMD C&P

In the following cost sections, we will address the individual cost factors that impacted the cost variances. The areas we address include:

- Summary of the field operations cost
- Variance by position type
- Variance by cost factor
- Variance by cost factor and position type
- Production staff

5.2.3 Summary of the Field Operation Cost

5.2.3.1 Field Operation Costs by Cost Factor

Overall the BC/QAC was under budget by 10.6 percent. Of the three cost factors (i.e. production salary, training salary, and mileage cost), only mileage cost was over budget. Both production salary and training salary costs were lower than planned.

[77] This number includes $110,729 that was charged under the enumerator, crew leader and crew leader assistant position types under the BC operation. The position types did not exist for BC.

[78] This number includes $513,805 that was charged under the enumerator, crew leader and crew leader assistant position types under the QAC operation. The position types did not exist for QAC.

Table 64: Summary of BC/QAC Operation Costs

	Budget	Actual	Percent of Budget Used	Percent of Actual Total Cost
Production Salary	$32,880,236	$29,117,721	88.6%	81.9%
Training Salary	$4,408,069	$2,978,699	67.6%	8.4%
Mileage Cost	$2,516,581	$3,477,711	138.2%	9.8%
Total	**$39,804,886**	**$35,574,131**[79]	**89.4%**	**100.0%**

Source: Cost and Progress

Production salary was the largest contributor to the under spending, with 88.6 percent of its budget spent. Training salary was also under budget, with only 67.6 percent of the budget spent. However, mileage costs were actually over budget by 38.2 percent.

5.2.3.2 Variance by Position Type

In analyzing the cost variance, we reviewed the variance by position type, including LCO clerks, OOS, QAC representatives, and FOS. Table 65 depicts the dollar and percent variance by position type. It also shows the variance by position type as a percentage of the Total BC/QAC variance.

Table 65: BC/QAC Variance by Position Type

Position Type	Variance	Percent of Variance of Position Type Budget	Percent of Total Variance
BC Clerks	$803,495	14.6%	19.0%
OOS	$971,679	24.6%	23.0%
QAC Reps	$3,507,338	13.0%	82.9%
FOS	-$427,223	-13.0%	-10.1%
Other	-$624,534	--	-14.8%
Total	**$4,230,755**	**10.6%**	**100.0%**

Source: Cost and Progress

The total BC/QAC cost variance is $4,230,755 or 10.6 percent of the total BC/QAC budget. The BC clerk, OOS, and QAC representative costs all showed positive variances, with the QAC representative variance being the largest at $3,507,338 or 13.0 percent of the QAC representative

[79] This number includes the sum of BC costs ($7,662,108) and QAC costs ($27,287,489), in addition to $624,534 that were charged under the enumerator, crew leader and crew leader assistant position types under the BC/QAC operation. The position types did not exist for BC/QAC.

cost budget. The QAC representative variance had the greatest impact on the total BC/QAC variance, making up 82.9 percent of it. The FOS costs ran over budget, yielding a negative variance of -$427,223 or -13.0 percent of the FOS cost budget. There were $624,534 in charges applied to the BC or QAC task code that were not associated with one of the four BC/QAC position types. These may have been mischarges from other operations or BC/QAC charges where the wrong job code was used in error.

5.2.3.3 Variance by Cost Factor and Position Type

Several cost factors contributed to the total variance. Those factors include the money allocated for production salary, mileage, and training salary. Four different position types further categorize the amount of money budgeted and spent: BC clerks, OOS, QAC representatives, and FOS. Table 66 shows the dollar and percent variances by cost factor and further by employee type. It also shows each variance as a percent of the total variance.

Table 66: BC/QAC Variance by Cost Factor and Position Type

Cost Factor	Variance	Percent Variance of Cost Factor Budget	Percent of Total Variance
Production Salary			
BC Clerks	$1,061,594	23.6%	25.1%
OOS	$620,937	18.8%	14.7%
QAC Reps	$2,307,326	10.5%	54.5%
FOS	$193,383	6.3%	4.6%
Other	-$420,725	--	-9.9%
Total	**$3,762,515**	**11.4%**	**88.9%**
Mileage Cost			
BC Clerks	-$67,374	-6.7%	-1.6%
OOS	$417,292	64.3%	9.9%
QAC Reps	-$682,561	-109.4%	-16.1%
FOS	-$532,396	-217.1%	-12.6%
Other	-$96,091	--	-2.3%
Total	**-961,130**	**-38.2%**	**-22.7%**
Training Salary[80]			
BC Clerks	-$190,725	--	-4.5%
OOS	-$66,550	--	-1.6%
QAC Reps	$1,882,573	42.7%	44.5%
FOS	-$88,210	--	-2.1%
Other	-$107,718	--	-2.5%
Total	**$1,429,370**	**32.4%**	**33.8%**
Total	**$4,230,755**	**10.6%**	**100.0%**

Source: Cost and Progress

The most significant cost variances are in the QAC representative and FOS mileage costs, which were -109.4 percent and -217.1 percent respectively. OOS mileage and QAC representative training cost variances were also notable at 64.3 percent and 42.7 percent respectively. The factors that contributed the greatest to the overall BC/QAC variance, were the under-spending of the QAC representative production salary budget and training salary budget. These factors contributed 54.5 percent and 44.5 percent to the total BC/QAC variance.

[80] QAC representative was the only position for which we budgeted costs. Therefore, the percent variance of cost factor budget is only available for QAC representatives.

5.2.4 Staffing

Several of the BC/QAC research questions pertain to the staffing of the operation. In this section, we address how actual staffing levels compared to budgeted, and whether BC clerks were able to handle the number of sites in their workload. Table 67 depicts the budgeted and actual number of field positions and the percent variance.

Table 67: BC/QAC Production Staffing

Position	Number of Positions Budgeted	Number of Positions Actual	Variance	Percent Variance
BC Clerks	940	3,410	-2,470	-262.8%
OOS	470	798	-328	-69.8%
QAC Reps	45,120	26,303	18,817	41.7%
FOS	470	544	-74	-15.7%
Total	**47,000**	**31,055**	**15,945**	**33.9%**

Source: DAPPS

For BC/QAC, 47,000 total staff positions were budgeted. However, we only filled 31,055 positions. The variance in total positions is largely a result of 18,817 fewer QAC representative positions being filled than budgeted. We suspect that some QAC representatives may have charged to the BC clerk code in error, causing the number of actual BC clerk positions to be overstated and the number of QAC representatives to be under represented. Fewer QAC representatives worked on the operation but worked for more hours per person. Conversely, more positions than budgeted were filled for the other three position types including BC clerks, OOS, and FOS. We budgeted for 940 BC clerk positions, however, data show there were actually 3,410 employees who charged to the BC clerk job code.

Based on anecdotal information from the regions it seems that the number of staff involved in distributing questionnaires was adequate. A concern the regions had was that the number of materials that needed to be distributed or picked-up at the beginning or end of the operations was too large to fit into one car. Several regions used more clerks at the beginning and the end of the operation to complete the activities on time. Another concern was using one FOS for the entire LCO. Some FOS areas were large, especially in the Denver region, which required driving for long distances. This can be seen in the mileage use in the Denver region for FOSs.

5.3 Training

Following the completion of the operation, FLD Partnerships conducted debriefings with Partnership specialists, BC clerks, QAC representatives, and FOSs. The debriefings yielded several recommendations specific to training.

- Partnership and Operations staffs should attend identical BC/QAC trainings, have the same BC/QAC manuals, and become familiar with each other's departments.

Operations Staff

- Operations staff should be trained how to use the IPCD to prevent duplicate or wrong information from being entered.

- QAC trainings need to be longer than the four hours allotted in 2010 and include role playing on how to interact with the public, how to complete the questionnaire, and how to provide good customer service.

- Train QAC staff so that they have a broader understanding of the Census Bureau and are equipped to address questions about potentially controversial issues, such as questions about race categories.

Partnership Staff

- Improve the training manual to ensure we are clearly communicating the process for site selection. Place more emphasis on using characteristics of the surrounding area when identifying potential BC/QAC sites and develop a system to monitor the process to ensure the criteria are being used. These criteria should include Hard to Count scores, Tract Action Plans and using the most current data available such as data from the American Community Survey.

- Emphasize to Partnership Specialists during training that when approaching an organization to host a BC/QAC site they must explain the criteria for how sites are chosen, review the liability waiver and clearly communicate how staff will be hired.

- Emphasize in staff training to select BC/QAC sites that are frequently visited or have heavy foot traffic and set hours based on when they can serve the most people. Partnership staff should be more cognizant of whether or not a potential site is appropriate.

5.4 Schedule

The BC/QAC operation was conducted on schedule according to baseline dates from March 19 to April 19, 2010. Prior to March 19, a number of QAC sites in U/L areas were opened as early as February 26. This section discusses how we monitored schedule activities and how many of those activities were on time.

The Census Bureau used the 2010 DMD MAS to monitor and track the 2010 Census. The MAS - created and maintained by the decennial census staff through a web-based version of Primavera scheduling software - included 10,875 activity lines. Of the 10,875 lines, 513 (4.7 percent) activities directly related to BC/QAC. Of the 513 activities, 38 were under the BC/QAC Work Breakdown Structure (WBS), and the remaining 475 activities spanned all functional areas related to BC/QAC (e.g. Content and Forms, Field Infrastructure, Language, and Assessments.)

As shown in Table 68, 310 activities (62.2 percent) started and finished on time or ahead of schedule according to baseline dates.

Table 68: BC/QAC Activities that Started and Finished On Time

	Number of Activities	Percent of Activities
Activities that Started and Finished on Time or Ahead	310	62.2%
Activities that Started or Finished Late	188	37.8%
Completed Activities	**498**[81]	**100.0%**

Source: Master Activities Schedule

Table 69 shows the counts and percentages of activities that started and finished on time, by groupings of all activities, milestone starts, milestone finishes, and task dependent activities. There were 334 (67.1 percent) activities that started on time or early and 328 (65.9 percent) activities that finished on time or ahead of schedule. Overall, the milestone activities, particularly the milestone starts were less frequently on schedule than task dependent activities.

[81] There are 513 total BC/QAC schedule activities. The schedule lines that are not finished are all related to the BC/QAC assessment.

Table 69: BC/QAC Activities that Started or Finished on Time by Activity Type

	All Activities		Milestone Starts		Milestone Finishes		Task Dependent Activities[82]	
	Number	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
Activities Started on Time or Early	334	67.1%	6	42.9%	--	--	289	71.4%
Activities Finished on Time or Early	328	65.9%	--	--	39	49.4%	283	69.9%
Completed Activities	**498**	**100%**	**14**	**100%**	**79**	**100%**	**405**	**100%**

Source: Master Activities Schedule

To generate the count of all activities that started on time or early, we added the milestone starts that started on time or early, the milestone finishes that finished on time or early, and the task dependent activities that started on time or early. Similarly, to calculate the count of all activities that finished on time or early, we added the milestone starts that started on time or early, the milestone finishes that finished on time or early, and the task dependent activities that finished on time or early.

