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2010 CENSUS PLANNING MEMORANDA SERIES

No. 193 (Reissue)

MEMORANDUM FOR The Distribution List

From: Burton Reist *[signed]*
Acting Chief, Decennial Management Division

Subject: 2010 Census Group Quarters Validation Operation Assessment Report

Attached is the revised 2010 Census Group Quarters Validation Assessment Report. The revision was made to correct percentages due to rounding errors in the Executive Summary as well as incorporate editorial comments from DSSDs' internal review. The Quality Process for the 2010 Census Evaluations, Experiments, and Assessments was applied to the methodology development, specifications, software development, analysis, and documentation of the analysis and results, as necessary.

If you have questions or comments about this report, please contact Jean Williams (301) 763-3166, Diane Barrett at (301) 763-4208, or Andre Williams at (301) 763-1970.

Attachment

2010 Census Program for Evaluations and Experiments

1/8/2013

2010 Census Group Quarters Validation Operation Assessment Report

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

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EXECUTIVE SUMMARY

The purpose of the 2010 Census Group Quarters Validation assessment report is to provide results for the combined elements of the 2010 Census Address Canvassing operation and the Group Quarters Validation operation in compiling an address list of validated group quarters[1]. Additionally, the report will address major aspects of the Group Quarters Validation operation that include, but are not limited to: quality assurance, cost, staffing and productivity data, automation implementation results, lessons learned, and recommendations in preparation for the 2020 Census.

The 2010 Census Group Quarters Validation operation supported the Census Bureau's efforts to compile the most accurate Census Bureau address file using improved methodologies for data collection and coverage that were tested throughout the decade. The methodological advances were based on the 2004 and 2006 Census Tests, and the 2008 Census Dress Rehearsal. They addressed the following changes: updated definitions for group quarters, a revised questionnaire, automated capture of Group Quarters Validation data, and new rules for updating the Master Address File/Topologically Integrated Geographic Encoding and Referencing database.

Aligning with the 2010 Census strategic goals to improve accuracy of census coverage and reduce operational risks, lessons learned from Census 2000 spawned the development of a fully integrated list of housing units and group quarters, hence the creation of two interfaced address list development operations, Address Canvassing and Group Quarters Validation. A decade of census test results demonstrated that the systematically integrated operations effectively distinguished housing units from group quarters.

The 2010 Census Address Canvassing universe of listings included addresses of housing units as well as addresses of group quarters that were in the Census 2000 Group Quarters inventory and additional addresses of potential group quarters from various sources including administrative records. Address Canvassing classified addresses in the universe as follows: a housing unit with or without changes to the address component, other living quarters with or without changes to the address component, duplicate, non-residential, non-existent, or uninhabitable.

A significant part of census coverage improvement included correctly identifying group quarters. During the 2010 Census Group Quarters Validation operation, identifying a group quarters address involved verifying whether or not the address had the correct census geography and validating the address as a group quarters, a housing unit, a transitory location, non-residential, vacant, or non-existent. If the address was validated as a group quarters, the Census Bureau determined the type of group quarters and collected information about the group quarters.

The universe of addresses for the 2010 Census Group Quarters Validation operation included all addresses identified as Other Living Quarters during Address Canvassing and addresses identified as potential group quarters by various selected sources for verification. The Group Quarters Validation universe included addresses compiled from the following sources:

[1] The Census Bureau counts people where they live or stay most of the time. Places where people live or stay are called living quarters. There are two types of living quarters. The most familiar places are single family homes and apartments, called housing units. The others are called group quarters such as dormitories, shelters, nursing homes, and correctional facilities.

- Other Living Quarters Adds identified during the 2010 Address Canvassing operation,
- Census 2000 Group Quarters and updates to the MTdb before the 2010 Census (Pre-2010),
- Group Quarters from administrative records provided by the Federal-State Cooperative Program for Population Estimates and Service-Based Group Quarters and Group Home addresses from Service-Based Enumeration Internet Research conducted at the National Processing Center,
- Group Quarters from the Local Update of Census Addresses that contain certain character strings frequently associated with group quarters in the group quarters name, and
- Group Quarters identified during the American Community Survey Time of Interview operation.

Results

Group Quarters Validation Universe

What was the distribution of outcomes from the Group Quarters Validation operation? How many records were classified as occupied group quarters, vacant group quarters, housing units, transitory locations, non-residential, duplicates, and non-existent (deletes)?

Of the 2,047,115 Other Living Quarters in the Group Quarters Validation Universe which include Adds, listers found:

- Approximately 57 percent were valid living quarters, that is, group quarters (seven percent), vacant group quarters (two percent), housing units (44 percent), and transitory locations (four percent);
- Approximately 43 percent were non-valid living quarters, that is, duplicates (39 percent), deletes/non-existent (one percent), and non-residential (three percent).

What were the final Group Quarters Validation outcomes by Address Canvassing status?

Address Canvassing supplied the Group Quarters Validation operation with 2,028,851 Other Living Quarters addresses.

Of the 1,578,495 Other Living Quarters classified as valid by Address Canvassing listers, the Group Quarters Validation operation found that:

- Approximately 50 percent of these were housing units;
- 35 percent were duplicates;
- Nine percent were group quarters which included vacant group quarters;
- Three percent were transitory locations; and
- Three percent were deletes or non-residential.

Of the 418,779 Other Living Quarters added by Address Canvassing listers, Group Quarters Validation found that:

- The majority, 57 percent, were duplicates;

- 24 percent were housing units;
- Seven percent were group quarters including vacant group quarters;
- Eight percent were classified as transitory locations; and
- Four percent were deletes or non-residential.

Of the 31,577 Other Living Quarters classified as non-residential by Address Canvassing listers, Group Quarters Validation found that:

- 36 percent were confirmed as non-residential addresses;
- 26 percent were group quarters which included vacant group quarters; and
- 38 percent were housing units, transitory locations, duplicates or deletes.

What was the contribution of each source to the universe of validated group quarters?

There were a total of 205,406 group quarters, including 44,120 vacant group quarters found by the Group Quarters Validation Operation which came from the sources below for verification. In those instances where there were multiple sources for an address, each source was credited with contributing the address to the universe of validated group quarters. Thus, the percentage of addresses provided by each source sums to over 100.

- 65 percent – Pre-2010 (Census 2000 Group Quarters and updates to the MTdb before the 2010 Census);
- 29 percent - Administrative records including the Federal-State Cooperative Program for Population Estimates and the National Processing Center's Internet Research of Service Based Enumeration locations and group homes;
    - Most of these administrative record addresses were validated as group quarters (i.e., 61 percent of the more than 45,000 addresses provided by the Federal-State Cooperative Program for Population Estimates and about 57 percent of the more than 55,000 addresses obtained by the National Processing Center's Internet Research of Service Based Enumeration locations and group homes. In contrast, the percentages of other sources providing addresses validated as group quarters varied from four percent to 12 percent.)
- 20 percent - Local Update of Census Addresses program;
- 14 percent - Address Canvassing Adds;
- Nine percent - Group Quarters Validation Adds; and
- Less than one percent - American Community Survey Time of Interview.

How many multi-unit structures were classified as Other Living Quarters during Address Canvassing and how many of those were assisted/independent living facilities?

There were 460,904 Basic Street Addresses identified from the 2,047,115 Other Living Quarters in the Group Quarters Validation universe. Of the Other Living Quarters Basic Street Addresses:

- About 25 percent were multi-unit structure Other Living Quarters Basic Street Addresses, yielding approximately 1.7 million Other Living Quarters.

- The assessment identified 57,372 multi-unit Other Living Quarters classified as multi-unit structures that contained at least one housing unit. Of these multi-unit structures approximately six percent had an associated nursing or skilled nursing facility, yielding approximately 54,000 Other Living Quarters.

Validated Group Quarters

How many group quarters were identified at an Other Living Quarters address in Group Quarters Validation?

- There were 160,947 Group Quarters counted at 135,914 Other Living Quarters Basic Street Addresses in the 2010 Census Group Quarters Validation operation. This total does not include vacant group quarters, Other Living Quarters Basic Street Addresses with no group quarters, or those where Other Living Quarters Basic Street Addresses could not be determined due to missing block and location address information.
- Most of the Other Living Quarters Basic Street Addresses, about 76 percent (103,591), were single unit group quarter addresses.
- There were a total of 57,356 Group Quarters counted at 32,323 multi-unit Other Living Quarters Basic Street Addresses.

How many group quarters were classified for each group quarters type category?

Of the 205,406 addresses that were validated as group quarters approximately:

- 22 percent were vacant at the time of the lister's visit and a group quarters type code could not be determined. If the address was a group quarters, the type of group quarters was identified during subsequent Group Quarters operations;
- 18 percent were Group Homes Intended for Adults;
- 14 percent were College/University Student Housing;
- 10 percent were Nursing and Skilled Nursing Facilities;
- Eight percent were Workers Group Living Quarters and Job Corp Centers;
- Six percent were Correctional Facilities for Adults;
- Five percent were Juvenile Facilities;
- Five percent were Religious Group Quarters and Domestic Violence Shelters;
- Four percent were Residential Treatment Centers;
- Four percent were Shelters and Service Locations;
- Two percent were Military Quarters;
- Two percent were Hospitals and In Patient Hospices; and
- Less than one percent was Residential Schools for People with Disabilities.

Address Record Updating

What were the results of the MTdb update process for address records? What was the final count of MTdb updates by action? How many records were rejected and what were the reasons?

- There were 2,543,972 address records received as part of the MTdb update process. Of these, data from the assessment found that:

    - 40 percent were validated units including non-address changes;
    - 31 percent were duplicates;
    - 20 percent were add records;
        - Approximately 15 percent of add records (19,000) were occupied group quarters or vacant group quarters; and
    - Nine percent were records involving address changes, transitory locations, non-residentials, and deletes.

- There were 27,110 address records rejected for MTdb updating.
    - About half of the rejects were attributed to an address change or add action for a housing unit or transitory location that matched to a record in the same block with a positive action from the Group Quarters Validation operation.
    - 25 percent were duplicate actions.
    - 21 percent were incomplete location address information for stateside records.
    - Four percent were rejected due to various other reasons.

Reinterview for Quality Assurance

What was the total number and percentage of group quarters cases selected for Reinterview?

Of the 151,757 eligible cases, 21,961 Group Quarters (14.4 percent) were selected for Reinterview. There were 21,788 cases selected for random reinterview and 173 cases were selected for supplemental reinterview.

Of the total 21,961 cases, the outcomes were as follows:

- Approximately 92 percent passed;
- Three percent were soft fail, indicating that the questionable data appeared to be the result of an honest lister error;
- Less than one percent (42 cases) were hard fail, meaning the questionable data appeared to be intentional and falsification was suspected; and
- Six percent were not reached as the Reinterviewer was unable to contact a respondent at the Other Living Quarters.

Data Capture

What was the total number of each form printed for Group Quarters Validation? What was the total number of each of the forms captured? Were there any problems capturing Group Quarters Validation forms?

- 5,564,900 Group Quarters Validation forms were printed
- 2,067,511 Group Quarters Validation forms were data captured

There were a few issues capturing Group Quarters Validation forms, the following is an example:

A disparity emerged between the number of Group Quarters Validation forms shipped to the data capture center and those forms acknowledged and processed. A reconciliation of forms was necessary because there were unresolved addresses for some Master Address File IDs. Two sets of numbers were required for reconciliation because the Field Data Collection Automation contractor and Geography Division tracked case and processing IDs on the forms while the Decennial Response Integration System contractor tracked the preprinted unique IDs (document identifier) on the forms. The contractors reconciled the disparity that ultimately resulted in 99.7 percent of the Group Quarters Validation forms being processed.

Production and Cost

What was the production rate (average number of Other Living Quarters completed per/hour)?

- Budgeted productivity rate was 0.36 Other Living Quarters per hour.
- Observed productivity rate was 1.76 Other Living Quarters per hour.

How did the budgeted costs compare to the actual costs?

- Total budget for the Group Quarters Validation operation was 70 million dollars.
- Actual cost of the Group Quarters Validation operation was 41 million dollars.

Lessons Learned

What are the lessons learned by the field staff and Group Quarters Validation Sub-team during the 2010 Group Quarters Validation operation?

Key factors contributing to Group Quarters Validation operational success included the following:

- Using the same Assignment Areas as the Address Canvassing operation for coordinated planning and implementation;
- Integrating group quarters and housing units on the Master Address File;
- Advance testing of data capture and delivery between the Field Data Collection Automation, Decennial Response Integration System, and the Geography Division;
- Efficient use of administrative records received from tribal and local governments and state advocacy organizations to update the group quarters frame and to validate group quarters; and
- A well coordinated operation including quality assurance between the field staff, Regional Census Centers, Early Local Census Offices, and interdivisional stakeholders.

Major challenges realized by the Group Quarters Validation operation included:

- Lack of an automated instrument to classify Other Living Quarters and validate group quarters;
- Tracking and maintaining the linkage of questionnaires and forms during check out and when shipping to the data capture center, and

- Questions five through ten on page five of the Group Quarters Validation questionnaire required the listers to read all of the classifications to the respondent to help the respondent determine their type of facility (e.g., Is this a soup kitchen? Is this some type of facility, student housing or group home? Is this a hotel, motel, hostel, recreational vehicle park, campground, carnival, marina or racetrack? Is this housing for people with a religious affiliation?). After these questions were asked of the respondent, a list was shown to the respondent (question 18 (a) on page six flashcard side one) for them to read to further help describe their facility. While the intent of these questions were to allow the respondent to self-identify their facility, the method by which they were asked inadvertently resulted in the loss of the respondent's attention and interest in responding.

Conclusion and Recommendations

The integrated Address Canvassing and Group Quarters Validation 2010 Census operations worked well together in distinguishing housing units from group quarters and resulted in developing an accurate Census Bureau address file using improved methodologies for frame construction. The methodological advances of key operational elements had been incrementally tested and evaluated in the 2004 and 2006 Census Tests, and the subsequent 2008 Census Dress Rehearsal. Advanced operational elements included changes such as Group Quarters Validation using the same assignment areas as Address Canvassing for efficient assignment planning, automated data capture of Group Quarters Validation data, and a redesigned questionnaire that included updated definitions for group quarters. Despite the operation being condensed from six to four weeks, the 2010 Census Group Quarters Validation operation was completed on time, according to plan, and under budget.

Recommendations below are offered to help reach the Census Bureau's goal of compiling, updating and maintaining an integrated address list of housing units and group quarters in preparation for a more cost-effective 2020 Decennial Census.

- **Continue the integrated Census 2010 Address Canvassing and Group Quarters Validation data collection methodologies for future censuses**. These two operations complemented each other in distinguishing housing units from group quarters. Assessment data confirmed that Other Living Quarters addresses identified during Address Canvassing were sent to subsequent Group Quarters Validation for planned identification and classification. The Group Quarters Validation operation classified Other Living Quarters as valid living quarters, (i.e., group quarters, housing units, or transitory locations) or non-valid living quarters (i.e., duplicates, nonexistent or nonresidential).

- **Explore the combined procedures of Address Canvassing and Group Quarters Validation to further determine the most cost-efficient method to identify and classify complex living situations and identify and remove duplicate addresses.** Assessment data revealed that over half of the units at Other Living Quarters (54.5 percent of 1.4 million units) were identified as housing units and almost one-third of duplicate units (31.2 percent of 796,628 units) were transitory locations. All these addresses, except duplicates, moved on properly to the subsequent enumeration operation. As discussed in this assessment, these procedures were introduced for Group Quarters Validation to help identify and classify addresses at complex living situations for proper inclusion in the 2010 Census. Further research is recommended to identify where in the integrated process of Address Canvassing and Group Quarters Validation it is most cost-effective

to identify and classify housing units at complex living situations (e.g., assisted/independent living facilities) as well as minimize the number of duplicate units listed at transitory locations.

- **Continue to include Address Canvassing non-residential Other Living Quarters addresses in the Group Quarters Validation universe for validation of group quarters.** As was found during mid-decade testing, including Other Living Quarters addresses from specific sources that were classified as non-residential during Address Canvassing in the Group Quarters Validation universe increased the frame quality of group quarters. Had these Address Canvassing non-residential addresses *not* been included in the Group Quarters Validation universe, the 2010 Census would have missed about 6,632 group quarters with a known group quarters type.

- **Continue the use of the Group Quarters Validation questionnaire with possible refinements including automation.** The Group Quarters Validation questionnaire worked as designed to classify Other Living Quarters addresses as housing units, group quarters or transitory locations to be included in the appropriate subsequent enumeration universe. While the Group Quarters Validation questionnaire worked as designed, some improvements are recommended to enhance this questionnaire: 1) include a question that asks the respondent for the number of units at the Other Living Quarters address, and 2) develop an automation instrument to reduce the data capture and processing time, mitigate or eliminate problems encountered with tracking and linking questionnaires and forms, lost questionnaires and forms, and invalid address status outcomes.

- **Research and test the use of administrative records to help determine the type of group quarters when it is unknown.** About 22 percent of the units in the universe of group quarters were vacant group quarters that had an unknown group quarters type (44,120 of the total 205,406 group quarters). To minimize the number of group quarters with an unknown group quarters type, we recommend researching the availability of administrative records that could be used to assign possible group quarters type codes to subsequent group quarters operations. If these addresses are classified as vacant or added during Group Quarters Validation, this group quarters type information obtained via administrative sources could be provided along with the address when sent to subsequent group quarters operations, Group Quarters Advance Visit and/or Group Quarters Enumeration. Vacant group quarters that could not be resolved during Group Quarters Advance Visit or Group Quarters Enumeration should continue to be retained on the Master Address File as group quarters with an unknown group quarters type code of 999 for further research.

- **Continue interdisciplinary research to expand the use of administrative records to update and refine the group quarters frame.[2] This could be accomplished by, but not limited to, conducting the following practices:**

    - Conduct studies to identify group quarters types where the Group Quarters Validation rate with administrative records can be optimized and cost-effective.

[2] The Group Quarters Sub-team of the Geographic Support System (GSS) Initiative for Address Coverage and Sources was formed to conduct research, evaluate and implement methods to improve the quality and development of the group quarters frame for Census Bureau corporate use. The GSS Group Quarters Sub-team has currently drafted recommendations which include expanding the use of administrative records as well as developing a system for ongoing updates of group quarters.

- Continue collaborating with organizations representing nursing homes, correctional institutions, colleges, and other group quarters with high prevalence of use of administrative records.
- Continue to obtain administrative records from federal, state, tribal, and local governments. The combined sources of administrative records (the Federal-State Cooperative Program for Population Estimates and the National Processing Center's Internet research of Service Based Enumeration locations and group homes) contributed to the universe of group quarters at 29 percent. The majority of the addresses provided by administrative records (i.e., 61 percent of the 45,678 addresses provided by the Federal-State Cooperative Program for Population Estimates and 57 percent of the 55,435 addresses provided by the National Processing Center's Internet research) were validated as group quarters during the 2010 Group Quarters Validation operation.
- Continue to explore ways to use the Business Register developed by the Census Bureau for the economic census to identify group quarters. Another potential administrative source for college housing may be obtained from the National Center for Education Statistics of the Department of Education.
- Explore a more effective and cost efficient method to build upon the Internet research that was conducted for the 2010 Census and used to update Service Based Enumeration locations and group homes and include other group quarters types. For example, websites of colleges and universities may offer current information about student housing and college dorms. The National Processing Center's Internet research of Service Based Enumeration locations and group homes found 3,900 group quarters. These addresses were not previously on the Master Address File nor did another source submit the address to be included in the 2010 Group Quarters Validation universe.

- **Continue research to determine whether a census coverage measurement of group quarters is feasible.** Although the 2010 Census data collection method for developing the group quarters frame was an improvement over the Census 2000 approach, a census coverage measurement of group quarters could provide measureable indicators of coverage. We recommend that further inter-divisional research on coverage of the group quarters frame be conducted so that we can determine estimates of net coverage error as well as estimates of components of coverage error to determine omissions and potentially erroneous validations of group quarters.

1. INTRODUCTION

1.1 Scope

The intent of this assessment is to document what happened during the 2010 Group Quarters Validation (GQV) operation. Accordingly, the assessment will document results and lessons learned for all aspects of the GQV operation, such as the distribution of Other Living Quarters (OLQs) validated as Group Quarters (GQs), Housing Units (HUs), Transitory Locations (TLs), Non-residentials, Vacants, or Non-existent (Deletes). The assessment will also describe the data capture results, actions taken to update the Master Address File/Topologically Integrated Geographic Encoding and Referencing database (MTdb), and Reinterview results.

1.2 Intended Audience

The information in this assessment is pertinent for interdivisional stakeholders and decision makers for the population living in group quarters. The assessment will also be used as a tool to refine and improve the GQV operation for future censuses.

2. BACKGROUND

2.1 Census 2000

In Census 2000, Special Place was the term used for managing the development of the GQs inventory. Special Places in the census were establishments that were administratively responsible for one or more GQs. In some cases, the Special Place and its associated GQs had the same address. However, in other cases, the Special Place was the administrative entity and managed many GQs that were not always physically adjacent to one another or to the location of the Special Place. Special Places were the primary contact for information about GQs. Potential Special Places were identified for contact during the Facility Questionnaire operation. The Facility Questionnaire operation obtained information on the GQs administered by each Special Place. Each Special Place that administered at least one GQ was visited in the Special Place/Advance Visit operation to obtain information about the current contacts and address status of each GQ. Because the point of contact was the Special Place, the location information collected for the Special Place was often used for the GQs even when the location of the GQ and Special Place differed. As such, the locations were sometimes not accurately reflected by the GQ addresses recorded on the Special Place/Group Quarters (SP/GQ) Control File. This resulted in some errors in the geographic allocation of the GQ population (Barrett, 2009a).

Maintaining and developing a Special Place/Group Quarters (SP/GQ) inventory completely separate from the Master Address File (MAF) resulted in duplication of addresses on both lists, once as a HU and once as a GQ. Therefore, some addresses received a HU questionnaire and were also enumerated through GQs Enumeration. This also created confusion for the respondent because after they completed and returned the HU questionnaire, they were later reluctant to participate in GQ enumeration (U.S. Census Bureau, 2003).

The dispositions of GQs in the updates to the SP/GQ Control File were not tracked. Updates replaced previous information without retaining information on the source of the update or the previous information on the address status of the GQ. The records for GQs deleted from the census inventory were deleted from the SP/GQ Control File. In some instances, GQs were deleted from the inventory and then reinstated. When this happened, the reinstated GQ was given a new identification number and the control file did not show that it had existed previously. Since there was no audit trail for these files, it was impossible to track the workload and outcomes for the Facility Questionnaire and the Special Place/Advance Visit operations (Barrett, 2009b).

2.2 2004 Census Test

To address lessons learned from Census 2000, for the first time in the 2004 Test, the list of GQ addresses were fully integrated with the list of HU addresses on the MAF. The GQs inventory was also managed at the GQ level instead of at the Special Place. The integration of these two lists resulted in two new address list development operations, Address Canvassing (AC) and Group Quarters Validation. AC classified residential structures as either a HU or an OLQ. OLQ was a new concept for the 2010 Census. A HU is any house, such as a single family home, townhome, condominium, apartment, or single room that is occupied as a separate living quarters, or if vacant, intended for occupancy as a separate living quarters. An OLQ is a potential GQ such as college housing, military barracks, and correctional facilities, however the integrated list also included transitory locations (TLs), assisted living facilities (ALFs), and hotels and motels. Transitory locations included campgrounds, recreational vehicle (RV) parks, marinas, racetracks, and carnival locations. Addresses classified as OLQs in AC were included in the GQV workload universe. However, group homes, regularly scheduled mobile food vans, targeted non-sheltered outdoor locations, carnival and circus locations, military bases, and military/maritime vessels were excluded from GQV in the 2004 Census Test.

One objective for implementing the AC and GQV operations was to distinguish HUs from GQs. The OLQ concept was implemented to simplify the AC lister's job of classifying HUs and OLQs. AC listers focused on updating the Census Bureau's address list and collecting map coordinates for each living quarter (LQ) in their assignment area (AA). GQV listers determined the type of OLQs. In order to correctly determine the status of complex living situations, an in-person interview was conducted at the OLQ. GQV listers asked detailed questions of respondents to determine the OLQ classification, update the address list, and census maps if necessary.

Specifically in GQV, the objective was to assign the correct GQs classification, collect information about the GQs, improve the assignment of GQs to the correct geography and reduce duplication between GQs and HUs. These procedures were implemented for GQV to classify complex types of living situations in order to determine the Census enumeration methodology for subsequent operations, e.g., addresses to be included in the Enumeration at Transitory Locations (ETL) operation, addresses of HUs to be included in HU enumeration operations, and addresses to be included in the GQs universe for GQs Enumeration operations, that included Service Based-Enumeration and Military Enumeration.

GQV was conducted using a newly designed OLQ Validation Questionnaire to determine whether an address was a GQ, a HU, or not a living quarters such as a commercial establishment (non-residential). If the address was determined to be a GQ, then GQV staff via the interview verified,

classified, and obtained other pertinent information about the GQ, such as the contact name, telephone number, the maximum population or number of residents, and if the address had other GQs. If there were additional GQs at the address, staff added the newly identified GQs and collected the Basic Street Address (BSA) in addition to the above information for each addition.

The definition of a GQ was revised from Census 2000 and applied in the 2004 Census Test. Several GQ type classifications were also revised such as nursing homes, college housing, and group homes. The GQ definition for group homes was revised to apply only to residential treatment centers that provided group living arrangements.

The GQ and HU universes were integrated on the Decennial Master Address File (DMAF) and similar to updating HUs, once a GQ record was entered on the DMAF, it was retained (Alberti, 2004).

2.3 2006 Census Test

For the 2006 Census Test, the GQV operation was merged with the Advanced Visit (AV) operation as Group Quarters Validation/Advance Visit (GQV/AV). This merge was only for this test due to scheduling issues related to conducting the test. The purpose of combining GQV/AV was three-fold: 1) to support the Census Bureau's efforts to compile the most accurate address file using improved methodologies for data collection and coverage, 2) to determine the type of GQs, and 3) to inform the GQs contact person of the upcoming GQ enumeration, address privacy and confidentiality concerns, identify any security issues, verify the GQ name and address information, contact name and phone number, and obtain an expected Census Day population count (U.S. Census Bureau, 2006).

Address data collection methods were enhanced to improve the coverage of group quarters. This included administering a redesigned OLQ Validation Questionnaire, revising definitions and classifications of GQs, and continuing to update the MAF in a comprehensive and integrated manner (DMD, 2006). The redesigned OLQ Validation Questionnaire applied revised GQ definitions that provided more clarity to GQ classifications and types. The content and flow of the questionnaire was improved, recommendations from the 2004 Census Test were incorporated, and address information was collected and verified to facilitate unduplication of census records, ultimately to improve the address list of GQs on the MAF. Also, a quality control process called Reinterview was conducted on randomly selected addresses from the GQV/AV universe for the purpose of verifying the outcome of the interview (U.S. Census Bureau, 2006).

For both the 2004 and 2006 Census Tests, if additional GQs were identified they were added to the workload. The OLQ Validation Questionnaire data were captured using key-from-paper (KFP) technology and paper maps were used in the test sites (U.S. Census Bureau, 2003).

For the first time in 2006, the Census Bureau conducted the AC operation using an automated instrument instead of a paper instrument. AC listers used hand-held computers (HHCs) to identify all residential structures that they encountered in their assignment area as either HUs or OLQs (AC Assessment Report, 2010). The GQV/AV Assessment Report for the 2006 Census Test was first to reveal that the combined elements of the AC and GQV operations were successful in distinguishing HUs from OLQs (Echols, 2006).

2.4 2008 Census Dress Rehearsal

2.4.1 Production

The expectation in the 2008 Census Dress Rehearsal (DR) was to enhance the methodologies developed and improved during the 2004 and 2006 Census Tests for listing and validating GQs. Implementation of GQV in the DR supported 2010 Census strategic goals, especially in reducing operational risks and improving the accuracy of census coverage. The DR was the occasion to put into operation what had been learned from previous census tests conducted throughout the decade in preparation for the nation's once-a-decade census of population and housing (Barrett, 2009a).