5.5 Change Control

Change control was the process of identifying, documenting, approving or rejecting, and controlling changes to the BC/QAC baseline. The BC/QAC baseline reflected the original project plan, including requirements, schedule, and budget documentation. The HUE OIT - and if necessary, the Census Integration Group (CIG) - carefully reviewed proposed changes before incorporating changes to a revised baseline. The change control process successfully facilitated the implementation of changes throughout the lifecycle of the BC/QAC.

Following a decision made by CIG on December 17, 2008, many BC/QAC changes only required approval at the HUE OIT level. The CIG approved a revision to the Change Control Management Plan that empowered teams, such as the HUE OIT, to make changes to the schedule when appropriate without direct involvement from the CIG. The new process allowed integration teams to make their own changes except in the following instances:

- Increase in costs to the baseline budget
- Impact to other key activities on the alert report (for example, a change to a planned start or finish date)
- Owners of impacted activities did not agree on change

[82] Task dependent activities are activities that have defined predecessor and successor activities linked to them in the schedule.

- Change to operation scope
- At discretion of the initiator

In general, the change control process was user friendly. Most divisions submitted change requests for their schedule activities in a timely manner. However, at times, Decennial Management Division (DMD) staff had to prepare change requests for other areas to get the requests submitted in a timely manner. These situations occurred during the most demanding time of the operations and created additional work for DMD staff that was already short staffed.

The ability of the team to make decisions on operational changes as long as scope creep, budget and operation impacts were contained was a big advantage. It allowed quick implementation of changes that enabled the operation to continue on a reasonably uninterrupted course.

5.5.1 Schedule Changes

The 2010 MAS contained 10,875 schedule lines. Of the 10,875 activities, 513 were associated with BC/QAC. The 2010 Census schedule was baselined on May 22, 2008. Subsequent to the baseline schedule, we approved and implemented 12 BC/QAC related change requests. BC/QAC schedule changes affected many areas including - but not limited to - the following:

- Cost and progress
- Training and field material kitting
- Assessments

The changes included revisions to lags, durations, baseline dates, predecessor and successors, and responsible divisions. Some changes also added or deleted activities from the schedule.

5.5.2 Requirement Changes

Only one 2010 Census requirement change was specific to the BC/QAC. This change - submitted in spring of 2008 - called for a revision of the BC questionnaire based on results of cognitive testing performed by the Statistical Research Division. The change request resulted in changes to the address fields so that they more closely followed the order of incoming mail (e.g. did not include PO Box, and placed county after ZIP code). This CR also made more prominent the checkbox that indicated the respondent had no address on Census Day, in addition to slightly rewording the residence rules, the coverage question and coverage response text.

5.6 Risk Management

The BC/QAC team identified and monitored project risks using the BC/QAC Risk Register. The team started to identify risks in 2008 and continued to revise and refine the risk register through May 2009. There were 12 BC/QAC project risks and throughout the review process, we removed four risks from the Risk Register, leaving eight open risks. We did not make any updates to the risk register between May 2009 and the start of BC/QAC production in February 2010 because no changes were necessary. During BC/QAC production, there were no updates to the risk register.

It is difficult to assess how many of the BC/QAC risks were realized because we anticipated many of the BC/QAC risks would occur to some degree. For example, one of the risk statements was: *If BC forms arrive at the NPC after the cut-off date for processing, then individuals may not be included in the Census*. Surely, some forms were received late but this did not have major impacts on the program and the census overall.

In addition, some of the BC/QAC risks are hard to measure because they rely solely on anecdotal information. An example of such a risk is: *If QAC sites are not open during scheduled times then respondents who seek assistance may not complete and submit a Census questionnaire*. This risk may have occurred in certain areas but we do not think there were major problems overall.

Of the eight risks there was one notable risk that seemed to have been realized: *If address information in the BC questionnaire is incomplete then problems with geocoding will occur.* Of all the Non-ID forms, the BC forms created the most challenges for GEO during post data capture processing. Some respondents entered information such as their house numbers in the wrong location, which created extra work for post processing. In paper operations that rely on respondents to self enumerate, it is difficult to avoid these kinds of errors. The conclusions section of this document discusses our recommendation to research the feasibility of an automated data collection methodology for the BC/QAC.

5.7 Automation

Several automated systems played an integral or support role in the BC/QAC operation. This section details both how the systems worked in production and any issues documented for each system. Since the BC/QAC was a paper operation and lacked an automated operations control system, this section includes discussion of the Planning Database, IPCD, and the D-158, which were used to manually track the operation.

5.7.1 Decennial Applicant, Personnel and Payroll System (DAPPS)

DAPPS experienced performance issues in the spring/summer of 2009 during the early Census Address Canvassing operation; by March 2010 a new architecture for the DAPPS environment was successfully deployed. DAPPS stability and performance improved tremendously enabling DAPPS to meet the BC/QAC needs.

5.7.2 Decennial Response Integration System (DRIS)

There were no DRIS processing issues for BC/QAC. A small number of BC questionnaires were misdirected to the other DRIS sites in Baltimore and Jeffersonville, either erroneously by USPS, or by respondents who placed BC questionnaires in a regular census envelope or their own personal envelope. BC forms that arrived either at Baltimore or Jeffersonville (prior to September 7, 2010), were boxed and shipped via FedEx (a Title 13 approved courier) to Phoenix, where DRIS staff rescanned the forms and processed them. After September 7 (the last day to be included in the Census), all forms were redirected to Jeffersonville. Some number of BC questionnaires were received after September 7.

5.7.3 Cost and Progress (C&P)

There were no automation problems with the Cost and Progress reports used for BC/QAC.

5.7.4 Response Processing System (RPS)

RPS successfully processed the BC response data received. Only one minor issue was encountered that pertained to 749 Type B cases (i.e., BC forms with the homeless checkbox marked). The plan was to allocate Type B cases to GQs in the county to which GEO geocoded the case. However, at the end of the census, no GQs existed in the counties for those 749 cases and so RPS had to create or modify GQ records to accommodate them.

5.7.5 Census Evaluation and Experiments System (CEE)

CEE was the interface that transferred data directly to DSSD. NPC transferred the D-399 data and GEO transferred the Geocoding Assessment files to DSSD through CEE. There were not any issues with either data transfer.

5.7.6 National Processing Center - Automated Tracking and Control System (NPC-ATAC)

There were no automation problems with the Automated Tracking and Control System regarding BC/QAC.

5.7.7 Visual Basic Key from Paper (VB KFP)

There were no automation problems with the Visual Basic Key from Paper system regarding BC/QAC.

5.7.8 GEO Automated Matching and Geocoding

GEO was able to successfully perform automated matching and geocoding for Non-ID Type A and Type B records using software. However, several issues with how respondents filled out the forms created difficulties for Non-ID Processing. For example, Type B respondents did not always check the “no address” box - the indicator initially used to determine whether records were Type A or Type B. Additionally, respondents appeared to have mistaken the house number field for either phone number or number of people at the residence. Many times whole addresses were found in a single field on the questionnaire. This usually occurred in the Street name or House Number fields, probably because they were the longest fields on the questionnaire. While this occurred predominately on records from BC, it was not unique to that operation. The impacts of these issues and BC questionnaire usability are discussed in more detail in the both the Results and Conclusions sections of this document.

5.7.9 Planning Database

Although the 2010 Census Planning Database contained data from 2000 and was not the primary tool for identifying Hard-to-Enumerate areas, the majority of regions successfully used the Planning Database as a baseline in identifying these areas. The Planning Database contained data

from 2000, which were not particularly useful in targeting Hard-to-Enumerate areas for 2010, considering how economic conditions changed over the past 10 years. Partnership specialists had to rely heavily on regional knowledge (e.g., information from partners and local governments). The team recommends that in the future we research the feasibility of updating the Planning Database with ACS data and local knowledge from Partners.

5.7.10 Integrated Partnership Contact Database and D-158 Spreadsheet

The original operational design called for having the BC/QAC as part of the OCS to monitor the operation. We abandoned this design during the 2010 Census Re-Plan as a cost savings measure. As a solution to this change, FLD decided to use the IPCD to collect and track BC/QAC sites and created a series of Excel spreadsheets to provide the LCOs with a way to track BC/QAC activities in the field. FLD Partnership successfully added the BC/QAC to the IPCD in a short period of time. Partnership Specialists effectively used the IPCD to record and confirm Partners who committed to donating space. Additionally, the IPCD provided site information for the QAC website. Since it was not in the original plan or budget to use the IPCD for BC/QAC, FLD Partnership did not have budgeted staff resources to build a proper BC/QAC tool.

The IPCD training was quickly developed and was sometimes confusing for Partnership Specialists. It was up to the regions to decide if they wanted to allow operations staff to use the IPCD. The regions that allowed operations staff to use the IPCD provided staff with training and manuals. However, FLD Partnership debriefings indicated that due to the lack of IPCD training for operations staff, sometimes duplicate or inaccurate information was entered into the IPCD, which created confusion in managing and monitoring the operation.

Despite being cumbersome, the D-158 was successfully used as a tracking tool. However, the IPCD and D-158 were parallel systems and did not always reflect consistent data which created confusion. Staff found the D-158 to be cumbersome because it required manual updating, which made it difficult to manage staff, open and close sites, and track schedules.

6 RELATED EVALUATIONS, EXPERIMENTS, AND/OR ASSESSMENTS

The following 2010 Census assessments, evaluations, and experiments are related to the BC/QAC Assessment:

- Non-ID Processing Assessment
- 2010 Census Operational Assessment for TEA Delineation
- Data Capture Assessment
- Forms and Printing Assessment
- Language Assessment
- Content and Forms Design Assessment
- Mail Response/Return Rates Assessment
- Response Processing System/Universe Control and Management Assessment
- 2010 Field Verification Operational Assessment

7 KEY LESSONS LEARNED, CONCLUSIONS, AND RECOMMENDATIONS

Following the completion of the BC/QAC, DMD conducted a series of Lessons Learned sessions, which included stakeholders from the BC/QAC subteam and the HUE OIT. The group used a modified nominal group technique to gather information from all participants on a range of topics related to the BC/QAC. Section 7.1 of this assessment highlights the key successes, challenges, and recommendations identified by the group. The detailed Lessons Learned document is appended to this document.

7.1 Lessons Learned

7.1.1 Successes

- The operation finished on time and under budget. Both training and conduct dates were on schedule.
- The utilization of the IPCD for BC/QAC activities and the availability of the BC/QAC information on the website were successes.
- The BC/QAC budget included all office and field staff (e.g., OOS, BC clerk, QAC representative, FOS) as opposed to the Census 2000 budget which did not account for paying all staff since the plan was to use a combination of paid and volunteer staff.
- The kitting process was well executed by FLD Logistics. Quantities of materials were sufficient, and the coordination of a variety of materials from multiple sources was successful.