As in previous census tests, the AC operation was conducted prior to GQV. Aligned with the goal to compile an accurate Census Bureau address file, GQV staff verified that an address had the correct census geography and determined the status of the OLQ address (as a GQ, HU, transitory location, non-residential, vacant or non-existent). If the address was validated as a GQ, the GQ type was determined and information was collected about the GQ.

The GQV universe included OLQ addresses identified in the earlier AC operation including Adds. The universe also included addresses of GQs from Census 2000, GQs obtained from administrative records, and GQs from the Local Update of Census Addresses (LUCA). These addresses were not always identified as OLQs in AC, but were confirmed as good addresses (U.S. Census Bureau, 2007a). As GQV staff identified additional GQs, HUs, or TLs, they were added to the workload.

The OLQ Validation Questionnaire was modified for the DR and was renamed the Group Quarters Validation (GQV) Questionnaire. The modified GQV Questionnaire was streamlined, revised, and the number of GQ definitions was simplified resulting in fewer GQ type codes (Lamas, 2009). The GQV Questionnaire was designed to collect information on one or more GQs and/or one or more HUs at one OLQ address.

The 2008 GQV operation included GQs on military installations that were coordinated with the military installation Points of Contact (POC). Military installation escorts and POCs were sworn in by the GQV staff to protect Title 13 data. As required, military personnel accompanied GQV staff to each address (on the installation) that was classified as an OLQ during AC. Then, the military POC determined the GQ type based on the questions asked of them from the GQV Questionnaire.

2.4.2 Cost and Progress System

The Decennial Management Division's (DMD) Cost and Progress (C&P) System used for the 2008 GQV operation was a web-based SAS system. The C&P system was reengineered after Census 2000 from a client server to a web-based SAS system. C&P information was provided to Census Bureau Headquarters (HQ), Regional Census Centers (RCCs), and Early Local Census Offices (ELCOs) staff to monitor the progress and costs of the GQV operation. The C&P system retrieved, summarized, stored, and reported decennial operational data from source systems, primarily the Decennial Applicant, Personnel and Payroll System (DAPPS) and the Field Division's Operation Control System (OCS). Throughout the decade, DMD system programmers

and operations project management staff worked together to gather requirements, test, and refine the system in preparation for the 2010 Census (Schneider, Wong, and Snodgrass, 2010).

Beginning with the 2008 DR, the Census Bureau used an outside contractor for the design and development of a Field Data Collection Automation (FDCA) system for office computing and mobile computing environments. The software developed by the FDCA contractor interfaced with census systems such as C&P and DAPPS. This newly established FDCA OCS and C&P system interface resulted in some issues for the GQV operation and GQV C&P reports. The start of the GQV operation was postponed due to errors in the assignment preparation reports. GQV C&P production reports were late and yielded incorrect costs and numbers/counts from the FDCA data throughout the duration of the operation. Field HQ staff implemented a manual workaround to monitor and control the field work. The GQV Reinterview reports were also inaccurate. The algorithm for Reinterview case selection was not deployed as required and again a workaround procedure was implemented. These issues resulted in lessons learned that included improvements to development and testing in preparation for the 2010 Decennial Census (U.S. Census Bureau, 2007b).

2.4.3 Field Data Collection Automation

The Operation Control Environment (OCE) was developed under the auspices of the FDCA contract. The OCE was used to print address listings, maps and other assignment preparation materials needed to complete GQV. The Field Division used the OCE/OCS reports to monitor and control the progress and performance of the field staff and the status of each OLQ case (U.S. Census Bureau, 2009c).

The 2008 GQV operation experienced performance issues with the FDCA designed OCE. Formatting and data errors on reports such as the Address Listing Pages, Multiple Questionnaire List, Assignment Directory List, and Block Listing Pages created delays in assignment preparation. Other performance issues related to assignment preparation included excessive durations for the system to load listing pages, the system timing out, and the inability to view OCS reports. Production was also adversely affected as a result of the OCS' performance issues. GQV cases that were checked in and checked out were not updated on the OCS tracking reports. In addition, the system allowed a case to be checked in multiple times when it should have only been allowed to check in a case once. Working correctly, no case should have been checked in more than once. A workaround procedure was implemented that included checking in one questionnaire at a time, saving the data, and then checking in another questionnaire. Again, these issues contributed to lessons learned resulting in suggested improvements for more robust testing (2008 GQV OIT, 2007).

2.4.4 Decennial Response Integration System

The Decennial Response Integration System (DRIS) captured and processed GQV data received from the FDCA. Exchange of data between DRIS and FDCA was conducted via an external systems interface. The transfer of data was accomplished via the use of message queues.

DRIS also developed the GQV Address Update (ADDUP) Post Processing System for the DR, but had limited success because the logic of ADDUP rules was more complex than initially thought. This was a first attempt to automate this component.

2.5. 2010 CENSUS GROUP QUARTERS VALIDATION

2.5.1 Operation Overview

The 2010 Census GQV operation was managed from 151 Early Local Census Offices (ELCOs). Address Canvassing, the primary list building activity for the 2010 Census was conducted prior to GQV. GQV was conducted from September 28 through October 23, 2009 in the 50 states, the District of Columbia, and Puerto Rico (PR). The initial workload for Stateside and PR included approximately 984,000 unique map spots. Of these, there were 981,000 stateside unique map spots and 2,500 unique map spot locations in PR.

GQV listers verified that an address had the correct census geography, and validated the address as a GQ, HU, TL, non-residential, vacant, or delete (non-existent). If the lister validated the address as a GQ, then they determined the type of GQ based on the outcome of the interview, and collected information about the GQ. Listers conducted this work using the GQV Questionnaire, Address Listing Pages, OLQ Add Pages, Continuation Forms, Non-Survivor Labels, and census maps. GQV paper collection materials were packaged and shipped to the paper data capture center.
The GQV Questionnaire was designed to facilitate personal visit interviewing. The questionnaire was also designed to collect information on one or more GQs and/or one or more HUs at one OLQ address. GQV Questionnaires, Address Listing Pages, OLQ Add Pages, Continuation Forms, and Non-survivor Label pages were printed in English for Stateside and Spanish and English for PR (U.S. Census Bureau, 2009b).

2.5.2 Quality Assurance

The 2010 Census GQV operation included a quality assurance component called Reinterview (RI). During RI a random sample of completed questionnaires for each lister was used to detect and deter lister errors and data falsification during production. Reinterview was implemented to confirm that the listers were visiting the correct OLQ at the correct address and classified the OLQ in the correct GQ category type. The address status of the case was entered into the OCS at the time of check in. A case was considered eligible for RI if it had an address status code of "GQ," was not completed by a Crew Leader or Group Quarters Supervisor, was not marked "Management Attention," and was not previously selected for RI. Military GQs were ineligible for RI[3].

The OCS was set up to select a ten percent sample of the questionnaires where the address status code was "GQ" completed by each lister using a random start between the first and third eligible GQ checked into the office. The estimated production workload for listers was 20 cases on average. Therefore, it was estimated that two cases would be selected for Random RI for each

[3] Military GQs were ineligible for RI because GQV Crew Leaders worked with the military installation's point of contact who was knowledgeable of LQs on the installation and to reduce respondent burden by limiting multiple visits on installations.

lister. However, the average number of eligible GQs for each lister was about nine cases. Since every lister had at least one case selected by the one-in-first-three rule, and on average, listers only encountered about nine eligible GQs, the actual sampling rate came out higher than expected at 14.4 percent (Sebron, 2011).

Reinterview was conducted by clerks in the ELCO. The clerks phoned the OLQ contact person and used the GQV RI questionnaire to determine if the lister conducted the GQV interview correctly by asking the contact person scripted questions. If the clerk was unable to make contact, the Crew Leader conducted the RI in person.

Reinterview outcomes were either pass, soft-fail, or hard-fail. Cases that passed were verified facility responses. An example of a soft-fail case was honest lister error. When a lister's case soft-failed, it was sent out for repair. An example of a hard-fail case was falsification. If a case was hard-failed it was assigned to a Crew Leader for rework. Detailed information on RI can be found in Section 5.4.

2.5.3 Cost and Progress System

The 2010 Census DMD C&P System interfaced with the FDCA OCE/OCS and the DAPPS to obtain data to generate reports that HQ, RCC, and ELCO staff used to monitor the cost and progress of the GQV operation. GQV used 18 C&P reports that included budget and costs, AA completion over time, progress of the total GQV Questionnaire workload, and progress of the RI workload.

Source data included the GQV cost model from the DMD budget office and Field Division progress goals. Using the DMD cost model, which contained assumptions about the total workload, production rates, production and training hours, DMD generated a budget for the GQV operation. These budgeted figures were entered and distributed throughout the C&P system to the ELCO level. These data populated the budgeted numbers for field work and training hours for both the production and RI phases of the operation.

Production progress goals provided by the FLD budget office were used to determine expected percentages of workload and cost to be completed by the RCCs and ELCOs by each week of the operation.

Issues with the GQV C&P reports realized during Dress Rehearsal were mitigated by implementing more robust testing in preparation for the 2010 Census. However, during the 2010 Census GQV operation, C&P reports did reveal that several RCCs were allocating charges for ELCO staff prior to the start of GQV training by charging to the incorrect task codes. These misallocated charges did not pose any significant impact in the accuracy of the reports.

2.5.3.1 GQV Questionnaire and Assignment Area Workload

There were 175,155 initial workload assignment areas (AAs) and 175,155 workload map packages were printed. The number of assignment areas added during GQV was 223 resulting in a total AA workload of 175,378 and 175,378 map packages printed.

Table 1 provides the progress of the GQV Questionnaire and AA workload of each region for the 2010 Census GQV operation. The workload includes counts for stateside and PR.

Each GQV lister was assigned one or more AAs. An AA is a geographic area set up for data collection purposes. GQV listers conducted an interview using the GQV Questionnaire at all of the OLQ addresses in their assigned AAs. As shown from the DMD Cost & Progress Report in Table 1, listers added 4,915 new OLQs they identified in the field that were not already listed on their address listing pages. Added OLQs were confirmed by the Group Quarters Supervisor (GQS) then ELCO staff would check out the approved Adds to the field for GQV interview and classification. AAs were added as GQs were added, if the added GQ was in an AA not originally in the GQV workload. The AAs available to GQV were the AAs in AC; therefore not all AAs had GQV assignments in them and maps and listings were not printed for these AAs unless they had GQs either originally or added. By using the same AAs, the ELCOs could readily read the results of AC to prepare for the upcoming GQV operation. Unlike most field operations, the AAs in GQV were not designed around the GQV workload, but rather around the AC workload.

Table 1: GQV Cost and Progress Current Progress Questionnaires Report - Stateside and Puerto Rico

RCC	Initial GQV Questionnaire Workload	#GQV OLQs Added During GQV	Total GQV Questionnaire Workload	Initial AA Workload	# AAs Added During GQV	Total AA Workload
Atlanta…….	275,137	251	275,388	16,453	11	16,464
Boston*…….	152,831	556	153,387	17,059	24	17,083
Charlotte……..	175,383	332	175,715	16,444	12	16,456
Chicago……	134,231	539	134,770	12,357	6	12,363
Dallas……..	185,819	165	185,984	14,299	8	14,307
Denver…….	209,207	230	209,437	16,464	27	16,491
Detroit…….	115,868	115	115,983	13,406	8	13,414
Kansas City……..	157,283	329	157,612	17,247	37	17,284
Los Angeles…….	148,807	834	149,641	12,495	49	12,544
New York…….	117,513	172	117,685	7,057	13	7,070
Philadelphia…….	156,582	1140	157,722	13,380	19	13,399
Seattle……..	211,534	252	211,786	18,494	9	18,503
Total……	**2,040,195**	**4,915**	**2,045,110**	**175,155**	**223**	**175,378**

Source: DMD 2010 Census Cost and Progress Report, November 2009
*Puerto Rico is part of the Boston RCC

2.5.4 Automation Results

The extent of performance issues GQV realized during DR were mitigated prior to the 2010 Census due to more robust testing, such as, but not limited to: testing the process for creating the DRIS ADDUP functionality, conducting a Title 13 test, an operations test, and systems interface tests. DRIS, FDCA, the Geography Division (GEO), and DMD C&P participated in numerous integrated work sessions to prepare for GQV tests. Testing was crucial, particularly for interfacing systems. Test results yielded an improved exchange of data. As an example, the GEO Division required that DRIS account for and report closure on all of the AAs in the GQV operation universe. This requirement included in the system interface document was tested. Testing ensured that the GEO was able to compare data to verify that all AAs in the GQV operation universe were received.

2.5.4.1 Field Data Collection Automation

FDCA provided automation resources, applications, and infrastructure to support field data collection for the 2010 Census GQV operation. FDCA delivered the operational universe of GQV addresses received from the GEO to the ELCOs via the OCS. The OCS was used to print address listings, maps, and other assignment preparation material to complete GQV.

GQV office clerks keyed the address status into the FDCA OCS for completed OLQ cases checked in from the field including those cases that completed RI. The address status code keyed into the FDCA OCS represents the production address status marked by the GQV lister for each completed OLQ case on the Address Status page of the GQV Questionnaire. Table 2 below provides FDCA's GQV address status code tallies for Stateside and PR.

Table 2: GQV Address Status Codes Keyed into FDCA OCS (Stateside and Puerto Rico)

Address Status Code	Total (Nationwide and PR)	Percent
GQs……	151,757	7.4%
T (Transitory Location)…….	92,565	4.5%
Site Plan for Transient Quarters…….	(2,445)	
N (Non-residential)……	35,554	1.7%
V (Vacant)……	22,660	1.1%
D1 (Cannot locate in the block)……	36,282	1.8%
D2 (Duplicate)……	611,069	29.9%
D3 (Use as directed in the GQV Questionnaire)……	20,205	1.0%
H (Housing Unit)……	1,074,257	52.5%
No Status (No address status available)…….	761	0%
Total	***2,045,110***	***100%***

Source: Field Data Collection Automation, GQV Address Status Summary, 1 Dec 09

It is important to note that the address status codes keyed into FDCA by ELCO clerical staff do not represent the final GQV outcomes as GQV Questionnaires and forms were later subject to post processing. However, Table 2 does show that the largest number and percent of OLQs were identified as HUs which is consistent with the post processing GQV outcome. Forms keyed as "No Status" (No address status available) could have been in part due to blank questionnaires, such as questionnaires that were missing a label. See section 5.6 and Table 12 for the final distribution of address status outcomes from the 2010 Census GQV operation.

Table 2 also shows FDCA captured tallies from the GQV Questionnaire for those transitory location facilities that were able to provide a site plan map of their grounds/facility area. Of the 92,565 addresses classified as transitory locations, 2,445 site plan maps were provided for field staff to locate transient quarters during the subsequent Enumeration at Transitory Location (ETL) operation.

2.5.4.2 Decennial Response Integration System

Table 3 provides the totals for GQV Questionnaires and forms shipped from the ELCO staff via the FDCA OCE and received by DRIS. GQV is fundamentally different than household questionnaire processing (Coon and Osborne, 2011). The GQV questionnaire was a validation instrument and one questionnaire was used to interview a respondent at each OLQ. Continuation forms were also used and included: 1) the Housing Unit Continuation Form (HUCF) was used if the HU listing page in the GQV Questionnaire was full and additional HUs needed to be listed, and 2) the Correctional Facility Continuation Form (CFCF) was used to list more GQs at a correctional facility if the space provided on the GQV Questionnaire was full. The GQV Questionnaire was considered the *parent* form and the HUCF and CFCF were considered *continuation* forms. The same Census/Case ID was used on the parent and continuation forms to facilitate linking the continuation form to the facility on the parent form. Parent and continuation forms were to be delivered to the data capture center together for processing.

FDCA used the GQV Universe interface to send DRIS a mapping file that contained both the GQV Questionnaire label ID (the FDCA generated Census/Case ID) and the associated AA in order for DRIS to determine when they had received all the GQV Questionnaires for an AA. The

DRIS required each questionnaire and form to be uniquely identified with a single barcode identifier not provided via the Census/Case ID. Thus, a pre-printed unique ID and FDCA applied labels were included on all GQV forms for processing. The DRIS processed questionnaires and forms using the information on the FDCA applied label and pre-printed unique IDs.

As shown in Table 3, DRIS processed 99.8 percent of the case IDs in the GQV universe. Forms not acknowledged or captured by DRIS were forms that were unable to be processed via the ADDUP Post Processing system. This was due to a mix of duplicate forms (same case IDs), no case IDs, invalid case IDs, and forms shipped with no record of receipt. See section 5.3 for further discussion on data capture results. Detailed data capture operation information can be found in the 2010 Census Decennial Response Integration System Paper Questionnaire Data Capture Assessment Report, August 10, 2011 (Coon,2011).

DRIS collaborating with GQV stakeholders continued the development of the GQV ADDUP Post Processing System. This component had never before been automated. The DRIS produced ADDUPs by applying a complex set of rules to capture GQV data and then transmitted these ADDUPs to GEO. Although the ADDUP underwent robust testing, the specification given to DRIS for preparing the ADDUP was an incomplete rule set primarily because the rule set could not adequately cover every event encountered during production. In addition, GEO did not anticipate the number of data exceptions received on the completed GQV Questionnaires which meant that DRIS could not program for those exceptions before production began. Because the schedule was revised for a later AC operation start date, the GQV operation and data capture time frame was condensed and required the DRIS to process the ADDUP deliveries on a flow basis to GEO. Delivering the ADDUPs on a flow basis provided GEO additional time to iteratively process the ADDUPs. However, this approach sometimes resulted in incomplete ADDUPs or data that were not transmitted to GEO because data for the same AA did not arrive together or get processed together (Coon and Osborne, 2011). Despite any minor exceptions realized, overall the ADDUP was viewed as successful because of the data processed, contractor/government collaboration, and shared testing.

Table 3: GQV Questionnaires and Forms Shipped and Received

Questionnaires and Forms	Count	Percent of Total
Shipped (Checked out of the ELCOs)……	2,045,110	(100.0%)
Acknowledged by DRIS…….	2,040,585	(99.8%)
Not Acknowledged by DRIS …….	4,525	(0.2%)
No record of receipt……	3,277	
No case ID, invalid case ID…….	1,248	
Sources: Cost & Progress Report, 2010 GQV Current Progress Questionnaires, 11/3/09, DRIS GQV Summary Report, 11/25/09		

2.5.5 Schedule

The GQV operation was originally planned to be conducted in six weeks. However, GQV was condensed to four weeks due to the delay of the AC operation and concerns over the demands for AC post processing, particularly to facilitate the time needed to process the volume of OLQs expected to be included in the initial GQV MAF Extract. No significant impacts were realized as a result of condensing the operation from six to four weeks. The GQV operation started and ended as scheduled.

GQV contained 56 activities within the Master Activity Schedule (MAS). Three activities were assessment related. Of the 53 remaining operation related activities, 21 finished on time, 17 finished earlier than the base-lined finish date, and 15 finished later than the base-lined finish date. Of the 15 activities that finished late, 10 finished less than one month beyond the base-lined finish date and five finished about three months beyond the base-lined finished date. Activities that finished about three months late were due to the time needed to translate materials and training guides into Spanish.

There were five schedule change requests (CRs) to the MAS submitted for the GQV operation. The five CRs included both logic and/or schedule date changes. The CRs submitted included activities for RI, preparing and delivering large format maps, the kit specification memo for the National Processing Center (NPC), and processing address updates into the MTdb. If these changes had not been implemented, the schedule would not have accurately reflected product development and product deliveries. There were no known issues or risks as a result of making any changes via CRs. (See Appendix A for the 2010 Census GQV Key Activities Schedule)

2.5.6 Field Training and Staffing

The 2010 GQV operation was conducted out of 150 ELCOs stateside and one ELCO in PR. ELCO staff consisted of both office and field staff. Office staff received specific training for GQV production and RI related activities. GQV required the following field and ELCO staff positions:

- Group Quarters Supervisor (GQS) – ELCO staff
- Crew Leader (CL)
- Crew Leader Assistant (CLA)
- Lister

The 2010 Census GQV Operational Plan outlined the staffing need average ratios based on anticipated productivity. Table 4 provides a summary of the total GQV staff budgeted for training and the total number actually trained for the operation for production and Reinterview. The budget included frontloading for GQV listers at a rate of 50 percent. The purpose of frontloading was to invite more people to the training than were needed to complete the job in the time allotted. Frontloading was implemented to eliminate the need for replacement training during a four week operation.

Table 4: Total Staff Budgeted for Training and the Total Number Trained (Production and Reinterview)

Production	Position	# of Staff Budgeted for Training	# of Actual Staff Trained	Variance
	Crew Leader	**2,999**	**1,637**	**54.5%**
	Lister and Crew Leader Asst	**28,730**	**23,937**	**83.3%**
Total Field Staff		**31,729**	**25,574**	**80.6%**
ELCO Staff	Group Quarters Supervisor	**151**	**180**	**119.2%**
Total Staff		**31,880**	**25,754**	**80.7%**
Sources: DAPPS Employee Production Regional summary for GQV, Run Date 12/7/09 Report ID: ENUM_CNT, Decennial Management Cost Model				

The field staff debriefing revealed the GQS and CL positions were essential to completing all of the required tasks. One CLA per CL was required, but in the future more CLAs should be planned for in certain areas, depending on the geography and workload.

All staff working on GQV received instructions and training on how to perform their jobs using manuals and training/procedure materials prepared under the direction of the Field HQ staff. There were a few corrections and errata sent to the field to update the training/procedure materials. Although these updates were necessary, field staff debriefing suggested they should have been sent in a more user-friendly manner, such as electronic edits to the actual page(s) of the training manuals. Overall, the training products properly prepared the field staff at all levels to do their jobs (U.S. Census Bureau, 2009d).

2.5.7 GQV Universe

Sources

The 2010 Census GQV universe consisted of the pre-identified addresses that were included in the initial workload as well as the number of addresses added during GQV. The 2010 Census GQV operation received the Initial Universe Control and Management (UC&M)/MAF Extract that included all addresses identified as OLQs during AC and addresses identified as potential GQs by other selected sources. The Group Quarters Validation universe included (Owens, 2009):

- OLQs identified during the 2010 AC operation,
- Census 2000 GQs (Pre-2010 Census) - GQ addresses from Census 2000 plus any mid-decade updates,
- GQs from administrative records, such as from the Federal-State Cooperative Program for Population Estimates (FSCPE) - a Group Quarters Report file from participating representatives to the FSCPE, as well as business files for the nation and the state acquired

to update the GQs frame. These records were matched and unduplicated, then were matched to the MTdb to identify potential updates,

- GQs addresses for the 2010 Census were provided by government participants of the Local Update of Census Addresses (LUCA) operation,
- GQs identified by the National Processing Center's (NPC) Service Based Enumeration (SBE) and Group Homes Internet Research - Staff at the NPC searched the Internet for SBE and group home locations as well as solicited information from the Highest Elected Official at tribal and governmental units and national advocacy organizations for people experiencing homelessness to update the address list of SBE locations (e.g., shelters, soup kitchens, regularly scheduled mobile food vans, and targeted non-sheltered outdoor locations), and
- GQs identified during the American Community Survey Time of Interview (ACS TOI) operation (See Appendix D).

3. METHODOLOGY

3.1 Data File Sources Used

The results for the 2010 Census GQV Assessment are based on the methodology and data sources used. This section provides information about the data sources used to answer the GQV assessment questions. Section 3.2 contains Table 5 that provides an at-a-glance view of GQV assessment topics and methodologies used to provide results.

3.1.1 Costs, Staffing, and Production Rates

DAPPS Employee Production Regional Summary
The Decennial Applicant, Personnel and Payroll System (DAPPS) tracks employee hour and expense data for production and training.

DMD Change Control Forms
A Change Control form documented all changes to the GQV baseline. For a Change Control form to be implemented, it needed approval by the Address List Development Operation Integration Team (ALDOIT) and the Census Integration Group (CIG).

DMD Cost and Progress
Managers and team members used the DMD C&P system to monitor costs and check-in data during the operation. Cost and Progress tallied data; however data were not available at the OLQ level. Cost and Progress received data from sources including DAPPS, Paper-Based Operation Control System (PBOCS), DMD Budget Formulation Branch, and DRIS.

PBOCS provided C&P with daily check-in data at the national, RCC, and ELCO levels. Using national level C&P data, tables were produced that showed cumulative check-in data summarized by week.

Field Division Costs and Staffing Spreadsheets

Field Division created spreadsheets based on DMD Budget Formulation, DAPPS, and universe data to show staffing, production rates, budget, and actual cost data. These data were used to address the Cost, Production Rates and Staffing portion of this assessment.

Master Activities Schedule
The Master Activities Schedule (MAS) documented the baseline start and finish, and actual start and finish dates for all scheduled activities. Following the completion of the 2010 Census, the DMD Management Information System (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 GQV lines were completed as scheduled or late.

3.1.2 Data Capture

GQV Questionnaire Data
This raw data file contained data captured from all the GQV questionnaires and was transferred daily from DRIS to GEO. At the end of the operation GEO transferred the data to the Decennial Statistical Studies Division (DSSD).

2010 Census DRIS Paper Questionnaire Data Capture Assessment Report
This assessment covered the data capture of all 2010 Census questionnaires. Data in this report included number of questionnaires captured by form number.

2010 Operational Assessment for Forms Printing and Distribution
Print quantities for the GQV Questionnaire and forms were obtained from this source.

3.1.3 Reinterview

2010 Census GQV Quality Profile
This profile covered the quality assurance component of the GQV operation called Reinterview (RI). Data in the report include the number and percentage of GQ cases selected for RI. For a detailed analysis of the GQV RI, refer to this report.

3.1.4 GQV Universe

2010 GQV Initial Universe MAF Extract
This extract included addresses identified as OLQs during AC and addresses existing in the MAF identified as potential GQs or suspect OLQs by other selected sources. This extract also represented the initial universe of addresses that were sent to the GQV operation for confirming the OLQs status as a GQ, HU, TL, non-residential, duplicate, or non-existent. There were some variable values that were not populated on this extract that were needed to answer several assessment questions such as a flag that indicated whether or not the OLQ record was in AC. Since this information was missing, the 2010 Enumeration Address MAF Extract was used.

3.1.5 Valid GQs

2010 Enumeration Address MAF Extract
This file provided the values for those variables that were missing on the 2010 GQV Initial Universe MAF Extract that were needed to answer specific assessment questions. The file identified all the records that were in the GQV universe and whether or not they were also in AC. In addition, this file also had values for the variables used to determine the AC status of the OLQ and was also used to identify the enumeration path of all records in the initial GQV universe, including those unresolved records that filtered to the contingency plan discussed later in Section 4.1.

3.1.6 Address Record Updating

2010 National ADDUP
This file represents the responses GQV listers recorded on the GQV questionnaires and forms subject to the rule-set developed for creating the ADDUP. It was used to determine how the GQV lister classified the OLQs included in the initial universe as well as identified records added during GQV. In addition, this file was used to identify records that were unresolved during GQV. If the record was part of the original universe and was not on the ADDUP, then it was defined as being unresolved and the contingency plan was applied.

2010 GQV ADDUP Reject File
This file provides the address update records that were rejected during the GEO's ADDUP processing. This file was used to tabulate rejects by action code and reject reason codes.

3.1.7 Main SAS Data Set

Combined files: The 2010 GQV Initial Universe MAF Extract, the 2010 GQV National ADDUP, and the 2010 Enumeration Address MAF Extract
These three files were combined and merged together to create a main SAS dataset of records which contained a composite of information based on values of the variables for each record in the GQV universe. In addition to using the variable on the extracts, other variables and values were created as necessary to identify:

- records that were OLQs via an OLQ flag,
- additional units at existing OLQs found during GQV at the OLQ address,
- new OLQs and associated units (if any) that were added during GQV,
- added records during GQV, that is records in the GQV National ADDUP file but not in the initial GQV universe,
- unresolved records, that is records in the initial GQV universe but not in the GQV National ADDUP file,
- records not sent to GQV, that is records not in the initial GQV universe and not on the GQV National ADDUP file but in the GQV universe on the Enumeration Address Extract records in the GQV universe that were also in AC,
- records in the GQV universe that were also in AC,
- records that were not in AC, but were in the GQV universe,

- outcome status of the GQV record classified as a GQ, HU, TL, non-residential, duplicate, or non-existent,
- AC address status of each OLQ sent to GQV,
- source of the OLQ, and any associated units, and
- single and multi-unit OLQ basic street addresses (BSAs).

3.1.8 Other Living Quarters and Units

The main SAS dataset was used to tabulate counts at the OLQ level and/or at the unit level by various characteristics to answer specific assessment questions. Note that the 2010 GQV Questionnaire (booklet) was designed to collect information on one TL, one or more GQs and/or one or more HUs at one OLQ address. GQV listers were able to collect information for multiple GQs, multiple HUs and /or a mix of HUs and GQs at one OLQ address on one booklet questionnaire.

Once an OLQ address was identified as having at least one GQ, the lister then asked the respondent to self-identify the type of GQ. For correctional facilities, such as state prisons, the lister entered the name or designation of each building where inmates can live or stay as appropriate in the GQV Questionnaire (and if needed, on the Correctional Facility Continuation Form). Each building was represented as a separate GQ record.

If the OLQ address was identified as containing HUs, the lister entered all of the unit designations for each HU on the HU Listing page of the GQV questionnaire (and if needed on the Housing Unit Continuation Form) and indicated whether or not the unit address was a valid add or not. Each unit designation entered represented a separate HU record. Although there were two tabs in the booklet questionnaire to collect information on specific types of TLs, it was unusual to have more than one TL, or a mix of TLs and GQs and /or HUs at one OLQ address. If there were multiple GQs and/or HUs at the OLQ address then each GQ or HU record was counted as a unit.

Existing OLQ addresses were identified by unique case identification numbers and added OLQs were identified by unique processing identification numbers. If there were additional units (usually GQs and /or HUs) at the OLQ, the same case/processing identification number was assigned to each record at the OLQ. For the most part, the unique case/processing identification number was used to identify the OLQ BSAs.

Refer to Appendix B that illustrates how the number of units, the number of OLQs, and the number of OLQ BSAs were tabulated for this assessment.

3.2 Assessment Questions and Data Sources

<u>Costs, Staffing, and Production Rates</u>

1. What was the production rate (average number of OLQs completed per hour)?
2. How did the budgeted costs compare to the actual costs?

Field Division created spreadsheets based on DMD's Budget Formulation, DAPPS, DMD's C&P system, and universe data that showed staffing, production rates, budget, and actual cost data were used to provide the costs, production rates, and staffing results.

Data Capture Results

3. What was the total number of each form printed for GQV?
   a) What was the total number of each of the forms captured?
   b) Were there any problems capturing GQV forms?

In order to provide results for forms printed and captured, tallies were obtained from the 2010 DRIS Paper Questionnaire Data Capture Assessment Report and the 2010 Operational Assessment for Forms Printing and Distribution.

Reinterview Results

4. What was the total number and percentage of GQ cases selected for Reinterview (RI)?
   a) What was the number and percentage of RI cases that received a final outcome code of Pass?
   b) What was the number and percentage of RI cases that received a final outcome code of Soft-fail?
   c) What was the number and percentage of RI cases that received a final outcome code of Hard-fail?
   d) What was the number and percentage of RI cases that were considered Unable to Contact?

The results are from DSSD's analysis of the data that appears on the completed GQV Observation Checklists, and the completed GQV RI Questionnaires. For a detailed analyses of the GQV RI, refer to the "2010 Census: GQV Quality Profile."

GQV Universe

Results for assessment questions 5 through 11 includes all addresses in the GQV universe which contain unresolved OLQ addresses that filtered to the contingency plan (see Section 4.1), and GQV Adds at existing and brand new OLQs. Records that were rejected during the ADDUP process are INCLUDED in these results to reflect what actually happened in the GQV operation. Since a small proportion (1.06 percent) of the 2.5 million records were rejected, including these types of records in the results had an insignificant impact on the overall results. Data for the United States and Puerto Rico were combined as one total for all of these results unless otherwise noted.

5. What was the final number and percentages of OLQs in the GQV universe after post processing?

To answer this question, a combined SAS data set was used to determine the number of OLQs in the initial workload that was sent to GQV as well as the number of OLQs not sent to GQV. This combined SAS data set also included the number of new Adds identified by processing IDs and those Adds that were not identified by a processing ID, but were classified as an add record on the 2010 National ADDUP. If there was more than one unit record at the same case/processing ID or BSA, only one record was assigned as the OLQ. If there were multiple records with more than one type of GQV outcome, then the OLQ was assigned to the record with a GQV outcome in the

following order of precedence; GQ, Vacant GQ, HU, TL, Duplicate, Delete, and Non-residential. The results show a distribution of OLQs in the GQV universe for the U.S. and PR.

6. What was the distribution of outcomes from the GQV operation? That is, how many records were classified as GQs, vacant GQs, HUs, TLs, non-residential, duplicates, and non-existent (deletes)?

The final outcome status was determined by the interim unit status value (IUSTAT) as populated on the 2010 National ADDUP file. Records that were not on the ADDUP but were in the GQV universe were assigned an IUSTAT based on the GQ/HU flag as populated on the 2010 Enumeration Address MTdb Extract. The distribution of outcomes is provided by OLQs and Units.

7. What were the final GQV outcomes by Address Canvassing status?
   - Non-residential addresses?
   - Added OLQ addresses?
   - OLQs confirmed as valid addresses?

A comparison was made between the address statuses of OLQs identified during AC and the outcome statuses found during GQV. In previous census tests, data analysis found that many OLQs (i.e., GQs provided by FSCPE, LUCA, SBE, etc.) classified as non-residential by AC turned out to be residential living quarters, that is, GQs, HUs, and TLs according to GQV. Since the 2004 Census Test, it was decided that these non-residential OLQs would be included in the GQV universe. The assessment will also provide the GQV outcomes for OLQs confirmed as valid addresses and OLQs added by AC. Results are provided by OLQs only.

8. What were the final outcomes by source?
   a) What was the contribution of each source to the universe of validated GQs?
   b) How many addresses provided by each source were already on the MTdb?

In order to assess the sources that were most beneficial in updating the MTdb with valid addresses, a cross tabulation was produced of the different sources that provided potential GQ or OLQ addresses with a GQV outcome. There were multiple sources that provided the same address to the GQV universe. In order to answer this question accurately, DSSD considered the overlap among the following five sources: LUCA (L), ACS TOI (A), FSCPE (F), NPC Internet research of SBE locations and group homes (S) and Pre2010 (P). Each address was assigned a source code that identified which source or sources provided the address. For example, if the address had a MAF Operation (MAFOP) code of FSCPE (F) and Pre2010 (P), then the source code was assigned as 'FP.' If the address had a MAFOP code of LUCA (L), FSCPE (F) and Pre2010 (P), then the address had three source codes and was assigned 'LFP,' and so on. There were 31 possible combinations where order of the sources did not matter. Then, single source or multiple source addresses were identified. This method identified those addresses provided by sources that were already listed on the MAF from 2000 (Pre2010). Address Canvassing Adds and GQV Adds were both considered single sources, thus no overlap was considered in this analysis. Results are provided by units.

9. How many multi-unit structures were coded as OLQs during Address Canvassing and how many of those were assisted/independent living facilities?

Since the majority (99 percent) of the OLQs in the GQV universe was also in AC, the results to answer this question included all addresses in the GQV universe. These were multi-unit addresses, not only those multi-unit addresses that were coded as OLQs during AC. The case or processing ID or the location address was used to form single and multi-unit OLQ BSAs, regardless of the type of GQV outcome. If the record was missing the location address and/or the state, county, and block number, then these records were out of scope for identifying BSAs. To determine how many multi-unit structures were assisted/independent living facilities, the number of multi-unit OLQ BSAs that had at least one HU was calculated. Of these multi-unit OLQ BSAs containing at least one HU, it was determined how many also had an associated nursing or skilled nursing facility and how many did not.

10. How many GQs were identified at an OLQ Basic Street Address (BSA) in GQV?

Of the single and multi-unit OLQ BSAs formed to answer question 9 above, the number of OLQ BSAs with one GQ was determined. Vacant GQs were excluded. Of these, the number of BSAs and the number of GQs identified at the BSA were calculated by the following categories: Single unit GQ addresses, multi-unit BSA with one GQ, two GQs, three to nine GQs and ten or more GQs counted.

11. How many GQs were classified for each GQ type category?

The total number of validated GQs by GQ type categories was determined by tabulating the number of unit records with the GQ type code as populated on the 2010 National ADDUP file. Unresolved records and vacant GQs that had a type code equal to '999" were classified as unknown and were included in the subsequent Group Quarters Advance Visit (GQAV) operation.

Address Record Updating

12. What were the results of the MTdb update process for address records?
    a) What was the final count of MTdb updates by action type?
    b) How many records were rejected and what were the reasons?

The assessment used the 2010 GQV National ADDUP and the Tally and Reject Files to summarize the number of updates received and the number of updates applied to the MTdb by the various actions, that is; adds, address changes, validated and non-address changes (for example, a change to the GQ name), duplicates, and deletes. The number of rejects along with the reasons why the update was not made to the MTdb was tabulated.

    c) What was the final enumeration path for unresolved OLQs that did not have an action code in the MTdb?

The assessment used the 2010 Enumeration Address MTdb Extract that provided the enumeration path by type of living quarters for unresolved OLQs after GEO applied the contingency plan. See Appendix C for the details about the contingency plan.

Lessons Learned

13. What were the lessons learned by the field staff and GQV Sub-team during the 2010 Census GQV operation?
    a) How well did the questionnaires work in the field?
    b) Were there any obvious issues as a result of reducing the operation from six weeks to four weeks?

Lessons learned were obtained from operational experiences documented by Census HQ staff, NPC staff, and FLD staff. Debriefings conducted with ELCO staff and listers were also used to answer these questions. Information collected from the lessons learned was used to provide suggested recommendations for future GQV operations.

4. LIMITATIONS

4.1 Unresolved Other Living Quarters

The GQV Sub-team developed a contingency plan in the event address records could not be resolved during GQV. The contingency plan was put in place to mitigate potential risks, such as a natural disaster event that would prevent completion of fieldwork, DRIS being unable to complete data capture in the scheduled timeframe, or GEO being unable to complete MAF update processing of data in the scheduled timeframe (GQV Sub-team, 2009).

Although the field work and data capture were completed in the scheduled time frame, there were address updates for some MAFIDs that were records included in the original GQV universe but were not delivered to GEO from the DRIS for MAF update processing. These records were considered unresolved addresses and were defined as address records that were not on the 2010 GQV National ADDUP, thus did not have a GQV action code on the MTdb.

There were a total of 7,479 unresolved cases, which included 7,321 OLQs in the initial workload where DRIS received GQV questionnaires with missing case IDs, invalid case IDs written on the forms, and case IDs where DRIS had no receipt of the GQV questionnaires. In addition to the unresolved cases that were part of the original GQV universe, the GEO identified 158 records that were erroneously excluded from the original universe and therefore, never had an opportunity to be worked in GQV. Since these cases had no chance of being worked during the GQV operation, these cases were also considered unresolved. All unresolved OLQs were filtered through the contingency plan. See Section 5.12.3 and Appendix C that explain the enumeration path for unresolved GQV records.

4.2 Inconsistent Report Data

Data obtained to generate reports for the GQV operation were derived from sources including the FDCA OCE/OCS, DMD C&P, the 2010 Census GQV Initial Universe, MTdb, and the Enumeration Address MTdb Extract. However, report data from these sources did not always yield consistent information. This was in part attributed to distinct definitions used to identify/populate a programmed database field.

4.3 Budget and Cost

The cost results presented in this assessment were generated by program office staff using methods predating the US Census Bureau's commitment to comply with the 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.

5. RESULTS

Production rate

5.1 What was the production rate (average number of OLQs completed per hour)?

Estimating the productivity rate for GQV was complicated and faced many unknowns. For example, the productivity rate had to consider the composition of the listers work. Assignments ranged from making visits to college residence halls, correctional facilities, hotels/motels, and group homes, as well as skilled nursing facilities, large assisted living facilities with one address for the facility and many individual living quarters at that facility. The range of the OLQs for assignments presented challenges in estimating a productivity rate.

The budgeted productivity rate considered two situations: one address (e.g., one visit) with many units at that address to classify was budgeted at a rate of 0.12 OLQ cases per hour, and unique addresses with only one living quarters address for the listers to classify were budgeted at a rate of 0.60 OLQ cases per hour. Table 5 shows the combined budgeted productivity rate produced a productivity rate of 0.36 OLQ cases per hour. The observed productivity rate was 1.76 OLQ cases per hour, much higher than expected.

Table 5: GQV Productivity – OLQs per hour

Position	Budget	Actual
Crew Leader		
Production Days……..	30	30
Days/Week……..	5	4.49
Average Hours/Week……	30	30.30
Miles Per Day……	32.40	44.40
Crew Leader Assistant		
Production Days……	22	20
Days/Week……	5	3.65
Average Hours/Week……	30	24
Miles Per Day……	32.40	32.60
Lister		
Production Days……	20	20
Days/Week……	5	3.28
Average Hours/Week……	18.50	15.65
Miles Per Day……	27	16.40
Productivity (OLQs per hour)……	0.36 (average of combined 0.12 and 0.60 rates)	1.76

Source: Field Cost and Staffing Spreadsheets, 10/20/2009
DMD Cost Model

A factor that contributed to the productivity rate variance was an increase in the number of OLQ addresses that contained multi-units to be visited.

The GQV workload was influenced partially as a result of how often AC identified multi-unit addresses consisting of multiple OLQs. This is relevant because the number of distinct locations the GQV listers had to visit in contrast to the number of OLQs and units identified in GQV impact production rates. When listers visited a multi-unit address, they could resolve several cases in just one interview. Therefore, although the majority of the GQV workload turned out to be HUs, the number of interviews required to resolve those cases was a relatively small portion of the total GQV interview workload.

5.1.1 Estimating the GQV Workload

As this was the first time GQV was conducted in a decennial census, there was no previous model to leverage. The GQV operation required two different workload estimates: the number of OLQs and the number of unique addresses or "units" to be visited for the 2010 Census.

Number of OLQs: The MTdb contains one record for each address on the file and requires a status for each of those individual address records. For example, all units at an assisted living building are individually listed on the MTdb, therefore each unit at the address had to be verified. Likewise, all residence halls at a university are individually listed, thus each address of every residence hall had to be verified, classified, data collected and captured during the GQV operation, and updated on the MTdb.

Number of Unique Visits to be made: For productivity and cost purposes, the number of unique visits to be made to addresses with only one OLQ, such as a college residence hall and the number of addresses to be visited with multi-units, such as assisted living facilities had to be estimated.

The 2010 Census GQV workload was estimated at 620,000 OLQs containing about two million unique addresses. However, early estimates from AC post processing revealed there were over 980,000 addresses While this was not the final number, it was used as a proxy in pre-planning to show there were a higher number of OLQs to be visited that contained multiple unique addresses than estimated that were used for budget assumptions.

The model baseline for 2010 OLQ addresses assumed, based on research, for 1.5 million beds in assisted living facilities that is (multi-unit structures at each map spot) a workload of 56,000 unique OLQ addresses for GQV with a production rate of 0.12 OLQ cases per hour. The 56,000 unique OLQ addresses assumed an average of 27 beds per assisted living facility. An additional workload of 564,000 was assumed for other unique OLQ addresses (hotels/motels, RV parks, campgrounds, marinas, racetracks, carnivals, and private college housing) with a 0.60 OLQ cases per hour production rate. The GQV Quality Control (QC) RI workload was 10 percent of the GQs that were validated in the field.

5.2 How did the budgeted costs compare to the actual costs?

The total budget for the 2010 Census GQV operation was approximately 71 million dollars. The actual cost of the operation was approximately 42 million dollars. Table 6 shows that over 69 percent of the budget was for production hours and mileage cost. The cost to train all GQV staff (both training hours and mileage costs) accounted for 31 percent of the variance. The remaining variance in the budget can be attributed to production hours and miles.

Table 6: 2010 Census GQV Budgeted and Actual Field Operation Costs

	Budget	Actual	Variance	Percent of Variance
Workload (Number of OLQs)	2,040,195	2,045,110	4,915	-----
Training	**$23,259,800**	**$14,206,637**	**$9,053,163**	**31%**
Hours – Cost……..	$20,677,094	$13,644,319	$7,032,775	24%
Hours – Miles*……	2,582,706	562,318	2,020,388	7%
Production	**$47,271,391**	**$27,312,649**	**$19,958,742**	**69%**
Hours – Cost……..	$33,526,152	$19,316,736	$14,209,416	49%
Miles – Cost**……	$13,745,239	$7,995,913	$5,749,326	20%
Total GQV Cost	***$70,531,191***	***$41,519,286***	***$29,011,905***	***100%***

*DAPPS training mileage September 21 thru September 26, 2009.
****Production miles cost reflects miles and cost for both field work and training minus the DAPPS training mileage of September 21 thru September 26, 2009.**
Source: DMD Cost and Progress Report, 2010 GQV Current Cost and Progress Questionnaires, 11/30/2009

Factors that contributed to under-spending were: fewer staff hired, fewer people trained than budgeted, fewer average hours worked per week, and less travel time in addition to the higher than expected productivity. Actual training hours for both listers and CLAs were less than budgeted. The actual training expenses were 13.6 million dollars compared to an estimated 20.7 million dollars. When the original budget was developed, a 40-hour per week training was planned. Once the final lister training package was complete, the planned training was 37.75 hours including 1.5 hours travel time each day. The actual training week was 34.4 hours on average. Fewer CLs, CLAs, and listers were hired than budgeted. Both CLAs and listers worked fewer average hours per week than budgeted.

The GQV cost was also affected by the FDCA Replan, particularly funding necessary to cover increases to operational costs as a result of adjustments to the average number of hours per week that the listers worked. The average number of hours worked per week was decreased from 27.5 to 18.5 hours. This resulted in the need for additional staff to complete the work in the same period of time. Additional funding was allocated to cover increased operational costs resulting from an increase to the mileage reimbursement.

Table 7 shows the aggregate actual GQV OLQ cost per case was less than the budgeted OLQ cost per case.

Table 7: GQV OLQs Cost Per Case		
	Budgeted	**Actual**
Training and Production Costs…….	$70,531,191	$41,519,286
OLQ Cost Per Case……..	**$34.57**	**$20.30**
Source: Cost and Progress Report, 2010 GQV Current Cost and Progress Questionnaires, 11/30/2009		

5.3 What was the total number of each form printed for GQV? What was the total number of each of the forms captured? Were there any problems capturing GQV forms?

The U.S. Government Printing Office (GPO) was used to print the 2010 Census GQV Questionnaire and Continuation forms. Questionnaire and form quantities and specifications were provided to the GPO. The questionnaire and forms were printed in English for Stateside and English and Spanish for PR. A few questionnaires and forms were provided as print priors for forms testing. Forms were captured via the DRIS contractor. Table 8 provides the number of questionnaires printed and a comparison of estimated and actual data capture workloads for each form type for 2010 GQV processing.

As shown in Table 8 there were 37 percent more GQV forms printed than there were GQV forms captured by DRIS. This overage is an intended strategy to accommodate kitting and the cost efficiency of printing forms in an initial print contract mitigating the risk of additional costs of a second print run in an additional printing contract. The DRIS captured at check-in 2,067,511 forms at the DRIS data capture center against an original workload estimate of 2,070,000, or about 99.88 percent of the original estimated workload (Coon and Osborne, 2011).

Table 8: Number of GQV Questionnaires and Forms Printed and Data Captured

GROUP QUARTERS VALIDATION FORMS	Print Quantity	Estimated Data Capture Workload	Actual Number of Captured Forms
D-351 (GQV), Group Quarters Validation (GQV) Questionnaire……	2,868,200	792,000	901,859
D-351 (GQV) PR(S), Group Quarters Validation (GQV) Questionnaire (Spanish) Puerto Rico (PR)……..	30,000	8,000	5,768
D-351 HU (GQV), GQV Housing Unit Continuation…….	930,100	247,500	12,002
D-351 HU (GQV) PR (S), GQV Housing Unit Continuation (Spanish) - PR….....	8,300	2,500	12
D-351 NSL (GQV), Non-Survivor Label Page (English) / D-351 NSL-A (GQV)……	1,480,700	990,000	1,141,175
D-351 NSL (GQV) PR (S), Non-Survivor Label Page (Spanish)-PR……..	8,300	10,000	6,404
D-351 CF (GQV), GQV Correctional Facility Continuation……..	237,100	19,800	193
D-351CF (GQV) PR(S), GQV Correctional Facility Continuation (Spanish)-PR……	2,200	200	0
UNKNOWN*…….	0	0	98
Total Number of Forms… ……	***5,564,900***	***2,070,000***	***2,067,511***

Source: 1) 2010 Census Decennial Response Integration System Paper Questionnaire Data Capture Assessment Report, DRAFT, July 12, 2011. 2) 2010 Operational Assessment for Forms Printing and Distribution, DRAFT, June 15, 2011.
***Unknown forms were forms received during the production whose type could not be automatically determined by DRIS software. They could have been valid forms or not.**

Form D-351 (GQV) Group Quarters Validation Questionnaire was a booklet used to interview respondents at OLQs. One addressed Questionnaire per OLQ was needed.

Form D-351 HU (GQV) Housing Unit Continuation Form (HUCF) was used if the HU Listing Page in the Questionnaire was full and additional HUs had to be listed.

Form D-351 CF (GQV) Correctional Facility Continuation Form (CFCF) was used to list more GQs at a correctional facility if the space provided in the Questionnaire was full and additional GQs needed to be listed.

Form D-351 NSL (GQV) Non-Survivor Label (NSL) page was used when there was more than one OLQ at the same map spot. Instead of using the GQV Questionnaire booklet, non-survivor labels were affixed to blank NSL pages which served as single page questionnaires by clerks in the office once completed materials were checked in from the field. The NSL pages were bundled

with the survivor GQV Questionnaire booklet. The NSL could only have an address status code of "H" (Housing Unit) or "D2" (Duplicate).

The ELCO staff shipped 2,045,110 questionnaires and forms (the total GQV workload) to the DRIS data capture center at the NPC. DRIS acknowledged and processed 2,040,585 (99.8 percent) GQV questionnaires and forms, and met their aggressive five-week scheduled deadline. This was a testament to Field Division's timely delivery of forms, NPC's efficient processing, system stability, and Government/Contractor partnership in solving challenges, particularly with reconciliation of the questionnaires and forms.

Following are issues capturing GQV questionnaires and forms:

- Although a disparity ensued between number of questionnaires shipped and questionnaires acknowledged and processed which resulted in unresolved questionnaires and forms, it was reconciled. Two sets of numbers were required for reconciliation because DRIS tracked *forms* and FDCA/GEO tracked *case and processing IDs.* The 4,525 discrepant questionnaires resulted from a mix of duplicate questionnaires/forms with no case ID (possible match), invalid case ID (possible match), and questionnaires with no record of receipt.

- GQV also realized some other issues with data capture. The GQV Questionnaire and forms were designed with a 10-digit preprinted barcode identifier (document identifier). The DRIS data capture contractor had a requirement that each form had to be uniquely identified. Given the 10-digit ID forms were not universally unique in practice; the contractor would not have been able to meet the requirement of uniquely identifying each form. Prior to the start of the GQV operation, the creation and use of a 12-digit DRIS unique ID was the recommended solution for the GQV questionnaires and continuation forms in all languages. The same Census ID used on the parent and continuation forms was to facilitate linking of the continuation forms to the facility on the parent forms. The parent and continuation forms were to be delivered to the data capture center together for processing. Although rare, the DRIS could not process forms with the same ID in the same batch. Forms with the same ID would need to be pulled from the batch and re-labeled, preventing the forms from being processed within the required timeframe. This issue was resolved by using FDCA applied labels on all forms. The DRIS linked the forms using the 12-digit unique IDs and the information on the FDCA applied labels. Forms with the same Census ID were processed together and not pulled due to the unique 12-digit ID strategy.

- Printing an additional 550,000 NSL forms was necessary to supplement a deficit. The deficit was a result of a higher than expected number of map spots with multi–units. GQV listers marked the labels incorrectly. They were providing surviving case IDs for addresses that they identified as HUs. This required GEO to update software to change these updates from duplicates to HUs. GEO experienced substantial problems processing data from the NSL forms primarily because the NSL forms were not used in the DR and prior tests. Problems processing NSL forms could have been mitigated if the forms were introduced earlier for testing.

- NSL pages and HU continuation forms were inadvertently separated from the GQV questionnaire booklets to facilitate more efficient paper handling. DRIS had to separate the single sheet forms from the multi-page GQV questionnaire to facilitate processing because the spine of the questionnaire had to be guillotined prior to it being scanned. This separation may have resulted in broken linkages between the parent and continuation forms.

- When Field procedures were not correctly followed, this sometimes created scenarios that were not envisioned by the ADDUP rule set, resulting in data that DRIS could not deliver as address updates. Data capture operations were unaware there was an ADDUP rule in place and that once an ADDUP record was sent to GEO, it could not be re-sent. Data captured at different times resulted in some data being missed for the ADDUP delivery.

- The delay of the AC operation subsequently compressed the GQV operational and data capture timeframe. The timeframe was also compressed because all OLQs had to be delivered to HQ Processing in order to meet the enumeration universe delivery schedule. Ultimately, the timeframe was compressed from six to four weeks. The impact to DRIS was there were changes to the processing flow for ADDUP deliveries. Instead of holding everything until the end, DRIS was required to process ADDUP deliveries on a flow basis to allow GEO additional time to iteratively process the ADDUPs. This approach sometimes resulted in incomplete ADDUPs or data that never got transmitted to GEO because of items from the same AA that did not arrive together or get processed together. (Coon and Osborne, 2011).

5.4 What was the total number and percentage of GQ cases selected for Reinterview (RI)?

- What was the number and percentage of RI cases that received a final outcome code of Pass?
- What was the number and percentage of RI cases that received a final outcome code of Soft-fail?
- What was the number and percentage of RI cases that received a final outcome code of Hard-fail?
- What was the number and percentage of RI cases that were considered Unable to Contact?

Quality Assurance was an integral part of the GQV Operation. Its objective was to ensure that the GQV Questionnaire was administered properly, identify and correct root causes of errors associated with administering the GQV questionnaire. Five components were designed and implemented to accomplish that. For this assessment report, results are provided for the RI component.

Early in the GQV operation, the CLs and CLAs observed the field listers conduct interviews to see if they were properly prepared to do so. For the 2010 GQV operation, the CLs and CLAs observed 20,216 field listers conduct interviews. About 86 percent of the listers conducted their interviews satisfactorily during the initial observation or the second observation.

Reinterview confirmed whether or not the lister visited the correct facility at the correct address and obtained the correct GQ category type. Reinterview was conducted by telephone throughout

the operation. In RI, a sample of eligible questionnaires completed by each lister was randomly selected and checked for accuracy. There was also a Supplemental RI process in which additional questionnaires were placed in RI by a supervisor.

The FDCA OCS, as designed, did not identify the cases eligible for RI selection by type. Therefore, the number and specific cases that were reworked, completed by the CL or marked "Management Attention" cannot be determined.

Table 9 shows that 21,788 (14.4 percent) of the 151,757 eligible cases (eligibility based solely on the address status code "GQ") were selected for RI. This is higher than the expected 10 percent. The sample design for RI was to select 10 percent of the eligible GQs for each lister using a random start between the first and third eligible GQ checked in. However, the average number of eligible GQs for each lister was about nine cases. Since every lister had at least one case selected by the one-in-first-three rule, and on average listers only encountered about nine eligible GQs, the actual sampling rate came out higher than expected at 14.4 percent.

Table 9: Number of GQs Selected for Reinterview, Stateside and Puerto Rico

Interview Doman	No. OLQs Interviewed	No. GQs Eligible for RI Selection	No. GQs Selected for RI	Percent of Eligible Cases Selected
Stateside ……..	2,033,070	150,642	21,614	14.3
Puerto Rico……..	12,040	1,115	174	15.6
Total…….	***2,045,110***	***151,757***	***21,788***	***14.4***

Source: DSSD, 2010 Census GQV Quality Profile, 30 June 2011

Each case that underwent RI, Random or Supplemental, received a RI outcome shown in Table 10 below. If the lister conducted the interview correctly, he or she received a RI outcome of "Pass". If the lister did not conduct the interview correctly, he or she received a RI outcome of "Soft Fail" or "Hard Fail". A case was considered "Soft Fail" if, after an investigation, the questionable (or missing) interview data appeared to be the result of an honest lister error (for example, if the lister accidentally missed a wing of a building). A case was considered "Hard Fail" if, after an investigation, the questionable (or missing) interview data appeared to be intentionally done by the lister and falsification was suspected. Some interview cases received a RI outcome of "Unable to Contact" if the Reinterviewer was unable to contact a respondent at the OLQ.