7.1.2 Challenges

- Assessment Study Plan questions were developed after the operation had already been planned. We were unable to adjust the data sources to ensure that we could obtain certain information to answer research questions, particularly for the QAC component.
- Responsibility was shared between Operations and Partnership areas which made it challenging to coordinate in order to effectively plan and manage the operation.
- It was difficult to budget and plan for the 2010 BC/QAC program because the budget was initially developed 10 years ago, when we were unaware of what the economic conditions would be and where the HTE areas would be located in 2010. This made it difficult to set budget goals for the number of sites by region. The Regions established sites in areas that did not necessarily need them because of the pressure they faced to reach a target number of sites determined for budget purposes.
- There was not a centralized operational control system for BC/QAC work, which made it difficult to manage, assign, and monitor the number of forms distributed and picked up.

LCOs used an ad hoc manual system which resulted in inconsistent data and created confusion.

- Distributing forms efficiently and effectively to appropriate sites and respondents was a challenge. We had to overprint questionnaires to ensure that each LCO had sufficient forms in all languages. If we use an automated questionnaire in the future, it may be easier to efficiently reach respondents and offer a variety of languages without having to waste paper.

7.1.3 Lessons Learned Recommendations

- The study plan should influence the operational plan rather than the operational plan dictating what can be answered in the assessment after the fact. Include research questions in the DOSP to ensure that data will be available to provide answers to the questions. The data sources needed to monitor and assess the operation need to be identified early in the development process.

- Manage BC/QAC under one program area so that responsibility is not shared between Partnership and Operations areas.

- Implement an operations control system for BC/QAC which creates reports and provides automated tracking.

- Plan and budget for using the IPCD and Census Bureau website for the BC/QAC to better match the needs of the program.

- Use an electronic data collection method and implement kiosks at BC sites to reduce errors in data capture. Implement sites in standard facility types (e.g. DMV, libraries).

- Allow regions to participate in determining the number and location of sites based on their individual needs, and establish site locations closer to when the operation is implemented.

- Research the feasibility of updating the Planning Database with ACS data and local knowledge.

- Train Partnership and Operational staff consistently on how to use the IPCD and on operational information.

7.2 Conclusions

The BC/QAC program was successful in adding people to the 2010 Census and providing a Census presence in the community, but there is room for improvement. There were 736,941 people added to housing units and 23,807 people added to group quarters from BC questionnaires. Of the 308,745,538 people counted in the 2010 Census only 0.2 percent were added from BC questionnaires. The majority of BC/QAC sites were located in businesses, government buildings, libraries, faith based organizations and community organization buildings. People who were already involved in their communities and therefore more likely to participate in the Census could have visited many of these facility types. The Census Bureau should

research placing Be Counted questionnaires in places where people gather who are not actively involved in their communities. Also, it appeared that most QAC sites did not receive much traffic on weekends. Visits tended to peak in the middle of the week on Wednesdays and dropped off significantly on Sundays. Not having QAC sites available in areas that receive foot traffic on weekends did not provide much opportunity for people that work during the week to access a BC form or get language assistance. Additionally, if the BC questionnaires were available electronically it may be accessible to more people and not require visits to various facilities and buildings.

People in Urban/Hard to Count Areas visited QAC sites more frequently than any other region of the country in proportion to the number of housing units in the area. Over thirty percent of QAC visits were in Urban/Hard to Count areas while only approximately 12.5 percent of the country is in Urban/Hard to Count areas. Urban/Hard to Count areas include major cities such as New York City, Chicago, Washington D.C., and Boston. Even though QAC sites in Urban/Hard to Count areas were visited more often, this was not reflected in the number of questionnaires assigned a MAFID. Of the BC questionnaires with a MAFID, 16.3 percent were in Urban/Hard to Count areas. The sites in these areas may have been visited for reasons besides picking up a BC questionnaire. Additionally, Urban/Hard to Count LCOs had a much larger number of people who were Chinese counted in those LCOs than the other LCO types. People who identified as Chinese were 9.7 times more likely to live in an Urban/Hard to Count LCO than the other LCO types.

BC questionnaires were not completed very often in areas enumerated using U/L methodology, which, although they occupied more land area than any other enumeration area, were mainly in sparsely populated areas in the western half of the United States. Nine percent of the stateside housing units were in blocks enumerated with the U/L methodology but only 6.4 percent of BC forms were completed in these areas. This could be an effect of U/L occurring in rural areas or could be a result of QAC sites being opened earlier for U/L questionnaire assistance but not providing BC questionnaire during this early open period. Customers might not have been very likely to visit a QAC site a second time if during their initial visit they were unable to obtain a questionnaire. The BC questionnaires should have been available when QAC sites opened.

One of the goals of the BC program was to allow for people who do not have a usual residence to have an opportunity to be counted in the 2010 Census. Those people could also be described as experiencing homelessness, and were classified as Type B BC cases. For a BC case to be classified as Type B, the respondent needed to check a box on the questionnaire that they "had no address on Thursday, April 1, 2010." There were 13,710 BC questionnaires that were identified as a Type B case, including 283 cases that were flagged as Type B that did not check the box but indicated they were homeless in the address write-in fields. The 2008 cognitive test of the BC questionnaire indicated that there were problems with respondents understanding the check box question for Type B identification. The 2008 cognitive test recommended changes to the questionnaire that unfortunately were not able to be implemented in 2010 due to timing constraints. Additionally, nearly 40 percent of the 2010 Type B BC cases provided an address on their BC questionnaire that linked to an existing housing unit or group quarters address. For the Type B forms that provided an address that was linked to an existing living quarters, 41.4 percent of respondents were found to be included in those units in the 2010 Census. This shows

that a large number of people who were identified as not having an address where they lived or stayed at on April 1, 2010 actually did have a residence.

In the future, the Census Bureau needs to reevaluate how respondents can identify themselves as not having an address where they live or stay. The current method of providing a check box before the address question may be misleading to respondents. We suggest adding an actual question to the form to ask this information, as was suggested by the results of 2008 cognitive testing.

There were other issues with the design of the questionnaire besides the identification of Type B cases. The 2008 cognitive test also found issues with how the house number and street name address fields were parsed. The recommendation from the cognitive test was to have one field collect both house number and street name, which is similar to how the address fields were captured in Census 2000. This recommendation was not implemented due to the limitations on processing address fields and the requirement by GEO that the two fields be separate. In 2010, respondents incorrectly entered their house number and street name in the "House Number" field on 10,418 questionnaires. Additionally, respondents entered a phone number in the "House Number" field on 4,358 questionnaires. Issues with the "House Number" field required additional processing by clerks. All BC questionnaires initially underwent an automated address matching process. If the automated matching process was unable to match the address, it then went to clerical matching. Approximately 40 percent of Type A BC cases underwent the clerical matching process, and half of those cases had to undergo further post-clerical processing. To reduce clerical matching and respondent confusion, the Census Bureau should investigate including non-parsed address fields on the BC questionnaire and allow automated matching for non-parsed fields.

The Census Bureau printed 13,901,000 BC questionnaires. Only 39.1 percent of the printed questionnaires were distributed to the BC/QAC sites. The Census Bureau had to spend money to print and store 8,469,277 questionnaires that were never needed. Of the 5,431,723 forms that made it to the BC/QAC sites, only 52.4 percent were picked up by potential respondents. Even fewer BC questionnaires were actually completed and sent back to the Census Bureau (784,103). Approximately 5.6 percent of the 13,901,000 printed questionnaires were mailed back to the Census Bureau. The number of BC questionnaires that were counted in the Census is less than half of those that were sent back and data captured. Only 350,307 BC questionnaires were included in the final Census population counts. Of the printed BC questionnaires, 2.5 percent were counted in the final population counts. The Census Bureau over estimated the number of questionnaires that would be distributed to the public and how many questionnaires would be completed, even considering that these figures are very similar to the Census 2000 results.

One solution for reducing the large amount of wasted paper that the BC program generated is to automate the BC questionnaire. The Census Bureau should explore the cost benefits of having the questionnaire available electronically at a limited number of kiosks at targeted QAC sites or on the internet. An online BC questionnaire would eliminate the Census Bureau's need to print and store so many unused questionnaires. Additionally, an automated BC questionnaire would also aid in eliminating illegible entries from handwritten forms that did not get data captured accurately. Due to the type of populations that are targeted by the BC operation, in 2020 the BC program cannot only be available electronically. There will be areas or QAC site locations that

do not have easy access to the internet. In 2020, the Census Bureau should place BC questionnaires in sites that will be used by the public more often. In 2010, the regional offices decided where they thought the QAC/BC sites should be located. The Census Bureau should use all the data available including ACS data to research the feasibility of identifying areas where people are most likely to complete BC questionnaires and not be included on other Census questionnaires. These areas should be targeted using data so that BC questionnaires are available where they are needed the most.

At each QAC site, various language materials were made available to assist respondents in completing their questionnaires. The available language materials included Language Assistance Guides in 59 languages and a Language Flashcard for the QAC representative to identify the language in which the respondent was speaking. People visiting the QAC did not use the Language Assistance Guides very often. Only 5 percent of the people reported visiting the stateside QAC sites to receive assistance with a language on the form. The two most frequent reasons given by respondents for visiting QAC sites were for people that did not receive or had lost their Census mailback questionnaire. These results show that few people used the sites for language assistance; perhaps they were not aware that the sites offered language assistance or that the language on the forms was sufficient for people to understand without assistance. We suggest that advertising emphasize that QAC sites offer not only BC questionnaires but language and general questionnaire assistance. When customers were asked why they visited a QAC site, the most frequent answer (64.6 percent) was they saw a BC questionnaire container or the QAC site. The website and the advertisements were not reasons reported often for how a customer heard of the site. Only 5.2 percent of the customers heard about the QAC site from the internet or television and 2.4 percent read about it in a newspaper. If there was more advertisement on the type of help provided at QAC sites the public might use the sites more often.

The BC/QAC program provides the Census Bureau with a unique opportunity for making a Census Bureau representative available to the public to answer questions and provide assistance with completing a questionnaire. The BC/QAC program also gives people the ability to be counted that do not have a usual residence. The BC/QAC program did add people to the final Census counts who were not counted elsewhere. However, the Census Bureau did not fully take advantage of the potential benefits of the BC/QAC program. In 2010, excessive numbers of questionnaires were printed and never used, the language assistance in the QAC was rarely utilized, and people without an address were not always able to correctly identify where they should have been counted on April 1, 2010. In planning for Census 2020, the Census Bureau should rethink the development of the BC/QAC program to make it more efficient and effective.