Table 10: Reinterview Outcomes

	Cases Randomly Selected for RI *RI Outcomes*		Cases Placed in Supplemental RI by Supervisor *RI Outcomes*		*Final RI Outcomes*	
Total……	21,788 Cases		173 Cases		21,961 Cases	
Pass…….	19,952	(91.6%)	152	(87.9%)	20,104	(91.5%)
Soft Fail……..	612	(2.8%)	4	(2.3%)	616	(2.8%)
Hard Fail…….	42	(0.2%)	0	(0.0%)	42	(0.2%)
Unable to Contact…..	1,182	(5.4%)	17	(9.8%)	1,199	(5.5%)

Source: DSSD, 2010 Census GQV Quality Profile, 30 June 2011

GQV Universe

5.5 What was the final number and percentages of OLQs in the GQV Universe after post processing?

The GQV universe includes the initial workload as well as OLQs added during GQV. Table 11 provides the number and percentages of OLQs in the GQV Universe for the U.S. and PR as derived from the various MTdb Extracts and the 2010 GQV National ADDUP file. The majority (99.41 percent) of the OLQs in the GQV universe were in the U.S. PR had a universe of 12,040 OLQ addresses that represented less than one percent of the GQV universe.

GQV Initial Workload

GQV began with an initial workload of over two million OLQ addresses. As shown in Table 11, there were a total of 2,040,353 pre-identified OLQs that were in the 2010 GQV initial universe. Of these, 2,040,195 were sent to the GQV operation as the initial workload shown previously in Table 1. There were 158 OLQs that were eligible to be in the GQV universe that were not identified on the UC&M MTdb Extract. These OLQs were later flagged by the GEO as being in the GQV universe on the Enumeration Address MTdb Extract but were not identified in time to be part of the initial workload sent to GQV. Since these records were in the GQV universe but had no opportunity to be worked during the GQV operation these records were considered unresolved. For a discussion on how unresolved records in the GQV universe were handled, see the previous section 4.1, Unresolved Other Living Quarters.

GQV Added OLQs

A total of 6,762 OLQs were added during the GQV operation, where 56 of these were in PR and the remaining 6,706 OLQs were in the U.S. This total includes 4,933 brand new OLQ adds and 1,829 post processing adds during GQV. Note that this number differs from the 4,915 OLQs reported by the DMD C&P Reports (see Table 1). This difference may be attributed to the source files and the method used to identify newly added OLQs. As discussed in the Methodology section 3.2, processing identification numbers on the 2010 National ADDUP were used as a proxy to count the number of newly added OLQs. However, 1,829 OLQs at existing OLQs were processed as Adds to include HUs listed on HU Listing Pages and HU Continuation Forms that were inadvertently missing the parent GQV Questionnaire booklets during the data capture process. Note that GQV listers were permitted to add units to "existing OLQs" addresses, that is, existing OLQs in the initial GQV Universe. Only the total number of new OLQs and not the associated units (if any) at the same case or processing ID is shown in Table 11. Refer to section 5.8 for an assessment of the number of GQV Adds at the unit level.

Table 11. GQV Operation Universe - Number of Other Living Quarters Addresses (OLQs)

	Final Total GQV Universe		United States		Puerto Rico	
OLQs Addresses	**Count***	**Percent of total+**	**Count***	**Percent of total+**	**Count***	**Percent of total+**
Total OLQs Universe……..	**2,047,115**	**100.00**	**2,035,075**	**99.41**	**12,040**	**0.59**
Initial Workload.....	**2,040,353**	**100.00**	**2,028,369**	**99.67**	**11,984**	**99.53**
Workload sent to GQV…….	2,040,195	99.66	2,028,211	99.66	11,984	99.53
Workload not sent to GQV…	**158	0.01	158	0.01	0	0.00
Adds…….	**6,762**	**0.33**	**6,706**	**0.33**	**56**	**0.47**
New Adds …….	***4,933	0.24	4,877	0.24	56	0.47
Post Processing Adds……	1,829	0.09	1,829	0.09	0	0.00

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
****These records were in the GQV universe, but were inadvertently not included in the GQV workload. These records were considered unresolved (see section 5.5, GQV Added OLQs.**
*****This number differs from the number of OLQs added during the GQV operation as reported by DMD C&P (see Table 1).**
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration Address MTdb Extract, and the 2010 National ADDUP file.

5.6 What was the distribution of outcomes from the GQV operation? That is, how many records were classified as GQs, vacant GQs, HUs, TLs, duplicates, non-existent (deletes), or non-residential?

By administering the 2010 Census GQV questionnaire, GQV listers were able to validate the status of addresses as GQs, vacant GQs, HUs, TLs, duplicates, deletes, or non-residential. The GQV Questionnaire was designed to collect information on one or more GQs and/or one or more HUs at an OLQ address. Addresses that were classified as "vacant GQs" were vacant at the time of the GQV lister's visit thus no information about the status of the address could be obtained. These addresses were considered GQs since they may have been a GQ in the past and could have been a GQ on Census day. For this distribution, a distinction was made between those records that were classified as non-residential addresses that were businesses, storefronts, etc., and those records that represent the administrative offices that support independent or assisted living places, referred to as "D3s." The outcome status of D3 indicated that the OLQ address was an independent or assisted living place that contained only HUs. Specifically, there were no associated GQs with a skilled nursing facility or staff housing for the medical staff that was used as a usual residence. D3 records were created in the ADDUP as a placeholder and were treated as non-residential on the MAF (Barrett, 2009a).

Table 12 provides the distribution of outcomes for all addresses in the GQV operation. The outcomes are for those addresses that were in the initial GQV universe and those added during the GQV operation. Table 12 provides data for both valid and non-valid living quarters outcomes, both at the OLQ level and at the unit level. Main results are presented here.

Valid Living Quarters- GQs, Vacant GQs, HUs, TLs

GQV identified 57.32 percent (1,173,351) of the OLQs as valid living quarters which yielded 1,677,366 total units. Valid living quarters are those addresses that were confirmed as occupied GQs, vacant GQs, HUs, or TLs during the GQV operation. Table 12 provides data on each of the GQV valid living quarters outcomes.

There were a total of 205,406 unit addresses classified as GQs. Of these GQs, 78.52 percent (161,286) were confirmed as occupied GQs while 44,120 were vacant GQs. Overall, the GQs accounted for 188,805 (9.22 percent) of the OLQs in GQV.

Among the GQV outcomes, the largest number and percent of OLQs and units were identified as HUs. Approximately 44.18 percent of the 2,047,115 OLQs were identified as HUs, which accounted for over half (54.54 percent) of the 2,551,447 units found during GQV.

GQV listers identified a total of 80,066 OLQs (3.91 percent) as TLs. These TLs yielded 80,483 (3.15 percent) units.

Non-Valid Living Quarters- Duplicates, Deletes, and Non-residentials

There were some OLQs that GQV listers found to be non-valid living quarters. Non-valid living quarters are those addresses that GQV found to be either deletes, duplicates, or non-residential. GQV identified 42.68 percent (873,764) of the OLQs as non-valid living quarters which yielded 874,081 total units.

GQV found that approximately 1.25 percent (25,499) of the OLQs were deletes. GQV listers were unable to locate these addresses or the structure for the address no longer existed.

Most of the non-valid living quarters were classified as duplicates during GQV. Approximately 39 percent (796,400) of the OLQs in the GQV universe were identified as duplicates which yielded 796,628 total units. Refer to Table 13 and subsection titled "Duplicates" for a discussion on the characteristics and possible reasons for the number of duplicates found during GQV.

GQV found that 2.53 percent (51,865) of the OLQs were non-residential which yielded 51,954 units. Of the 51,954 units that were non-residential, 19,349 were found to be D3s, that is those addresses treated as non-residential that represent the administrative offices that support independent/assisted living units. In order to avoid adding non-residential addresses to the MAF, D3 records were rejected during the MAF updating process (Barrett, 2009a). The remaining 32,605 non-residential units accounted for 1.28 percent of the units found in GQV.

Table 12: Address Status Outcomes from the 2010 Census GQV Operation

	OLQs		Units	
GQV Address Status	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**
Total	2,047,115	100.00	2,551,447	100.00
Valid Living Quarters Total	1,173,351	57.32	1,677,366	65.74
GQs ……	145,509	7.11	161,286	6.32
Vacant GQs ……	43,296	2.11	44,120	1.73
HUs ……	904,480	44.18	1,391,477	54.54
TLs ……	80,066	3.91	80,483	3.15
NonValid Living Quarters….	873,764	42.68	874,081	34.26
Duplicates……..	796,400	38.90	796,628	31.22
Deletes……	25,499	1.25	25,499	1.00
Non-residentials……..	51,865	2.53	51,954	2.04
D3[1]	19,260	0.94	19,349	0.76
NR……	32,605	1.59	32,605	1.28

Counts and percentages are unweighted.
+Percentages may not sum to 100 due to rounding.
[1]In general, D3s represents the administrative offices that support the independent or assisted living units.
Sources: 2010 GQV Initial Universe MTdb Extract and the 2010 National ADDUP file.

Duplicates

As shown in Table 12, GQV listers classified 796,628 units as duplicates which represented 31.22 percent of all the units in the GQV universe. To understand the composition of addresses classified as duplicates, the GQV outcome status of the survivor MAFID (if any) of the duplicate was examined.

Refer to Table 13 which provides data for those units that were duplicates by the GQV outcome status of their survivor MAFID record. Since the address status of the survivor could not be determined for those duplicates that had a missing, invalid or retired survivor MAFID, the address status has been specified as "Unknown" in Table 13.

Most (70.84 percent) of the 796,628 duplicate units were duplicates of valid living quarters in GQV. Among the survivor address statuses including unknowns, the largest percentages of duplicates were duplicates of TLs at 38.06 percent and duplicates of GQs at 27.78 percent. One reason for the large number of TL duplicates may be that each individual unit at a TL was often listed as a unique OLQ during AC. GQV listers classified all but one of the OLQ addresses as duplicates to one of the OLQ addresses used to represent the "parent" TL. For example, if AC listed each of the 20 trailers at a RV Park as a unique OLQ, then GQV would classify 19 of the OLQs as duplicates to the same OLQ address that was used to represent the RV Park. HU duplicates and vacant GQ duplicates accounted for approximately three percent and two percent respectively of all of the duplicates found during GQV.

One of the recommendations[4] included to improve coverage of records found that in the 2010 Census GQV operation there was a requirement that would allow duplicates to be updated in the MTdb regardless of whether the survivor MAFID was missing, invalid or retired. (Barrett 2009a)

Overall, it was unknown whether the duplicate units were duplicates of valid or non-valid living quarters for approximately 24.39 percent of the total duplicate units. The majority (23.31 percent) of these unknown duplicates did not have survivors, that is, the survivor case IDs were missing on the GQV questionnaires. There were 8,603 duplicate units that had a survivor MAFID, but the survivor MAFID was not in GQV, that is they may have been invalid or retired on the MTdb. Given these survivor MAFIDs were either missing, invalid or retired, no GQV outcome status could be determined, thus these MAFIDs were classified as unknown.

The remaining five percent (37,996) of the duplicate units were duplicates of non-valid living quarters. Approximately three percent were duplicates of non-residential addresses, one percent was duplicates of deleted addresses and 0.91 percent of the duplicates had a survivor MAFID that were also classified as duplicates.

[4] Data for rejected records and their reasons from the 2008 GQVADDUP process was reviewed by a small group of the GQV Subteam to determine if any rejects were due to field or data capture errors. It was concluded that the rejected records had sufficient information that could be used in the update process. Several recommendations were made to add detailed customer requirements for the 2010 GQV ADDUP that would avoid records being rejected unnecessarily. See Barrett 2008. [Internal DSSD memorandum from Barrett to Alberti "-2008 Census Dress Rehearsal Memorandum Series #E-09, "2008 Group Quarters Validation Address Update Data Rejects- Data Observations" dated June 4, 2008.]

Table 13: GQV Address Status for Duplicates with Survivor MAFIDs

GQV Address Status of the Survivor MAFID	Units	
	Count*	Percent of Total+
Total Duplicates ……..	796,628	100.00
Valid Living Quarters……..	564,341	70.84
GQs …….…	221,329	27.78
Vacant GQs ……	18,276	2.29
HUs ……	21,537	2.70
TLs …….	303,199	38.06
Non-Valid Living Quarters…….	37,996	4.77
Duplicates …….	7,228	0.91
Deletes ……...	8,725	1.10
Non-residentials….……..	22,043	2.77
D3s[1] ...…….	14,992	1.88
NR ……...	7,051	0.89
Unknown ……	194,291	24.39
Missing Survivor MAFIDs …….	185,688	23.31
Retired/Invalid Survivor MAFIDs……	8,603	1.08

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
[1]In general, D3s represents the administrative offices that support the independent or assisted living units.
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

5.7 What were the final GQV outcomes by Address Canvassing status (OLQs confirmed as valid addresses, added OLQ addresses, and non-residential addresses)?

Table 14 compares the address statuses of OLQs confirmed during Address Canvassing (AC) operations to the outcome found during the GQV operation. This comparison is useful in evaluating how well AC did in identifying OLQs and to provide content information on the GQV workload for future planning purposes. Although the majority (99.11 percent) of the OLQs in the GQV universe was in AC (2,028,851), the table also shows the GQV outcomes for those OLQs that were not in AC (18,264). The addresses not in AC include GQV Adds as well as updates received from specific address updating sources that were compiled too late to be included in the 2010 AC workload but were administratively added by Census Bureau HQ staff in time to be a part of the 2010 GQV universe. In order to have the most recent address list possible for addresses such as SBE addresses, these efforts were scheduled to occur in mid-2009. The AC OLQ address status types for those addresses that were included in AC and in GQV were: Valid OLQs, OLQ Adds and OLQs classified as non-residential. A valid OLQ in this

document means a unit or address that was validated in AC and had received an OLQ designation from some source, whether or not that source was AC.

Address Canvassing Valid OLQs

Approximately 77.80 percent (1,578,495) of the addresses in AC (2,028,851) were confirmed as valid OLQs, that is, the Address Canvassing listers were able to locate and visit the address. GQV found that slightly over half (50.45 percent) of the OLQs confirmed as valid addresses were HUs while 7.39 percent were actual GQs, 2.70 percent were TLs and 2.02 percent were vacant GQs. Overall, approximately 63.00 percent of the AC valid OLQ addresses were found to be valid living quarters by GQV listers, that is, GQs (includes vacant GQs), HUs or TLs. However, GQV found that 34.58 percent of the OLQs confirmed as valid addresses in AC were duplicates.

Address Canvassing OLQ Adds

Address Canvassing listers were allowed to add missing addresses that were not listed in the Hand-Held Computer (HHC) but were found on the ground as they canvassed assigned census blocks. Some of these were added as OLQs. GQV found that over half (57.38 percent) of the OLQs added by AC (418,779) were duplicates, that is addresses already on the MAF, 38.48 percent were valid living quarters (LQs) and 4.15 percent were not valid LQs. Of the valid LQs, 4.59 percent of the AC added OLQs were GQs. Less than five percent (19,212) of the AC OLQ Adds were found to be non-vacant GQs in GQV and about 23.54 percent were HUs.

Address Canvassing Non-residential OLQs

Previous Census Tests (in 2004 and 2006) as well as the 2008 Census Dress Rehearsal found that many of the OLQs identified as potential GQs by the specific sources were classified as non-residential during AC but were confirmed to be GQs, HUs, or TLs in GQV. As a result of that finding, addresses provided as potential GQs by LUCA, ACS TOI, NPC Internet research of SBE locations and Group Homes, FSCPE, and Pre2010 that were listed as non-residential during AC were included in the GQV universe for the 2010 Census. For convenience, these will be referred to as AC non-residential OLQs throughout the remainder of this report. Overall, 41.50 percent of these AC non-residential OLQs (31,577) were identified as valid living quarters in GQV, where 21.00 percent were GQs, 5.02 percent were vacant GQs, 6.03 percent were HUs and 9.45 percent were TLs. For the OLQs classified as non-residential by AC, 36.47 percent were also classified as non-residential by GQV. GQV found that 22.02 percent of the AC non-residential OLQs were either duplicates (15.25 percent) or deletes (6.77 percent).

Total OLQs Not Included in the Address Canvassing Universe

Although most of the OLQs not in AC (18,264) were HUs (41.47 percent) or duplicates (30.04 percent), GQV found 3,072 (16.82 percent) of these to be non-vacant GQs. Administratively adding updates from the specific sources that were too late to be in Address Canvassing or added during GQV improved coverage of non-vacant GQs.

Table 14: Address Canvassing OLQs Address Statuses by GQV Outcomes

GQV Address Status	Total OLQs in the GQV Universe		Total OLQs in AC									
			Address Canvassing OLQs Address Status						Total OLQs In AC		Total OLQs Not in AC	
			OLQs (confirmed as valid addresses)		OLQs Adds (added by AC)		Non-residential OLQs					
	Count*	Percent of Total+	Count*	Percent of Total	Count*	Percent of Total	Count*	Percent of Total	Count*	Percent of Total	Count*	Percent of Total
Total …….	2,047,115	100.00	1,578,495	100.00	418,779	100.00	31,577	100.00	2,028,851	100.00	18,264	100.00
GQs …….	145,509	7.11	116,593	7.39	19,212	4.59	6,632	21.00	142,437	7.02	3,072	16.82
Vacant GQs….	43,296	2.11	31,877	2.02	9,556	2.28	1,585	5.02	43,018	2.12	278	1.52
HUs……..	904,480	44.18	796,419	50.45	98,583	23.54	1,904	6.03	896,906	44.21	7,574	41.47
TLs ……..	80,066	3.91	42,575	2.70	33,794	8.07	2,983	9.45	79,352	3.91	714	3.91
Duplicates……	796,400	38.90	545,799	34.58	240,298	57.38	4,816	15.25	790,913	38.98	5,487	30.04
Deletes ……	25,499	1.25	16,605	1.05	5,968	1.43	2,139	6.77	24,712	1.22	787	4.31
Non-residential……	51,865	2.53	28,627	1.81	11,368	2.72	11,518	36.47	51,513	2.54	352	1.92

***Counts and percentages are unweighted**
***Percentages may not sum to 100 due to rounding**
Sources: 2010 GQV Initial Universe MTdb Extract, the 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

5.8 What were the final outcomes by source?

This section examines the GQV outcome by the various sources that provided potential GQ addresses to the initial universe of Group Quarters as well as the final universe of validated GQs prior to Group Quarters Enumeration (GQE). This analysis assesses the impact of several additional list-building operations. As mentioned in Section 2.5.7, the sources that provided potential GQ addresses (i.e., OLQs) were LUCA, ACS TOI, FSCPE, NPC's Internet Research for SBE locations and group homes, and Pre-2010 Census GQs. Sources also include Adds from the 2010 Address Canvassing operations as well as Adds from the GQV operation.

Table 15 shows the number of addresses provided by each source to the GQV universe. In those instances where there were multiple sources for an address, each source was credited with contributing the address to the GQV universe. Thus, the number of addresses provided by each source does not sum to the number of units in the GQV universe because of the overlap when multiple sources provided the same addresses.

Approximately 58 percent of the addresses in the GQV universe were already on the MTdb (i.e., Pre-2010 Census source). AC Adds and GQV Adds contributed a total of about 36 percent of the addresses in the GQV universe at 16 percent and 20 percent, respectively. LUCA added a total of approximately 13 percent of the addresses to the GQV universe. Administrative records, including FSCPE and NPC's Internet Research of SBE locations and group homes, provided a total of about four percent of addresses in the GQV universe.

Table 15. Number of Addresses Provided to the Group Quarters Universe by Source - Includes Overlap

Source	Count	Percent of Units in GQV Universe
Total Units in GQV Universe……	2,551,447[+]	100.00
LUCA……	339,206	13.29
ACS TOI……	4,006	0.16
FSCPE……	45,678	1.79
NPC/SBE and GH……..	55,435	2.17
Pre-2010 Census……..	1,467,211	57.51
AC Adds……..	418,779	16.41
GQV Adds……	511,094	20.03

Counts and percentages are unweighted.
[+]Counts and percentages do not add up to the total since multiple sources provided the same address.

GQV Outcomes by Source for Valid and Non-Valid Living Quarters

Table 16 provides an overall summary of the GQV address outcomes identified as valid living quarters (GQs, vacant GQs, HUs, and TLs) and non-valid living quarters (duplicates, deletes, and non-residential) by source. Table 17 takes a closer look at the sources by type of non-valid LQs that is, GQV classified the address as a duplicate, delete, D3 or other non-residential. In both Tables 16 and 17, where there were multiple sources for the same address, each source was credited with contributing the address to the GQV universe. Thus, the number of addresses provided by each source does not sum to the number of units in the GQV universe because of the overlap when multiple sources provided the same address. Percentages reported for each source in the following sections are those that accounted for such an overlap.

LUCA

As shown in Table 16, approximately 45.83 percent (155,445) of the 339,206 addresses with a LUCA OLQ source were duplicates, deletes or non-residential addresses, approximately 38.82 percent (131,672) were HUs, and 3.12 percent (10,577) were TLs. About 12 percent (41,512) of the addresses provided by LUCA were validated as GQs during GQV.

The LUCA records in this analysis are not the complete set of OLQs submitted by LUCA participants, although that had been the original plan. Two issues combined to necessitate a modification to this initial plan. One is that during the 2008 Census DR, some LUCA participants submitted invalid GQs/OLQs at a high rate. The second complicating factor was that the tight schedule for GQV in DR made it a risk to include so many invalid GQ addresses in the universe. The 2010 Census LUCA program was redesigned after the 2008 Census DR experience, to require the participants to submit a GQ name in the GQ name field for units they were designating as OLQs. However, this additional requirement did not sufficiently restrict LUCA participants from submitting invalid OLQs. For example, records often submitted as OLQs were either apartments in an apartment building or commercial addresses. Given the aggressive schedule to identify the eligible universe of census addresses, the risk to the decennial schedule was too high to allow these units that most likely were not valid OLQs to move into the GQV workload. Therefore, a decision was made to identify criteria that would increase the likelihood that the addresses identified by LUCA participants were OLQs and should be included in the universe in processing stages. In particular, those OLQ units that had LUCA as a source were allowed to continue into the GQV universe only if the GQ name assigned by the LUCA participants contained any words known to be frequently associated with GQs housing, such as "RESCUE, SKILLED, HOSPICE, ASSISTED, HOME, HOUSE." These words were collected from a list of words that appeared in actual GQ names from previous censuses and surveys. A fairly inclusive list of such words was selected, based on frequency and relevance in a GQ name, as the absence of any of these words would designate the unit as a housing unit in future processing. In this way, the number of units delivered to the GQV workload was limited, and the number of LUCA records in GQV and included in this analysis was a reduced set of the original records (Owens, 2009). The results shown in Table 16 are for those LUCA OLQ records that were included in GQV.

FSCPE and NPC's Internet Research for SBE Places

The FSCPE and NPC's Internet Research of SBE locations and group homes were part of the Administrative Records Updating Operation where Geographic Programs developed procedures to update the GQ frame by using administrative records from tribal and local governments, national and state advocacy organizations and other administrative records as well as the Internet to update SBE locations and group homes. Most of the addresses provided by FSCPE and NPC's Internet Research were validated as GQs during GQV. Approximately 61 percent (27,792) of the 45,678 addresses provided by FSCPE and about 57 percent (31,636) of the 55,435 addresses provided by NPCs Internet search for SBE locations and group homes were found to be GQs (including vacant GQs). Of the 31,636 GQs provided by NPC's Internet research for SBE locations and group homes, over half (51.07 percent or 16,156) were validated as group homes during GQV. There were 14,593 Group Homes Intended for Adults and 1,563 Group Homes for Juveniles.

Pre-2010

Of the 1,467,211 addresses with a Pre-2010 source in the GQV universe, over half (51 percent) were validated as HUs, followed by duplicates, deletes or non-residential at 37 percent, GQs at nine percent, and TLs at three percent.

AC Adds

About 62.0 percent (257,634) of the 418,779 OLQs added by the 2010 Address Canvassing operation were non-valid living quarters. GQV listers classified these OLQs Adds as non-residential (includes D3s), duplicates or deletes. The remaining 38 percent were classified as valid living quarters where approximately 24 percent (98,583) were HUs, eight percent (33,794) were TLs, and seven percent (28,768) were GQs (includes vacant GQs).

GQV Adds

GQV listers were allowed to add new GQs, HUs and TLs that were not already listed in the GQV production workload. Field procedures instructed that the GQS, crew leader, and lister had to determine whether or not the potential "add" was already listed as a valid living quarters in the address register or in the Browse Universe feature in the FDCA OCS before submitting the address as a valid add. Approximately 96 percent (490,051) of the 511,094 units added by GQV listers were new HUs, almost four percent (19,352) were GQs and less than one percent were new TLs.

Table 16: Final GQV Address Status Outcomes by Source – Includes Overlap Units

			GQs and Vacant GQs		Housing Units		Transitory Locations		Duplicates, Deletes, Non-residential	
Source of Unit Addresses	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**
Total……..	2,551,447	100.00	205,406	8.05	1,391,477	54.54	80,483	3.15	874,081	34.26
LUCA…….	339,206	100.00	41,512	12.24	131,672	38.82	10,577	3.12	155,445	45.83
ACS TOI…	4,006	100.00	326	8.14	1,402	35.00	403	10.06	1,875	46.80
SBE/GH….	55,435	100.00	31,636	57.07	11,697	21.10	529	0.95	11,573	20.88
FSCPE……	45,678	100.00	27,792	60.84	5,923	12.97	129	0.28	11,834	25.91
Pre-2010….	1,467,211	100.00	133,222	9.08	747,368	50.94	40,896	2.79	545,725	37.19
AC Adds....	418,779	100.00	28,768	6.87	98,583	23.54	33,794	8.07	257,634	61.52
GQV Adds.	511,094	100.00	19,352	3.79	490,051	95.88	1,045	0.20	646	0.13

***Counts and percentages are unweighted. Counts may not add up to the total since multiple sources provided the same address.**
+Percentages may not sum to 100 due to rounding.
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

Non-Valid Living Quarters by Source

As shown in Table 17, the majority (91 percent) of the non-valid living quarters (796,628 of 874,081) were classified as duplicates during GQV. Approximately 62 percent of the 874,081 addresses that were non-valid living quarters were provided by Pre-2010. The three sources that accounted for nearly all of the duplicates were Pre-2010 at 63 percent, AC Adds at 30 percent and LUCA at 17 percent. It is also no surprise that Pre-2010 provided most (65 percent) of the deletes, approximately 68 percent of the D3s and over half (53 percent) of non-residential which were the largest percentages among the various sources.

Because of the complexity of discerning new OLQs, it was expected that GQV listers may add non-valid living quarters. And although field procedures instructed ELCO staff and/or the crew leader/lister to determine whether or not a potential "add" already existed as a valid living quarters in the address register or in the Browse Universe feature in the FDCA OCS before submitting the address as a new add, results show that of the 511,094 GQV adds:

- 393 GQV Adds were duplicates,
- 81 were deletes,
- 64 were non-residential, and
- 108 were D3s.

Although 646 (0.13 percent) of the GQV Adds were duplicates, deletes, or non-residential, the GQV listers added 510,448 new valid unit addresses.

Table 17: Duplicate, Delete and Non-residential GQV Outcomes by Source – Units

Source of Unit Addresses			Type of Non-valid Living Quarters							
			Duplicates		Deletes		D3s		Non-residential	
	Count*	Percent of Total+	Count*	Percent of Total+	Count*	Percent of Total+	Count*	Percent of Total+	Count*	Percent of Total+
Total	874,081	100.00	796,628	100.00	25,499	100.00	19,349	100.00	32,605	100.00
LUCA …..	155,445	17.78	137,653	17.28	4,671	18.32	5,650	29.20	7,471	22.91
ACS TOI..	1,875	0.21	1,652	0.20	75	0.29	39	0.20	109	0.33
SBE/GH.…	11,573	1.32	1,652	0.21	814	3.19	5,552	28.69	3,555	10.90
FSCPE…...	11,834	1.35	2,431	0.31	1,273	4.99	3,952	20.42	4,178	12.81
Pre-2010…	545,725	62.43	498,841	62.62	16,492	64.68	13,210	68.27	17,182	52.70
AC Adds...	257,634	29.47	240,298	30.16	5,968	23.40	1,739	8.99	9,629	29.53
GQV Adds.	646	0.07	393	0.05	81	0.32	108	0.56	64	0.20

***Counts and percentages are unweighted.**
+Counts and percentages do not add up to the total since multiple sources provided the same address.
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

5.8.1 How many addresses provided by source were already on the MTdb (i.e., Pre-2010 source)?

This section explores addresses in the initial GQV universe provided by more than one source. To answer this question, we tabulated the number of addresses with multiple sources where one of the sources was a Pre-2010 source. The Pre-2010 source included addresses on the MTdb from Census 2000 and any mid-decade updates prior to the 2010 Census. Although it was possible for listers to add addresses that were already on the MTdb, GQV Adds and AC Adds were counted as single sources in this analysis.

Refer to Table 18 below that provides the number of addresses in the GQV universe that had only one source compared with those addresses that had multiple sources. Although most (88.53 percent) of the addresses were from a single source, over ten percent had two or more sources. Of these addresses with multiple sources, the majority had two sources.

Table 18: GQV Addresses by Single and Multiple Sources

Number of sources that provided the same addresses	Unit Addresses in GQV Universe	
	Count*	Percent of Total+
Total ……..……	2,551,447	100.00
Single source……	2,258,697	88.53
Multiple sources……	292,750	11.47
Two sources……	274,286	10.75
Three or more sources……	17,924	0.70

***Counts and percentages are unweighted.**
+ Counts and percentages do not add up to the total since multiple sources provided the same address.
AC Adds and GQV Adds were classified as single source.
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

GQV Addresses Provided by Sources that were Already on the Master Address File
Table 19 shows each source that contributed to the initial GQV universe by analyzing the number of addresses that were provided as a single source, multiple sources where at least one of the sources was Pre-2010, and multiple sources where all of the sources were non-Pre-2010 sources.

For all of the sources, most of the addresses they provided to the GQV universe were already on the MTdb; that is an address had multiple sources where at least one was a Pre-2010 source. The percentages ranged from approximately 59 percent to 73 percent. Of the 339,206 addresses

provided by LUCA, approximately 59 percent were already on the MTdb. However, LUCA was the sole source for approximately 37 percent of their addresses that contributed to the GQV universe, the highest percentage among all sources that were categorized as the sole source. Over 70 percent of the addresses provided by administrative records from FSCPE (32,584 of 45,678) and the NPC Internet research of SBE locations and group homes (SBE/GH 40,591 of 55,435) had multiple sources where at least one was a Pre-2010 source. Administrative records from FSCPE and SBE/GH was the sole source for the records with that source for about 14 percent and 15 percent, respectively.

For the sources providing GQs addresses, the percentage of those addresses that were already on the list ranged from almost 60 percent to over 76 percent. Administrative records, that is FSCPE and SBE/GH sources, contributed the highest percentages (over 70 percent respectively) of addresses that were already on the MTdb. LUCA and ACS TOI provided about 60 percent and 63 percent, respectively, of GQs addresses that were already on the MTdb.

The percentages for the sources that provided valid living quarters (GQs and vacant GQs, housing units, and transitory locations) that were already on the MTdb, ranged from approximately 58 to 76 percent. The percentage of nonvalid addresses that already existed on the MTdb, but were also provided by the various sources ranged from approximately 59 percent to 68 percent.

Of the 339,206 addresses provided by LUCA, approximately 59 percent were already on the MTdb. LUCA was the sole source for approximately 37 percent of the addresses that contributed to the GQV universe. Although LUCA as a sole source provided more valid living quarters addresses overall compared with ACS TOI, FSCPE, and the NPC Internet Research alone, they also provided more non-valid living quarters addresses (39 percent) as a sole source compared with the other sources alone.

When compared among sole sources, LUCA as a sole source also provided more addresses of housing units (39 percent, or 50,877 of 131,672 and of TLs 42 percent, or 4,429 of 10,577 TL addresses). Over seven percent (9,186) of the 125,183 addresses with LUCA as a sole source in the GQV universe were validated as GQs, including vacant GQs. In contrast, over 49 percent of addresses (3,269 of 6,643 addresses) with LUCA and FSCPE as a double source were validated as GQs, including vacant GQs. Of the 7,709 addresses flagged with a triple source of LUCA, FSCPE and Pre-2010, over 55 percent (4,257) of such addresses were validated as GQs during GQV. Furthermore, of the 6,317 addresses flagged with a double source of LUCA and SBE/Group Homes in the GQV universe, over 64 percent (4,072) of such addresses were validated as GQs during GQV.

Table 19: Final GQV Address Status Outcomes by Source by Type of Overlap – Units

			GQs and Vacant GQs		Housing Units		Transitory Locations		Duplicates, Deletes, Non-residential	
Source of Unit Addresses by	Count	Percent of Total	Count	Percent of Total	Count	Percent of Total	Count	Percent of Total	Count	Percent of Total
LUCA Total…….	339,206	100.00	41,512	100.00	131,672	100.00	10,577	100.00	155,445	100.00
L Only……	125,183	36.90	9,186	22.12	50,877	38.64	4,429	41.87	60,691	39.04
L and Pre-2010	200,842	59.21	24,954	60.11	78,640	59.72	6,102	57.69	91,146	58.64
L and Other	13,181	3.89	7,372	17.76	2,155	1.64	46	0.43	3,608	2.32
ACS TOI Total……	4,006	100.0	326	100.00	1,402	100.0	403	100.00	1,875	100.0
A Only	1,091	27.23	85	26.07	390	27.82	112	27.79	504	26.88
A and Pre-2010	2,688	67.10	204	62.58	931	66.41	276	68.49	1,277	68.11
A and Other non-P	227	5.67	37	11.35	81	5.78	15	3.72	94	5.01
FSCPE Total……..	45,678	100.00	27,792	100.00	5,923	100.00	129	100.00	11,834	100.00
F Only…….	6,393	14.00	3,490	12.56	675	11.40	19	14.73	2,209	18.67
F and Pre-2010	32,584	71.33	20,999	75.56	4,281	72.28	91	70.54	7,213	60.95
F and Other non-P	6,701	14.67	3,303	11.88	967	16.33	19	14.73	2,412	20.38
SBE and GH Total……	55,435	100.00	31,636	100.00	11,697	100.00	529	100.00	11,573	100.00
S Only	8,468	15.28	3,900	12.33	1,372	11.73	142	26.84	3,054	26.39
S and Pre 2010	40,591	73.22	23,625	74.68	9,203	78.68	375	70.89	7,388	63.84
S and Other non-P	6,376	11.50	4,111	12.99	1,122	9.59	12	2.27	1,131	9.77
Pre-2010 Total……	1,467,211	100.00	133,222	100.00	747,368	100.00	40,896	100.00	545,725	100.00
P Only……	1,208,228	82.35	74,464	55.89	657,471	87.97	34,121	83.43	442,172	81.02
P and Other.non-P	258,983	17.65	58,758	44.11	89,897	12.03	6,775	16.57	103,553	18.98
AC Adds	418,779	100.00	28,768	6.87	98,583	23.54	33,794	8.07	257,634	61.52
GQV Adds	511,094	100.00	19,352	3.79	490,051	95.88	1,045	0.20	646	0.13

L=LUCA, A=ACSTOI, F=FSCPE, S= SBE and GH, and P=Pre-2010.
Counts and percentages are unweighted.
Percentages may not sum to 100 due to rounding
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

5.8.2 What was the contribution of each source to the universe of validated GQs?

Source Contribution to Universe of Validated GQs

As shown in Table 20 below, there were a total of 205,406 GQs (includes 44,120 vacant GQs at the time of GQV interview) found during the 2010 GQV operation. Among the different sources, the Pre-2010 made the greatest contribution to the universe of GQs in that they accounted for approximately 64.86 percent (133,222) of the 205,406 GQs found during the GQV operation. LUCA also provided a large number of addresses that GQV confirmed as GQs with approximately 20.21 percent (41,512) of such addresses. Although the ACS TOI operations did not focus on updating GQs, the survey provided 326 addresses that were classified as GQs during the GQV operation. These GQ addresses were non-qualifying addresses and were coded as a type of non-interview for the ACS TOI. Field representatives obtained information about the GQs, such as address, contact information and type of GQ. These potential GQs records were updated and flagged as OLQs in the MAF and were included in the GQV universe. See Appendix D for more information about the ACS TOI operations. The percentages include overlap with other sources and thus do not sum to 100 percent.

Table 20: GQs and Vacant GQs by Source – Includes the Overlap

Source of Unit Addresses	Count*	Percent of Total+	GQs Count*	GQs Percent of Total+	Vacant GQs Count*	Vacant GQs Percent of Total+
Total……	205,406	100.00	161,286	100.00	44,120	100.00
LUCA ……..	41,512	20.21	33,338	20.67	8,174	18.53
ACS TOI……	326	0.16	189	0.12	137	0.31
FSCPE……	27,792	13.53	25,628	15.89	2,164	4.90
SBE/GH…….	31,636	15.40	27,999	17.36	3,637	8.24
Pre-2010……..	133,222	64.86	103,604	64.24	29,618	67.13
AC Adds……	28,768	14.01	19,212	11.91	9,556	21.66
GQV Adds	19,352	9.42	18,471	11.45	881	2.00

***Counts and percentages are unweighted.**
+Counts and percentages do not add up to the total since multiple sources provided the same address.
Sources: 2010 GQV Initial Universe MTdb Extract, 2010 Enumeration MTdb Extract, and the 2010 National ADDUP file.

5.9 How many multi-unit structures were classified as OLQs during Address Canvassing and how many of those were assisted/independent living facilities?

Single and Multi-unit OLQ BSAs

The case /processing ID or the location address, (that is, the house number, street name, and/or location descriptions) in the same state, county, and block were used in this assessment to identify the BSA of the OLQ to determine single unit and multi-unit structures as well as approximate the number of distinct locations visited during GQV for the U.S. For PR, a similar process was used to identify the BSA of the OLQ with the exception of the combination of address components used to construct the location address. We used specific components unique to PR addresses such as apartment complex name, street name, carretera, ramal, and location address urbanization. For the U.S. and PR, if a record was missing the location address and/or the block number, then these records were out of scope for identifying BSAs. The number of OLQs at the BSA was used to determine the "Size of Structure." Note that OLQ BSAs were formed regardless of the GQV outcome status. (See Appendix B for illustrations of how OLQ BSAs, OLQs, and units were counted.)

Table 21 provides a summary of the number of BSAs, the number of OLQs, and the number of units by "Size of Structure" for all OLQs in the GQV Universe (including Adds) for the U.S. and PR. Of the 460,904 OLQ BSAs, most (that is, 74.75 percent for the U.S. and 0.43 percent for PR) were single unit structures yielding 346,510 single-unit OLQs (344,540 for U.S. and 1,970 for PR). The remaining were multi-unit OLQ BSAs (24.56 percent for the U.S. and 0.26 percent for PR) yielding about 1.7 million OLQ addresses that in turn resulted in about 2.2 million units.

Overall, based on the total number of OLQ BSAs and the number of OLQs found at the OLQ BSA, the number of distinct locations visited by the GQV lister was approximately five to one. On average, for every five OLQs only one GQV distinct location was visited. Of the 2,043,256 OLQs, listers visited approximately 460,904 (22.56 percent) distinct locations during GQV.

Table 21: 2010 GQV OLQs BSAs by Size of Structure

	BSAs		OLQs		Units	
Size of Structure	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**
Total …….	460,904	100.00	2,043,256	100.00	2,547,575	100.00
Single unit OLQs …….	346,510	75.18	346,510	16.96	346,510	13.60
Multi-unit OLQ BSAs...	114,394	24.82	1,696,746	83.04	2,201,065	86.40
0 OLQs at BSA**.....	16	0.00	0	0.00	99	0.00
1 OLQ at BSA……	32,105	6.97	32,105	1.57	535,610	21.02
2 to 9 OLQs at BSA…	59,748	11.88	188,866	9.24	189,139	7.43
10+ OLQs at BSA …..	27,525	5.97	1,475,775	72.23	1,476,217	57.95

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
****No OLQ was designated for these BSAs in Puerto Rico.**
Sources: 2010 GQV Initial Universe, 2010 Enumeration Address and MTdb Extracts, and the 2010 National ADDUP.

Multi-unit Structures with Associated Nursing or Skilled Nursing Facilities

The number of multi-unit OLQ BSAs that had at least one HU was used to determine multi-unit structures containing only HUs compared with those multi-unit structures with an associated nursing or skilled nursing facility (SNF).

Refer to Table 22, for the following results. Of the 57,372 multi-unit OLQ BSAs that had at least one HU, 6.21 percent had an associated SNF. These multi-unit structures with SNFs yielded 135,249 HUs at over 54,000 OLQs.

The majority, which is about 94 percent of these multi-unit structures, did not have an associated SNF and only contained HUs (about 1.1 million) at 900,899 OLQ BSAs.

It appears that the majority of the multi-unit structures listed as OLQs by AC were typical apartment buildings containing only HUs. Note that the data in Table 22 are a subset of the data in Table 21 and do not include multi-unit OLQ BSAs with no HUs, or those where the BSA OLQ could not be determined due to missing block and location address information.

Table 22: 2010 GQV Associated Nursing or Skilled Nursing Facilities at Multi-Unit Structures

	BSAs		OLQs		HUs	
Housing Units in Multi-Unit Structures	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**	**Count***	**Percent of Total+**
Total ……...	57,372	100.00	955,155	100.00	1,267,578	100.00
Multi-unit Structures with SNF…… ……...	3,560	6.21	54,256	5.68	135,249	10.67
Multi-unit Structures without SNF…….	53,812	93.79	900,899	94.22	1,132,329	89.33

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
SNF: Skilled Nursing Facility
Sources: 2010 GQV Initial Universe, 2010 Enumeration Address MTdb Extracts, and the 2010 National ADDUP file.

5.10 How many GQs were identified at an OLQ Basic Street Address in GQV?

Table 23 shows the number of GQs counted at an OLQ BSA. The number of GQs counted at an OLQ BSA was used to determine the following GQ size categories: single unit GQs and GQs at multi-unit OLQ BSAs where one GQ, two GQs, three to nine GQs, or ten or more GQs were identified at the multi-unit BSA. The count of GQs in Table 23 is also a subset of the OLQ BSAs in Table 21 and does not include vacant GQs, OLQ BSAs with no GQs, or those where the BSA OLQ could not be determined due to missing block and location address information.

GQs Identified at OLQ BSAs

There were 160,947 GQs counted at 135,914 OLQ BSAs in the 2010 Census GQV operation. The majority, about 76 percent (103,591) of the BSAs with at least one GQ identified were single unit GQ addresses that accounted for approximately 64 percent of the GQs identified at OLQ BSAs. The 24 percent remaining OLQ BSAs with GQs identified were multi-unit OLQ BSAs yielding approximately 36 percent of the GQs.

Of the 32,323 multi-unit OLQs BSAs with GQs, about 65 percent (20,917) had only one GQ identified which accounted for 13 percent of the 160,947 GQs at OLQ BSAs. About six percent (7,973) of the BSAs with GQs were those with two GQs at the BSA, yielding approximately 10 percent (15,946) of the total GQs identified at OLQ BSAs. The BSAs with three to nine GQs accounted for about two percent (2,951) of the BSAs with GQs, yielding approximately eight percent (13,492) of the total GQs at OLQ BSAs. Lastly, the BSAs with ten or more GQs accounted for less than one percent (482) of the total BSAs with GQs and yielded approximately four percent (7,001) of the total GQs at OLQ BSAs.

Table 23: GQs Identified at OLQs Basic Street Addresses

	BSAs		GQs	
Number of GQs at OLQ BSAs	Count*	Percent of Total+	Count*	Percent of Total+
Total ……	135,914	100.00	160,947	100.00
Single Unit GQs …….	103,591	76.22	103,591	64.36
GQs at Multi Unit OLQ BSAs.	32,323	23.78	57,356	35.64
1 GQ at BSA ……..	20,917	15.39	20,917	13.00
2 GQs at BSA ……	7,973	5.87	15,946	9.91
3 to 9 GQs at BSA...……..….	2,951	2.17	13,492	8.38
10+ GQs at BSA……..	482	0.35	7,001	4.35

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
Sources: 2010 GQV Initial Universe, MTdb Extract, 2010 Enumeration Address MTdb Extract, and the 2010 GQV National ADDUP.*

5.11 How many GQs were classified for each GQ type category?

GQV listers administered the 2010 GQV Questionnaire by asking the screener questions and showing the flashcard to assist the contact person in self-identifying the type of GQ. See Appendix F for the screener questions in the GQV Questionnaire and Appendix G for the flashcard. Table 24 provides a summary of units for validated GQs classified by GQ type. The types of GQs shown in Table 24 include the GQ types found in the U.S. and PR. There were a total of 205,406 units validated as GQs. Although those units with an unknown GQ type had the greatest contribution overall, there were known GQ types that contributed significantly to the universe of GQs such as Group Homes Intended for Adults (18.03 percent), College/University Housing (13.77 percent), and Nursing and Skilled Nursing Facilities (10.25 percent).

Known GQ Types by U.S and PR

United States: There were 203,845 units that were classified as GQs in the U.S. For the units where the type of GQ was determined, the top three categories were: Group Homes Intended for Adults (18.10 percent), College/University Housing (13.84 percent), and Nursing and Skilled Nursing Facilities (10.22 percent). The GQ type that contributed least to the total validated GQs was Residential Schools for People with Disabilities, accounting for less than one percent of the total validated GQs in the U.S.

Puerto Rico: There were 1,561 units that were validated as GQs in PR. For the GQs where the type of GQ was determined, the top three categories were: Nursing and Skilled Nursing Facilities (14.86 percent), Hospitals and In Patient Hospices (13.32 percent), and Religious Group Quarters

and Domestic Violence Shelters (11.27 percent). As shown in the U.S, the GQ type that contributed least to the total validated GQs was Residential Schools for People with Disabilities, accounting for less than one percent of the total validated GQs in PR.

The GQ type that was in the top three overall in both the U.S. and PR was nursing and SNFs. This GQ type accounted for 10 percent in the U.S. and about 15 percent in PR.

Unknown GQ Type (Vacant GQs)

There were some units where the type of GQ could not be determined. These addresses were classified as "Vacant GQs." As mentioned in Section 5.6, "vacant GQs" refers to those addresses that were vacant at the time of the GQV lister's visit but were considered GQs since they may have been a GQ in the past and could have been a GQ by Census Day. These vacant GQs were sent on to the 2010 Group Quarters Advance Visit operation so that field staff had another opportunity to interview a knowledgeable person for classification of the address status. If the address was validated as a GQ, the type of GQ was also identified at that time. Overall, for the U.S. and PR, 21.48 percent of the GQs were those of an unknown type (vacant GQs). The GQs with an unknown GQ type in the U.S. were 21.53 percent while PR had approximately 15 percent of GQs with an unknown GQ type.

Table 24: Summary of Group Quarters by GQ Categories – Units

Types of GQs	Total GQs		United States		Puerto Rico	
	Count*	Percent of Total+	Count	Percent of Total	Count	Percent of Total
Total……..	205,406	100.00	203,845	100.00	1,561	100.00
Known GQ Types	**161,286**	**78.52**	**159,954**	**78.47**	**1,332**	**85.33**
Correctional Facilities for Adults	11,760	5.73	11,656	5.72	104	6.66
Juvenile Facilities……	9,618	4.68	9,542	4.68	76	4.87
Nursing and Skilled Nursing Facilities…….	21,064	10.25	20,832	10.22	232	14.86
Hospitals* and In Patient Hospices	3,599	1.75	3,391	1.66	208	13.32
Residential Schools for People with Disabilities…… …	828	0.40	821	0.40	7	0.45
College/University Student Housing…….	28,278	13.77	28,217	13.84	61	3.91
Military Quarters……..	4,563	2.22	4,530	2.22	33	2.11
Shelters/Service Locations…….	7,728	3.76	7,633	3.74	95	6.09
Group Homes Intended for Adults…….	37,025	18.03	36,905	18.10	120	7.69
Residential Treatment Centers for Adults……..	8,493	4.13	8,364	4.10	129	8.26
Workers' Group Living Quarters and Job Corp Centers…….	17,323	8.43	17,232	8.45	91	5.83
Religious Group Quarters and Domestic Violence Shelters**…	11,007	5.36	10,831	5.31	176	11.27
Type Unknown (Vacant GQs)…	44,120	21.48	43,891	21.53	229	14.67

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
****Hospitals include GQs that were mental or psychiatric hospitals, the mental or psychiatric unit or floor for long-term care at a regular hospital or hospitals that accept patients with no disposition.**
Sources: 2010 GQV Initial Universe, MTdb Extract, 2010 Enumeration Address MTdb Extract, and the 2010 GQV National ADDUP file.

5.12 What were the results of the MTdb update process for address records?

The DRIS created the ADDUP records from information data captured on the various Stateside and PR GQV forms. The GEO and the DSSD worked with DRIS contractors in providing instructions on how to assign values to variables from lister responses on the GQV questionnaires and forms. The criteria applied to identify ADDUP records and assign values to the variables differed by the number of and type of questions filled in each tab or section of the booklet questionnaire or by the type of form (that is the Non-survivor Label Page, Housing Unit Continuation Form and the Correctional Facility Continuation Form).

The GQV ADDUP Column Rule-set Specification documented a listing of all the GQV ADDUP columns that DRIS needed to populate. Each column description included the column name, a detailed definition of the column, the Census division(s) responsible for defining the column values (DSSD, GEO, or both) the maximum character length, the type of the column, the possible values, the range, and the value precedence. It was possible that more than one rule in the rule-set applied for a given record so that the value precedence was determined and was used to resolve conflicts.

DRIS created ADDUP files and transmitted these files to GEO on a flow basis by Assignment Area (AA) during the GQV operation. GEO provided the DSSD with National ADDUP Reject and Tally files. These files were used to assess the number of updates by action code as well as to determine the number of rejects by reason.

5.12.1 What was the final count of MTdb updates by action type?

The GQV Lister administered the GQV Questionnaire (see Appendix F) to all of the OLQs in the universe to validate and classify an address as a GQ, HU, TL, or non-residential as well as to identify whether the address was a duplicate or should be deleted. Listers also added GQs, HUs and TLs, if the address was not already on the MTdb. The GQV Questionnaire allowed listers to make corrections to the address for all valid living quarters. Other non-address changes such as updating the GQ name, facility name, and contact person information for validated GQs were also indicated on the GQV Questionnaire.

The GEO received 2,543,972 records from DRIS that reflect the number of records in the National ADDUP. The National ADDUP file reflects the responses listers recorded on the GQV forms. Note that there were 7,479 records for which no ADDUP record was received from DRIS; thus not included in the counts. See Section 5.12.3 and Appendix C for the discussion of records that were in the contingency plan.

The GQV listers actions by action type and GQV outcome are shown in Table 25. GQV listers verified that over a million addresses or about 40 percent of the 2,543,972 records existed as valid units. For some of these records, listers may have made non-address changes. Since the action code (K-1) for non-address changes was the same action code for validated records in

GQV, it would require specific metadata to understand the scope of non-address changes carried out by the ADDUP process.

About 31 percent of the ADDUP records received from DRIS were duplicates. As discussed in section 5.6, most of the duplicates were attributed to housing units in multi-unit structures. GQV listers added a little over one-half million addresses. The majority of the addresses added were housing units. Less than one percent of total add actions were GQs or vacant GQs.

Table 25: GQV Lister Actions by Action Type and GQV Outcome

GQV Action Codes by GQV Outcome	Count*	Percent of Total+
Total …….	2,543,972	100.00
Add (A)……..	511,094	20.09
GQs and Vacant GQs……	19,352	0.76
Housing Units……..	490,051	19.26
Transitory Locations……	1,045	0.04
Unknown[1]……..	646	0.03
Address Change (C) …….	71,156	2.80
GQs and Vacant GQs……	23,743	0.93
Housing Units……..	29,589	1.16
Transitory Locations……	17,824	0.70
Validated and Non Address Changes (K-1)……..	1,026,996	40.37
GQs and Vacant GQs……	161,190	6.34
Housing Units……..	865,806	34.03
Transitory Locations…….	**na	0.0
Transitory Location (T) ……..	61,416	2.41
GQs and Vacant GQs……..	**na	0.00
Housing Units……..	**na	0.00
Transitory Locations…….	61,416	2.41
Negative Actions……..	873,310	34.35
Duplicate (K-7) ……..	796,235	31.30
Does Not Exist or Delete (D)……..	25,413	1.00
Non-residential (N) ……..	51,662	2.03

***Counts and percentages are unweighted. Table does not include contingency records.**
+Percentages may not sum to 100 due to rounding.
[1]These records were rejected.
Source: 2010 GQV National ADDUP File (DRIS).
****na=non-applicable**

5.12.2 How many records were rejected and what were the reasons?

GEO rejected 27,110 records (1.07 percent) of the 2.5 million records on the ADDUP. Table 26 provides the counts and percentages by reject reasons. Over 95 percent of the rejects were attributed to three reasons (Reason Codes L and D below are defined in Table 26.):

- (L) About half (49.67 percent) of the rejects were attributed to an address change or add action for a HU or TL that matched exactly to a record in the same block with a positive action from the GQV operation. Positive actions are those action codes that confirm the existence of the unit.
- (D) About 25 percent of the records were duplicate actions where the MAFID was treated as the survivor and retired record.
- There were 5,717 (21.09 percent) stateside records that were rejected because of incomplete location address information.

Table 26: Rejected Records by Reject Reason			
	Reject Codes and Reasons	**Count***	**Percent of total+**
Total		**27,110**	**100.00**
(B)	Illegal Block Number……....	78	0.29
(C)	Illegal Action and Unit Status combination……..	437	1.61
(D)	Same MAFUNIT treated as survivor and retired…….....	6,697	24.71
(L)	Change or Add HU or TL exact match to a record in the MTdb with a positive Action from same operation in the same block……. ……..	13,466	49.67
(L2)	Add GQ record **exact** match to a record in the MTdb with a positive Action from same operation in same block and same Building Name and GQ type is not an exception……	197	0.73
(L3)	Add GQ record **equivocated** match to a record in the MTdb with a positive Action from same operation in same block and same Building Name and GQ type is not an exception…… ……	7	0.03
(P)	Multiple transactions targeting the same MAFID……..	8	0.03
(1)	Incomplete Location Address Information – Stateside…… ……	5,717	21.09
(2)	Incomplete Location Address Information – Puerto Rico……..	56	0.21
(7)	Add Action with GQV Outcome Status (IUSTAT) = "D3" ……..	95	0.35
(8)	A Residential (RESSTAT = '1') and Valid (UNITSTAT = '1') record where IUSTAT is not 'D3' does not have a flag for HU, GQ or TL (GQHUFLAG must = '0', '2' or '5') ……	37	0.13
(9)	Stateside record with an Action 'K', 'N', 'D', or 'T' that had an address component changed from the original universe…….	7	0.03
(10)	Add TL record but GQV Questionnaire Tab is Null (MAILPLUS4 = ' ').	308	1.14

***Counts and percentages are unweighted. Does not include contingency records.**
+Percentages may not sum to 100 due to rounding.
Source: 2010 GQV ADDUP Reject File (GEO).

5.12.3 What was the final enumeration path for unresolved OLQs that did not have an action code in the MTdb?

The contingency plan outlined the enumeration path for unresolved GQV records. The enumeration path of address records for unresolved OLQ cases was based on the original value of the following MTdb variables and keyword strings in the GQ name field of the unresolved OLQ (GQV Sub-team, 2009):

- GQHUFLAG that is, the record is a HU, GQ, TL or Special Place (SP)
- ISOLQ - that is, the record is an OLQ provided by ACS TOI, SBE, or LUCA, and
- ADCANUNV and GQNAME – that is, the record was in Address Canvassing and the OLQ had keyword strings/names that typically identified a GQ or a TL in the GQ name field.