8 ACKNOWLEDGEMENTS

We wish to thank the many individuals who contributed valuable insight and assistance into improving early rough drafts, or answered occasional questions that arose as we assembled this report. Dave Coon, Charles Kahn, Michael Niosi, Frank McPhillips, Jeremy Hilts, Shawn Hanks and Tanya Sadrak were instrumental in clarifying and improving the content of this report. Eli Poehler, Ryan King, Sarah Heimel, Hector Merced and Darlene Monaco provided an especially thorough and valuable review of this document. David Katzoff, Mike Haas and John O'Farrell provided all of the cost and progress data and analysis in the document as well as insight on how to present cost analysis in the assessment. Mike Perez, Ed Kobilarcik, and Neala Jones provided budget information and valuable insight on how to address budget and cost information in this document. Many thanks also to Frank Anderson for fact-checking every number in this report and catching additional errors in earlier drafts.

The vast majority of field and office staff who worked on BC/QAC in 2010 did an outstanding job. They were almost all temporary employees, often with no former census or interviewing experience, and we are grateful for their work.

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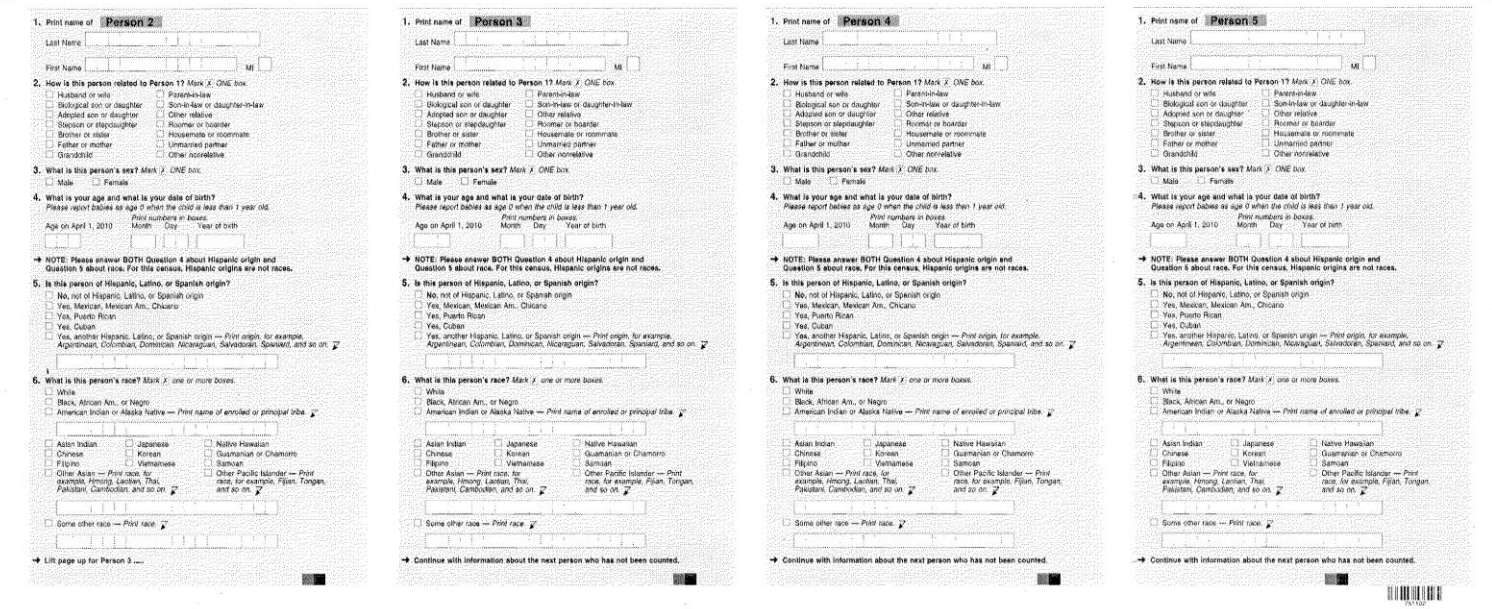
Appendix A. BC Questionnaire – English Stateside



1. Print name of **Person 2**

Last Name

First Name MI

2. How is this person related to Person 1? *Mark X ONE box.*

- ☐ Husband or wife
- ☐ Biological son or daughter
- ☐ Adopted son or daughter
- ☐ Stepson or stepdaughter
- ☐ Brother or sister
- ☐ Father or mother
- ☐ Grandchild
- ☐ Parent-in-law
- ☐ Son-in-law or daughter-in-law
- ☐ Other relative
- ☐ Roomer or boarder
- ☐ Housemate or roommate
- ☐ Unmarried partner
- ☐ Other nonrelative

3. What is this person's sex? *Mark X ONE box.*

☐ Male ☐ Female

4. What is your age and what is your date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 4 about Hispanic origin and Question 5 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? *Mark X one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*
- ☐ Some other race — *Print race.*

→ **Lift page up for Person 3 ....**

1. Print name of **Person 3**

Last Name

First Name MI

2. How is this person related to Person 1? *Mark X ONE box.*

- ☐ Husband or wife
- ☐ Biological son or daughter
- ☐ Adopted son or daughter
- ☐ Stepson or stepdaughter
- ☐ Brother or sister
- ☐ Father or mother
- ☐ Grandchild
- ☐ Parent-in-law
- ☐ Son-in-law or daughter-in-law
- ☐ Other relative
- ☐ Roomer or boarder
- ☐ Housemate or roommate
- ☐ Unmarried partner
- ☐ Other nonrelative

3. What is this person's sex? *Mark X ONE box.*

☐ Male ☐ Female

4. What is your age and what is your date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 4 about Hispanic origin and Question 5 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? *Mark X one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*
- ☐ Some other race — *Print race.*

→ **Continue with information about the next person who has not been counted.**

1. Print name of **Person 4**

Last Name

First Name MI

2. How is this person related to Person 1? *Mark X ONE box.*

- ☐ Husband or wife
- ☐ Biological son or daughter
- ☐ Adopted son or daughter
- ☐ Stepson or stepdaughter
- ☐ Brother or sister
- ☐ Father or mother
- ☐ Grandchild
- ☐ Parent-in-law
- ☐ Son-in-law or daughter-in-law
- ☐ Other relative
- ☐ Roomer or boarder
- ☐ Housemate or roommate
- ☐ Unmarried partner
- ☐ Other nonrelative

3. What is this person's sex? *Mark X ONE box.*

☐ Male ☐ Female

4. What is your age and what is your date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 4 about Hispanic origin and Question 5 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? *Mark X one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*
- ☐ Some other race — *Print race.*

→ **Continue with information about the next person who has not been counted.**

1. Print name of **Person 5**

Last Name

First Name MI

2. How is this person related to Person 1? *Mark X ONE box.*

- ☐ Husband or wife
- ☐ Biological son or daughter
- ☐ Adopted son or daughter
- ☐ Stepson or stepdaughter
- ☐ Brother or sister
- ☐ Father or mother
- ☐ Grandchild
- ☐ Parent-in-law
- ☐ Son-in-law or daughter-in-law
- ☐ Other relative
- ☐ Roomer or boarder
- ☐ Housemate or roommate
- ☐ Unmarried partner
- ☐ Other nonrelative

3. What is this person's sex? *Mark X ONE box.*

☐ Male ☐ Female

4. What is your age and what is your date of birth?
Please report babies as age 0 when the child is less than 1 year old.
Print numbers in boxes.

Age on April 1, 2010 Month Day Year of birth

→ **NOTE: Please answer BOTH Question 4 about Hispanic origin and Question 5 about race. For this census, Hispanic origins are not races.**

5. Is this person of Hispanic, Latino, or Spanish origin?

- ☐ No, not of Hispanic, Latino, or Spanish origin
- ☐ Yes, Mexican, Mexican Am., Chicano
- ☐ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, another Hispanic, Latino, or Spanish origin — *Print origin, for example, Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.*

6. What is this person's race? *Mark X one or more boxes.*

- ☐ White
- ☐ Black, African Am., or Negro
- ☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe.*
- ☐ Asian Indian
- ☐ Chinese
- ☐ Filipino
- ☐ Japanese
- ☐ Korean
- ☐ Vietnamese
- ☐ Native Hawaiian
- ☐ Guamanian or Chamorro
- ☐ Samoan
- ☐ Other Asian — *Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on.*
- ☐ Other Pacific Islander — *Print race, for example, Fijian, Tongan, and so on.*
- ☐ Some other race — *Print race.*

→ **Continue with information about the next person who has not been counted.**

Appendix B. D-158 Master Assignment Listing

D-158A LCO (BC/QAC)
(9/25/2008)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

MASTER ASSIGNMENT SITE LISTING
BE COUNTED/QUESTIONNAIRE ASSISTANCE CENTER
2010 CENSUS

RCC:
LCO:
Date:

Distr Area (1)	Distribution Clerk Name (2)	ST Code (3)	CO Code (4)	BC/ QAC Site (5)	Site Type (6)	Site ID (7)	Org. Name (8)	Location Address (9)	City (10)	Contact Person (11)	Contact Phone No. (12)	Days & Hours of Operation (13)	Questionnaires Distributed						D-399 Coll (20)
													No. E (14)	No. S (15)	No. C (16)	No. K (17)	No. V (18)	No. R (19)	
												Total	0	0	0	0	0	0	0

Comments:

Appendix C. D-308 Payroll Form

D-308.1
(7-31-2008)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

SAMPLE

FORM **D-308**
(07-30-2008)

DAILY PAY AND WORK RECORD
2010 CENSUS

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

Part A – EMPLOYEE INFORMATION

First Name | MI | **Employee ID**

Last Name

1. Date worked . . Month | Day | Year

Day worked – *Mark (X)* . . . . . Sun ☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☐ Sat ☐

If **RECLAIM –** *Mark (X) this box.* ⟶ ☐

2. Task code . . . **Operation name** . .

3. Office code . . **Office name** . . . . .

4. Points of travel

From	To	From	To

Remarks

Part B – PAY INFORMATION

1. Hours worked *(.00, .25, .50, .75)*

		FOR OFFICE USE ONLY
Regular	.	.
Training	.	.
Night Differential (6 pm–6 am)	.	.
Overtime	.	.
Night Differential/ Overtime (6 pm–6 am)	.	.
Total	.	.

2. Times of day worked – *Do not include breaks.*

	START *(:00, :15, :30, :45)*		FINISH *(:00, :15, :30, :45)*	
a.	:	☐ am ☐ pm	:	☐ am ☐ pm
b.	:	☐ am ☐ pm	:	☐ am ☐ pm
c.	:	☐ am ☐ pm	:	☐ am ☐ pm
d.	:	☐ am ☐ pm	:	☐ am ☐ pm
e.	:	☐ am ☐ pm	:	☐ am ☐ pm

3. Have you claimed ALL hours worked? *If not – Please list number of hours, date(s) hours were worked, and an explanation of why you are not claiming them for payment.*

Cases Completed *(Filled by supervisor)*
CLD number
Cases submitted
Cases accepted

4. Reimbursements

Miles driven | Telephone $. | Other – *Specify in Remarks and attach receipts where required.* $.

FOR OFFICE USE ONLY $. $.