Table 27 provides the enumeration path by type of living quarters for unresolved OLQs that did not have a GQV action code in the MTdb after applying the contingency plan. The majority of the unresolved records that were originally classified as HUs (98.71 percent) as well as those that were classified as GQs (96.90 percent) met the conditions of the contingency plan and were sent to the appropriate operation as a HU or a GQ to be enumerated. Of the 6,115 unresolved records that were HUs, 79 records did not move on to the HU enumeration operations and 36 of the 1,160 unresolved records originally classified as GQs did not move on to GQAV/GQE. These OLQs and the six SP OLQs did not meet the conditions of the contingency plan and were determined to not be a valid address for decennial purposes. All of the 198 TL addresses met the conditions of the contingency plan and were to be enumerated in the 2010 Census ETL. The ETL operation was designed to obtain addresses and enumerate persons who do not have a usual home elsewhere at occupied units at transient places such as marinas, campgrounds, recreational vehicle parks, hotels, and motels.

Table 27: Enumeration Path for GQV Unresolved Records by Type of Living Quarters-OLQs

Enumeration Path (ENUMUNIV)	Count*	Percent of Total+	Type of Living Quarters (GQHUFLAG)							
			Housing Units		Special Place		Group Quarters		Transitory Locations	
			Count*	Percent of Total+	Count*	Percent of Total+	Count*	Percent of Total+	Count*	Percent of Total+
Total…….	7,479	100.00	6,115	100.00	6	100.00	1,160	100.00	198	100.00
GQ to be Enumerated (GQE)…….	1,124	15.03	0	0.00	0	0.00	1,124	96.90	0	0.00
HU to be Enumerated….	6,036	80.71	6,036	98.71	0	0.00	0	0.00	0	0.00
Not a valid address for decennial purposes……..	121	1.62	79	1.29	6	100.00	36	3.10	0	0.00
Transitory Location to be Enumerated (ETL)……..	198	2.65	0	0.00	0.	00.0	0	0.00	198	100.00

***Counts and percentages are unweighted.**
+Percentages may not sum to 100 due to rounding.
Source: 2010 Enumeration Address MTdb Extract.

5.13 What were the lessons learned by the field staff and GQV Sub-team during the 2010 Census GQV operation? How well did the questionnaires work in the field? Were there any obvious issues as a result of reducing the operation from six weeks to four weeks?

Lessons Learned Summary

After the GQV field operations were completed, DMD conducted several lessons learned sessions with Census HQ and NPC staff involved in the development and monitoring of GQV. Census HQ and NPC staff documented successes, challenges, and recommendations for planning future GQV operations. See Appendix H.

Debriefings for the 2010 GQV operation were conducted with field staff from the RCCs and ELCOs, the GQV Sub-team, and contractors. Feedback was received on all aspects of the 2010 GQV operation process, tasks, procedures, and functions. Several detailed lessons learned were documented. This assessment will discuss key lessons learned. See Appendix H for the detailed 2010 Census Group Quarters Validation Operation Lessons Learned (Draft, October, 2010).

- Continue unit, segment, and interface systems testing. The 2010 Census test plan and implementation was robust, effective, and successful. In addition to the standard unit, segment, systems, and user acceptance tests for the GQV Questionnaire, forms and data capture; FDCA conducted a Validated Systems Test and an early GQV thread test. These tests validated the FDCA ingest of GEO data, tested GEO processing of FDCA address additions, and DRIS processing of FDCA generated labels and box shipments. Program trouble reports realized were reviewed and resolved.

- Having GQV use the same assignment areas (AAs) as Address Canvassing allowed the ELCOs to preview the location of the OLQs in their area before the actual workload was available. This helped to minimize the time required to plan for GQV during assignment preparation.

- Having GQs and HUs on an integrated MAF for the 2010 Census allowed the ELCOs to use the Browse Universe function when they needed to search the entire workload to reduce and/or avoid duplication when checking on potential OLQ Adds.

- Automating the GQV ADDUP component that had never before been automated was viewed as a success particularly because of government/contractor communication and collaboration in developing complex specifications and testing in order to realize a robust process.

- Consider conducting GQV simultaneously with AC and use an automated instrument to classify OLQs and validate GQs.

- Using an automated instrument could eliminate the need for manually tracking and maintaining the linkage of GQV questionnaires and forms. There were cases when the HU Continuation form got separated from the GQV Questionnaire making it difficult to track and maintain linkage during check out from the field for shipping to the NPC. Staff at the DRIS data capture center had to manually link the HU Continuation forms back to the GQV Questionnaire.

- Consider an automated instrument to replace the paper Group Quarters Validation questionnaire for data collection. Continued examination of the flow of the questions in the GQV questionnaire combined with the use of an automated instrument could improve the GQV interview and may correct any potential sources of errors associated with the GQV questionnaire, the interviewers, and data capture. While the GQV questionnaire worked well overall, feedback from debriefings and field observation revealed: 1) Questions five through ten on page five of the Group Quarters Validation questionnaire required the listers to read all of the classifications intended to help the respondent determine their type of facility (e.g., Is this a soup kitchen? Is this some type of facility, student housing or group home? Is this a hotel, motel, hostel, recreational vehicle park, campground, carnival, marina or racetrack? Is this housing for people with a religious affiliation?). After these questions were asked of the respondent, a list was shown to the respondent (question eighteen (a) on page six flashcard side one) for them to read to further help describe the facility. While the intent of these questions was to allow the respondent to self-identify their facility, the method by which they were asked inadvertently resulted in the loss of the respondent's attention and interest in responding. These questions and the flash card aided in determining if the address was a GQ and guided the lister through the rest of the interview. However, further examination is recommended to determine if this is, in fact, the best method to ask these questions or whether or not they could be streamlined in an effort to keep the respondent's interest in participating in the interview. 2) Tab Seven of the questionnaire should also be further examined to ensure hotels, motels, single room occupancy units, inns, resorts, and bed & breakfasts locations that are non-residential are classified as such.

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- Continue to improve and test the questionnaire instrument with a cross section of real respondents through cognitive interviews to determine how well the questions flow and identify and correct any potential sources of errors associated with the GQV questionnaire and interviewers.

- Design and test access letters and other persuasive tools to provide awareness among potential non-participatory GQ types. Debriefing the field staff revealed that Group Homes, Assisted Living Facilities and Residential Treatment Centers were the most reluctant types of places to provide information.

6. RELATED 2010 CENSUS OPERATIONS ASSESSMENTS

- The 2010 Census Local Update of Census Addresses (LUCA) Assessment will record the participation rates for eligible governmental entities and the GQ workload created by their address list submissions.
- The 2010 Census Address Canvassing (AC) Assessment will document the field operation for those addresses identified as HUs or OLQs.
- The 2010 Census Group Quarters Enumeration (GQE) Operational assessment documents how the operation was implemented and records the population data by defined GQ types. The assessment will also provide the number of GQs added and the number of GQs that no longer exist. The 2010 Census Military Enumeration is a sub-operation of GQE, thus GQE will document how Military Enumeration was implemented and its results.
- The 2010 Census Service-Based Enumeration (SBE) Operational assessment documents how the operation was implemented and records the population data by defined service-based GQ types. It will also assess the number of added service-based GQs and the number of service-based GQs that no longer exist.
- The 2010 Census Decennial Response Integration System (DRIS) Paper Questionnaire Data Capture Assessment Report documents the final workloads, costs, and lessons learned for all aspects of the DRIS Paper Questionnaire Data Capture operations. The assessment will also provide data for the next planning cycle for the 2020 Census.
- The 2010 Census Enumeration at Transitory Locations Operation assessment documents how the operation was implemented and the results of the enumeration. The assessment will also discuss how the GQV operation impacted the enumeration at transitory locations as well as provide recommendations and best practices that can be used during the next planning cycle to support the 2020 Census Enumeration at Transitory Location operation.

7. CONCLUSIONS AND RECOMMENDATIONS

The integrated Address Canvassing and Group Quarters Validation 2010 Census operations worked well together distinguishing housing units from group quarters and resulted in developing an accurate Census Bureau address file using improved methodologies for frame construction. The methodological advances of key operational elements had been incrementally tested and evaluated in the 2004 and 2006 Census Tests, and the subsequent 2008 Census Dress Rehearsal. Advances of key operational elements addressed changes such as Group Quarters Validation using the same assignment areas as Address Canvassing for efficient assignment planning, automated capture of Group Quarters Validation data, and a questionnaire incorporating updated definitions for group quarters. Despite the operation being condensed from six to four weeks, the 2010 Census Group Quarters Validation operation was completed on time, according to plan, and under budget. Listed below are recommendations that are intended to continue to help reach the Census Bureau's goal of compiling, updating and maintaining an integrated address list of housing units and group quarters in preparation for a more cost-effective 2020 Census.

- **Continue with the fully integrated 2010 Census Address Canvassing and Group Quarters Validation data collection methodologies**. Data from this assessment confirmed that Other Living Quarter addresses identified during Address Canvassing were sent to subsequent Group Quarters Validation for planned identification and classification. The Group Quarters Validation operation classified Other Living Quarters as valid living quarters, (i.e., group quarters, housing units, or transitory locations) or non-valid living quarters (i.e., duplicates, nonexistent or nonresidential). Since these two operations complemented each other in distinguishing housing units and group quarters, the Census Bureau should continue with the 2010 Census methodologies for Address Canvassing and Group Quarters Validation to identify and classify group quarters for future censuses.

- **Explore the combined procedures of Address Canvassing and Group Quarters Validation to efficiently identify complex living situations.** We recommend exploring the combined procedures of Address Canvassing and Group Quarters Validation to further determine the most cost-effective integrated method of identifying and classifying complex living situations and identifying duplicate units. For example, this assessment found that over half of the units at Other Living Quarters (54.5 percent of 1.4 million units) were identified as housing units and almost one-third of duplicate units (31.2 percent of 796,628 units) were transitory locations. All these addresses, except duplicates, moved on properly to the subsequent enumeration operation. As discussed in this assessment, these procedures were introduced for Group Quarters Validation to help identify and classify addresses at complex living situations for proper inclusion in the census. Further research is suggested to identify where in the integrated process of Address Canvassing and Group Quarters Validation it is most cost-effective to identify and classify housing units at complex living situations (e.g., assisted/independent living facilities) as well as minimize the number of duplicate units listed at transitory locations.

- **Continue to include Address Canvassing non-residential Other Living Quarter addresses in the Group Quarters Validation universe for validation of group quarters.** As was found during mid-decade testing, including other living quarter addresses from specific sources that were classified as non-residential during Address Canvassing in the Group Quarters Validation universe increased the frame quality of group quarters. Had these Address Canvassing non-residential addresses not been included in the Group Quarters Validation universe, the 2010 Census would have missed about 6,632 group quarters with a known group quarters type.

- **Continue the use of the Group Quarters Validation questionnaire with possible refinements including automation.** The Group Quarters Validation questionnaire worked as designed to classify Other Living Quarters addresses as housing units, group quarters or transitory locations to be included in the appropriate subsequent enumeration universe. While the Group Quarters Validation questionnaire worked as designed, some improvements are recommended to enhance this questionnaire: 1) include a question that asks the respondent for the number of units at the Other Living Quarter address, 2) a well-designed automation instrument could reduce the data capture and processing time, and 3) automation could also

mitigate or eliminate problems encountered with tracking and linking questionnaires and forms, lost questionnaires and forms, and invalid address status outcomes.

- **Research and test the use of administrative records to help determine the type of group quarters when the type is unknown.** Although there were known group quarters types that made substantial contributions to the universe of group quarters, about 22 percent (44,120 of the total 205,406 group quarters) of the units were vacant group quarters that had an unknown group quarters type. To minimize the number of group quarters with an unknown group quarters type, we recommend researching the availability of administrative records that could be used to assign possible group quarters type codes to subsequent group quarters operations. Group quarters type information obtained via administrative sources for addresses classified as vacant or added during Group Quarters Validation could be provided along with the address when sent to subsequent group quarters operations, Group Quarters Advance Visit and/or Group Quarters Enumeration. Vacant group quarters that could not be resolved during Group Quarters Advance Visit or Group Quarters Enumeration should continue to be retained on the MAF as group quarters with an unknown group quarters type code of 999 for further research.

- **Continue interdisciplinary research to expand the use of administrative records to update the group quarters frame.[5] This could be accomplished by, but not limited to, conducting the following practices:**

  - Conduct studies to identify group quarters types where the Group Quarters Validation rate with administrative records can be optimized and cost-effective.
  - Continue collaborating with organizations representing nursing homes, correctional institutions, colleges, and other group quarters with high prevalence of use of administrative records.
  - Continue to obtain administrative records from federal, state, tribal and local governments. The combined sources of administrative records (FSCPE and the NPC Internet research of SBE locations and group homes) contributed to the universe of group quarters at 29 percent. Furthermore, the majority of the addresses provided by administrative records (i.e., 61 percent of the 45,678 addresses provided by FSCPE and 57 percent of the 55,435 addresses provided by the NPC Internet research) were validated as group quarters during the 2010 Group Quarters Validation operation.
  - Continue to explore ways to use the Business Register developed by the Census Bureau for the economic census to identify group quarters. Another potential administrative source for college housing may be obtained from the National Center for Education Statistics (NCES) of the Department of Education.
  - Explore a more effective and cost efficient method to build upon the Internet research that was conducted for the 2010 Census, and used to update SBE locations and group homes

[5] The Group Quarters Sub-team of the Geographic Support System (GSS) Initiative for Address Coverage and Sources was formed to conduct research, evaluate and implement methods to improve the quality and development of the group quarters frame for Census Bureau corporate use. The GSS Group Quarters Sub-team has currently drafted recommendations which include expanding the use of administrative records as well as developing a system for ongoing updates of group quarters.

and include other group quarter types. For example, websites of colleges and universities may offer current information about student housing and college dorms. The NPC Internet research of SBE locations and group homes found 3,900 GQs. These addresses were not already on the MAF nor did another source submit the address to be included in the 2010 GQV universe.

- **Continue research to determine whether a census coverage measurement of group quarters is feasible**. Although the 2010 Census data collection method for developing the group quarters frame was an improvement over the Census 2000 approach, a census coverage measurement of group quarters could provide measureable indicators of coverage. We recommend that further inter-divisional research on coverage of the group quarters frame should be conducted so that we can determine estimates of net coverage error as well as estimates of components of coverage error to determine omissions and potentially erroneous validations of group quarters.

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APPENDICES

Appendix A: 2010 Census Group Quarters Validation Key Activities Schedule

Activity ID	Activity Name	Baseline Start	Baseline Finish	Actual Start	Actual Finish
10FDCA-0410	Deploy and Maintain OCE Applications for GQV	2/3/09	12/11/09	2/3/09	12/11/09
10MTS-81460	Deliver GQV Large Format Map Files	4/8/09	5/15/09	5/13/09	7/9/09
10FIF-90226	Assemble GQV Operational Kits at NPC (Puerto Rico)	4/13/09	7/9/09	6/19/09	7/9/09
10FIF-90217	Assemble GQV Operational Kits at NPC	4/22/09	7/9/09	4/30/09	7/2/09
10MTS-22080	Deliver GQV Address Extract for FDCA and DSPO	7/27/09	9/1/09	7/27/09	8/31/09
10MTS-81220	Deliver GQV GRF-C to FDCA and DSPO	7/27/09	9/1/09	7/27/09	8/31/09
10MTS-81470	Deliver GQV Small Format Map Files to FDCA	8/6/09	10/5/09	6/22/09	10/5/09
10GQV-10545	Train GQV Listers	9/21/09	9/25/09	9/21/09	9/25/09
10GQV-10640	Conduct Group Quarters Validation and Reinterview Operation	9/28/09	10/23/09	9/28/09	10/23/09
10GQV-10720	Ship Completed GQV Questionnaires and Maps to Data Capture Center	9/30/09	10/23/09	9/30/09	10/23/09
10MTS-05510	Process GQV Address Updates into the M/T	10/19/09	11/24/09	10/20/09	11/24/09

Appendix B: Methodology Used for Counting Units, OLQs and OLQ BSAs: An Illustration

The illustration below defines the differences between Units, OLQs and OLQ BSAs and shows how each metric is determined.

- Units – Count the number of records
- OLQs - Count the number of records where OLQ=Yes
- OLQ BSAs – For those records where there are more than one record with the same case/processing ID, count the number of unique case/processing IDs. For those records where there is only one case/processing ID, group records with the same BSA. If there is only one record at the case ID/ processing ID/BSA, then this record is counted as single unit structure. If there are multiple records with different case ID/processing IDs, but at the same BSA then these records are counted as multi-unit structures.

Below are the counts enumerated from Table B-1.
Overall Total: Units = 21 OLQs =12 OLQ BSAs= 7
By Status: GQs Units= 8 OLQs= 4; TLs Units= 2 OLQs=2; HUs Units= 11 OLQs=6
By type of structure: Single OLQ BSAs=3 Units= 3 OLQs= 3; Multi OLQ BSAS= 4 Units= 18 OLQs=9

Table B - 1: Main SAS Dataset

#	Case /Proc ID	Address/Unit Description	GQ Name/Facility Name	OLQ	Status
1	2021017891011	101 Bay Park Rd	Bay Park Homes	Yes	TL
2	2021118923012	225 Last Road	ABC Shelter	Yes	GQ
3	2022103659784	8675 Neverland Ave Bldg A	Memorial Nursing Ctr Bldg A	Yes	GQ
4	2022103659784	8675 Neverland Ave Apt 1	Memorial Assisted Living Bldg B	No	HU
5	2022103659784	8675 Neverland Ave Apt 2	Memorial Assisted Living Bldg B	No	HU
6	2022103659784	8675 Neverland Ave Apt 3	Memorial Assisted Living Bldg B	No	HU
7	2022103659784	8675 Neverland Ave Apt 4	Memorial Assisted Living Bldg B	No	HU
8	2033331253336	754 Bluebird Drive Bldg A	Blue Jay State Prison	Yes	GQ
9	2033331253336	754 Bluebird Drive Bldg B	Blue Jay State Prison	No	GQ
10	2033331253336	754 Bluebird Drive Bldg C	Blue Jay State Prison	No	GQ
11	2033331253336	754 Bluebird Drive Bldg D	Blue Jay State Prison	No	GQ

12	2156789331123	101 Maine Street Unit 1		Yes	HU
13	2156799552124	101 Main Street Unit 2A		Yes	HU
14	2156899563125	101 Main Street Unit 1B		Yes	HU
15	2165332254126	101 Main Street Unit 2B		Yes	HU
16	2165332254126	101 Main Street Unit 3A		Yes	HU
17	2165332254126	101 Main Street Unit 3B		Yes	HU
18	3618795556304	6313 Sleepy Lane	ABC Hotel	Yes	TL
19	3 25612345128	10 Waywood Lane	Quality Rehabilitation Home	Yes	GQ
20	3 25612345128	20 Waywood Lane	Quality Care Staff Housing	No	GQ
21	3 25612345128	30 Waywood Lane		No	HU

Appendix C: Contingency Plan for OLQs Not Resolved During the 2010 Census Group Quarters Validation Operation, 6/17/09

Issue

Census stakeholders were concerned about the completion of data capture for the 2010 GQV operation because of the 2010 GQV compressed schedule, workload volume, and unknown timing of receipt of data capture forms from the field and from the DRIS. Address records on the MTdb that were included in the universe for the 2010 Group Quarters Validation operation and did not get resolved are defined as address records not having a GQV action code on the MTdb.

Address records not resolved could have resulted from the following scenarios: 1) Natural disaster event that would have prevented completion of fieldwork, 2) DRIS unable to complete data capture in the scheduled timeframe, and 3) the GEO division being unable to complete processing the data in the scheduled timeframe.

Decision

In the event of unresolved cases from GQV, the enumeration path of address records was based on the HU/GQ Status, the OLQ status, and keyword strings in the GQ name field of the unresolved OLQ. The unresolved record will move on to either subsequent Group Quarters enumeration operations (GQAV/E), Enumeration at Transitory Locations operation (ETL) or subsequent housing unit enumeration operations (MO/MB, U/L, and UE).

A. In the event of unresolved cases from GQV, the following address records *from the initial GQV universe* moved on to subsequent GQ enumeration operations (with a 999 GQ Type Code):

1. GQ or SP records that were on the MTdb pre-Address Canvassing.
2. HU, TL, GQ or SP records on the MTdb that were added from the NPC Internet Research for SBE locations and group homes. (Note: The results of NPC's Internet Research for SBE locations and Group Homes superseded the status of the HU, TL, GQ or SP records on the MTdb.)
3. HU, GQ or SP records on the MTdb that were identified as ACS, FSCPE, SBE or LUCA OLQs per the MTdb OLQ flag.
4. HU or GQ records on the MTdb that were identified as Address Canvassing or Address Canvassing Large Block OLQs. These records must have also contained one of the following keyword strings in the GQ Name field:

AGRICULTURE	HOME	MOTEL	TRANSITIONAL
BUNKHOUSE	HOSPICE	NURSING	WOMEN
FARM	HOTEL	PERSONAL	WORKER
FRUIT	HOUSE	RESCUE	
GROWER	MIG	RESIDENTIAL	
HAVEN	MIGRANT	SKILLED	

Note: The rules above applied to unresolved GQV cases going into the GQ enumeration operations. Additional records that moved on to the GQ enumeration operations included GQV cases resolved as GQs and records from the Service-Based Enumeration (SBE) Phase Two updates.

B. In the event of unresolved cases from GQV, the following address records *from the initial GQV universe* will move on to the ETL operation:

1. TL Records on the MTdb that are not updates from the NPC Internet Research for SBE locations and group homes.
2. HU, TL, GQ or SP records on the MTdb that were identified as Address Canvassing or Address Canvassing Large Block OLQs. These records must have also contained one of the following keyword strings in the GQ Name field:

BOAT YARD	CIRCUS	RACETRACK	YACHT
CAMP GROUND	FAIRGROUND	RECREATION VEHICLE	
CAMPGROUND	KOA (not as part of a word)	RV (not as part of a word)	
CARNIVAL	MARINA	SPEEDWAY	

3. TL Records that were added during the carnival research at NPC.

Note: The rules above applied to unresolved GQV cases going into the ETL operation. Additional records that moved on to the ETL operation included GQV cases resolved as Transitory Locations (TLs) and records (carnival locations) from the Service-Based Enumeration Phase Three updates.

C. In the event of unresolved cases from GQV, the following address records *from the initial GQV universe* will move on to subsequent HU enumeration operations:

1. Records that were a HU on the MTdb pre-Address Canvassing.
2. HU, GQ, or SP records on the MTdb that were identified as Address Canvassing or Address Canvassing Large Block OLQs and do not have any of the GQ keywords in the GQ Name field.

Note: The rules above applied to unresolved GQV cases going into the HU enumeration operations. Additional records that moved on to the HU enumeration operations included GQV cases resolved as HUs and HU updates from other operations.

Resolution:
The decision on the Contingency Plan for handling OLQs not resolved during 2010 Census GQV operation was presented to and approved by the 2010 DMD Planning committee on June 15, 2009. This decision document was presented to the CIG on Wednesday, June 17, 2009 for their decision.

Appendix D: American Community Survey Time of Interview (ACS TOI)

The last phase of ACS data collection is the Computer Assisted Personal Interview (CAPI) phase. After mail and telephone operations are complete, a CAPI subsample is selected from the "non-response" sample addresses. This subsample is distributed to the appropriate regional offices, and from there the cases are assigned to the Field Representatives (FRs). The FRs can complete the interview by phone (with some restrictions) or personal visit, using laptop PCs loaded with a version of the ACS survey instrument.

Approximately 80% of CAPI cases require the FR visit the sample unit. In addition to trying to obtain an interview, a visit is needed to determine whether the housing unit (HU) exists and to determine its occupancy status. If an HU does not exist at the sample address, that status is documented. If an FR verifies that the HU is vacant, they will interview a knowledgeable respondent, such as the owner, building manager, real estate agent, or a neighbor, and conduct a "vacant interview" to obtain some basic information about the HU. If the HU is currently occupied, the FR will conduct an "occupied interview" or "temporarily occupied" interview. A FR conducts a temporarily occupied interview when there are residents living in the HU at the time of the FRs visit, but no resident has been living there or plans to live there for more than two months.

When FRs cannot obtain interviews, they must indicate the reason. Such non-interviews are taken seriously, because they have an impact on both sampling and non-sampling error. Non-interviews occur when an eligible respondent cannot be located, is unavailable, or is unwilling to provide the survey information. Additional non-interviews occur when FRs are unable to confirm the status of a sample HU due to restricted access to an area because of a natural disaster or non-admission to a gated community during the interview period. Some sample cases will be determined to be ineligible for the survey. These include sample addresses of structures under construction, demolished structures, and non-existent addresses.

One of the tasks for an FR is to check the geographic codes (state, county, tract, and block) for each address they visit. The FR confirms whether or not the codes are correct. If the codes are not correct, the FR corrects them. The FR also records codes if they are missing.

One variation of a non-qualifying address is the Group Quarters (GQs). Specific instructions on how to identify GQs and what information they should collect while at the unit through a path in the CAPI instrument are provided in the FR manual (see below). FRs are only allowed to code a sample unit as a non-interview Type **C-255 Group Quarters** after receiving instructions to do so by their regional office. A sample unit coded Type C-255 is updated in the MAF with a flag that identifies it as Other Living Quarters or "OLQ"s.

After identifying an address as a potential GQs, the FR follows the path in the instrument that collects additional information about the GQ itself and its parent facility. That information includes:

- A physical description of the GQs if no city-style address is available;
- A mailing address;

- A phone number;
- Secondary contact information, if applicable;
- The GQs building name or designation;
- The GQs type/category (up to three types can be selected);
- The facility name, if applicable;
- The maximum population the GQs can house;
- The current population at the GQs at the time of interview.

For additional information on the ACS TOI operations, please refer to the ACS -1126 ACS Field Representative's Manual provided at the following link: (ACS-1126, August 2010)

The sections of the FR manual that specifically address housing unit to GQs conversions are:

Chapter 7: Topic 9; *Sample Unit is a Group Quarters* (p 7-14). This section gives a basic definition of a GQs, directs the FR to Appendix B for additional information and instructions, and explains why they should not conduct an interview at a HU they determine is a GQs.

Appendix B: *Distinguishing Between Housing Units and Group Quarters* (pp B-1 to B-19). This appendix has detailed definitions of both HUs and GQs, instructions on what steps to take when HUs and GQs exist in the same facility, and an annotated list of common GQs types.

Appendix J: *HU to GQs Conversion* (pp J-1 to J-39). This appendix describes how FRs collect data when they find a HU that has been converted to a GQs. The CAPI instrument has a new (August 2010) section that allows FRs working on HU survey operations to capture address updates for the GQs operation, the facility name, and the current resident population.

Appendix E: List of Acronyms

AA	Assignment Area
AC	Address Canvassing
ACS TOI	American Community Survey Time of Interview
ADC	Automated Data Collection
ADDUP	Address Update File
BSA	Basic Street Address
CL	Crew Leader
CLA	Crew Leader Assistant
C&P	Cost and Progress System
CR	Change Request
DAPPS	Decennial Applicant, Personnel and Payroll System
DMD	Decennial Management Division
DRIS	Decennial Response Integration System
DSSD	Decennial Statistical Studies Division
ELCO	Early Local Census Office
ETL	Enumeration at Transitory Locations
FDCA	Field Data Collection Automation
FLD	Field Division
FSCPE	Federal-State Cooperative Program for Population Estimates
GEO	Geography Division
GQs	Group Quarters
GQE	Group Quarters Enumeration
GQS	Group Quarters Supervisor
GQAV	Group Quarters Advanced Visit
GQV	Group Quarters Validation
HHC	Hand-Held Computer
HQ	Headquarters
HU	Housing Unit
HULP	Housing Unit Listing Page
ISOLQ	An OLQ provided by ACS TOI, SBE, or LUCA
KFP	Key-From-Paper
LUCA	Local Update of Census Addresses
MAF	Master Address File
MAFID	Master Address File Identification Number
MAS	Master Activity Schedule
MTdb	MAF/TIGER database
NPC	National Processing Center

NSL	Non-Survivor Label
OCE	Operation Control Environment
OCS	Operation Control System
OLQs	Other Living Quarters
POC	Point of Contact
QC	Quality Control
RCC	Regional Census Center
RI	Reinterview
RV	Recreational Vehicle
SBE	Service-Based Enumeration
SP	Special Places
TIGER	Topologically Integrated Geographic Encoding and Referencing system
TL	Transitory Location
UC&M	Universe Control and Management

Appendix F: Group Quarters Validation Questionnaire

United States Census 2010

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

GROUP QUARTERS VALIDATION QUESTIONNAIRE

This listing contains confidential information, the release of which is prohibited by Title 13, United States Code.

FORM **D-351(GQV)** (1-21-2009)

U S C E N S U S B U R E A U

167001

Form D-351(GQV) (1-21-2009)

and	**&**
Apartments	**Apts**
Avenue	**Ave**
Black	**Blk**
Blue	**Bl**
Boulevard	**Blvd**
Brown	**Brn**
Basement	**Bsmt**
Box	**Box**
Brick	**Brk**
Building	**Bldg**
Circle	**Cir**
County	**Co**
Court	**Ct**
Downstairs	**Dwnstr**
Drive	**Dr**
East	**E**
Expressway	**Expwy**
Floor	**Fl**
Freeway	**Fwy**
Front	**Frnt**
Garage	**Grg**
Green	**Gr**
General Delivery	**Gen Del**
Highway Contract Route	**HCR**
House	**Hse**
Highway	**Hwy**
Interstate Highway	**I-**
Intersection	**Int**
Lane	**Ln**
Left	**L**
Living Quarters	**LQs**
Lower	**Lwr**

Migrant living quarters	**Mig LQs**
Mile	**Mi**
North	**N**
Number	**#**
Office	**Ofc**
Place	**Pl**
Porch	**Prch**
Post Office	**PO**
Postal Service Center	**PSC**
Private Road	**PrRd**
Road	**Rd**
Railroad/Rural Route	**RR**
Right	**R**
Route	**RT**
South	**S**
School	**Schl**
Split level	**SL**
Star Route	**SR**
Street/State	**St**
Suite	**Ste**
Terrace	**Ter**
Trail	**Trl**
Trailer (Mobile Home)	**Trlr**
Upper	**Uppr**
Vacant	**V**
Vehicular Trail	**Ve Tr**
Vacant Storage	**VS**
West	**W**
White	**Wht**
Yellow	**Ylw**

167002

OMB No. 0607-0919-C: Approval Expires 12/31/2011

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

United States Census 2010

GROUP QUARTERS VALIDATION QUESTIONNAIRE

MANAGEMENT ATTENTION

☐ (For use by manager only)

Living Quarters Screener

1. Is this address in the block listed on the label or the address listing page?

☐ Yes → *Go to Question 2*

☐ No → *Go to the Certification Tab and mark (X) the "D1" box in the Address Status section.*

APPLY ADDRESS LABEL HERE.
If the case is an Add – *Apply Processing ID label here.*

2. INTRODUCTION

Hello. My name is *(Your name)*. I'm from the U.S. Census Bureau. *(Show your identification badge.)* I'd like to speak with someone who knows where people live, could live, or stay at this address or about the people that use the services provided here. Would that be you, or should I speak with someone else? *(Continue or re-read introduction if referred to another respondent.)*

We are updating our list of addresses as an important part of the 2010 Census. This will help ensure that the 2010 Census is as accurate as possible. We estimate that it will take approximately 10 minutes to conduct this interview. This notice explains that your answers are confidential. *(Provide a copy of the Confidentiality Notice to the respondent and allow time to read it.)*

3. What is your name?

4a. We have your address listed as *(read the address on the label above)*. Is this correct?

☐ Yes → *Go to Question 5*

☐ No → *Go to Question 4b and make corrections on the next page.*

Address Register

Line No. | Page No.

FORM **D-351(GQV)** (1-21-2009)

U S C E N S U S B U R E A U

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FORM D-351(GQV) (1-21-2009)

4b. What is your correct address? ***(Complete for all added OLQs.)***

House No.

Street Name

Unit Designation

ZIP Code

Building Name

Building No.

Rural Route Address

Rural Route ZIP Code

Physical Description/Location

(For ADDs only) Is this also your mailing address?

☐ Yes

☐ No

LCO	AA	State	County	Block	Map Spot

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5. Now I am going to ask you some questions to help me determine what kind of place this is. Is this a soup kitchen, a shelter for people experiencing homelessness, or a facility that operates a regularly scheduled mobile food van?

☐ Yes → *Go to Question 15*

☐ No → *Go to Question 6*

6. Is this some type of facility, student housing, or group home?

☐ Yes → *Go to Question 12*

☐ No → *Go to Question 7*

7. Is this a hotel, motel, hostel, recreational vehicle (RV) park, campground, carnival, marina, or racetrack?

☐ Yes → *Go to Question 15*

☐ No → *Go to Question 8*

8. Is this housing for people with a religious affiliation such as a convent, monastery, or abbey?

☐ Yes → *Go to Question 12*

☐ No → *Go to Question 9*

9. Is this housing for workers, such as construction, migratory or farm workers, or for students at Job Corps centers?

☐ Yes → *Go to Question 12*

☐ No → *Go to Question 10*

10. Is this a private residence?

☐ Yes → *Go to Question 11*

☐ No → *Go to Question 12*

11. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. ***Go to the Certification Tab and mark (X) the "Housing Unit" box in the Address Status section.***

12. Does anyone live or stay here?

☐ Yes → *Go to Question 15*

☐ No → *Go to Question 13*

13. Could anyone live or stay here?

☐ Yes → *Go to Question 15*

☐ No → *Go to Question 14*

14. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. ***Go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.***

15. What is the telephone number here?

☐☐☐ – ☐☐☐ – ☐☐☐☐

16. Let me repeat the telephone number I just wrote down. ***(Read telephone number given in Question 15 above.)*** **Is that correct?**

☐ Yes → *Go to Question 17*

☐ No → **What is the correct telephone number?**

☐☐☐ – ☐☐☐ – ☐☐☐☐ → Go to Question 17

17. What is your job title?

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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18a. Next, I am going to show you a list. *(Show respondent flashcard Side 1.)* Which of these BEST describes this place? *Mark (X) one box.*

- ☐ **1.** Boarding school (except for schools for people with disabilities) → *Go to Question 18b*
- ☐ **2.** Correctional facility for adults or juveniles → *Go to Question 19*
- ☐ **3.** Fraternity or sorority house for students at a college, university, or seminary → *Go to Question 28*
- ☐ **4.** Group home (non-correctional) or residential treatment center (non-correctional) → *Go to Question 21*
- ☐ **5.** Health care facility (e.g., skilled nursing facility, nursing facility, hospital, hospice) → *Go to Question 24*
- ☐ **6.** Hotel, motel, hostel, single room occupancy units, inn, resort, lodge, or bed & breakfast → *Go to Tab 7*
- ☐ **7.** Independent or assisted living facility → *Go to Tab 1*
- ☐ **8.** Military Quarters (e.g., barrack/dormitory, disciplinary barrack/jail, military treatment facility) → *Go to Tab 15*
- ☐ **9.** Recreational vehicle (RV) park, campground, carnival, marina, or racetrack → *Go to Tab 10*
- ☐ **10.** Religious group living quarters intended to house members living in a group situation (e.g., convent, monastery, or abbey) [Type Code 902] → *Go to Tab 3*
- ☐ **11.** Residence hall or dormitory for students that is owned, leased, or managed either by a college, university, or seminary, or by a private entity or organization [Type Code 501] → *Go to Tab 2*
- ☐ **12.** Schools for people with disabilities (e.g., schools for the physically or developmentally disabled) [Type Code 405] → *Go to Tab 11*
- ☐ **13.** Soup kitchen, shelter for people experiencing homelessness, or a facility that operates a regularly scheduled mobile food van. → *Go to Question 25*
- ☐ **14.** Workers' group living quarters or group housing at Job Corps centers (e.g., migratory farm worker quarters, ranch housing, vocational training facilities, or housing for staff) [Type Code 901] → *Go to Tab 8*
- ☐ **15.** Private residence – **THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Housing Unit" box in the Address Status section.***

18b. At this address, is there housing for staff?

- ☐ Yes → *Go to Question 18c*
- ☐ No – **THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.***

18c. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Tab 8*
- ☐ No – **THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.***

19. Is this correctional facility intended for adults or juveniles? *Mark (X) one box.*

- ☐ Adults → *Go to Question 20*
- ☐ Juveniles [Type Code 203] → *Go to Tab 4*

20. Now I am going to show you a list of types of correctional facilities. *(Show respondent flashcard Side 2.)* Which of these BEST describes this correctional facility? *Mark (X) one box.*

- ☐ **1.** Federal detention center (also include Metropolitan detention center, Metropolitan Correctional Center, Bureau of Indian Affairs detention center, Immigration and Customs Enforcement Service Processing Centers and contract detention facilities) [Type Code 101]
- ☐ **2.** Federal prison [Type Code 102]
- ☐ **3.** State prison [Type Code 103]
- ☐ **4.** Local or county jail or a correctional facility operated by the American Indian and Alaska Native (AIAN) tribal governments (also included are work farms and camps holding people awaiting trial or serving short sentences) [Type Code 104]
- ☐ **5.** Correctional residential facility (including a halfway house, restitution center, prerelease center and work release center) [Type Code 105]

} *Go to Tab 4*

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21. Which of the following BEST describes this facility?
Is this a . . . *(read both) Mark (X) one box.*

- ☐ **group home (non-correctional)?** → *Go to Question 22*
- ☐ **residential treatment center (non-correctional)?** → *Go to Question 23*

22. Is this group home intended for adults or juveniles? *Mark (X) one box.*

- ☐ Adults [Type Code 801] → *Go to Tab 3*
- ☐ Juveniles [Type Code 201] → *Go to Tab 9*

23. Is this residential treatment center intended for adults or juveniles? *Mark (X) one box.*

- ☐ Adults [Type Code 802] → *Go to Tab 3*
- ☐ Juveniles [Type Code 202] → *Go to Tab 9*

24. Which of the following BEST describes this facility?
Is this a . . . *(read list) Mark (X) one box.*

- ☐ **skilled nursing facility or nursing facility?** [Type Code 301] → *Go to Tab 1*
- ☐ **hospital including mental or psychiatric hospital?** → *Go to Tab 6*
- ☐ **in-patient, free-standing hospice facility?** [Type Code 403] → *Go to Tab 5*

25. Is this facility a shelter?

- ☐ Yes → *Go to Tab 12*
- ☐ No → *Go to Question 26*

26. Is this facility a soup kitchen?

- ☐ Yes [Type Code 702] → *Go to Tab 13*
- ☐ No → *Go to Question 27*

27. Is this a facility that operates a regularly scheduled mobile food van?

- ☐ Yes [Type Code 704] → *Go to Tab 14*
- ☐ No – **THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.***

28. Is this a fraternity or sorority house that is recognized by a college, university, or seminary?

- ☐ Yes [Type Code 501] → *Go to Tab 2*
- ☐ No – **THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Housing Unit" box in the Address Status section.***

167007

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167008

SKILLED NURSING FACILITY, NURSING FACILITY, OR INDEPENDENT OR ASSISTED LIVING FACILITY

1

1. What is the full name of this facility?

2. Next, I have some questions about the building at the address we just verified. At this address is there . . . *(Read **each** question below.)*

a. a skilled nursing unit or a nursing unit? ☐ Yes ☐ No

b. housing for staff? ☐ Yes ☐ No

c. independent or assisted living units? ☐ Yes ☐ No

3. Is EITHER Question 2a OR 2b above marked "Yes?"

☐ Yes → *Go to Question 4*

☐ No → *Go to Question 17*

4. Is the answer to Question 2a above "Yes" for skilled nursing unit or nursing unit?

☐ Yes [Type Code 301] → *Go to Question 5*

☐ No → *Go to Question 7*

5. Is the name of this skilled nursing unit or nursing unit exactly the same as the facility name?

☐ Yes

☐ No → *Specify*

6. What is the maximum number of residents who can live or stay here in the skilled nursing unit or nursing unit at this address?

Maximum number of residents

7. Is the answer to Question 2b above "Yes" for housing for staff?

☐ Yes → *Go to Question 8*

☐ No → *Go to Question 10*

8. Is the housing for staff used as their usual residence?

☐ Yes [Type Code 901] → *Go to Question 9*

☐ No → *Go to Question 10*

9. What is the maximum number of staff who can live at this address?

Maximum number of staff

10. Is the answer to Question 2c above "Yes" for independent or assisted living units?

☐ Yes → *Go to Question 11*

☐ No → *Go to Question 16*

11. Do you have additional Questionnaires or a D-322(GQV) Multiple Questionnaires List for this address?

☐ Yes → *Go to Question 12*

☐ No → *Go to Question 15*

167009

12. Now I'd like to read a list of addresses and ask you to tell me whether they are independent or assisted living units here at this address. ***(Read addresses from Questionnaires/list and mark each address confirmed as a HU, then go to Question 13.)***

13. Other than the addresses we just talked about, are there any other independent or assisted living units at this address?

☐ Yes → *Go to Question 14*

☐ No → *Go to Question 16*

14. What are the addresses of all these other independent or assisted living units at this address? ***Go to the HU listing tab and list each of these units, then go to Question 16.***

15. Earlier you mentioned there are independent or assisted living units at this address. What are the addresses of all these independent or assisted living units at this address? ***Go to the HU listing tab and list each of these units, then go to Question 16.***

16. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

For facility with ONLY independent or assisted living units

17. Do you have additional Questionnaires or a D-322(GQV) Multiple Questionnaires List for this address?

☐ Yes → *Go to Question 18*

☐ No → *Go to Question 21*

18. Now I'd like to read a list of addresses and ask you if they are independent or assisted living units here at this address. ***(Read addresses from Questionnaires/list and mark each unit identified as a HU, then go to Question 19.)***

19. Other than the addresses we just talked about, are there any other independent or assisted living units at this address?

☐ Yes → *Go to Question 20*

☐ No → *Go to Question 22*

20. What are the addresses of all these other independent or assisted living units at this address? ***Go to the HU listing tab and list each of these units, then go to Question 22.***

21. Earlier you mentioned there are independent or assisted living units at this address. What are the addresses of all these independent or assisted living units at this address? ***Go to the HU listing tab and list each of these units, then go to Question 22.***

22. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. ***Go to the Certification Tab and mark (X) the "D3" box in the Address Status section.***

167010

RESIDENCE HALL, DORMITORY, OR FRATERNITY/SORORITY HOUSE FOR COLLEGE, UNIVERSITY, OR SEMINARY STUDENTS

1. What is the full name of this residence hall, dormitory, fraternity or sorority house?

2. What is the maximum number of people who can live or stay here at this address?

Maximum number of people

2

3. What is the name of this college, university, or seminary? ***(Enter all that apply.)***

4. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167011

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167012

RELIGIOUS GROUP LIVING QUARTERS INTENDED TO HOUSE MEMBERS LIVING IN A GROUP SITUATION, GROUP HOME (non-correctional) FOR ADULTS, OR RESIDENTIAL TREATMENT CENTER (non-correctional) FOR ADULTS

1. What is the full name of this facility?

2. Next, I have a question about the building at the address we just verified. What is the maximum number of people who can live or stay here at this address?

Maximum number of people

3. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

3

167013

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CORRECTIONAL FACILITY FOR ADULTS OR JUVENILES

1. What is the full name of this correctional facility?

2. At this address, is there more than one building where inmates can live or stay?

- ☐ Yes → *Go to Question 9*
- ☐ No → *Go to Question 3*

3. Is the name of this building exactly the same as the facility name?

- ☐ Yes
- ☐ No → *Specify name of building*

4. What is the maximum number of inmates who can live or stay here?

Maximum number of inmates

5. At this address, in addition to housing for inmates, is there also housing for staff?

- ☐ Yes → *Go to Question 6*
- ☐ No → *Go to Question 8*

6. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Question 7*
- ☐ No → *Go to Question 8*

7. What is the maximum number of staff who can live at this address?

Maximum number of staff

8. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. *Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.*

9. How many buildings are there where inmates can live or stay?

Total number of buildings

10. Now I would like to ask you some questions about each of the buildings where inmates can live or stay. *List all buildings where inmates can live or stay. Ask both Questions b and c for each building.*

a. Let's talk about the . . .	b. What is the name or designation of this building?	c. What is the maximum number of inmates who can live or stay here at this building?	
1st building			→ *Go to Question 10a and ask about the 2nd building*

Continue with Question 10 on the next page.

167015

4

10. Continued

a. Let's talk about the . . .	b. What is the name or designation of this building?	c. What is the maximum number of inmates who can live or stay here at this building?
2nd building		
3rd building		
4th building		
5th building		
6th building		
7th building		
8th building		
9th building		
10th building		
11th building		
12th building		
13th building		

Is there another building?

Yes → *Go to Question 10a and ask about the next building*

No → *Go to Question 12*

11. ☐ *Mark (X) only if there are more buildings, go to D-351CF(GQV), Correctional Facility Continuation Form, then come back to Question 12.*

12. *Check to make sure the number of buildings listed agrees with the number of buildings in Question 9.*

13. At this address, in addition to housing for inmates, is there also housing for staff?

☐ Yes → *Go to Question 14*

☐ No → *Go to Question 16*

14. Is the housing for staff used as their usual residence?

☐ Yes [Type Code 901] → *Go to Question 15*

☐ No → *Go to Question 16*

15. What is the maximum number of staff who can live at this address?

☐ Maximum number of staff

16. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167016

IN-PATIENT HOSPICE FACILITY (Free-standing only)

1. What is the full name of this facility?

2. Next, I have some questions about the building at the address we just verified. What is the maximum number of patients who can live or stay here at this address?

Maximum number of patients

3. At this address, in addition to housing for patients, is there also housing for staff?

- ☐ Yes → *Go to Question 4*
- ☐ No → *Go to Question 6*

4. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Question 5*
- ☐ No → *Go to Question 6*

5. What is the maximum number of staff who can live at this address?

Maximum number of staff

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. *Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.*

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167017

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167018

HOSPITAL (including mental or psychiatric hospital)

1. What is the full name of this facility?

2. Is the name of this building exactly the same as the facility name?

- ☐ Yes
- ☐ No → *Specify name of building*

3. Now I have some questions about the building at the address we just verified.

a. At this building . . . *(Read **each** question below.)*		**b.** *(If "Yes" in Question 3a, ask):* **What is the maximum number of these patients?**	Type code
(1) is there a mental or psychiatric unit or floor for long-term care?	☐ Yes → *Go to 3b* ☐ No		401
(2) is there an in-patient hospice unit?	☐ Yes → *Go to 3b* ☐ No		403
(3) is there a skilled nursing unit?	☐ Yes → *Go to 3b* ☐ No		301
(4) do you accept patients with no disposition or exit plan?	☐ Yes → *Go to 3b* ☐ No → *Go to Question 4*		402

4. At this building, is there housing for staff?

- ☐ Yes → *Go to Question 5*
- ☐ No → *Go to Question 7*

5. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Question 6*
- ☐ No → *Go to Question 7*

6. What is the maximum number of staff who can live at this address?

Maximum number of staff

7. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview.

If Question 3a(1), 3a(2), 3a(3), 3a(4), or 5 is answered "Yes," go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.

If Questions 3a(1), 3a(2), 3a(3), 3a(4), and 5 are all answered "No," go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.

6

167019

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167020

7

HOTEL, MOTEL, HOSTEL, SINGLE ROOM OCCUPANCY UNITS, INN, RESORT, LODGE, OR BED & BREAKFAST

1. What is the full name of this facility?

2. Are all of the rooms or units at this building used ENTIRELY to house people experiencing homelessness?

☐ Yes [Type Code 701] → *Go to Question 3*

☐ No → *Go to Question 5*

3. What is the maximum number of people experiencing homelessness who can live or stay here?

Maximum number of people

4. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. *Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.*

5. Will you be open during March or April?

☐ Yes → *Go to Question 6*

☐ No → *Go to Question 9*

6. What is the maximum number of rooms available for rent at this location?

Maximum number of rooms

7. Are there any rooms occupied by people who live or stay here most of the time?

☐ Yes → *Go to Question 8*

☐ No → *Go to Question 9*

8. How many rooms do you expect to be occupied by people who live or stay here most of the time during March or April?

Number of rooms

9. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. *Go to the Certification Tab and mark (X) the "Transient" box in the Address Status section.*

167021

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167022

WORKERS' GROUP LIVING QUARTERS OR GROUP HOUSING AT JOB CORPS CENTERS
(e.g., migratory farm worker quarters, ranch housing, vocational training facilities, or housing for staff)

1. What is the full name of this facility?

→ *Go to Question 2*

☐ No name → *Go to Question 3*

2. Next, I have some questions about the building at the address we just verified. Is the name of the building exactly the same as the facility name?

☐ Yes → *Go to Question 4*

☐ No → *Specify name of building* → *Go to Question 4*

3. Does this building have a name?

☐ Yes → *Specify name of building* → *Go to Question 4*

☐ No → *Go to Question 4*

4. What is the maximum number of people who can live or stay here at this address?

Maximum number of people

5. What months of the year do students or workers usually live or stay here?
Mark (X) all that apply.

☐ All year
☐ January
☐ February
☐ March
☐ April
☐ May
☐ June
☐ July
☐ August
☐ September
☐ October
☐ November
☐ December

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167023

8

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167024

GROUP HOME (non-correctional) FOR JUVENILES OR RESIDENTIAL TREATMENT CENTER (non-correctional) FOR JUVENILES

1. What is the full name of this juvenile facility?

2. Next, I have some questions about the building at the address we just verified. What is the maximum number of juveniles who can live or stay here at this address?

Maximum number of juveniles

3. At this address, in addition to housing for juveniles, is there also housing for staff?

- ☐ Yes → *Go to Question 4*
- ☐ No → *Go to Question 6*

4. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Question 5*
- ☐ No → *Go to Question 6*

5. What is the maximum number of staff who can live at this address?

Maximum number of staff

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. *Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.*

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167025

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167026

RECREATIONAL VEHICLE (RV) PARK, CAMPGROUND, CARNIVAL, MARINA, OR RACETRACK

1. What is the full name of this facility?

2. What months of the year are you open? ***Mark (X) all that apply.***

- ☐ All year
- ☐ January
- ☐ February
- ☐ March
- ☐ April
- ☐ May
- ☐ June
- ☐ July
- ☐ August
- ☐ September
- ☐ October
- ☐ November
- ☐ December

3. What is the maximum number of sites, pads, slips, or units at this location?

Maximum number

4. How many sites, pads, slips, or units do you expect to be occupied during March or April?

Number

10

5. Can we have a site map or plan of your grounds/facility/area that will indicate the places where people can camp, park their recreational vehicles, or stay on their boats?

- ☐ Yes → *Collect the site plan, then go to Question 6*
- ☐ No → *Go to Question 6*

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. ***Go to the Certification Tab and mark (X) the "Transient" box in the Address Status section.***

167027

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167028

SCHOOLS FOR PEOPLE WITH DISABILITIES
(e.g., schools for the physically or developmentally disabled)

1. What is the full name of this facility?

2. Next, I have some questions about the building at the address we just verified. What is the maximum number of students who can live or stay here at this address?

Maximum number of students

3. At this address, in addition to housing for students, is there also housing for staff?

- ☐ Yes → *Go to Question 4*
- ☐ No → *Go to Question 6*

4. Is the housing for staff used as their usual residence?

- ☐ Yes [Type Code 901] → *Go to Question 5*
- ☐ No → *Go to Question 6*

5. What is the maximum number of staff who can live at this address?

Maximum number of staff

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167029

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167030

SHELTER FOR PEOPLE EXPERIENCING HOMELESSNESS (Emergency and Transitional) OR DOMESTIC VIOLENCE SHELTER

1. What is the full name of this shelter?

2. Is this facility a . . . *(read both) Mark (X) one box.*

- ☐ **shelter for people experiencing homelessness (emergency and transitional shelter)?** [Type Code 701]
- ☐ **domestic violence shelter?** [Type Code 703]

3. What is the maximum number of people who can live or stay here?

Maximum number of people

4. In addition to providing housing, do you also operate a soup kitchen here for people experiencing homelessness?

- ☐ Yes [Type Code 702] → *Go to Question 5*
- ☐ No → *Go to Question 7*

5. What is the full name of this soup kitchen?

6. What is the maximum number of people who can be served at a meal?

Maximum number of people

7. Do you also operate a regularly scheduled mobile food van?

- ☐ Yes [Type Code 704] → *Go to Question 8*
- ☐ No → *Go to Question 9*

8. What is the maximum number of people you can serve from this regularly scheduled mobile food van?

Maximum number of people

9. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. *Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.*

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167031

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167032

SOUP KITCHEN

13

1. What is the full name of this soup kitchen?

2. What is the maximum number of people who can be served at a meal?

Maximum number of people

3. Do you also operate a regularly scheduled mobile food van?

☐ Yes [Type Code 704] → *Go to Question 4*

☐ No → *Go to Question 5*

4. What is the maximum number of people you can serve from this regularly scheduled mobile food van?

Maximum number of people

5. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167033

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167034

REGULARLY SCHEDULED MOBILE FOOD VAN

1. What is the full name of this facility?

2. What is the maximum number of people you can serve from this regularly scheduled mobile food van?

Maximum number of people

14

3. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. Someone may contact you by telephone to verify this interview. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

167035

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167036

MILITARY QUARTERS
(e.g., barrack/dormitory, disciplinary barrack/jail, Military Treatment Facility)

1. What is the full name of this military installation?

2. Is this building a . . . ***(read all) Mark (X) one box.***

- ☐ **barrack/dormitory – non-disciplinary?** [Type Code 601]
- ☐ **disciplinary barrack/jail?** [Type Code 106]
- ☐ **Military Treatment Facility?** → *Go to Question 4*

3. What is the maximum number of people who can be assigned to this barrack/dormitory/jail?

Maximum number of people → *Go to Question 5*

4. Now I have some questions about this Military Treatment Facility.

a. At this facility . . . *(Read **each** question below.)*		**b.** *(If "Yes" in Question 4a, ask):* **What is the maximum number of these patients?**	Type code
(1) are there Active Duty military personnel assigned to a bed?	☐ Yes → *Go to 4b* ☐ No		404
(2) do you accept patients with no disposition or exit plan?	☐ Yes → *Go to 4b* ☐ No → *Go to Question 6*		402

15

5. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions. ***Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.***

6. THIS ENDS OUR INTERVIEW. Thank you very much for answering these questions.

If question 4a(1) or 4a(2) is answered "Yes" – Go to the Certification Tab and mark (X) the "Group Quarters" box in the Address Status section.

If questions 4a(1) and 4a(2) are answered "No" – Go to the Certification Tab and mark (X) the "Nonresidential" box in the Address Status section.

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NOTES

For each note, enter the Page number in column (1) and the Question number in column (2). Also enter the Note(s) on an INFO-COMM.

Page number (1)	Question number (2)	Note (3)

NOTES

167039

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167040

FORM D-351(GQV) (1-21-2009)

HU LISTING PAGE

PAGE ☐ OF ☐

UNIT DESIGNATION	Is the Unit already listed in the Address Register as a HU?
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
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	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐

If there are more housing units, please continue on the next page.

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HU Listing Page

FORM D-351(GQV) (1-21-2009)

HU LISTING PAGE – Continued

PAGE ☐ OF ☐

UNIT DESIGNATION	Is the Unit already listed in the Address Register as a HU?
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐
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	☐ No ☐ Yes → Line No. ☐ Page No. ☐
	☐ No ☐ Yes → Line No. ☐ Page No. ☐

☐ ***Mark (X) if a Continuation Form is needed and then please continue with Housing Unit Continuation Form, D-351HU(GQV).***

167042

ADDRESS STATUS

Mark (X) the appropriate box below.

- ☐ Group Quarters
- ☐ Housing Unit
- ☐ Nonresidential → *Describe location on an INFO-COMM*

Crew Leader Initials

- ☐ Vacant → *Describe location on an INFO-COMM*
- ☐ Transient

Crew Leader Initials

- ☐ D1 – Cannot locate in listed block → *Describe location efforts on an INFO-COMM*

Crew Leader Initials | Date verified Mo | Day | Year

- ☐ D2 – Information for this questionnaire was collected on:

Survivor Case ID No.