3081

Part C – CERTIFICATION

Privacy Act Notice – All information furnished will be treated in accordance with the Privacy Act of 1974. No information will be released except as authorized by the Act.

Employee's Certification – Under penalty of fine and/or imprisonment, I certify that the information on this form is true and correct to the best of my knowledge.

Signature | Date

Supervisor's Certification – I certify that I have reviewed the entries made and they appear to be reasonable and accurate.

Signature | Date

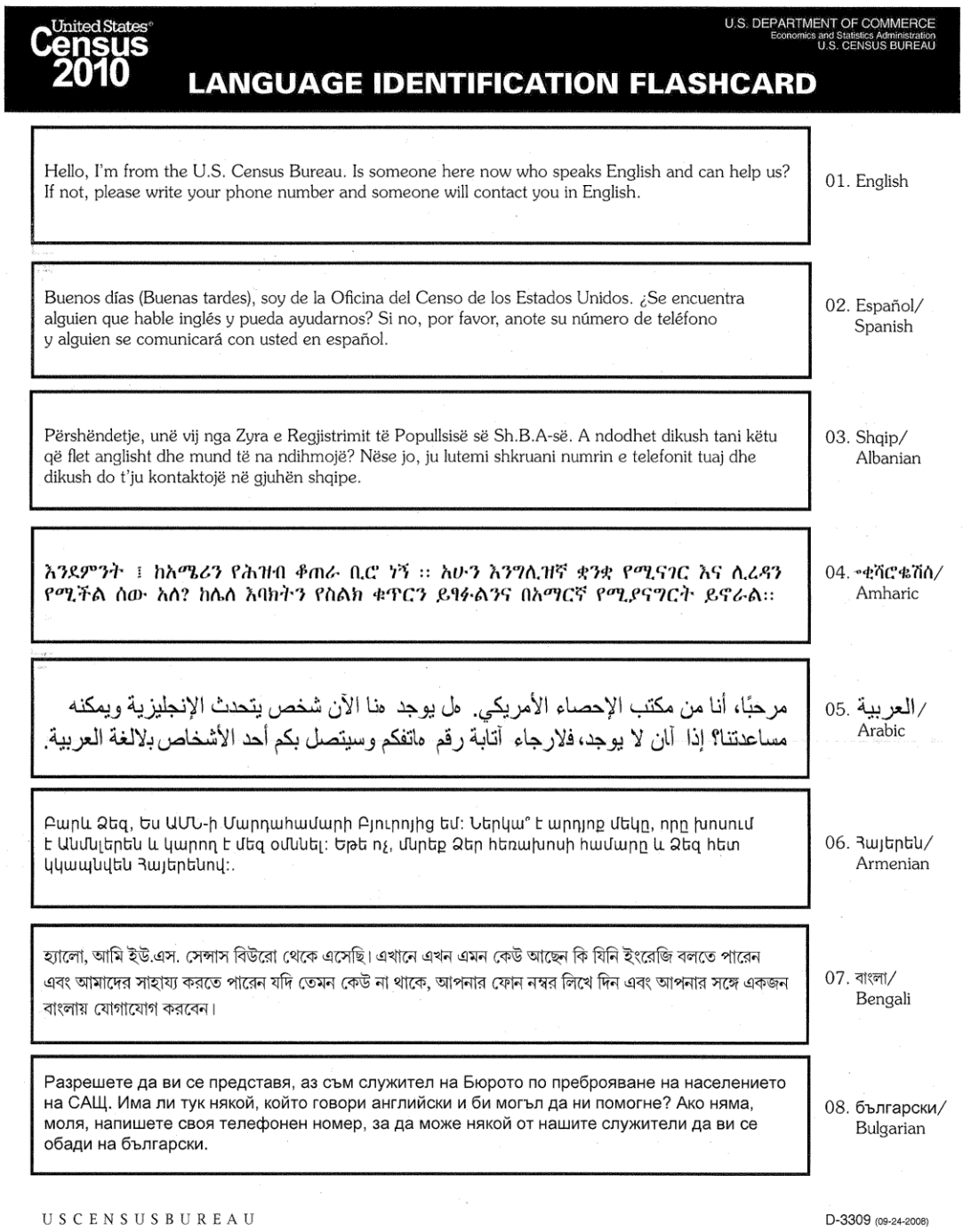
FOR OFFICE USE ONLY | Audited by *(Initial and date)* | Remarks

Copy distribution: **ORIGINAL –** Payroll **COPY –** Employee

USCENSUSBUREAU

SHOOT AT 325%
FINISHED SIZE: 36" X 48"

Appendix D. Language Flashcard



United States Census 2010

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

LANGUAGE IDENTIFICATION FLASHCARD

Hello, I'm from the U.S. Census Bureau. Is someone here now who speaks English and can help us? If not, please write your phone number and someone will contact you in English.	01. English
Buenos días (Buenas tardes), soy de la Oficina del Censo de los Estados Unidos. ¿Se encuentra alguien que hable inglés y pueda ayudarnos? Si no, por favor, anote su número de teléfono y alguien se comunicará con usted en español.	02. Español/ Spanish
Përshëndetje, unë vij nga Zyra e Regjistrimit të Popullsisë së Sh.B.A-së. A ndodhet dikush tani këtu që flet anglisht dhe mund të na ndihmojë? Nëse jo, ju lutemi shkruani numrin e telefonit tuaj dhe dikush do t'ju kontaktojë në gjuhën shqipe.	03. Shqip/ Albanian
እንደምንት ፧ ከአሜሪን የሕዝብ ቆጠራ ቢሮ ነኝ ። አሁን እንግሊዝኛ ቋንቋ የሚናገር እና ሊረዳን የሚችል ሰው አለ? ከሌለ እባክትን የስልክ ቁጥርን ይፃፉልንና በአማርኛ የሚያናግርት ይኖራል።	04. ሙቂሻሮቄሽሰ/ Amharic
مرحبًا، أنا من مكتب الإحصاء الأمريكي. هل يوجد هنا الآن شخص يتحدث الإنجليزية ويمكنه مساعدتنا؟ إذا آلان لا يوجد، فلارجاء آتابة رقم هاتفكم وسيتصل بكم أحد الأشخاص بلالغة العربية.	05. العربية/ Arabic
Բարև Ձեզ, Ես ԱՄՆ-ի Մարդահամարի Բյուրոյից եմ: Ներկա՞ է արդյոք մեկը, որը խոսում է Անմիջերեն և կարող է մեզ օմնել: Եթե ոչ, մարեք Ձեր հեռախոսի համարը և Ձեզ հետ կկապնվեն Հայերենով:.	06. Հայերեն/ Armenian
হ্যালো, আমি ইউ.এস. সেন্সাস বিউরো থেকে এসেছি। এখানে এখন এমন কেউ আছেন কি যিনি ইংরেজি বলতে পারেন এবং আমাদের সাহায্য করতে পারেন যদি তেমন কেউ না থাকে, আপনার ফোন নম্বর লিখে দিন এবং আপনার সঙ্গে একজন বাংলায় যোগাযোগ করবেন।	07. বাংলা/ Bengali
Разрешете да ви се представя, аз съм служител на Бюрото по преброяване на населението на САЩ. Има ли тук някой, който говори английски и би могъл да ни помогне? Ако няма, моля, напишете своя телефонен номер, за да може някой от нашите служители да ви се обади на български.	08. български/ Bulgarian

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ႏွသယ္လူ၁ ံမသာ အုန ႔.. ဃနည္ဴကျ ကြမနကေ.။ ျသာ၁နသည္န. နမန ညသတ တ့သ ျစနရူ ႀညႆ ေညီ ခေညႇ. ႏွစ ကၽြ ညသအယ စူနရွန တမငအန ပသကမ စ့သည္န ညကာဘနမ ေညီ ျသာ၁နသည္န တငူ ခသညအေခအ ပသက ငည ႀညႆ.	09. ျမန္မာ/ Burmese
សួស្តី ខ្ញុំមកពីការិយាល័យជំរឿនរបស់សហរដ្ឋអាមេរិក ១ ម្រ ។ ជនេសុស ពុរពុធ ។ តើមាននរណានៅ ទីនេះដែលចេះនិយាយភាសាអង់គ្លេសហើយអាចជួយយើងបានទេ ? ប្រសិនបើមិនមានទេ សូមសរសេរ លេខទូរស័ព្ទរបស់អ្នកមក ហើយនរណាម្នាក់នឹងទាក់ទងអ្នកជាភាសាខ្មែរ ។	10. ភាសាខ្មែរ/ Cambodian
您好。我是为美国人口普查局工作的。您这里有没有会说英语的人可以帮助我们？如果没有，请写下您的电话号码，然后将有人用中文与您联系。	11. 中文/ Chinese (Simplified)
您好。我是为美國人口普查局工作的。請問您這里有沒有會說英语的人可以幫助我們？如果沒有，請寫下您的電話號碼，之後將有人使用中文與您聯絡。	12. 中文/ Chinese (Traditional)
Dobar dan, ja sam iz Američkog biroa za cenzus. Ima li ovdje nekoga tko govori engleski i može nam pomoći? Ako nema, molim Vas da napišete svoj broj telefona, pa ćemo stupiti s Vama u kontakt na hrvatskom jeziku.	13. hrvatski/ Croatian
Dobrý den, jsem z Amerického úřadu pro sčítání lidu (U.S. Census Bureau). Je zde někdo, kdo hovoří anglicky a může nám pomoci? Pokud ne, napište prosím své telefonní číslo a někdo Vás bude kontaktovat v češtině.	14. čeština/ Czech
سلام، من در دفتر نفوس شماری، در ایالات متحدهء امریکا ایفای وظیفه مینمایم. آیا ھمراه شما، ھمین لحظه کسی است که با لسان انگلسی آشنایی داشته باشد و ما را کمک کرده بتواند؟ اگر نیست، پس لطفاً نمبرتیلیفونتانرا بدهیتا به لسان ھندی با شما درتماس شویم.	15. دری/ Dari
Kudual, ɣɛn yɛ raan de maktam de kuɛ̈n de kɔc de Amerika. Nɔŋ raan yɛ jam ë thoŋ de Liŋglith lëu bë wok kony ë kë looiku? Na liu, ke yï gɔ̈ɔ̈r telepundu ku anɔŋ raan bë yïïn cɔl ë thuɔŋjäŋ.	16. Thuɔŋjäŋ/ Dinka
Hallo, ik ben van het Amerikaanse Census Bureau. Is er iemand hier die Engels spreekt en ons kan helpen? Als dat niet zo is, wilt u dan uw telefoonnummer opschrijven? Dan zal iemand telefonisch contact met u opnemen in het Nederlands.	17. Nederlands/ Dutch

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سلام. من یک کارمند اداره سرشماری ایالات متحده هستم. آیا کسی حالا اینجا هست که به زبان انگلیسی صحبت میکند و میتواند به ما کمک کند؟ اگر کسی نیست، لطفاً شماره تلفنتان را بنویسید، و یک نفر به زبان فارسی با شما تماس خواهد گرفت.	18. فارسی/ Farsi
Bonjour, je travaille pour le Bureau de Recensement des États-Unis. Y a-t-il quelqu'un ici qui parle anglais et puisse nous aider ? Sinon, notez votre numéro de téléphone pour que quelqu'un puisse vous contacter en Français.	19. Français/ French
Guten Tag, ich komme im Auftrag des Bundesbüro zu Durchfuhrung von Volkszählungen. Kann ich mit jemandem sprechen, der Englisch spricht und der uns helfen kann? Wenn nicht, schreiben Sie bitte Ihre Telefonnummer auf und es wird sich jemand in deutscher Sprache mit Ihnen in Verbindung setzen.	20. Deutsch/ German
Γειά σας, Είμαστε από την Υπηρεσία Απογραφής των ΗΠΑ. Είναι κανείς εδώ αυτή τη στιγμή που μιλάει Αγγλικά να μας εξυπηρετήσει; Αν όχι, παρακαλώ σημειώστε το τηλέφωνό σας και θα επικοινωνήσει κάποιος μαζί σας στα ΕΛΛΗΝΙΚΑ.	21. Ελληνικά/ Greek
Bonjou, mwen se anpwlaye biwo resansman ameriken. Èske m ka pale ak yon moun nan kay la ki konn pale anglè ? Si pa gen moun nan kay la ki pale anglè, tanpri ekri nimewo telefòn ou pou yon moun kki pale kreyòl ayisyen rele w.	22. kreyòl ayisyen/ Haitian Creole
שלום, אני ממשרד מפקד האוכלוסין של ארצות הברית. האם יש כאן מישהו ברגע זה שמדבר אנגלית ויכול לעזור לנו? במידה ולא, אנא כתבו את מספר הטלפון שלכם ומישהו ייצור קשר אתכם בשפה העברית.	23. עברית/ Hebrew
हैलो, मैं यू.एस. जनगणना ब्यूरो से हूं। क्या अभी यहां ऐसा कोई व्यक्ति है जो अंग्रेजी बोलता हो और हमारी मदद कर सकता हो? यदि नहीं, तो कृपया अपना फोन नंबर लिखें और कोई व्यक्ति आपसे हिन्दी में संपर्क करेगा।	24. हिन्दी/ Hindi
Nyob zoo. Kuv tuaj hauv Teb Chaws Asmeskas Chaw Suav Pej Xeem tuaj. Puas muaj leej twg nyob hauv tsev uas txawj lus Askiv thiab pab tau peb? Yog tsis muaj, thov sau koj tus xov tooj tseg, mam li muaj ib tug neeg hais lus Hmoob hu tuaj rau koj.	25. Hmoob/ Hmong
Jó napot kívánok, az Egyesült Államok Népszámlálási Hivatalától vagyok. Van a közelben valaki, aki beszél angolul, és segíteni tud nekünk? Ha nem, kérem, írja le a telefonszámát, és kapcsolatba fogunk lépni Önnel magyarul.	26. Magyar/ Hungarian

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Hello, taga Census Bureau ako ng U.S. Adda kadi kadakayo nga makapagsarita ti English ken mabalin nga tumulong kaniami? Nu awan paki surat yo iti numero iti telepono yo ta adda iti tumawag kaniayo nga ag Ilocano.	27. Ilocano/ Ilocano
Salve, chiamo da parte del Census Bureau degli Stati Uniti. C'è qualcuno che parla inglese ed è in grado di aiutarci? In caso negativo, scriva il numero di telefono e sarà contattato da qualcuno che parla Italiano.	28. Italiano/ Italian
こんにちは。私は米国勢調査局の係員です。こちらには英語を理解できこの調査にご協力いただける方がいらっしゃいますか？もしいない場合は、あなたのお電話番号をお書きいただければ、日本語を話す係員が連絡をいたします。	29. 日本語/ Japanese
안녕하세요. 저는 미국 인구조사국에서 일하고 있습니다. 영어를 사용하시는 분 중에 저희를 도와 주실 수 있는 분이 여기 계십니까? 없으신 경우, 전화번호를 적어주시면 한국어를 할 수 있는 직원이 연락을 드릴 것입니다.	30. 한국어/ Korean
ສະບາຍດີ, ຂ້າພະເຈົ້າ ມາຈາກສຳນັກງານສຳຫຼວດພົນລະເມືອງ ແຫ່ງສະຫະລັດອາເມລິກາ. ມີໃຜຢູ່ທີ່ນີ້ ສາມາດເວົ້າພາສາອັງກິດ ແລະ ຊ່ວຍເຫຼືອພວກເຮົາໄດ້ບໍ? ຖ້າບໍ່ມີ, ກະລຸນາຂຽນເລກ ໂທລະສັບຂອງທ່ານ ແລະ ພວກເຮົາ ຈະຕິດຕໍ່ຫາທ່ານ ເປັນພາສາລາວ.	31. ພາສາລາວ/ Laotian
Sveiki, aš esu iš JAV Gyventojų surašymo biuro. Ar čia dabar yra kas nors, kas kalba angliškai ir galėtų mums padėti? Jei ne, prašome užrašyti savo telefono numerį ir su jumis susisieks lietuvių kalba.	32. Lietuvių/ Lithuanian
ഹലോ, ഞാൻ യു എസ് സെൻസസ് ബ്യൂറോയിൽ നിന്നാണ്. ഇംഗ്ലീഷ് സംസാരിക്കുന്ന ആരെങ്കിലും ഇപ്പോൾ ഇവിടെയുണ്ടോ ഞങ്ങളെ സഹായിക്കാൻ? ഇല്ലെങ്കിൽ, നിങ്ങളുടെ ടെലിഫോൺ നമ്പർ എഴുതി നൽകുക. മലയാളത്തിൽ സംസാരിക്കുന്ന ആരെങ്കിലും താങ്കളെ ബന്ധപ്പെടും.	33. മലയാളം/ Malayalam
Yá'át'ééh, Neeznáá nináháhágo Bíla'ashdla'ii náóltah bił haz'ą́ bá naashnish. Háidaaísh kǫ́ǫ́ Bilagáanaa bi̯o zaad yee yáłti'ígíí hóló? 'Ádingo 'éí nibéésh bee hane'é nihá 'ádíílíił dóó t'áá háida t'áá Diné Bizaad yee yáłti'ígíí nich'į' náhodoolnih.	34. Diné Bizaad/ Navajo
नमस्ते, म अमेरिकाको जनगननना अफिसबाट आएको । यहाँ अंग्रेजी बोल्न जान्ने अन्त हामीलाई मदत गर्नसक्ने कोहि मान्छे छन ? नभा, तपाईको फोन नम्वर लेखिदिनु अनि कसैले तपाईसित नेपाली भाषामा कुरा गर्नेछन् ।	35. नेपाली/ Nepali

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ਹੈਲੋ, ਮੈਂ ਯੂ.ਐੱਸ. ਜਨਗਣਨਾ ਬਿਊਰੋ ਵਲੋਂ ਆਇਆ/ਆਈ ਹਾਂ। ਕੀ ਇਥੇ ਕੋਈ ਅੰਗਰੇਜ਼ੀ ਬੋਲ ਸਕਦਾ ਹੈ ਅਤੇ ਸਾਡੀ ਮਦਦ ਕਰ ਸਕਦਾ ਹੈ ? ਜੇ ਨਹੀਂ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਆਪਣਾ ਟੈਲੀਫ਼ੋਨ ਨੰਬਰ ਲਿਖ ਦਿਉ ਅਤੇ ਕੋਈ ਤੁਹਾਨੂੰ ਪੰਜਾਬੀ ਵਿੱਚ ਸੰਪਰਕ ਕਰੇਗਾ।	36. ਪੰਜਾਬੀ/ Panjabi
Dzień dobry. Jestem z Amerykańskiego Biura Spisu Ludności. Czy ktoś tutaj mówi po angielsku i mógłby nam pomóc? Jeżeli nie, proszę napisać swój numer telefonu, a ktoś skontaktuje się z Państwem po polsku.	37. Polski/ Polish
Olá, sou do Serviço de censo dos Estados Unidos. Alguém aqui fala inglês e pode nos ajudar? Caso contrário, escreva seu telefone e alguém vai entrar em contato com você em português.	38. Português/ Portuguese
Bună ziua, sunt de la Biroul de Recensământ al S.U.A. Este cineva aici, în acest moment, care vorbeşte engleză şi ne poate ajuta? Dacă nu, vă rog scrieţi-vă numărul de telefon şi cineva vă va contacta telefonic în română.	39. Română/ Romanian
Здравствуйте! Я представляю Бюро переписи населения Соединенных Штатов. Присутствует здесь кто-нибудь, кто говорит по-английски и мог бы помочь нам? Если нет, то, пожалуйста, напишите свой телефонный номер, чтобы наши сотрудники могли побеседовать с вами по-русски.	40. русский/ Russian
Добар дан, ја сам из Америчког бироа за попис становништва. Да ли овде има некога ко говори енглески и може да нам помогне? Ако нема, молим Вас да напишете свој број телефона, па ћемо контактирати с Вама на српском језику.	41. српски/ Serbian
Hallo, Waxaan anigu ka tirsanahay Xafiiska Tirakoobka Mareykanka. Halkan ciddi ma Joogta hadda oo ku hadasha Ingiriisiga oo na caawin karta? Haddi kalese, fadlan qor lambarka talafoonkaaga markaasna qof ayaa kugulasoo xidhiidhi doona adiga Soomaalliga.	42. Soomaali/ Somali
Halo, nimetoka Shirika la Sensa la Merika Je, kuna mtu hapa sasa anayezungumza Kiingereza na anaweza kutusaidia? Ikiwa hakuna, tafadhali andika nambari yako ya simu na mtu atawasiliana na wewe kwa Kiswahili.	43. Kiswahili/ Swahili
Hello, Ako'y galing sa U.S. Census Bureau. Mayroon ba ditong marunong magsalita ng Ingles at makakatulong sa amin ngayon? Kung wala, pakisulat ang telepono ninyo at may tatawag sa inyo sa Tagalog.	44. Tagalog/ Tagalog