- ☐ D3 → *Mark (X) only if directed to in Tab 1*

CERTIFICATION

Sign and date the certification below.

I certify that the entries I have made on this questionnaire are correct to the best of my knowledge.

Lister Name – *Printed*

Last name | First name | MI

Lister Signature | Date Mo | Day | Year

Supervisor Initials | Date Mo | Day | Year

1st CALLBACK

Date Mo | Day | Year | Time : | ☐ a.m. ☐ p.m.

2nd CALLBACK

Date Mo | Day | Year | Time : | ☐ a.m. ☐ p.m.

1st REASSIGNMENT

Lister Name | Date Mo | Day | Year

2nd REASSIGNMENT

Lister Name | Date Mo | Day | Year

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CERTIFICATION

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Appendix G: Other Living Quarters (OLQ) Flashcard

D-1028.4
(1-29-2009)

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

OTHER LIVING QUARTERS (OLQ) FLASHCARD
2010 Census

Side 1 – DEFINITIONS OF PLACES PEOPLE LIVE OR STAY AND THE SERVICES PROVIDED

1. **Boarding school (except for schools for people with disabilities)**
   Includes public private, and Bureau of Indian Affairs residential schools that focus on academic programs for juvenile students in a live-in environment.
2. **Correctional facility for adults or juveniles**
   Prisons, jails, detention centers, halfway houses operated for correctional purposes, residential training schools and farms, reception and diagnostic centers, group homes operated by or for correctional authorities, and boot camps for juvenile delinquents.
3. **Fraternity or sorority house for students at a college, university, or seminary**
   Group housing for students who reside in a fraternity or sorority house at a college, university, or seminary.
4. **Group home (non-correctional) or residential treatment center (non-correctional)**
   Group living arrangements in residential settings that are able to accommodate three or more clients of a service provider that provides room and board and services, including behavioral, psychological, or social programs. Or, residential facilities that provide treatment on-site in a highly structured live-in environment for the treatment of drug/alcohol abuse, mental illness, and emotional/behavioral disorders.
5. **Health care facility (e.g., skilled nursing facility, nursing facility, hospital, hospice)**
   Skilled nursing facility or nursing home providing long-term 24-hour care with licensed nurses for non-acute medical care. Hospitals and freestanding hospice units.
6. **Hotel, motel, hostel, single-room occupancy units, inn, resort, lodge, or bed & breakfast**
   All types of lodging facilities that may include permanent housing for some clients and/or housing for people experiencing homelessness.
7. **Independent living or assisted living facility**
   Facilities that provide housing for older adults and coordinates personal support services, 24-hour supervision and assistance to meet needs in a way that promotes maximum dignity and independence for each resident. These facilities are designed for people who need regular help with the activities of daily living but do not necessarily require skilled medical care. These facilities may contain a skilled nursing unit or nursing home.
8. **Military Quarters (e.g., barrack/dormitory, disciplinary barrack/jail, military treatment facility)**
   These facilities include military disciplinary or non-disciplinary barracks or dormitories and military treatment facilities.
9. **Recreational vehicle (RV) park, campground, carnival, marina, or racetrack**
   Includes both commercial and private.
10. **Religious group living quarters intended to house members living in a group situation (e.g., convent, monastery, or abbey)**
    Facilities owned or operated by religious organizations that are intended to house their members in a group living situation such as convents, monasteries or abbeys. (Seminary students living in group quarters are classified as college student housing not religious group quarters.)
11. **Residence hall or dormitory for students that is owned, leased, or managed either by a college, university, or seminary, or by a private entity or organization**
    Group housing for students at residential colleges, universities and seminaries.
12. **Schools for people with disabilities (e.g., schools for the physically or developmentally disabled)**
    Group housing for students at schools for students with disabilities.
13. **Soup kitchen, shelter for people experiencing homelessness, or a facility that operates a regularly scheduled mobile food van**
    Soup kitchens and mobile food vans provide meals primarily to people experiencing homelessness. Shelters are places where people experiencing homelessness stay at least overnight.
14. **Workers' group living quarters or group housing at Job Corps centers (e.g., migratory farm worker quarters, ranch housing, vocational training facilities, or housing for staff)**
    Migratory farm worker camps, ranch workers housing, vocational training facilities, and all group housing for staff in separate buildings or wings.
15. **Private residence**

CONTINUE ON REVERSE SIDE

U S C E N S U S B U R E A U

Side 2 – DESCRIPTION OF CORRECTIONAL FACILITIES FOR ADULTS

1. **Federal detention center**
   (also include Metropolitan detention center, Metropolitan Correctional Center, Bureau of Indian Affairs detention center, Immigration and Customs Enforcement Service Processing Centers and contract detention facilities)
2. **Federal prison**
3. **State prison**
4. **Local or county jail**
   or a correctional facility operated by the American Indian and Alaska Native (AIAN) tribal governments (also included are work farms and camps holding people awaiting trial or serving short sentences)
5. **Correctional residential facility**
   (including a halfway house, restitution center, prerelease center and work release center)

D-1028.4 (1-29-2009)

Appendix H: 2010 Census Group Quarters Validation Operation Lessons Learned (DRAFT 8/11)

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
	Section 1: Planning for 2010 Census			
	1.1 Requirements and Specifications			
1	**Automation/ Linking**		▪There were cases when the Housing Unit Continuation Form (HUCF), D-351.HU (GQV) got separated from the GQV Questionnaire making it difficult to track and maintain linkage. Data on this form were Title 13. ▪Staff at the DRIS data capture center had to manually try to link these HUCFs back to the GQV Questionnaire.	▪Create an electronic linkage between the GQV Questionnaire and the HUCF at check-in and also have the linkage verified during check-out for shipping. ▪Automate the GQV Questionnaire / data collection instrument. ▪Pre-populate data from admin records on GQV forms. ▪Implement electronic data transfer for large institutional GQs. ▪Create a standard system for all operations for receiving electronic data - accepting data in a specific format only. There could be an integrity issue with data if an electronic filing method is used - [i.e., Race/Ethnicity,

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
				(administrative as compared with personal information)].
2	**Questionnaire Specifications**	Prior to the start of the GQV operation, the creation and use of a 12-digit DRIS unique ID along with the FDCA applied labels was the recommended solution for the GQV questionnaires and forms in all languages. This solution facilitated linking of parent and continuation forms for data capture. DRIS processed and data captured about 99 percent of GQV questionnaires and forms.	The GQV questionnaire and forms were designed with a 10-digit preprinted barcode identifier (ID) or document identifier. GQs questionnaires and forms were not universally unique. In operation, this design would not have permitted the contractor to meet their requirement that each form had to be uniquely identified and could have impacted linking continuation forms to the facility on the parent form.	Automation could possibly eliminate linking of paper forms.
	1.2 Schedule and Workflow			
3	**Schedule / Workflow**	The 2010 Master Activity Schedule (MAS) was a success for monitoring and managing the	▪The GQV operation schedule was condensed due to the delay of the AC operation and because all OLQs had to be	▪Ensure schedule includes dates for synchronizing contractor systems, i.e. when one operation is scheduled to end and another is

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
		project activities.	delivered to HQ Processing in order to meet the enumeration universe delivery schedule. ▪Teams had to have an emergency meeting to set up procedures to discuss communication for connections between FDCA and DRIS to get their systems synchronized. ▪The translation schedule was not part of the Master Activity Schedule (MAS).	scheduled to begin. ▪Ensure that all stakeholders who are critical to the schedule development activities are included in all schedule and workflow meetings. ▪Develop a procedure for divisions to "sign-off" on the schedule and workflow development meetings (i.e., Agree on time of meetings and sign-off on agreed time). ▪The full Decennial schedule should be developed, not just for the tests/Dress Rehearsal. Then the tests/DR schedules can be extracted from the full schedule instead of the decennial schedule being developed/modified using the tests/DR schedule (i.e. Develop the Census schedule and extract the subset for the tests/DR). The entire schedule should be completed prior to dress rehearsal.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
				▪Translation activities should be part of the MAS from the beginning. Build realistic time frame for translation. Develop a translation plan (i.e. Schedule and resources). ▪Implement a PR Working Group for HU & GQs.
	Section 2: Project Planning			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
4	**Address Canvassing Training (Multi-Unit structures and Assisted Living Facilities (ALFs) that move on to GQV)**	Multi-unit addresses were resolved much quicker than anticipated.	▪Address Canvassing (AC) is not designed to permit listers to ask questions at multi-unit structures at the time of the AC interview to separate the "skilled nursing component for the elderly" from those that are available for seniors who do not require skilled care. By AC listers *not* asking questions, HUs, specifically assisted/independent living/senior apartments were sent to the GQV operation. RV parks and mobile home parks were also sent to GQV.	▪Consider exploring the possibility of modifying the AC operation so that HUs, including assisted/independent/senior living apartments that do not have any associated nursing home component be identified as "HUs" at the time of AC, rather than OLQs and avoid being sent to GQV. ▪There are considerable data available that indicate that most assisted living units do not have skilled nursing facilities on site. These types of "congregate care/life care" facilities that include skilled nursing facilities are minimal when compared to the number of assisted and independent living facilities that are found throughout the country. A few questions can be asked at multi-unit structures at the time of AC that would separate the "skilled nursing component for the elderly" from those that are available for seniors who do not need skilled care. ▪Although modification to the AC design and procedures have been suggested as a recommendation for exploration by one or two members of the GQV Sub-team, Census HQ AC and GQV stakeholders have come to consensus that this recommendation would not be beneficial or feasible because of the exponential cost increase to AC and that AC does not contact every address.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
5	**Enumeration at Transitory Locations (ETL)**		▪ Regular hotels should have been classified as non-residential. The GEO division removed about half of the 80,000 hotels as they were non-residential.	▪ The GQV Sub-team agreed this issue should also be passed on to the ETL Assessment Team. ▪HHES suggests coverage of transitory locations (unusual types of living situations) needs to be continually evaluated so that they are properly identified. ▪Re-examine Tab Seven in the GQV Questionnaire to ensure that the flow of questions for addresses that are identified by the respondent as a non-residential hotel, motel, inn, resort, lodge, or bed & breakfast move down the path of non-residential and do not move on to subsequent operations.
	2.4 Operation Forms and Letters (Deliverables)			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
6	**GQV Question-naire**		▪Field observation from the GQV Sub-team revealed loss of the respondent's attention and/or the interview when listers recited questions five through ten on page five documented in the GQV questionnaire intended to help determine what kind of place the OLQ was. ▪Listers continued to ask the list of questions to help determine the type of OLQ even when the type of OLQ was / appeared obvious. Reciting the questions contributed to respondent frustration and lister embarrassment.	▪The questionnaire should continue to undergo testing using a cross section of real respondents through cognitive interviews to refine the flow of the questions. ▪For the 2020 Census, consider use of an automated instrument rather than a paper form. This could improve the flow of questions when using skip patterns, help the listers correctly navigate the questionnaire, minimize/eliminate redundancy, and minimize errors.
7	**GQV Question-naire Flashcard**		The amount of text on the Flashcard was too much for the respondents to read quickly.	Explore methods so that the respondent does not have to read the entire list or make it easier for them to read – perhaps by using subcategories on the flashcard.
8	**Forms and Print Quantities**	GQV questionnaire and forms were re-designed with a 12-digit DRIS unique ID prior to the start of production to comply with the contractor's requirements for data	▪ **(DMD Automated Data Collection Branch*)* --** The print quantities were insufficient for the workload. Additional print jobs were requested from DMD to DRIS.	▪Automate as many forms as possible. ▪Automation could eliminate the small number of issues encountered (developing solutions for paper) in a paper environment and could

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
		capture. The recommended solution facilitated linking the parent and continuation forms for processing.	▪GQV questionnaire and forms were not designed for 2010 data capture system in that they were initially designed with a 10-digit preprinted barcode identifier (document identifier). This design would not have allowed the data capture contractor to meet the requirement of uniquely identifying each form.	facilitate linking GQV questionnaires and forms.
9	**Facility Contact Person Information**		**(FLD/GQV) --** Crew Leaders found that after GQV, the contact name changed often.	The GQV Questionnaire should include a question to ask for a back-up contact person to facilitate access during subsequent operations.
	2.5 Maps			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
10	**Maps**		▪ **(NPC) --** The number of GQV maps with updates received was significantly lower than expected. We estimated 84,800 maps with updates for GQV based on GQV Dress Rehearsal map returns but only received 15,038 during 2010 Census production. We assumed that the majority of areas visited for GQE would have previously been visited and updated by GQV. Our original GQE estimate was 21,200 (25 percent of GQV estimate) but, as a result of the low GQV return, we adjusted the estimate to 3,750 (25 percent of GQV returned).	▪Train the NPC on the LCO process of using maps. ▪Recommend Field Division review their instructions on handling of paper maps. ▪Recommend the creation/use of electronic maps. ▪Consider using automation (electronic maps) so digitizing from paper would not be required.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
11	**Maps**		▪NPC had to unexpectedly special-handle some map copies because part of the map was cut off. If the barcode/neat-line of the map gets cut off, this makes it difficult to check in the map and impossible to make the map available in GATRES (MAF/TIGER spatial update software) for heads-up digitizing. ▪NPC requested if there is any way to emphasize to the ELCOs to be careful to copy the whole map when they are making copies for future operations it would improve handling. ▪**(FLD)** Paper maps being used for multiple operations proved to be a challenge for the digitizers as well as the field staff, but were beneficial to field staff when compared to the efforts of printing new paper maps.	

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
12	**Map-spotting**		NPC observation included the following issues regarding map spots: ▪ Lister added multiple map spots for the same building (for example: maps says 1 Main St., Apt A - Apt D= MS 9001, 9002, 9003, 9004). The digitizer was instructed to add all of the MSPs right next to each other. ▪ Lister added map spots of 1, 2, 3 (not 9000 series as instructed): The digitizer was instructed to try to add the spot. If the spot already exists in the block they cannot add it. ▪Lister added map spots 9001a, 9001b, and 9001c: The map spot suffix field JUST became available in GATRES. The digitizers will be instructed to add these. ▪ Lister added map spots with numbers 90001, 90002 (i.e., more than 4 digits): GATRES will not accept numbers of more than 4 digits. These are not being added.	▪Recommend FLD Division consider spending more time on map spot training. Explain the concept, instructions, and include exercises to reinforce the task of map spotting. This is a very difficult concept/task for new hires to understand. ▪Recommend the system undergo exception testing in an effort to anticipate lister error.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
13	**Map-spotting Cont.**		▪The AC operation was not able to map spot the locations of each prison barrack or dorm within a fenced in complex. The AC lister assigned one map spot to the whole prison and marked the basic street address as an OLQ. Then during GQV, the lister created a list of all the GQs within the complex but was not instructed to collect map spots nor was there anywhere to record a map spot number on the GQV Questionnaire for each of the GQs at the prison. ▪AC did not have access to the inside of some facilities, therefore, they map-spotted the gate or the front of the facility (except military installations, where in most cases, maps spots were not allowed to be collected). ▪ No map spots were collected for the individual prison GQs before Advance Visit. ▪A special procedure was written and provided to the Crew Leaders to map spot the	Create the procedures to get map spots during AC and GQV. Redesign the GQV Questionnaire to collect individual map spots for each prison barrack within a complex.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			GQs within a prison complex on the census maps during GQAV with the help of a sworn-in point of contact at the prison. This information should be collected during GQV. ▪The design of the GQV Questionnaire to collect one map spot for all prison barracks within a complex did not prove sufficient for Census needs.	
	Section 3: Operations			
	3.1: Execution/Implementation			
14	**Shipping Procedures**		Shipping instructions had to be updated continually throughout Decennial field operations causing confusion and occasional error for and by field staff. For example, updated ZIP Codes were not always recognized by the USPS carrier.	▪Design a system to control shipping details automatically. ▪Include a layout map of the NPC to emphasize the importance of shipping items to the correct address. This will help reduce the time it takes to sort through materials and then transfer materials to the correct area.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
15	**Processing Non-Survivor Labels**		▪If Non-survivor Labels (NSLs) are used in the future, improvements need to be made to better help the field staff to understand this concept of when to use a NSL. ▪Example: Listers were filling out NSL forms incorrectly. They were providing Surviving Case IDs for addresses that they identified as housing units. GEO changed the update software to change these updates from Duplicates to Housing Units. ▪GEO had substantial problems processing data because the NSL forms were not used in the Dress Rehearsal and prior tests. GEO halted production to implement software changes that addressed concerns with the data coming back from the field. Problems with NSL processing could have been mitigated if the forms were introduced earlier.	▪Automating the GQV Questionnaire could eliminate the need for using NSLs. ▪If NSLs are used for future censuses, test during DR.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
	3.2: Data Capture (FDCA, DRIS, and NPC)			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
16		▪DRIS processed 99.8 percent of GQV forms and met their aggressive 5-week November 2009 deadline. This was the result of FLD division's timely delivery of forms, NPC's efficient processing system stability, and Government/Contractor partnership in solving challenges that arose, particularly with reconciliation. ▪Development and implementation of the Address Update (ADDUP) post processing component which had never before been automated. This post processing component was deemed successful and attributed to robust testing and government/contractor communication and collaboration.	There were cases when the HUCF got separated from the GQV Questionnaire making it difficult to track and maintain linkage during check-in from the field for shipping to the DRIS data capture center at the NPC. DRIS had to manually try to link these continuation forms back to the GQV Questionnaire. A disparity ensued between the number of questionnaires and forms shipped and those acknowledged and processed which resulted and contributed to the need to reconcile questionnaires and forms and leaving some unresolved. Unresolved forms filtered to the contingency plan. Two sets of numbers were required for reconciliation because DRIS tracked forms and FDCA/GEO tracked Case and Processing IDs.	Automation could eliminate the need for manually tracking and linking GQV forms.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
	3.3 Reinterview			
17	**Reinterview**		DSSD received an oversample of GQV cases. DSSD expected to receive a 10 percent sample which equaled two cases per lister. Estimated production workload for listers was 20 cases. On average listers only encountered about 7.5 eligible GQs, therefore the actual sampling rate came out higher than expected-about 14 percent.	▪Explore methods to continue to improve estimating the GQV workload. ▪Consider automating RI.
18	**Quality Control**		Data received by DSSD revealed that not all of the listers were observed. This was contrary to procedures in the GQV Clerk Manual for Field Operations (D-1093, page 4-2).	Recommend re-examining procedures so that ELCO staff ensure all listers are observed *before* production begins. Future GQV operations should collect the "Check-out" date and the "Check-in" date for the Re-interview (RI) questionnaires. This information would give the Census Bureau the ability to determine if the RIs were conducted within 3-days and what the “lag" time is between the interview and RI.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
	3.4: Cost and Progress (C&P) Reports			
19	**Cost and Progress**		▪ **(FIELD) --** Overlapping information on the Cost and Progress (C&P) reports. i.e., some information was reported on multiple cost and progress reports. ▪Field staff charged to incorrect task codes (i.e., ELCOs reported "Training Budget/Cost Used" to C&P under Task Code 035 (FLD) for CLs, CLAs, and Listers.	▪Have the Executive staff provide input on what they want to see in any roll up of Cost & Progress reports. ▪Task Codes should be better defined. ▪Program C&P so that the software displays an error message when field staff selects a task code inappropriate for the position and/or prior to the start of their operation.
	3.6: Close-Out			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
20	**Close-Out**		▪NPC received more GQV materials concurrently with the receipt of GQE materials that they were not expecting. ▪ Miscellaneous materials were shipped to NPC. NPC had no idea what to do with the materials. Having to sort through pallets of field material from more than one operation to locate maps that needed to be scanned and digitized slowed the NPC down. ▪As materials were received at the NPC, they had to be rerouted to the appropriate areas (materials included 14 pallets loads of boxes of registers, maps, and questionnaires. Some to be included for storage). ▪Procedures in place were not always followed by staff in the ELCOs. Address Registers (ARs) were put in envelopes instead of binders, boxed in non-standard boxes, and mislabeled.	▪Allow more time in the ELCOs to closeout operations. ▪Emphasize the importance of shipping items to the appropriate address within the NPC. ▪Consider including in office training materials a map/drawing of the NPC layout to give trainees an understanding of the importance of including the correct address. ▪Re-evaluate procedures for improvement for shipping materials to the NPC. ▪ Disposition memos need to be received well in advance of operations. ▪Provide instructions and updates for the disposition of all form types for all operations. ▪Once a contingency plan is put into place, instructions for the disposition of forms and materials should be updated for the NPC.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
				▪Ensure all appropriate representatives from NPC are included in the procedures/plans.
	Section 4: Contingency			
21		The GQV Sub-team developed a contingency plan in the event of unresolved OLQs which was successfully implemented.	GEO received several thousand MAFIDs for which they did not receive any data back from DRIS. GEO could not delay PDB creation to wait for the reconciliation of these forms. So the contingency plan was implemented.	Continue developing risk management plans.
	Section 7: Testing			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
22	**Testing**	▪Test plans and test implementation were effective and successful: Stakeholders review of the External Interface Control Documents (EICDs) for Connectivity and Interface Testing. ▪Other effective tests were the: Title 13 Test, Operational Test & Dry Run (OTDR), ADDUP Test, C&P User Acceptance Test, Forms Test, Map Printing Test, FDCA OCE Test, and Data Capture Test.	▪While testing proved successful overall, the schedules for when tests were conducted involving the test entities could have been better coordinated between the FDCA and DRIS contractors and GEO. ▪Coordinating the test windows/schedules were challenging and conflicted because one contractor may have been able to test, but the other contractor was in production.	Review test schedules for interfacing test entities to coordinate and facilitate test times to ensure testing does not conflict with production activities.
	Section 8: Human Factors			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
23	**GQV Sub-Team**	The GQV Sub-team was well informed and engaged. Operational plans, issues, and risk mitigation were addressed and resolved.		▪Continue to discuss GQV operational plans within the context of Address Canvassing. Hopefully, the results of the 2010 GQV operation will guide the planning of the 2020 integrated AC and GQV operations. ▪Document lessons learned as we go through the operation to avoid having to recall information after the operation has ended. ▪Include lessons learned as an agenda item on monthly meetings.
	Section 9: National Processing Center (NPC) / Kits			
24	**Kits**	All kits were completed and delivered on time.	▪Late revisions to memos disclosed the need for the NPC to complete sub-kits that had not been previously discussed during Sub-team meetings or documented in any way. ▪The sub-kits far out-numbered the operational kits. GQV's initial operational kits were 89,160. Once the sub-kits were added, the total reached 183,310.	▪Consider implementing an Integrated Logistics Management System (ILMS). This should be done in order to avoid or eliminate the need for providing excessive duplicate materials to the field offices. ▪Aggregate all material requirements to ensure materials for the 2020 Census contain no

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			▪Timing of completing the sub-kits - The sub-kits had to be completed prior to start of operational kit assembly. ▪Materials required for the sub-kits were not always immediately available. ▪All of these problems were the same for the PR kits, but just smaller quantities. ▪The Just-in-Time (JIT) kits were completely invisible to the NPC for planning purposes. ▪Larger sub-kit map pouches had to be printed by NPC's Geography Branch.	excessive purchases. This should also reduce or eliminate the need for schedule changes due to not getting the material to the NPC on time. ▪Operations should ensure as much as possible accuracy when planning for the quantities of materials particularly as they impact down-stream stakeholders.
25	**Other**		**(NPC)** -- Census 2000 had an Address Register Review Follow-up unit (ARRF), however 2010 Census did not and this prohibited NPC's ability to gain knowledge about the operation and understand how the data on the forms are used.	Include NPC in dry runs so they can be more informed about the procedures and understand how the data on the forms are used.
	Section 12: Translation --DMD Puerto Rico Island Ares (PRIA)			

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
26	**PRIA Translation**	The DMD PR Island Area (PRIA) translated all forms they received a request to translate.	▪Adequate time was not allowed to ensure that translations were consistent (specifically with the address collection portion of the forms); cross-reference for consistency was conducted among forms; ensure confidence that all appropriate forms pertaining to the operation had been translated. ▪The PRIA staff was not confident that they translated everything that needed to be translated. ▪The translation process (translation, QC, and resources) became a burden for the staff.	▪More communication is needed between subject matter experts and the rest of the OIT. ▪Develop a master list of forms so that stakeholders know ahead of time the magnitude of the workload to be translated. ▪Allow the PRIA to be the custodian of the list of materials for Puerto Rico. That area would then identify improvement areas and would monitor any changes (through meetings with the OIT) that may have an impact in the content of the materials. Then when it is time for the decennial census, the focus would only be on the changes that are necessary. ▪Apply consistent terminology (from multiple sources). ▪Use the same translation groups for translation, per operation at a minimum.
27	**PRIA Translation**		There was no Dry Run performed in Puerto Rico to test the field materials and	▪Schedule more time/meetings for the team to get acquainted with developers for

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			procedures.	communication to flow and to ensure consistency. ▪Schedule a Census Day Dry Run/a mini test performed in Puerto Rico. ▪Expand the Translation Branch. ▪Schedule a test site in Puerto Rico. ▪Test not only training materials but also field procedures included on these materials. The test could verify whether these procedures appropriately "translate" into the field in Puerto Rico.
28	**PRIA Translation**		▪Since not all forms were developed ahead of time, there was an impact on the adaptation and translation of materials. ▪People did not fully understand the effort and time involved in the adaptation and translation process. Adaptation of training materials process: Any time there is change in procedure for Puerto Rico; training materials are modified to reflect this change.	▪Adaptation and translation of materials should be factored in when developing the schedule of the operation. ▪Include the adaptation and translation considerations in forms design. ▪Adhere to the schedule of outlined activities.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			The overwhelming majority of the cases involve procedures for address data capture. These are different from Stateside. Also, training materials usually have census history and the PRIA Adds census history in Puerto Rico. In addition, address definitions are modified to reflect Puerto Rico geography and definitions as well as providing examples and illustrations throughout the materials that reflect the geography of Puerto Rico (time permitting, of course). ▪Puerto Rico Spanish and Stateside Spanish required separate translations.	
29	**PRIA Translation**		▪There were not enough translators to meet the demand. ▪The translators were under time constraints and needed assistance. ▪For the 2010 Census, the Boston RCC was tasked with translation. The delay that HQ	▪Adequate time should be given for translation to be completed at HQ (recommendation that translation starts earlier). ▪Plan to have a dedicated staff to work with the Spanish translators. ▪Discuss the need for more translators as we

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			had in writing the procedures was a challenge for Boston. ▪There was inconsistency in the translation between HQ and Boston.	move forward with 2020 Census plans.
30	**PRIA Translation**		▪There was a lack of bilingual staff in the Puerto Rico offices. ▪The staff at the Puerto Rico offices had to wait on translations (last minute).	▪Consider translating office materials in addition to field materials ▪Hire bilingual staff in the Puerto Rico offices.
31	**PRIA Translation**		The time it took to translate the materials negatively impacted NPC's activities of printing and kit building.	Include adaptation and translation of materials into kit printing and building schedules.
32	**PRIA Translation**		Translating materials to Spanish may have an impact on real estate (space) in forms, reports and the overall look of operation materials.	Consider some sort of testing or dry run for materials before going into production.
33	**PRIA Translation**		▪There was a lack of Census Bureau in-house resources to fully comply with all the translation and translation review requests that come in during the decennial years. For	Consider having someone with translation knowledge to make decisions regarding translation issues in the meetings for initial planning of the materials. This will save a lot

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			this reason, only the forms, questionnaires and letters were done in-house. All other FLD training manuals and guides were translated in Boston. ▪For translations to be done within the scheduled time, manuals, guides, and other materials had to be separated into different parts and assigned to multiple persons. This created the problem of lack of consistency across the materials. This also created the need to thoroughly review the completed translations and the schedule did not permit enough time to do a thorough review of all translated materials.	of time in the long-run.
34	**PRIA Translation**		When the schedule was created, the majority of the time was given to the preparation and review of the materials in English. The timing given for translation of materials does not take into consideration the detailed and time-consuming review that must be done across the board. The main problem was not that the translation threw off the schedule; it	Consider having someone with translation knowledge to make decisions regarding translation issues in the meetings for initial planning of the materials. This will save a lot of time in the long-run.

	Topic	Successes	Challenges/Issues	Improvements/ Recommendations
			is that the schedule never took into account all the work necessary to produce a final version in a different language.	