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สวัสดีครับ/ค่ะ ผม/ดิฉันเป็นเจ้าหน้าที่จากสำนักงานสัมมะโนประชากรสหรัฐ มีใครพอจะพูดภาษาอังกฤษเพื่อช่วยแปลได้บางหรือเปล่า ครับ/คะ ถ้าไม่มีช่วยแจ้งเบอร์โทรศัพท์เพื่อที่เราจะสามารถติดต่อกลับมาใหม่ได้เป็นภาษาไทย	45. ไทย/ Thai
ሃሎው፡ ካብ ቤት ጽሕፈት ምቑጣር ሕዝቢ አሜሪካ እየ ኣነ። ሕጂ እንግሊዝኛ ዝዛረብ ክሕግዘኒ ዝኽእል ሰብ ኣብዚ ኣሎዶ? እንተዘይኮነ፡ ብኽብረትኩም ቁጽሪ ቴለፎንኩም ጽሓፉሞ ሓደሰብ ብትግርኛ ክዛረበኩም እዩ።	46. ትግርኛ/ Tigrinya
Merhaba, A.B.D. İstatistik Bürosu'ndanım. Orada İngilizce konuşan ve bize yardım edebilecek birisi var mı? Yoksa, lütfen telefon numaranızı yazın, sizinle Türkçe dilinde temasa geçilecek.	47. TÜRKÇE/ Turkish
Привіт, Ми з США. Сенсес Бюро. Тут є хтось, хто володіє англійською мовою і може допомогти нам? Якщо ні, будь ласка, запишіть ваш телефонний номер і з вами зв'яжуться на українській мові.	48. українська мова/ Ukrainian
ہیلو، میں امریکی مردم شماری بیورو سے ہوں۔ کیا یہاں کوئی ایسا شخص ہے جو انگریزی بولتا ہو اور ہماری مدد کرسکتا ہو؟ اگر نہیں، تو براہ کرم اپنا فون نمبر لکھوائیں اور کوئی شخص آپ سے اردو زبان میں رابطہ کرے گا۔	49. اردو/ Urdu
Xin chào, tôi là nhân viên của Cục Thống Kê Dân Số Hoa Kỳ. Ở đây hiện có ai biết nói tiếng Anh và có thể giúp chúng tôi không? Nếu không, xin vui lòng ghi lại số điện thoại của quý vị. Chúng tôi sẽ liên lạc lại với quý vị bằng tiếng Việt.	50. Tiếng Việt/ Vietnamese
האלאו, איך בין פון די יונייטעד סטעיטס צענזוס ביורא. איז פאראן דא איינער וואס רעדט ענגליש און קען אונז העלפן? אויב נישט, ביטע שרייבט אראפ אייער טעלעפאן נומער און איינער וועט זיך פארשטענדיגן מיט אייך אויף אידיש.	51. אידיש/ Yiddish

D-3309 (09-24-2008)

Appendix E. Number of Language Assistance Guides Used in Stateside QAC sites

Language of Assistance Guide	Number of People	Percent of People
No guide used	782,222	95.3%
Spanish	18,362	2.2%
Russian	824	0.1%
Simplified Chinese	2,924	0.4%
Traditional Chinese	1,486	0.2%
Korean	2,662	0.3%
Vietnamese	1,693	0.2%
Thai	553	0.1%
Cambodian	560	0.1%
Haitian Creole	1,053	0.1%
Armenian	892	0.1%
Arabic	2,265	0.3%
Polish	424	0.1%
Somali	670	0.1%
Portuguese	507	0.1%
English	448	0.1%
Panjabi	389	<0.1%
French	326	<0.1%
Unknown	320	<0.1%
Farsi	281	<0.1%
Nepali	259	<0.1%
Tagalog	252	<0.1%
Hmong	188	<0.1%
Bengali	184	<0.1%
Italian	179	<0.1%
Burmese	175	<0.1%
Hindi	170	<0.1%
Amharic	151	<0.1%
Laotian	140	<0.1%
Croatian	73	<0.1%
Japanese	73	<0.1%
Urdu	71	<0.1%
Swahili	51	<0.1%
Albanian	45	<0.1%
Ukrainian	45	<0.1%
Greek	43	<0.1%
Turkish	42	<0.1%
Czech	36	<0.1%
Serbian	35	<0.1%
Hebrew	30	<0.1%

Romanian	30	<0.1%
German	26	<0.1%
Ilocano	24	<0.1%
Tigrinya	23	<0.1%
Dari	18	<0.1%
Bulgarian	13	<0.1%
Navajo	11	<0.1%
Yiddish	7	<0.1%
Malayalam	5	<0.1%
Lithuanian	3	<0.1%
Dinka	2	<0.1%
Dutch	2	<0.1%
Hungarian	2	<0.1%

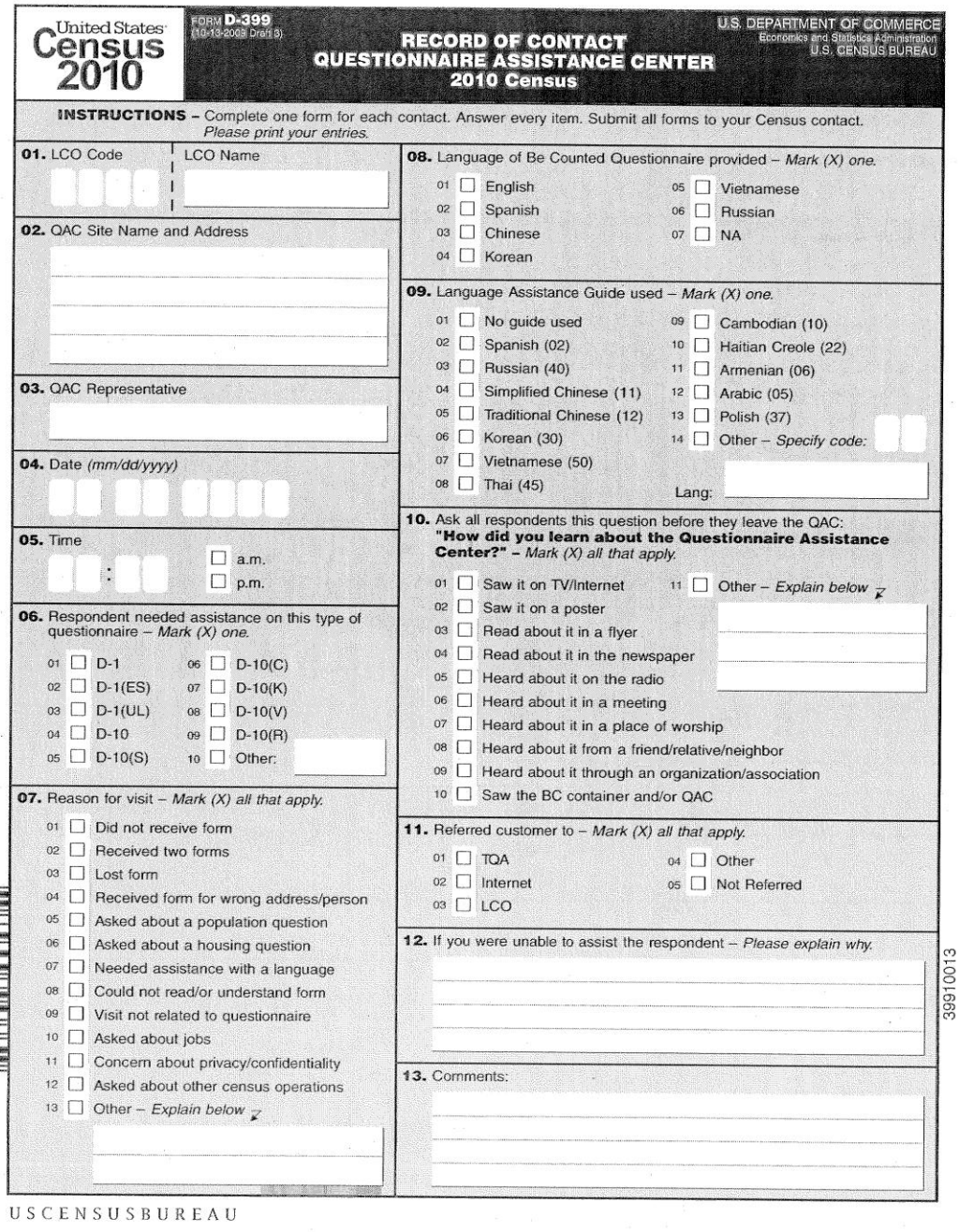
Appendix F. LCO Type Descriptions

Office Type	Description	Land area covered	TEAs	Workload	Additional Guidelines
Type A (Urban/Hard to Count)	Urban inner city offices serving densely populated Hard-to-Enumerate (HTE) areas	less than 50 square miles	Primarily MO/MB; may include pockets of U/UE and/or U/UL	55,000 to 70,000 NRFU cases, about 1,100 NRFU frontloaded enumerators, total workload of <200,000 addresses	Majority of the census tracts (above 50%) should have high HTC/HTE scores (70 or greater). Mail Response Rates (MRRs) should be about 60% or lower in 2010 to qualify as a Type A office.
Type B (Urban/ Metropolitan)	Similar to Type A offices, but covers urban and surrounding metropolitan areas, and may have higher workloads and more limited HTE areas	50 to1,500 square miles, average: ~ 340 square miles.	Primarily MO/MB, possibly with some pockets of U/UL, U/UE, and/or Update/Leave (U/L).	70,000 to 90,000 NRFU cases, about 1,100 NRFU frontloaded enumerators, total workload of about 370,000 addresses	May contain census tracts with high HTE scores, but less than 50% of census tracts should be HTC/HTE in the Planning Data Base. Typical Mail Response Rates (MRRs) in Census 2000 were in the range of 60-80%, with the average being 70%.
Type C (Suburban/ Rural)	Covers suburban areas, small and medium sized cities and towns and rural areas, and comprises the majority of LCOs	135 to 50,500 square miles, average: ~ 5,600 square miles	A mixture of Update/Leave and MO/MB and may include some Update/Enumerate (U/E).	70,000 to 105,000 NRFU cases, about 1,300 NRFU frontloaded enumerators, total workload of about 370,000 addresses	Typical Mail Response Rates (MRRs) in Census 2000 were in the range of 50-80%, with the average being 65%
Type D (Rural/Remote)	Covers exceptionally remote areas including some American Indian Reservations, and very large expanses of land, particularly in the western States	4,200 to 69,700 square miles, average:~ 27,600 square miles	Mostly U/E, with limited U/L, MO/MB, and Remote Update/Enumerate	90,000 to 135,000 NRFU cases, about 1,500 NRFU frontloaded enumerators, total workload of about 470,000 addresses	Typical Mail Response Rates (MRRs) in Census 2000 were in the range of 45-70%, with the average being about 60%.

Type E (Alaska)	One LCO covers the entire State of Alaska	Just under 572,000 square miles	MO/MB, U/L, U/E, Remote Update/Enumerate, and Remote Alaska	105,000 NRFU cases, total workload of just under 286,000	
Type F (Puerto Rico)	Covers the entire Commonwealth of Puerto Rico	20 to 630 square miles, average: ~ 380 square miles	MO/MB and U/L	70,000 to 90,000 NRFU cases, about 1,000 NRFU frontloaded enumerators, total workload about 166,000 HUs	55.5% MRR

Sources: Census 2000/2010 Planning Spreadsheets

Appendix G. D-399 Record of Contact Stateside



United States Census 2010

FORM D-399 (10-13-2009 Draft 3)

U.S. DEPARTMENT OF COMMERCE
Economics and Statistics Administration
U.S. CENSUS BUREAU

RECORD OF CONTACT
QUESTIONNAIRE ASSISTANCE CENTER
2010 Census

INSTRUCTIONS – Complete one form for each contact. Answer every item. Submit all forms to your Census contact. *Please print your entries.*

01. LCO Code | LCO Name

02. QAC Site Name and Address

03. QAC Representative

04. Date *(mm/dd/yyyy)*

05. Time : ☐ a.m. ☐ p.m.

06. Respondent needed assistance on this type of questionnaire – *Mark (X) one.*

01 ☐ D-1 06 ☐ D-10(C)
02 ☐ D-1(ES) 07 ☐ D-10(K)
03 ☐ D-1(UL) 08 ☐ D-10(V)
04 ☐ D-10 09 ☐ D-10(R)
05 ☐ D-10(S) 10 ☐ Other:

07. Reason for visit – *Mark (X) all that apply.*

01 ☐ Did not receive form
02 ☐ Received two forms
03 ☐ Lost form
04 ☐ Received form for wrong address/person
05 ☐ Asked about a population question
06 ☐ Asked about a housing question
07 ☐ Needed assistance with a language
08 ☐ Could not read/or understand form
09 ☐ Visit not related to questionnaire
10 ☐ Asked about jobs
11 ☐ Concern about privacy/confidentiality
12 ☐ Asked about other census operations
13 ☐ Other – *Explain below*

08. Language of Be Counted Questionnaire provided – *Mark (X) one.*

01 ☐ English 05 ☐ Vietnamese
02 ☐ Spanish 06 ☐ Russian
03 ☐ Chinese 07 ☐ NA
04 ☐ Korean

09. Language Assistance Guide used – *Mark (X) one.*

01 ☐ No guide used 09 ☐ Cambodian (10)
02 ☐ Spanish (02) 10 ☐ Haitian Creole (22)
03 ☐ Russian (40) 11 ☐ Armenian (06)
04 ☐ Simplified Chinese (11) 12 ☐ Arabic (05)
05 ☐ Traditional Chinese (12) 13 ☐ Polish (37)
06 ☐ Korean (30) 14 ☐ Other – *Specify code:*
07 ☐ Vietnamese (50)
08 ☐ Thai (45) Lang:

10. Ask all respondents this question before they leave the QAC: **"How did you learn about the Questionnaire Assistance Center?"** – *Mark (X) all that apply.*

01 ☐ Saw it on TV/Internet 11 ☐ Other – *Explain below*
02 ☐ Saw it on a poster
03 ☐ Read about it in a flyer
04 ☐ Read about it in the newspaper
05 ☐ Heard about it on the radio
06 ☐ Heard about it in a meeting
07 ☐ Heard about it in a place of worship
08 ☐ Heard about it from a friend/relative/neighbor
09 ☐ Heard about it through an organization/association
10 ☐ Saw the BC container and/or QAC

11. Referred customer to – *Mark (X) all that apply.*

01 ☐ TQA 04 ☐ Other
02 ☐ Internet 05 ☐ Not Referred
03 ☐ LCO

12. If you were unable to assist the respondent – *Please explain why.*

13. Comments:

39910013

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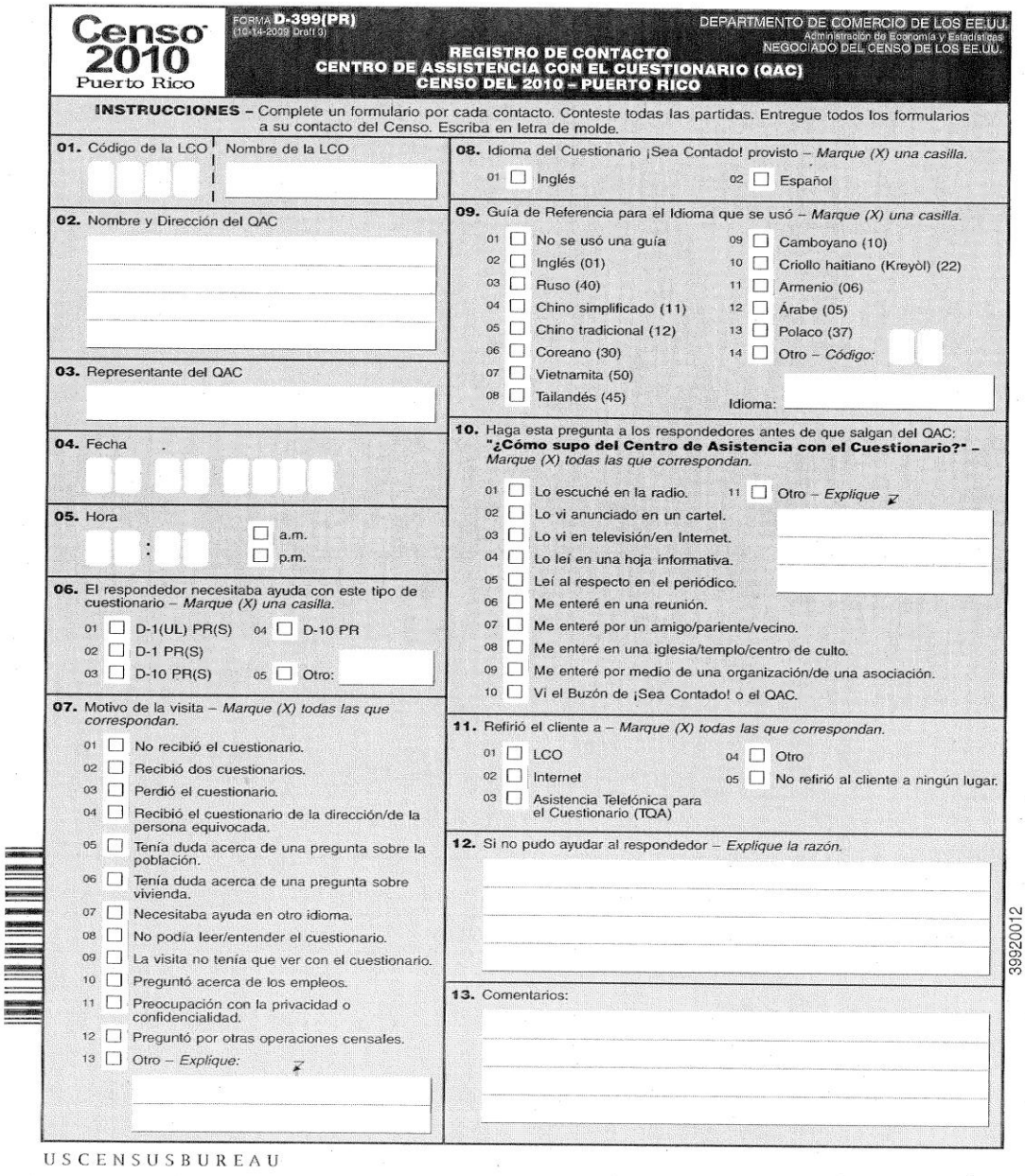
Appendix H. D-399(PR) Record of Contact Puerto Rico



Censo 2010 Puerto Rico

FORMA D-399(PR) (10-14-2009 Draft 9)

DEPARTMENTO DE COMERCIO DE LOS EE.UU.
Administración de Economía y Estadísticas
NEGOCIADO DEL CENSO DE LOS EE.UU.

REGISTRO DE CONTACTO
CENTRO DE ASSISTENCIA CON EL CUESTIONARIO (QAC)
CENSO DEL 2010 – PUERTO RICO

¡INSTRUCCIONES – Complete un formulario por cada contacto. Conteste todas las partidas. Entregue todos los formularios a su contacto del Censo. Escriba en letra de molde.

01. Código de la LCO | Nombre de la LCO

02. Nombre y Dirección del QAC

03. Representante del QAC

04. Fecha

05. Hora : ☐ a.m. ☐ p.m.

06. El respondedor necesitaba ayuda con este tipo de cuestionario – *Marque (X) una casilla.*

01 ☐ D-1(UL) PR(S) 04 ☐ D-10 PR
02 ☐ D-1 PR(S)
03 ☐ D-10 PR(S) 05 ☐ Otro:

07. Motivo de la visita – *Marque (X) todas las que correspondan.*

01 ☐ No recibió el cuestionario.
02 ☐ Recibió dos cuestionarios.
03 ☐ Perdió el cuestionario.
04 ☐ Recibió el cuestionario de la dirección/de la persona equivocada.
05 ☐ Tenía duda acerca de una pregunta sobre la población.
06 ☐ Tenía duda acerca de una pregunta sobre vivienda.
07 ☐ Necesitaba ayuda en otro idioma.
08 ☐ No podía leer/entender el cuestionario.
09 ☐ La visita no tenía que ver con el cuestionario.
10 ☐ Preguntó acerca de los empleos.
11 ☐ Preocupación con la privacidad o confidencialidad.
12 ☐ Preguntó por otras operaciones censales.
13 ☐ Otro – *Explique:*

08. Idioma del Cuestionario ¡Sea Contado! provisto – *Marque (X) una casilla.*

01 ☐ Inglés 02 ☐ Español

09. Guía de Referencia para el Idioma que se usó – *Marque (X) una casilla.*

01 ☐ No se usó una guía
02 ☐ Inglés (01)
03 ☐ Ruso (40)
04 ☐ Chino simplificado (11)
05 ☐ Chino tradicional (12)
06 ☐ Coreano (30)
07 ☐ Vietnamita (50)
08 ☐ Tailandés (45)
09 ☐ Camboyano (10)
10 ☐ Criollo haitiano (Kreyòl) (22)
11 ☐ Armenio (06)
12 ☐ Árabe (05)
13 ☐ Polaco (37)
14 ☐ Otro – *Código:*

Idioma:

10. Haga esta pregunta a los respondedores antes de que salgan del QAC: **"¿Cómo supo del Centro de Asistencia con el Cuestionario?"** – *Marque (X) todas las que correspondan.*

01 ☐ Lo escuché en la radio.
02 ☐ Lo vi anunciado en un cartel.
03 ☐ Lo vi en televisión/en Internet.
04 ☐ Lo leí en una hoja informativa.
05 ☐ Leí al respecto en el periódico.
06 ☐ Me enteré en una reunión.
07 ☐ Me enteré por un amigo/pariente/vecino.
08 ☐ Me enteré en una iglesia/templo/centro de culto.
09 ☐ Me enteré por medio de una organización/de una asociación.
10 ☐ Vi el Buzón de ¡Sea Contado! o el QAC.
11 ☐ Otro – *Explique*

11. Refirió el cliente a – *Marque (X) todas las que correspondan.*

01 ☐ LCO
02 ☐ Internet
03 ☐ Asistencia Telefónica para el Cuestionario (TQA)
04 ☐ Otro
05 ☐ No refirió al cliente a ningún lugar.

12. Si no pudo ayudar al respondedor – *Explique la razón.*

13. Comentarios:

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